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NERC requests that the Commission approve proposed Reliability Standard COM-001-3, with its new Requirements R12 and R13, as just, reasonable, not unduly discriminatory or preferential, and in the public interest. NERC also requests that the Commission accept the proposed Implementation Plan, retirement of Reliability Standard COM-001-2.1, and VRFs and VSLs for new Requirements R12 and R13, all effective on the first day of the first calendar quarter that is 9 months after the effective date of the Commission’s order approving the standard. On this effective date, proposed Reliability Standard COM-001-3 will supersede and replace COM-001-2.1.

As required by Section 39.5(a) of the Commission’s regulations,⁵ this petition presents the technical basis and purpose of proposed Reliability Standard COM-001-3, summarizes the development history (Exhibit F), and demonstrates that the proposed Reliability Standard meets the criteria identified by the Commission in Order No. 672 (Exhibit C).⁶

I. EXECUTIVE SUMMARY

In approving Reliability Standard COM-001-2, the Commission “direct[ed] NERC to develop modifications to COM-001-2, or to develop a new standard, to address our concerns regarding ensuring the adequacy of internal communications capability whenever internal communications could directly affect the reliable operation of the Bulk-Power System.”⁷ NERC

communications that could have an impact on reliability.”). Unless otherwise designated, capitalized terms shall have the meaning set forth in the *Glossary of Terms Used in NERC Reliability Standards* (“NERC Glossary of Terms”), available at http://www.nerc.com/files/Glossary_of_Terms.pdf.

⁵ 18 C.F.R. § 39.5(a) (2016).

⁶ The Commission specified in Order No. 672 certain general factors it would consider when assessing whether a particular Reliability Standard is just and reasonable. *See Rules Concerning Certification of the Electric Reliability Organization; and Procedures for the Establishment, Approval, and Enforcement of Electric Reliability Standards*, Order No. 672, FERC Stats. & Regs. ¶ 31,204, at PP 262, 321-37, *order on reh’g*, Order No. 672-A, FERC Stats. & Regs. ¶ 31,212 (2006).

⁷ *See*, Order No. 808, at P 41.

developed Requirements R12 and R13 in proposed Reliability Standard COM-001-3 to address this directive.

Proposed Requirements R12 and R13 address internal communication capabilities whenever such communications could directly affect reliable operation of the Bulk-Power System (including through communications within functional entities). NERC's proposed revisions require that, consistent with the Commission's directive, responsible entities maintain internal Interpersonal Communication capabilities for the exchange of information necessary for Reliable Operation of the Bulk Electric System ("BES") (this includes, for example, communication capabilities between control centers and field personnel). These Requirements enhance reliability by clearly encompassing internal Interpersonal Communications within the scope of Reliability Standard COM-001-3.

NERC respectfully requests that the Commission approve proposed Reliability Standard COM-001-3, the associated Implementation Plan, and VRFs/VSLs for Requirements R12 and R13, as consistent with the directive in Order No. 808 and just, reasonable, not unduly discriminatory or preferential, and in the public interest.

II. NOTICES AND COMMUNICATIONS

Notices and communications with respect to this filing may be addressed to the following:⁸

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III. BACKGROUND

A. Regulatory Framework

By enacting the Energy Policy Act of 2005,⁹ Congress entrusted the Commission with the duties of approving and enforcing rules to ensure the reliability of the Nation’s Bulk-Power System, and with the duties of certifying an Electric Reliability Organization (“ERO”) that would be charged with developing and enforcing mandatory Reliability Standards, subject to Commission approval. Section 215(b)(1) of the FPA states that all users, owners, and operators of the Bulk-Power System in the United States will be subject to Commission-approved Reliability Standards.¹⁰ Section 215(d)(5) of the FPA authorizes the Commission to order the ERO to submit a new or modified Reliability Standard.¹¹ Section 39.5(a) of the Commission’s

⁸ Persons to be included on the Commission’s service list are identified by an asterisk. NERC respectfully requests a waiver of Rule 203 of the Commission’s regulations, 18 C.F.R. § 385.203 (2016), to allow the inclusion of more than two persons on the service list in this proceeding.

⁹ 16 U.S.C. § 824o (2012).

¹⁰ *Id.* § 824o(b)(1).

¹¹ *Id.* § 824o(d)(5).

regulations requires the ERO to file with the Commission for its approval each Reliability Standard that the ERO proposes should become mandatory and enforceable in the United States, and each modification to a Reliability Standard that the ERO proposes should be made effective.¹²

The Commission is vested with the regulatory responsibility to approve Reliability Standards that protect the reliability of the Bulk-Power System and to ensure that such Reliability Standards are just, reasonable, not unduly discriminatory or preferential, and in the public interest. Pursuant to Section 215(d)(2) of the FPA¹³ and Section 39.5(c) of the Commission's regulations, "the Commission will give due weight to the technical expertise of the Electric Reliability Organization" with respect to the content of a Reliability Standard.¹⁴

B. NERC Reliability Standards Development Procedure

The proposed Reliability Standard was developed in an open and fair manner and in accordance with the Commission-approved Reliability Standard development process.¹⁵ NERC develops Reliability Standards in accordance with Section 300 (Reliability Standards Development) of its Rules of Procedure and the NERC Standard Processes Manual.¹⁶

¹² 18 C.F.R. § 39.5(a) (2016).

¹³ 16 U.S.C. § 824o(d)(2) (2012).

¹⁴ 18 C.F.R. § 39.5(c)(1) (2016).

¹⁵ *Rules Concerning Certification of the Electric Reliability Organization; and Procedures for the Establishment, Approval, and Enforcement of Electric Reliability Standards*, Order No. 672 at P 334, FERC Stats. & Regs. ¶ 31,204, *order on reh'g*, Order No. 672-A, FERC Stats. & Regs. ¶ 31,212 (2006) ("Further, in considering whether a proposed Reliability Standard meets the legal standard of review, we will entertain comments about whether the ERO implemented its Commission-approved Reliability Standard development process for the development of the particular proposed Reliability Standard in a proper manner, especially whether the process was open and fair. However, we caution that we will not be sympathetic to arguments by interested parties that choose, for whatever reason, not to participate in the ERO's Reliability Standard development process if it is conducted in good faith in accordance with the procedures approved by FERC.").

¹⁶ The NERC *Rules of Procedure* are available at <http://www.nerc.com/AboutNERC/Pages/Rules-of-Procedure.aspx>. The NERC *Standard Processes Manual* is available at http://www.nerc.com/comm/SC/Documents/Appendix_3A_StandardsProcessesManual.pdf.

In its order certifying NERC as the Commission's ERO, the Commission found that NERC's proposed rules provide for reasonable notice and opportunity for public comment, due process, openness, and a balance of interests in developing Reliability Standards,¹⁷ and thus satisfy certain of the criteria for approving Reliability Standards.¹⁸ The development process is open to any person or entity with a legitimate interest in the reliability of the Bulk-Power System. NERC considers the comments of all stakeholders, and stakeholders must approve, and the NERC Board of Trustees must adopt a Reliability Standard before the Reliability Standard is submitted to the Commission for approval.

C. Procedural History of Proposed Reliability Standard COM-001-3

As described below, standard drafting team designed proposed Reliability Standard to include two new requirements on internal Interpersonal Communication capabilities in compliance with the Commission's directive in Order No. 808. This section summarizes the history leading to development of proposed Reliability Standard COM-001-3.

1. History of COM-001-2.1 and Order No. 808

NERC originally implemented Reliability Standard COM-001-0 (*Telecommunications*) on April 1, 2005. This version sought to ensure coordinated telecommunications among operating entities, and was submitted in NERC's 2006 petition for approval of proposed Reliability Standards.¹⁹ Prior to commission approval, Reliability Standard COM-001-0 was later revised and replaced by COM-001-1 to include certain missing compliance elements. In Order No. 693, the Commission approved Reliability Standard COM-001-1, while issuing directives to improve the standard, including a directive to include Generator Operators and

¹⁷ *N. Am. Elec. Reliability Corp.*, 116 FERC ¶ 61,062 at P 250.

¹⁸ Order No. 672 at PP 268, 270.

¹⁹ *North American Electric Reliability Council & North American Electric Reliability Corp's CD containing its petition for approval of reliability standards*, Docket No. RM06-16-000 (filed Apr. 4, 2006).

Distribution Providers as applicable entities and identify specific requirements for telecommunications facilities.²⁰ An errata to the standard was accepted in 2009, resulting in Reliability Standard COM-001-1.1.

Subsequently, NERC developed further revisions to comply with the directives in Order No. 693 and improve the standard.²¹ In 2014, NERC filed Reliability Standard COM-001-2 to improve COM-001-1.1 and comply with remaining Commission directives in Order No. 693.²² Reliability Standard COM-001-2 established a clear set of requirements for the communications capabilities that various functional entities must maintain for reliable communications. On April 16, 2015, in Order No. 808, the Commission approved Reliability Standard COM-001-2, new definitions associated with the revisions, VRFs and VSLs for COM-001-2, and the proposed Implementation Plan. The Commission also directed a modification to Reliability Standard COM-001-2 to address “internal communications capabilities to the extent that such communications could involve the issuance or receipt of Operating Instructions or other communications that could have an impact on reliability.”²³ The Commission found that while Reliability Standard COM-001-2 would enhance reliability, it was not persuaded that the standard adequately covered all situations in which Operating Instructions are issued or received.²⁴

²⁰ *Mandatory Reliability Standards for the Bulk-Power System*, Order No. 693, 72 Fed. Reg. 16416, FERC Stats. & Regs. ¶ 31,242, PP 487-93, 502-04, 508, *order on reh’g*, Order No. 693-A, 120 FERC ¶ 61,053 (2007).

²¹ *See, Petition of the North American Electric Reliability Corporation for Approval of Proposed Reliability Standards COM-001-2 and COM-002-4*, Docket No. RM14-13-000, at Section IV.A. and C, and Section V.A (filed May 14, 2014) (including more detailed history).

²² *Id.* (reflecting that the petition also included Reliability Standard COM-002-4 (*Operating Personnel Communications Protocols*)).

²³ Order No. 808, at P 1.

²⁴ *Id.* at P 3.

In particular, the Commission explained that Requirement R1.1 of the prior version of the standard better addressed internal Interpersonal Communication capabilities. The Commission stated that Requirement R1.1 of COM-001-1.1 provided that “each reliability coordinator, transmission operator, and balancing authority ‘shall provide adequate and reliable telecommunication facilities for the exchange of Interconnection and operating information . . . internally.’”²⁵ The Commission provided that even though Reliability Standard COM-001-2 applies to communications between functional entities within a single organization, Requirement R1.1 of COM-001-1.1 was broader by explicitly applying to internal communications within the same functional entity.²⁶ As a result, the Commission determined:

Thus, unlike the currently-effective Reliability Standard, COM-001-2 does not address the adequacy of internal telecommunications (or other internal communication systems) that may have an adverse effect on reliability, even within a single functional entity, including: (1) communications between geographically separate control centers within the same functional entity; and (2) communications between a control center and field personnel. These scenarios present a gap in reliability of the Bulk-Power System that NERC should address. Accordingly, pursuant to section 215(d)(5) of the FPA, we direct NERC to develop modifications to COM-001-2, or to develop a new standard, to address our concerns regarding ensuring the adequacy of internal communications capability whenever internal communications could directly affect the reliable operation of the Bulk-Power System.²⁷

NERC subsequently filed an errata to COM-001-2 to reflect typographical corrections, resulting in currently-effective Reliability Standard COM-001-2.1.²⁸

²⁵ *Id.* at P 41.

²⁶ *Id.* at PP 41-42.

²⁷ *Id.* at P 41.

²⁸ *Errata to Petitions of NERC for Approval of Reliability Standards BAL-003-1, COM-001-2, VAR-001-4, and Implementation Plan for Reliability Standard PRC-004-4*, Docket No. RD15-6-000 (filed Aug. 25, 2015).

2. **Project 2015-07 Internal Communications Capabilities**

NERC established Project 2015-07 Internal Communications Capabilities upon the Commission's issuance of Order No. 808, to comply with the Commission's directive to address internal communications capability, whenever such communications could directly affect Reliable Operation of the Bulk-Power System.²⁹ In order to achieve this goal, proposed Reliability Standard COM-001-3 incorporates two new Requirements R12 and R13, detailed in Section IV below. These two Requirements explicitly address internal Interpersonal Communication capabilities. The proposed standard is intended to replace and retire Reliability Standard COM-001-2.1, consistent with the Implementation Plan.

IV. JUSTIFICATION FOR APPROVAL

As discussed below and in Exhibit C, proposed Reliability Standard COM-001-3 satisfies the Commission's criteria in Order No. 672 and is just, reasonable, not unduly discriminatory or preferential, and in the public interest. The following subsections provide: (A) a description of the proposed standard, its reliability purposes, and applicable entities; (B) justification for the proposed Reliability Standard, detailing the proposed revisions; and (C) discussion of the enforceability of the proposed Reliability Standard. As discussed herein, the revised standard complies with Commission's directive in Order No. 808 for development of "modifications to COM-001-2, or ... a new standard, to address [the Commission's] concerns regarding ensuring the adequacy of internal communications capability whenever internal communications could directly affect the reliable operation of the Bulk-Power System."³⁰

²⁹ See, Standard Authorization Request, available at [http://www.nerc.com/pa/Stand/Project%20201507%20Internal%20Communications%20Capabilitie/2015-07 Internal Comm Cap SAR 06112015.pdf](http://www.nerc.com/pa/Stand/Project%20201507%20Internal%20Communications%20Capabilitie/2015-07%20Internal%20Comm%20Cap%20SAR%2006112015.pdf).

³⁰ *Id.* at P 41.

A. Proposed Reliability Standard COM-001-3 and Applicable Entities

The purpose of proposed Reliability Standard COM-001-3 is “[t]o establish Interpersonal Communication capabilities necessary to maintain reliability.”³¹ The proposed standard revises Reliability Standard COM-001-2.1 pursuant to the Commission’s directive in Order No. 808, by adding new Requirements R12 and R13 to expressly require applicable entities to “have internal Interpersonal Communication capabilities for the exchange of information necessary for the Reliable Operation of the BES. This includes communication capabilities between Control Centers within the same functional entity, and/or between a Control Center and field personnel.”³²

The standard applies to Transmission Operators, Balancing Authorities, Reliability Coordinators, Distribution Providers, and Generator Operators. These are the same entities currently subject to Reliability Standard COM-001-2.1. Inclusion of Distribution Providers and Generator Operators is also consistent with revisions made in Reliability Standard COM-001-2 to comply with the Commission’s directive in Order No. 693 that the standard should apply to Generator Operators and Distribution Providers.³³

³¹ See Exhibit A, attached herein

³² See, proposed Requirements R12 and R13. In Requirement R13, control center is not capitalized as it is a Distribution Provider control center. As reflected in the Rationale supporting Requirement R13, in Requirement R13 “control center is intended to mean the Distribution Provider facilities hosting operating personnel performing the operational functions of the Distribution Provider that are necessary for the reliable operation of the BES, often referred to as a distribution control center, or distribution center. Examples of Distribution Providers exchanging information necessary for the Reliable Operation of the BES include Distribution Providers included in restoration plans, load shed plans, load reconfiguration, and voltage control plans. The Distribution Provider must have the capability to exchange information whenever the internal Interpersonal Communications may directly impact operations of the BES.”

³³ See e.g., Order No. 693, at PP 487-493.

B. Justification for Proposed Reliability Standard COM-001-3 and Revisions

The revisions described herein and reflected at Requirements R12 and R13 of COM-001-3 are as follows:³⁴

R12. Each Reliability Coordinator, Transmission Operator, Generator Operator, and Balancing Authority shall have internal Interpersonal Communication capabilities for the exchange of information necessary for the Reliable Operation of the BES. This includes communication capabilities between Control Centers within the same functional entity, and/or between a Control Center and field personnel.

[Violation Risk Factor: High] [Time Horizon: Real-time Operations]

M12. Each Reliability Coordinator, Transmission Operator, Generator Operator, and Balancing Authority shall have and provide upon request evidence that it has internal Interpersonal Communication capability, which could include, but is not limited to:

- physical assets, or
- dated evidence, such as, equipment specifications and installation documentation, operating procedures, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications.

R13. Each Distribution Provider shall have internal Interpersonal Communication capabilities for the exchange of information necessary for the Reliable Operation of the BES. This includes communication capabilities between control centers within the same functional entity, and/or between a control center and field personnel. *[Violation Risk Factor: Medium] [Time Horizon: Real-time Operations]*

M13. Each Distribution Provider shall have and provide upon request evidence that it has internal Interpersonal Communication capability, which could include, but is not limited to:

- physical assets, or
- dated evidence, such as, equipment specifications and installation documentation, operating procedures, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications.

These modifications will explicitly require applicable entities to have internal Interpersonal Communication capabilities, in compliance with the Commission's directive in Order No. 808. As discussed in Section III.C above, in Order No. 808, the Commission was concerned that Reliability Standard COM-001-2 did not adequately address the adequacy of internal telecommunications. The proposed Requirements would ensure that Reliability

³⁴ See Exhibit A for full redline (the redline also includes edits to match NERC's Standard template, such as moving measures near the relevant requirements).

Standard COM-001-3 clearly addresses internal Interpersonal Communications capabilities that could involve the issuance or receipt of Operating Instructions or other communications that could directly impact reliability. This would include, for example, internal Interpersonal Communications capabilities for control centers within the same functional entity (including geographically separate control centers) and/or between a control center and field personnel.³⁵

The proposed Requirements are also drafted to ensure sufficient flexibility to allow for differences among individual entities regarding internal communications (such as different technologies or communication protocols arising due to different organizational structures) and avoid creating criteria that would be impractical and unnecessary.³⁶ As a result, the proposed Requirements strike a balance between ensuring that the standard expressly addresses internal Interpersonal Communications capabilities while retaining sufficient flexibility to effectuate communications and should be approved as just, reasonable, and in the public interest.

C. Enforceability of Proposed Reliability Standard COM-001-3

The Proposed Reliability Standard includes Measures that support each Requirement to help ensure that the Requirements will be enforced in a clear, consistent, non-preferential manner and without prejudice to any party. The proposed Reliability Standard also includes VRFs and VSLs for each Requirement. The VSLs and VRFs are part of several elements used to determine

³⁵ Note that in Order No. 808, the Commission stated that it “agree[d] with NERC and other commenters that Reliability Standard COM-001-2 applies to communications between functional entities within a single organization.... However, the application of COM-001-2 to different functional entities within the same organization, as discussed above, does not fully address our concern set forth in the NOPR regarding internal communications... unlike the currently-effective Reliability Standard, COM-001-2 does not address the adequacy of internal telecommunications (or other internal communication systems) that may have an adverse effect on reliability, even within a single functional entity, including: (1) communications between geographically separate control centers within the same functional entity; and (2) communications between a control center and field personnel. These scenarios present a gap in reliability of the Bulk-Power System that NERC should address. Accordingly, pursuant to section 215(d)(5) of the FPA, we direct NERC to develop modifications to COM-001-2, or to develop a new standard, to address our concerns regarding ensuring the adequacy of internal communications capability whenever internal communications could directly affect the reliable operation of the Bulk-Power System.” *See*, Order No. 808, at PP 40-41.

³⁶ *See, id.*, at P 53.

an appropriate sanction when the associated Requirement is violated. The VSLs provide guidance on the way that NERC will enforce the Requirements of the proposed Reliability Standards. The VRFs assess the impact to reliability of violating a specific Requirement.

NERC proposes updates to the VRFs and VSLs in effect for COM-001-2.1 to include the appropriate VRFs and VSLs for proposed Requirements R12 and R13. Requirement R12 (applicable to Reliability Coordinators, Transmission Operators, Generator Operators, and Balancing Authorities) has been assigned a “High” VRF and Requirement R13 (applicable to Distribution Providers) has been assigned a “Medium” VRF. These VRFs are consistent with the VRFs applicable to these functional entities under existing Requirements in Reliability Standard COM-001-2. In addition, both Requirements R12 and R13 have a “Severe” VSL because they are “binary” requirements. Exhibit E includes detailed analysis of the assignment of VRFs and the VSLs for proposed Requirements R12 and R13. As reflected in Exhibit E, the VRFs and VSLs for the new Requirements in proposed Reliability Standard comport with NERC and Commission guidelines.

V. EFFECTIVE DATE

NERC respectfully requests that the Commission accept proposed Reliability Standard COM-001-3 effective on the first day of the first calendar quarter that is 9 months after the effective date of the Commission’s order approving the standard. This effective date should provide sufficient time for applicable entities to incorporate any additional necessary infrastructure to effectuate compliance with Requirements R12 and R13 (including Generator Operators and Distribution Providers, which had not been responsible for compliance with Reliability Standard COM-001-1.1, Requirement R1.1).³⁷ In addition, NERC requests

³⁷ *Supra*, n. 20 and 33.

retirement of Reliability Standard COM-001-2.1 immediately prior to the Effective Date of COM-001-3, as the standard will replace and supersede currently-effective Reliability Standard COM-001-2.1.

VI. CONCLUSION

For the reasons set forth above, NERC respectfully requests that the Commission approve (i) proposed Reliability Standard COM-001-3 with new Requirements R12 and R13 and other associated elements included in Exhibit A; (ii) the Implementation Plan included in Exhibit B; (iii) the retirement of currently-effective Reliability Standard COM-001-2.1, and (iv) the VRFs and VSLs for new Requirements R12 and R13 included in Exhibit E.

Respectfully submitted,

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Exhibit A

Proposed Reliability Standard COM-001-3

COM-001-3 Clean Version

A. Introduction

1. **Title:** Communications
2. **Number:** COM-001-3
3. **Purpose:** To establish Interpersonal Communication capabilities necessary to maintain reliability.
4. **Applicability:**
 - 4.1. **Functional Entities:**
 - 4.1.1. Transmission Operator
 - 4.1.2. Balancing Authority
 - 4.1.3. Reliability Coordinator
 - 4.1.4. Distribution Provider
 - 4.1.5. Generator Operator
5. **Effective Date:** See Implementation Plan

B. Requirements and Measures

- R1. 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): *[Violation Risk Factor: High] [Time Horizon: Real-time Operations]*
 - 1.1. All Transmission Operators and Balancing Authorities within its Reliability Coordinator Area.
 - 1.2. Each adjacent Reliability Coordinator within the same Interconnection.
- M1. Each Reliability Coordinator shall have and provide upon request evidence that it has Interpersonal Communication capability with all Transmission Operators and Balancing Authorities within its Reliability Coordinator Area and with each adjacent Reliability Coordinator within the same Interconnection, which could include, but is not limited to:
 - physical assets, or
 - dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R1.)
- R2. Each Reliability Coordinator shall designate an Alternative Interpersonal Communication capability with the following entities: *[Violation Risk Factor: High] [Time Horizon: Real-time Operations]*

- 2.1. All Transmission Operators and Balancing Authorities within its Reliability Coordinator Area.
 - 2.2. Each adjacent Reliability Coordinator within the same Interconnection.
- M2. Each Reliability Coordinator shall have and provide upon request evidence that it designated an Alternative Interpersonal Communication capability with all Transmission Operators and Balancing Authorities within its Reliability Coordinator Area and with each adjacent Reliability Coordinator within the same Interconnection, which could include, but is not limited to:
 - physical assets, or
 - dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R2.)
- R3. Each Transmission Operator shall have Interpersonal Communication capability with the following entities (unless the Transmission Operator detects a failure of its Interpersonal Communication capability in which case Requirement R10 shall apply): *[Violation Risk Factor: High] [Time Horizon: Real-time Operations]*
 - 3.1. Its Reliability Coordinator.
 - 3.2. Each Balancing Authority within its Transmission Operator Area.
 - 3.3. Each Distribution Provider within its Transmission Operator Area.
 - 3.4. Each Generator Operator within its Transmission Operator Area.
 - 3.5. Each adjacent Transmission Operator synchronously connected.
 - 3.6. Each adjacent Transmission Operator asynchronously connected.
- M3. Each Transmission Operator shall have and provide upon request evidence that it has Interpersonal Communication capability with its Reliability Coordinator, each Balancing Authority, Distribution Provider, and Generator Operator within its Transmission Operator Area, and each adjacent Transmission Operator asynchronously or synchronously connected, which could include, but is not limited to:
 - Physical assets, or
 - Dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communication. (R3.)
- R4. Each Transmission Operator shall designate an Alternative Interpersonal Communication capability with the following entities: *[Violation Risk Factor: High] [Time Horizon: Real-time Operations]*
 - 4.1. Its Reliability Coordinator.

- 4.2. Each Balancing Authority within its Transmission Operator Area.
 - 4.3. Each adjacent Transmission Operator synchronously connected.
 - 4.4. Each adjacent Transmission Operator asynchronously connected.
- M4.** Each Transmission Operator shall have and provide upon request evidence that it designated an Alternative Interpersonal Communication capability with its Reliability Coordinator, each Balancing Authority within its Transmission Operator Area, and each adjacent Transmission Operator asynchronously and synchronously connected, which could include, but is not limited to:
- Physical assets, or
 - Dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R4.)
- R5.** Each Balancing Authority shall have Interpersonal Communication capability with the following entities (unless the Balancing Authority detects a failure of its Interpersonal Communication capability in which case Requirement R10 shall apply): *[Violation Risk Factor: High] [Time Horizon: Real-time Operations]*
- 5.1. Its Reliability Coordinator.
 - 5.2. Each Transmission Operator that operates Facilities within its Balancing Authority Area.
 - 5.3. Each Distribution Provider within its Balancing Authority Area.
 - 5.4. Each Generator Operator that operates Facilities within its Balancing Authority Area.
 - 5.5. Each Adjacent Balancing Authority.
- M5.** Each Balancing Authority shall have and provide upon request evidence that it has Interpersonal Communication capability with its Reliability Coordinator, each Transmission Operator and Generator Operator that operates Facilities within its Balancing Authority Area, each Distribution Provider within its Balancing Authority Area, and each adjacent Balancing Authority, which could include, but is not limited to:
- Physical assets, or
 - Dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R5.)

- R6.** Each Balancing Authority shall designate an Alternative Interpersonal Communication capability with the following entities: *[Violation Risk Factor: High] [Time Horizon: Real-time Operations]*
- 6.1.** Its Reliability Coordinator.
 - 6.2.** Each Transmission Operator that operates Facilities within its Balancing Authority Area.
 - 6.3.** Each Adjacent Balancing Authority.
- M6.** Each Balancing Authority shall have and provide upon request evidence that it designated an Alternative Interpersonal Communication capability with its Reliability Coordinator, each Transmission Operator that operates Facilities within its Balancing Authority Area, and each adjacent Balancing Authority, which could include, but is not limited to:
- Physical assets, or
 - Dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R6.)
- R7.** Each Distribution Provider shall have Interpersonal Communication capability with the following entities (unless the Distribution Provider detects a failure of its Interpersonal Communication capability in which case Requirement R11 shall apply): *[Violation Risk Factor: Medium] [Time Horizon: Real-time Operations]*
- 7.1.** Its Balancing Authority.
 - 7.2.** Its Transmission Operator.
- M7.** Each Distribution Provider shall have and provide upon request evidence that it has Interpersonal Communication capability with its Transmission Operator and its Balancing Authority, which could include, but is not limited to:
- Physical assets, or
 - Dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R7.)
- R8.** Each Generator Operator shall have Interpersonal Communication capability with the following entities (unless the Generator Operator detects a failure of its Interpersonal Communication capability in which case Requirement R11 shall apply): *[Violation Risk Factor: High] [Time Horizon: Real-time Operations]*
- 8.1.** Its Balancing Authority.
 - 8.2.** Its Transmission Operator.

- M8.** Each Generator Operator shall have and provide upon request evidence that it has Interpersonal Communication capability with its Balancing Authority and its Transmission Operator, which could include, but is not limited to:
- Physical assets, or
 - Dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R8.)
- R9.** Each Reliability Coordinator, Transmission Operator, and Balancing Authority shall 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. *[Violation Risk Factor: Medium][Time Horizon: Real-time Operations, Same-day Operations]*
- M9.** Each Reliability Coordinator, Transmission Operator, and Balancing Authority shall have and provide upon request evidence that it tested, at least once each calendar month, its Alternative Interpersonal Communication capability designated in Requirements 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 Communication capability within 2 hours. Evidence could include, but is not limited to: dated and time-stamped test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R9.)
- R10.** 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 capability that lasts 30 minutes or longer. *[Violation Risk Factor: Medium] [Time Horizon: Real-time Operations]*
- M10.** Each Reliability Coordinator, Transmission Operator, and Balancing Authority shall have and provide upon request evidence that it notified entities as identified in Requirements R1, R3, and R5, respectively within 60 minutes of the detection of a failure of its Interpersonal Communication capability that lasted 30 minutes or longer. Evidence could include, but is not limited to: dated and time-stamped test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R10.)
- R11.** Each Distribution Provider and Generator Operator that detects a failure of its Interpersonal Communication capability shall consult each entity affected by the failure, as identified in Requirement R7 for a Distribution Provider or Requirement R8 for a Generator Operator, to determine a mutually agreeable action for the

restoration of its Interpersonal Communication capability. *[Violation Risk Factor: Medium] [Time Horizon: Real-time Operations]*

- M11.** Each Distribution Provider and Generator Operator that detected a failure of its Interpersonal Communication capability shall have and provide upon request evidence that it consulted with each entity affected by the failure, as identified in Requirement R7 for a Distribution Provider or Requirement R8 for a Generator Operator, to determine mutually agreeable action to restore the Interpersonal Communication capability. Evidence could include, but is not limited to: dated operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R11.)
- R12.** Each Reliability Coordinator, Transmission Operator, Generator Operator, and Balancing Authority shall have internal Interpersonal Communication capabilities for the exchange of information necessary for the Reliable Operation of the BES. This includes communication capabilities between Control Centers within the same functional entity, and/or between a Control Center and field personnel. *[Violation Risk Factor: High] [Time Horizon: Real-time Operations]*
- M12.** Each Reliability Coordinator, Transmission Operator, Generator Operator, and Balancing Authority shall have and provide upon request evidence that it has internal Interpersonal Communication capability, which could include, but is not limited to:
- physical assets, or
 - dated evidence, such as, equipment specifications and installation documentation, operating procedures, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications.
- R13.** Each Distribution Provider shall have internal Interpersonal Communication capabilities for the exchange of information necessary for the Reliable Operation of the BES. This includes communication capabilities between control centers within the same functional entity, and/or between a control center and field personnel. *[Violation Risk Factor: Medium] [Time Horizon: Real-time Operations]*
- M13.** Each Distribution Provider shall have and provide upon request evidence that it has internal Interpersonal Communication capability, which could include, but is not limited to:
- physical assets, or
 - dated evidence, such as, equipment specifications and installation documentation, operating procedures, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications.

Compliance

1. Compliance Monitoring Process

1.1. Compliance Enforcement Authority:

“Compliance Enforcement Authority” or the Regional Entity, or any entity as otherwise designated by an Applicable Governmental Authority, in their respective roles of monitoring and/or enforcing compliance with mandatory and enforceable Reliability Standards in their respective jurisdictions.

1.2. Evidence Retention

The following evidence retention period(s) 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 applicable entity shall keep data or evidence to show compliance as identified below unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation:

- The Reliability Coordinator for Requirements R1, R2, R9, and R10, Measures M1, M2, M9, and M10 shall retain written documentation for the most recent twelve calendar months and voice recordings for the most recent 90 calendar days.
- The Transmission Operator for Requirements R3, R4, R9, and R10, Measures M3, M4, M9, and M10 shall retain written documentation for the most recent twelve calendar months and voice recordings for the most recent 90 calendar days.
- The Balancing Authority for Requirements R5, R6, R9, and R10, Measures M5, M6, M9, and M10 shall retain written documentation for the most recent twelve calendar months and voice recordings for the most recent 90 calendar days.
- The Distribution Provider for Requirements R7 and R11, Measures M7 and M11 shall retain written documentation for the most recent twelve calendar months and voice recordings for the most recent 90 calendar days.
- The Generator Operator for Requirements R8 and R11, Measures M8 and M11 shall retain written documentation for the most recent twelve calendar months and voice recordings for the most recent 90 calendar days.
- Responsible entities under Requirement R12, Measure M12 shall retain written documentation for the most recent twelve calendar months and voice recordings for the most recent 90 calendar days.

- Responsible entities under Requirement R13, Measure M13 shall retain written documentation for the most recent twelve calendar months and voice recordings for the most recent 90 calendar days.

1.3. Compliance Monitoring and Enforcement Program

As defined in the NERC Rules of Procedure, “Compliance Monitoring and Enforcement Program” refers to the identification of the processes that will be used to evaluate data or information for the purpose of assessing performance or outcomes with the associated Reliability Standard.

Violation Severity Levels

R #	Violation Severity Levels			
	Lower VSL	Moderate VSL	High VSL	Severe VSL
R1.	N/A	N/A	The Reliability Coordinator failed to have Interpersonal Communication capability with one of the entities listed in Requirement R1, Parts 1.1 or 1.2, except when the Reliability Coordinator detected a failure of its Interpersonal Communication capability in accordance with Requirement R10.	The Reliability Coordinator failed to have Interpersonal Communication capability with two or more of the entities listed in Requirement R1, Parts 1.1 or 1.2, except when the Reliability Coordinator detected a failure of its Interpersonal Communication capability in accordance with Requirement R10.
R2.	N/A	N/A	The Reliability Coordinator failed to designate Alternative Interpersonal Communication capability with one of the entities listed in Requirement R2, Parts 2.1 or 2.2.	The Reliability Coordinator failed to designate Alternative Interpersonal Communication capability with two or more of the entities listed in Requirement R2, Parts 2.1 or 2.2.
R3.	N/A	N/A	The Transmission Operator failed to have Interpersonal Communication capability	The Transmission Operator failed to have Interpersonal Communication capability

			with one of the entities listed in Requirement R3, Parts 3.1, 3.2, 3.3, 3.4, 3.5, or 3.6, except when the Transmission Operator detected a failure of its Interpersonal Communication capability in accordance with Requirement R10.	with two or more of the entities listed in Requirement R3, Parts 3.1, 3.2, 3.3, 3.4, 3.5, or 3.6, except when the Transmission Operator detected a failure of its Interpersonal Communication capability in accordance with Requirement R10.
R4.	N/A	N/A	The Transmission Operator failed to designate Alternative Interpersonal Communication capability with one of the entities listed in Requirement R4, Parts 4.1, 4.2, 4.3, or 4.4.	The Transmission Operator failed to designate Alternative Interpersonal Communication capability with two or more of the entities listed in Requirement R4, Parts 4.1, 4.2, 4.3, or 4.4.
R5.	N/A	N/A	The Balancing Authority failed to have Interpersonal Communication capability with one of the entities listed in Requirement R5, Parts 5.1, 5.2, 5.3, 5.4, or 5.5, except when the Balancing Authority detected a failure of its Interpersonal Communication capability in	The Balancing Authority failed to have Interpersonal Communication capability with two or more of the entities listed in Requirement R5, Parts 5.1, 5.2, 5.3, 5.4, or 5.5, except when the Balancing Authority detected a failure of its Interpersonal Communication capability in

			accordance with Requirement R10.	accordance with Requirement R10.
R6.	N/A	N/A	The Balancing Authority failed to designate Alternative Interpersonal Communication capability with one of the entities listed in Requirement R6, Parts 6.1, 6.2, or 6.3.	The Balancing Authority failed to designate Alternative Interpersonal Communication capability with two or more of the entities listed in Requirement R6, Parts 6.1, 6.2, or 6.3.
R7.	N/A	N/A	The Distribution Provider failed to have Interpersonal Communication capability with one of the entities listed in Requirement R7, Parts 7.1 or 7.2, except when the Distribution Provider detected a failure of its Interpersonal Communication capability in accordance with Requirement R11.	The Distribution Provider failed to have Interpersonal Communication capability with two or more of the entities listed in Requirement R7, Parts 7.1 or 7.2, except when the Distribution Provider detected a failure of its Interpersonal Communication capability in accordance with Requirement R11.
R8.	N/A	N/A	The Generator Operator failed to have Interpersonal Communication capability with one of the entities listed in Requirement R8, Parts 8.1 or 8.2, except when	The Generator Operator failed to have Interpersonal Communication capability with two or more of the entities listed in Requirement R8, Parts 8.1 or

			a Generator Operator detected a failure of its Interpersonal Communication capability in accordance with Requirement R11.	8.2, except when a Generator Operator detected a failure of its Interpersonal Communication capability in accordance with Requirement R11.
R9.	The Reliability Coordinator, Transmission Operator, or Balancing Authority tested the Alternative Interpersonal Communication capability but failed to initiate action to repair or designate a replacement Alternative Interpersonal Communication in more than 2 hours and less than or equal to 4 hours upon an unsuccessful test.	The Reliability Coordinator, Transmission Operator, or Balancing Authority tested the Alternative Interpersonal Communication capability but failed to initiate action to repair or designate a replacement Alternative Interpersonal Communication in more than 4 hours and less than or equal to 6 hours upon an unsuccessful test.	The Reliability Coordinator, Transmission Operator, or Balancing Authority tested the Alternative Interpersonal Communication capability but failed to initiate action to repair or designate a replacement Alternative Interpersonal Communication in more than 6 hours and less than or equal to 8 hours upon an unsuccessful test.	The Reliability Coordinator, Transmission Operator, or Balancing Authority failed to test the Alternative Interpersonal Communication capability once each calendar month. OR The Reliability Coordinator, Transmission Operator, or Balancing Authority tested the Alternative Interpersonal Communication capability but failed to initiate action to repair or designate a replacement Alternative Interpersonal Communication in more than 8 hours upon an unsuccessful test.
R10.	The Reliability Coordinator, Transmission Operator, or	The Reliability Coordinator, Transmission Operator, or	The Reliability Coordinator, Transmission Operator, or	The Reliability Coordinator, Transmission Operator, or

	Balancing Authority failed to notify the entities identified in Requirements R1, R3, and R5, respectively upon the detection of a failure of its Interpersonal Communication capability in more than 60 minutes but less than or equal to 70 minutes.	Balancing Authority failed to notify the entities identified in Requirements R1, R3, and R5, respectively upon the detection of a failure of its Interpersonal Communication capability in more than 70 minutes but less than or equal to 80 minutes.	Balancing Authority failed to notify the entities identified in Requirements R1, R3, and R5, respectively upon the detection of a failure of its Interpersonal Communication capability in more than 80 minutes but less than or equal to 90 minutes.	Balancing Authority failed to notify the entities identified in Requirements R1, R3, and R5, respectively upon the detection of a failure of its Interpersonal Communication capability in more than 90 minutes.
R11.	N/A	N/A	N/A	The Distribution Provider or Generator Operator that detected a failure of its Interpersonal Communication capability failed to consult with each entity affected by the failure, as identified in Requirement R7 for a Distribution Provider or Requirement R8 for a Generator Operator, to determine a mutually agreeable action for the restoration of the Interpersonal Communication capability.
R12.	N/A	N/A	N/A	The Reliability Coordinator, Transmission Operator, Generator Operator, or Balancing Authority failed to

				have internal Interpersonal Communication capability for the exchange of operating information.
R13.	N/A	N/A	N/A	The Distribution Provider failed to have internal Interpersonal Communication capability for the exchange of operating information.

Regional Variances

None.

Associated Documents

None.

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
1.1	October 29, 2008	BOT adopted errata changes; updated version number to "1.1"	Errata
2	November 7, 2012	Adopted by Board of Trustees	Revised in accordance with SAR for Project 2006-06, Reliability Coordination (RC SDT). Replaced R1 with R1-R8; R2 replaced by R9; R3 included within new R1; R4 remains enforce pending Project 2007-02; R5 redundant with EOP-008-0, retiring R5 as redundant with EOP-008-0, R1; retiring R6, relates to ERO procedures; R10 & R11, new.
2	April 16, 2015	FERC Order issued approving COM-001-2	
2.1	August 25, 2015	Changed numbered parts under Requirement R6 to line up with the appropriate requirement.	Errata

COM-001-3 Communications

2.1	November 13, 2015	FERC Order issued approving errata to COM-001-2.1. Docket RD15-6-000	Errata to correct inadvertent numbering errors in the parts to Requirement R6.
3	August 11, 2016	Adopted by the NERC Board of Trustees	New

Rationale

Rationale for Requirement R12:

The focus of the requirement is on the *capabilities* that an entity must have for the purpose of exchanging information necessary for the Reliable Operation of the BES. That is, the entity must have the capability to communicate internally by, “any medium that allows two or more individuals to interact, consult, or exchange information.” The standard does not prescribe the specific type of capability (*i.e.*, hardware or software). The determination of the appropriate type of capability is left to the entity. Regardless, the entity must have the capability to exchange information *whenever* the internal Interpersonal Communications may directly impact operations of the BES. Therefore, the applicable entities must have the capability to exchange information between Control Centers of that functional entity. For example, a TOP with multiple control centers that are geographical separated must have the capability to communicate internally between or among those control centers. The communication capability may occur through any medium that supports Interpersonal Communication, such as land line telephone, cellular device, Voice Over Internet Protocol (VOIP), satellite telephone, radio, or electronic message. Also, applicable entities must have the capability to exchange information between a Control Center and field personnel. For example, a TOP system operator providing instruction to a field personnel to perform a reliability activity, such as switching Facilities.

In the course of normal control center operation, system operators within a single Control Center communicate as needed to ensure the reliability of the BES, including face-to-face communications. These internal communications are ongoing and occur throughout the day as part of day-to-day operations. However, these types of communications are not the focus of this requirement. The focus is on the capability of an entity to communicate internally where face-to-face communications are not available.

Rationale for Requirement R13:

The NERC Glossary definition for “Control Center” was not used in this requirement because Distribution Provider is not listed as an entity within the definition. The Glossary definition for “Control Center” is, “[o]ne or more facilities hosting operating personnel that monitor and control the Bulk Electric System (BES) in real-time to perform the reliability tasks, including their associated data centers, of: 1) a Reliability Coordinator, 2) a Balancing Authority, 3) a Transmission Operator for transmission Facilities at two or more locations, or 4) a Generator Operator for generation Facilities at two or more locations.” Therefore in this requirement, control center is intended to mean the Distribution Provider facilities hosting operating personnel performing the operational functions of the Distribution Provider that are necessary for the Reliable Operation of the BES, often referred to as a distribution control center, or distribution center. Examples of Distribution Providers exchanging information necessary for the Reliable Operation of the BES include Distribution Providers included in restoration plans, load shed plans, load reconfiguration, and voltage control plans. The Distribution Provider must have the capability to exchange information *whenever* the internal Interpersonal Communications may directly impact operations of the BES. Therefore, the Distribution

Supplemental Material

Provider must have the capability to exchange information between control centers as necessary. For example, a Distribution Provider with multiple control centers that are geographical separated, where face-to-face communications are not available, must have the capability to communicate internally between or among those control centers.

COM-001-3 Redline Version

A. Introduction

1. Title: Communications
2. Number: COM-001-~~2.13~~
3. Purpose: To establish Interpersonal Communication capabilities necessary to maintain reliability.
4. Applicability:

4.1. Functional Entities

- 4.1.1 Transmission Operator
 - 4.1.2 Balancing Authority
 - 4.1.3 Reliability Coordinator
 - 4.1.4 Distribution Provider
 - 4.1.5 Generator Operator
5. Effective Date: ~~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. See Implementation Plan.~~

B. Requirements and Measures

- R1. 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): [*Violation Risk Factor: High*] [*Time Horizon: Real-time Operations*]
 - 1.1. All Transmission Operators and Balancing Authorities within its Reliability Coordinator Area.
 - 1.2. Each adjacent Reliability Coordinator within the same Interconnection.
- M1. Each Reliability Coordinator shall have and provide upon request evidence that it has Interpersonal Communication capability with all Transmission Operators and Balancing Authorities within its Reliability Coordinator Area and with each adjacent Reliability Coordinator within the same Interconnection, which could include, but is not limited to:
 - physical assets, or
 - dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R1.)

- R2.** Each Reliability Coordinator shall designate an Alternative Interpersonal Communication capability with the following entities: [*Violation Risk Factor: High*] [*Time Horizon: Real-time Operations*]
- 2.1. All Transmission Operators and Balancing Authorities within its Reliability Coordinator Area.
 - 2.2. Each adjacent Reliability Coordinator within the same Interconnection.
- M2.** Each Reliability Coordinator shall have and provide upon request evidence that it designated an Alternative Interpersonal Communication capability with all Transmission Operators and Balancing Authorities within its Reliability Coordinator Area and with each adjacent Reliability Coordinator within the same Interconnection, which could include, but is not limited to:
- physical assets, or
 - dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R2.)
- R3.** Each Transmission Operator shall have Interpersonal Communication capability with the following entities (unless the Transmission Operator detects a failure of its Interpersonal Communication capability in which case Requirement R10 shall apply): [*Violation Risk Factor: High*] [*Time Horizon: Real-time Operations*]
- 3.1. Its Reliability Coordinator.
 - 3.2. Each Balancing Authority within its Transmission Operator Area.
 - 3.3. Each Distribution Provider within its Transmission Operator Area.
 - 3.4. Each Generator Operator within its Transmission Operator Area.
 - 3.5. Each adjacent Transmission Operator synchronously connected.
 - 3.6. Each adjacent Transmission Operator asynchronously connected.
- M3.** Each Transmission Operator shall have and provide upon request evidence that it has Interpersonal Communication capability with its Reliability Coordinator, each Balancing Authority, Distribution Provider, and Generator Operator within its Transmission Operator Area, and each adjacent Transmission Operator asynchronously or synchronously connected, which could include, but is not limited to:
- physical assets, or
 - dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communication. (R3.)
- R4.** Each Transmission Operator shall designate an Alternative Interpersonal Communication capability with the following entities: [*Violation Risk Factor: High*] [*Time Horizon: Real-time Operations*]
- 4.1. Its Reliability Coordinator.

- 4.2. Each Balancing Authority within its Transmission Operator Area.
- 4.3. Each adjacent Transmission Operator synchronously connected.
- 4.4. Each adjacent Transmission Operator asynchronously connected.

M4. Each Transmission Operator shall have and provide upon request evidence that it designated an Alternative Interpersonal Communication capability with its Reliability Coordinator, each Balancing Authority within its Transmission Operator Area, and each adjacent Transmission Operator asynchronously and synchronously connected, which could include, but is not limited to:

- physical assets, or
- dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R4.)

R5. Each Balancing Authority shall have Interpersonal Communication capability with the following entities (unless the Balancing Authority detects a failure of its Interpersonal Communication capability in which case Requirement R10 shall apply): *[Violation Risk Factor: High] [Time Horizon: Real-time Operations]*

- 5.1. Its Reliability Coordinator.
- 5.2. Each Transmission Operator that operates Facilities within its Balancing Authority Area.
- 5.3. Each Distribution Provider within its Balancing Authority Area.
- 5.4. Each Generator Operator that operates Facilities within its Balancing Authority Area.
- 5.5. Each Adjacent Balancing Authority.

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

- physical assets, or
- dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R5.)

R6. Each Balancing Authority shall designate an Alternative Interpersonal Communication capability with the following entities: *[Violation Risk Factor: High] [Time Horizon: Real-time Operations]*

- 1.
- 2.

- 3.
- 4.
- 5.
- 6.

- 6.1. Its Reliability Coordinator.
- 6.2. Each Transmission Operator that operates Facilities within its Balancing Authority Area.
- 6.3. Each Adjacent Balancing Authority.

M6. Each Balancing Authority shall have and provide upon request evidence that it designated an Alternative Interpersonal Communication capability with its Reliability Coordinator, each Transmission Operator that operates Facilities within its Balancing Authority Area, and each adjacent Balancing Authority, which could include, but is not limited to:

- physical assets, or
- dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R6.)

R7. Each Distribution Provider shall have Interpersonal Communication capability with the following entities (unless the Distribution Provider detects a failure of its Interpersonal Communication capability in which case Requirement R11 shall apply): *[Violation Risk Factor: Medium] [Time Horizon: Real-time Operations]*

- 7.1. Its Balancing Authority.
- 7.2. Its Transmission Operator.

M7. Each Distribution Provider shall have and provide upon request evidence that it has Interpersonal Communication capability with its Transmission Operator and its Balancing Authority, which could include, but is not limited to:

- physical assets, or
- dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R7.)

R8. Each Generator Operator shall have Interpersonal Communication capability with the following entities (unless the Generator Operator detects a failure of its Interpersonal Communication capability in which case Requirement R11 shall apply): *[Violation Risk Factor: High] [Time Horizon: Real-time Operations]*

- 8.1. Its Balancing Authority.
- 8.2. Its Transmission Operator.

- M8.** Each Generator Operator shall have and provide upon request evidence that it has Interpersonal Communication capability with its Balancing Authority and its Transmission Operator, which could include, but is not limited to:
- physical assets, or
 - dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R8.)
- R9.** Each Reliability Coordinator, Transmission Operator, and Balancing Authority shall 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. [*Violation Risk Factor: Medium*][*Time Horizon: Real-time Operations, Same-day Operations*]
- M9.** Each Reliability Coordinator, Transmission Operator, and Balancing Authority shall have and provide upon request evidence that it tested, at least once each calendar month, its Alternative Interpersonal Communication capability designated in Requirements 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 Communication capability within 2 hours. Evidence could include, but is not limited to: dated and time-stamped test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R9.)
- R10.** 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 capability that lasts 30 minutes or longer. [*Violation Risk Factor: Medium*][*Time Horizon: Real-time Operations*]
- M10.** Each Reliability Coordinator, Transmission Operator, and Balancing Authority shall have and provide upon request evidence that it notified entities as identified in Requirements R1, R3, and R5, respectively within 60 minutes of the detection of a failure of its Interpersonal Communication capability that lasted 30 minutes or longer. Evidence could include, but is not limited to: dated and time-stamped test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R10.)
- R11.** Each Distribution Provider and Generator Operator that detects a failure of its Interpersonal Communication capability shall consult each entity affected by the failure, as identified in Requirement R7 for a Distribution Provider or Requirement R8 for a Generator Operator, to determine a mutually agreeable action for the restoration of its Interpersonal Communication capability. [*Violation Risk Factor: Medium*][*Time Horizon: Real-time Operations*]
- M11.** Each Distribution Provider and Generator Operator that detected a failure of its Interpersonal Communication capability shall have and provide upon request evidence that it consulted with each entity affected by the failure, as identified in

Requirement R7 for a Distribution Provider or Requirement R8 for a Generator Operator, to determine mutually agreeable action to restore the Interpersonal Communication capability. Evidence could include, but is not limited to: dated operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R11.)

R12. Each Reliability Coordinator, Transmission Operator, Generator Operator, and Balancing Authority shall have internal Interpersonal Communication capabilities for the exchange of information ~~that is necessary~~ for the Reliable Operation of the BES. This includes communication capabilities between Control Centers within the same functional entity, and/or between a Control Center and field personnel. [Violation Risk Factor: High] [Time Horizon: Real-time Operations]

M12. Each Reliability Coordinator, Transmission Operator, Generator Operator, and Balancing Authority shall have and provide upon request evidence that it has internal Interpersonal Communication capability, which could include, but is not limited to:

- physical assets, or
- dated evidence, such as, equipment specifications and installation documentation, operating procedures, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications.

R13. Each Distribution Provider shall have internal Interpersonal Communication capabilities for the exchange of information necessary for the Reliable Operation of the BES. This includes communication capabilities between Control Centers within the same functional entity, and/or between a control center and field personnel. [Violation Risk Factor: Medium] [Time Horizon: Real-time Operations]

M13. Each Distribution Provider shall have and provide upon request evidence that it has internal Interpersonal Communication capability, which could include, but is not limited to:

- physical assets, or
- dated evidence, such as, equipment specifications and installation documentation, operating procedures, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications.

~~C. Measures~~

~~M1. Each Reliability Coordinator shall have and provide upon request evidence that it has Interpersonal Communication capability with all Transmission Operators and Balancing Authorities within its Reliability Coordinator Area and with each adjacent Reliability Coordinator within the same Interconnection, which could include, but is not limited to:~~

- ~~physical assets, or~~

- ~~dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R1.)~~

~~M2. Each Reliability Coordinator shall have and provide upon request evidence that it designated an Alternative Interpersonal Communication capability with all Transmission Operators and Balancing Authorities within its Reliability Coordinator Area and with each adjacent Reliability Coordinator within the same Interconnection, which could include, but is not limited to:~~

- ~~physical assets, or~~
- ~~dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R2.)~~

~~M3. Each Transmission Operator shall have and provide upon request evidence that it has Interpersonal Communication capability with its Reliability Coordinator, each Balancing Authority, Distribution Provider, and Generator Operator within its Transmission Operator Area, and each adjacent Transmission Operator asynchronously or synchronously connected, which could include, but is not limited to:~~

- ~~physical assets, or~~
- ~~dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communication. (R3.)~~

~~M4. Each Transmission Operator shall have and provide upon request evidence that it designated an Alternative Interpersonal Communication capability with its Reliability Coordinator, each Balancing Authority within its Transmission Operator Area, and each adjacent Transmission Operator asynchronously and synchronously connected, which could include, but is not limited to:~~

- ~~physical assets, or~~
- ~~dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R4.)~~

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

- ~~physical assets, or~~
- ~~dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R5.)~~

~~M6.M1. Each Balancing Authority shall have and provide upon request evidence that it designated an Alternative Interpersonal Communication capability with its Reliability Coordinator, each Transmission Operator that operates Facilities within its Balancing Authority Area, and each adjacent Balancing Authority, which could include, but is not limited to:~~

- ~~• physical assets, or~~
- ~~• dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R6.)~~

~~M7.M1. Each Distribution Provider shall have and provide upon request evidence that it has Interpersonal Communication capability with its Transmission Operator and its Balancing Authority, which could include, but is not limited to:~~

- ~~• physical assets, or~~
- ~~• dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R7.)~~

~~M8.M1. Each Generator Operator shall have and provide upon request evidence that it has Interpersonal Communication capability with its Balancing Authority and its Transmission Operator, which could include, but is not limited to:~~

- ~~• physical assets, or~~
- ~~• dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R8.)~~

~~M9.M1. Each Reliability Coordinator, Transmission Operator, and Balancing Authority shall have and provide upon request evidence that it tested, at least once each calendar month, its Alternative Interpersonal Communication capability designated in Requirements 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 Communication capability within 2 hours. Evidence could include, but is not limited to: dated and time-stamped test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R9.)~~

~~M10.M1. Each Reliability Coordinator, Transmission Operator, and Balancing Authority shall have and provide upon request evidence that it notified entities as identified in Requirements R1, R3, and R5, respectively within 60 minutes of the detection of a failure of its Interpersonal Communication capability that lasted 30 minutes or longer. Evidence could include, but is not limited to: dated and time-stamped test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R10.)~~

~~M11.M1. Each Distribution Provider and Generator Operator that detected a failure of its Interpersonal Communication capability shall have and provide upon~~

~~request evidence that it consulted with each entity affected by the failure, as identified in Requirement R7 for a Distribution Provider or Requirement R8 for a Generator Operator, to determine mutually agreeable action to restore the Interpersonal Communication capability. Evidence could include, but is not limited to: dated operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R11.)~~

D.C. Compliance

1. Compliance Monitoring Process

1.1. Compliance Enforcement Authority

~~“Compliance Enforcement Authority” or the Regional Entity, or any entity as otherwise designated by an Applicable Governmental Authority, in their respective roles of monitoring and/or enforcing compliance with mandatory and enforceable Reliability Standards in their respective jurisdictions. The Regional Entity shall serve as the Compliance Enforcement Authority (CEA) unless the applicable entity is owned, operated, or controlled by the Regional Entity. In such cases, the ERO or a Regional Entity approved by FERC or other applicable governmental authority shall serve as the CEA.~~

~~**Compliance Monitoring and Enforcement Processes**~~

~~Compliance Audit~~

~~Self-Certification~~

~~Spot Checking~~

~~Compliance Investigation~~

~~Self-Reporting~~

~~Complaint~~

1.2. Data Evidence Retention

~~The following evidence retention period(s) 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 applicable entity shall keep data or evidence to show compliance as identified below unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation:~~

- ~~• The Reliability Coordinator for Requirements R1, R2, R9, and R10, Measures M1, M2, M9, and M10 shall retain written documentation for the most recent twelve calendar months and voice recordings for the most recent 90 calendar days.~~

- The Transmission Operator for Requirements R3, R4, R9, and R10, Measures M3, M4, M9, and M10 shall retain written documentation for the most recent twelve calendar months and voice recordings for the most recent 90 calendar days.
- The Balancing Authority for Requirements R5, R6, R9, and R10, Measures M5, M6, M9, and M10 shall retain written documentation for the most recent twelve calendar months and voice recordings for the most recent 90 calendar days.
- The Distribution Provider for Requirements R7 and R11, Measures M7 and M11 shall retain written documentation for the most recent twelve calendar months and voice recordings for the most recent 90 calendar days.
- The Generator Operator for Requirements R8 and R11, Measures M8 and M11 shall retain written documentation for the most recent twelve calendar months and voice recordings for the most recent 90 calendar days.
- Responsible entities under Requirement R12, Measure M 12 shall retain written documentation for the most recent twelve calendar months and voice recordings for the most recent 90 calendar days.
- Responsible entities under Requirement R13, Measure M 13 shall retain written documentation for the most recent twelve calendar months and voice recordings for the most recent 90 calendar days.

~~If a Reliability Coordinator, Transmission Operator, Balancing Authority, Distribution Provider, or Generator Operator is found non-compliant, it shall keep information related to the non-compliance until mitigation is complete and approved or for the time specified above, whichever is longer.~~

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

1.3. Compliance Monitoring and Enforcement Program~~Additional Compliance Information~~

As defined in the NERC Rules of Procedure, “Compliance Monitoring and Enforcement Program” refers to the identification of the processes that will be used to evaluate data or information for the purpose of assessing performance or outcomes with the associated Reliability Standard.

Standard COM-001-~~2.13~~ — Communications

None.

D. Violation Severity Levels

~~Violation Severity Levels~~

R#	Lower VSL	Moderate VSL	High VSL	Severe VSL
R1	N/A	N/A	The Reliability Coordinator failed to have Interpersonal Communication capability with one of the entities listed in Requirement R1, Parts 1.1 or 1.2, except when the Reliability Coordinator detected a failure of its Interpersonal Communication capability in accordance with Requirement R10.	The Reliability Coordinator failed to have Interpersonal Communication capability with two or more of the entities listed in Requirement R1, Parts 1.1 or 1.2, except when the Reliability Coordinator detected a failure of its Interpersonal Communication capability in accordance with Requirement R10.
R2	N/A	N/A	The Reliability Coordinator failed to designate Alternative Interpersonal Communication capability with one of the entities listed in Requirement R2, Parts 2.1 or 2.2.	The Reliability Coordinator failed to designate Alternative Interpersonal Communication capability with two or more of the entities listed in Requirement R2, Parts 2.1 or 2.2.
R3	N/A	N/A	The Transmission Operator failed to have Interpersonal Communication capability with one of the entities listed in Requirement R3, Parts 3.1, 3.2, 3.3, 3.4, 3.5, or 3.6, except when the Transmission Operator detected a failure of its Interpersonal Communication capability in accordance with Requirement R10.	The Transmission Operator failed to have Interpersonal Communication capability with two or more of the entities listed in Requirement R3, Parts 3.1, 3.2, 3.3, 3.4, 3.5, or 3.6, except when the Transmission Operator detected a failure of its Interpersonal Communication capability in accordance with Requirement R10.

Standard COM-001-2.13 — Communications

R#	Lower VSL	Moderate VSL	High VSL	Severe VSL
R4	N/A	N/A	The Transmission Operator failed to designate Alternative Interpersonal Communication capability with one of the entities listed in Requirement R4, Parts 4.1, 4.2, 4.3, or 4.4.	The Transmission Operator failed to designate Alternative Interpersonal Communication capability with two or more of the entities listed in Requirement R4, Parts 4.1, 4.2, 4.3, or 4.4.
R5	N/A	N/A	The Balancing Authority failed to have Interpersonal Communication capability with one of the entities listed in Requirement R5, Parts 5.1, 5.2, 5.3, 5.4, or 5.5, except when the Balancing Authority detected a failure of its Interpersonal Communication capability in accordance with Requirement R10.	The Balancing Authority failed to have Interpersonal Communication capability with two or more of the entities listed in Requirement R5, Parts 5.1, 5.2, 5.3, 5.4, or 5.5, except when the Balancing Authority detected a failure of its Interpersonal Communication capability in accordance with Requirement R10.
R6	N/A	N/A	The Balancing Authority failed to designate Alternative Interpersonal Communication capability with one of the entities listed in Requirement R6, Parts 6.1, 6.2, or 6.3.	The Balancing Authority failed to designate Alternative Interpersonal Communication capability with two or more of the entities listed in Requirement R6, Parts 6.1, 6.2, or 6.3.
R7	N/A	N/A	The Distribution Provider failed to have Interpersonal Communication capability with one of the entities listed in Requirement R7, Parts 7.1 or 7.2, except when the Distribution Provider detected a failure of its Interpersonal Communication capability in accordance with Requirement R11.	The Distribution Provider failed to have Interpersonal Communication capability with two or more of the entities listed in Requirement R7, Parts 7.1 or 7.2, except when the Distribution Provider detected a failure of its Interpersonal Communication capability in accordance with Requirement R11.

Standard COM-001-2.13 — Communications

R#	Lower VSL	Moderate VSL	High VSL	Severe VSL
R8	N/A	N/A	The Generator Operator failed to have Interpersonal Communication capability with one of the entities listed in Requirement R8, Parts 8.1 or 8.2, except when a Generator Operator detected a failure of its Interpersonal Communication capability in accordance with Requirement R11.	The Generator Operator failed to have Interpersonal Communication capability with two or more of the entities listed in Requirement R8, Parts 8.1 or 8.2, except when a Generator Operator detected a failure of its Interpersonal Communication capability in accordance with Requirement R11.
R9	The Reliability Coordinator, Transmission Operator, or Balancing Authority tested the Alternative Interpersonal Communication capability but failed to initiate action to repair or designate a replacement Alternative Interpersonal Communication in more than 2 hours and less than or equal to 4 hours upon an unsuccessful test.	The Reliability Coordinator, Transmission Operator, or Balancing Authority tested the Alternative Interpersonal Communication capability but failed to initiate action to repair or designate a replacement Alternative Interpersonal Communication in more than 4 hours and less than or equal to 6 hours upon an unsuccessful test.	The Reliability Coordinator, Transmission Operator, or Balancing Authority tested the Alternative Interpersonal Communication capability but failed to initiate action to repair or designate a replacement Alternative Interpersonal Communication in more than 6 hours and less than or equal to 8 hours upon an unsuccessful test.	The Reliability Coordinator, Transmission Operator, or Balancing Authority failed to test the Alternative Interpersonal Communication capability once each calendar month. OR The Reliability Coordinator, Transmission Operator, or Balancing Authority tested the Alternative Interpersonal Communication capability but failed to initiate action to repair or designate a replacement Alternative Interpersonal Communication in more than 8 hours upon an unsuccessful test.
R10	The Reliability Coordinator, Transmission Operator, or Balancing Authority failed to notify the entities identified in Requirements R1, R3, and R5, respectively upon the detection of a failure of its Interpersonal Communication capability in more than 60 minutes but less than or equal to 70 minutes.	The Reliability Coordinator, Transmission Operator, or Balancing Authority failed to notify the entities identified in Requirements R1, R3, and R5, respectively upon the detection of a failure of its Interpersonal Communication capability in more than 70 minutes but less than or equal to 80 minutes.	The Reliability Coordinator, Transmission Operator, or Balancing Authority failed to notify the entities identified in Requirements R1, R3, and R5, respectively upon the detection of a failure of its Interpersonal Communication capability in more than 80 minutes but less than or equal to 90 minutes.	The Reliability Coordinator, Transmission Operator, or Balancing Authority failed to notify the entities identified in Requirements R1, R3, and R5, respectively upon the detection of a failure of its Interpersonal Communication capability in more than 90 minutes.

Standard COM-001-~~2.13~~ — Communications

R#	Lower VSL	Moderate VSL	High VSL	Severe VSL
R11	N/A	N/A	N/A	The Distribution Provider or Generator Operator that detected a failure of its Interpersonal Communication capability failed to consult with each entity affected by the failure, as identified in Requirement R7 for a Distribution Provider or Requirement R8 for a Generator Operator, to determine a mutually agreeable action for the restoration of the Interpersonal Communication capability.
<u>R12</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>The Reliability Coordinator, Transmission Operator, Generator Operator, or Balancing Authority failed to have internal Interpersonal Communication capability for the exchange of operating information.</u>
<u>R13</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>The Distribution Provider failed to have internal Interpersonal Communication capability for the exchange of operating information.</u>

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
1.1	October 29, 2008	BOT adopted errata changes; updated version number to “1.1”	Errata
2	November 7, 2012	Adopted by Board of Trustees	Revised in accordance with SAR for Project 2006-06, Reliability Coordination (RC SDT). Replaced R1 with R1-R8; R2 replaced by R9; R3 included within new R1; R4 remains enforce pending Project 2007-02; R5 redundant with EOP-008-0, retiring R5 as redundant with EOP-008-0, R1; retiring R6, relates to ERO procedures; R10 & R11, new.
2	April 16, 2015	FERC Order issued approving COM-001-2	
2.1	August 25, 2015	Changed numbered parts under Requirement R6 to line up with the appropriate requirement.	Errata
2.1	November 13, 2015	FERC Letter Order approved errata to COM-001-2.1. Docket RD15-6-000	Errata <u>to correct inadvertent numbering</u>

Standard COM-001-~~2.13~~3 — Communications

			<u>errors in the parts to Requirement R6.</u>
<u>3</u>	<u>August 11, 2016</u>	<u>Adopted by the NERC Board of Trustees</u>	<u>New</u>

Exhibit B
Implementation Plan

Implementation Plan COM-001-3 Communications

Requested Approval

COM-001-3 – Communications

Requested Retirement

COM-001-2.1 – Communications

Prerequisite Approvals

None.

Defined Terms in the NERC Glossary

None.

Conforming Changes to Requirements in Already Approved Standards

None.

Revisions to Approved Standards and Definitions

The Standard Drafting Team (SDT) revised the COM-001-2.1 standard to propose additional Requirements R12 and R13, addressing FERC’s directive in Order No. 808, P41 “[t]o develop modifications to COM-001-2, or to develop a new standard, to address our concerns regarding ensuring the adequacy of internal communications capability...” The additions were made to address internal Interpersonal Communication capabilities for applicable entities.

Applicable Entities

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

Effective Date

New or Revised Standards

COM-001-3 Where approval by an applicable governmental authority is required, the standard shall become effective on the first day of the first calendar quarter that is 9 months after the effective date of the applicable governmental authority’s order

approving the standard, or as otherwise provided for by the applicable governmental authority.

Where approval by an applicable governmental authority is not required, the standard shall become effective on the first day of the first calendar quarter that is 9 months after the date the standard is adopted by the NERC Board of Trustees, or as otherwise provided for in that jurisdiction.

Standard for Retirement

Reliability Standard COM-001-2.1 shall be retired immediately prior to the Effective Date of COM-001-3 in the particular jurisdiction in which the COM-001-3 standard is becoming effective.

New or Revised Definitions

None.

Exhibit C

Order No. 672 Criteria

Order No. 672 Criteria

In Order No. 672, the Commission identified a number of criteria it will use to analyze Reliability Standards proposed for approval to ensure they are just, reasonable, not unduly discriminatory or preferential, and in the public interest.¹ The discussion below identifies these factors and explains how the revisions reflected in proposed Reliability Standard meet or exceed the Commission's criteria.

1. Proposed Reliability Standards must be designed to achieve a specified reliability goal and must contain a technically sound means to achieve that goal.²

The purpose of proposed Reliability Standard COM-001-3, attached as **Exhibit A**, is to establish Interpersonal Communication capabilities necessary to maintain reliability. Proposed Reliability Standard COM-001-3 was designed to include two new Requirements R12 and R13 on internal Interpersonal Communication capabilities. The proposed Requirements will require applicable entities to have internal Interpersonal Communication capabilities for the exchange of information necessary for the Reliable Operation of the Bulk Electric System ("BES"). This includes communication capabilities between Control Centers within the same functional entity, and/or between a Control Center and field personnel.

2. Proposed Reliability Standards must be applicable only to users, owners and operators of the Bulk-Power System, and must be clear and unambiguous as to what is required and who is required to comply.³

The proposed Reliability Standard is applicable only to users, owners, and operators of the Bulk-Power System and is clear and unambiguous as to what is required and who is required to

¹ *Rules Concerning Certification of the Electric Reliability Organization; and Procedures for the Establishment, Approval, and Enforcement of Electric Reliability Standards*, Order No. 672, FERC Stats. & Regs. ¶ 31,204, *order on reh'g*, Order No. 672-A, FERC Stats. & Regs. ¶ 31,212 (2006).

² Order No. 672 at PP 321, 324.

³ Order No. 672 at PP 322, 325.

comply, in accordance with Order No. 672. The proposed Reliability Standard, with proposed new Requirements R12 and R13, applies to Transmission Operators, Balancing Authorities, Reliability Coordinators, Distribution Providers, and Generator Operators. The proposed Reliability Standard clearly articulates the actions that such entities must take to comply with the standard, each of which are triggered by articulable actions and situations.

3. A proposed Reliability Standard must include clear and understandable consequences and a range of penalties (monetary and/or non-monetary) for a violation.⁴

The Violation Risk Factors (“VRFs”) and Violation Severity Levels (“VSLs”) for the proposed Requirements R12 and R13 of proposed Reliability Standard COM-001-3 are reflected in **Exhibit A** as supported by the justification attached at **Exhibit E**.⁵ These VRFs and VSLs comport with NERC and Commission guidelines related to their assignment. The assignment of the severity level for each VSL is consistent with the corresponding Requirement and will ensure uniformity and consistency in the determination of penalties. The VSLs do not use any ambiguous terminology, thereby supporting uniformity and consistency in the determination of similar penalties for similar violations. For these reasons, the proposed Requirements R12 and R13 of COM-001-3 includes clear and understandable consequences in accordance with Order No. 672.

4. A proposed Reliability Standard must identify clear and objective criterion or measure for compliance, so that it can be enforced in a consistent and non-preferential manner.⁶

The proposed Reliability Standard contains Measures that support each Requirement by clearly identifying what is required and how the requirement will be enforced. These measures help provide clarity regarding how the requirements will be enforced, and ensure that the

⁴ Order No. 672 at P 326.

⁵ No changes were made to the VRFs and VSLs for existing Requirements in COM-001-2.1.

⁶ Order No. 672 at P 327.

requirements will be enforced in a clear, consistent, and non-preferential manner and without prejudice to any party.

5. Proposed Reliability Standards should achieve a reliability goal effectively and efficiently — but do not necessarily have to reflect “best practices” without regard to implementation cost or historical regional infrastructure design.⁷

The proposed Reliability Standard and the proposed new Requirements achieve the reliability goal effectively and efficiently in accordance with Order No. 672. Consistent with Order No. 808, regarding COM-001-2, the proposed Requirements will ensure that Reliability Standard COM-001-3 addresses internal Interpersonal Communications capabilities that could involve the issuance or receipt of Operating Instructions or other communications that could directly impact reliability.⁸

6. Proposed Reliability Standards cannot be “lowest common denominator,” i.e., cannot reflect a compromise that does not adequately protect Bulk-Power System reliability. Proposed Reliability Standards can consider costs to implement for smaller entities, but not at consequences of less than excellence in operating system reliability.⁹

The proposed Reliability Standard and Requirements does not reflect a “lowest common denominator” approach. To the contrary, the proposed standard and two new Requirements represent significant benefits for the reliability of the Bulk-Power System by requiring entities to have internal Interpersonal Communication capabilities for the exchange of information necessary for Reliable Operation of the BES. The proposed Reliability Standard and Requirements do not sacrifice excellence in operating system reliability for costs associated with implementation of the Reliability Standard.

⁷ Order No. 672 at P 328.

⁸ Order No. 808, *Communications Reliability Standards*, 151 FERC ¶ 61,039, 80 Fed. Reg. 22,385 (2015) (to be codified at 18 C.F.R. pt. 40). *See, e.g., id.*, at P 41.

⁹ Order No. 672 at P 329-30.

7. Reliability Standards must be designed to apply throughout North America to the maximum extent achievable with a single Reliability Standard while not favoring one geographic area or regional model. It should take into account regional variations in the organization and corporate structures of transmission owners and operators, variations in generation fuel type and ownership patterns, and regional variations in market design if these affect the proposed Reliability Standard.¹⁰

The proposed Reliability Standard applies throughout North America and does not favor one geographic area or regional model.

8. Proposed Reliability Standards should cause no undue negative effect on competition or restriction of the grid beyond any restriction necessary for reliability.¹¹

The proposed Reliability Standard has no undue negative impact on competition. The proposed Reliability Standard requires the same performance by each applicable entity. The standard does not unreasonably restrict the available transmission capability or limit use of the Bulk-Power System in a preferential manner.

9. The implementation time for the proposed Reliability Standard is reasonable.¹²

The proposed effective date is just and reasonable and appropriately balances the urgency of implementing the revised standard against the reasonableness of the time allowed those who must comply to develop necessary procedures, software, facilities, staffing or other relevant capability. NERC proposes an effective date for COM-001-3 on the first day of the first calendar quarter that is nine months after the effective date of the applicable regulatory approval. The proposed implementation period is designed to allow sufficient time for the applicable entities to make any changes in their internal process necessary to implement the proposed revisions. The proposed effective date is reflected in the proposed Implementation Plan, attached as **Exhibit B**.

¹⁰ Order No. 672 at P 331.

¹¹ Order No. 672 at P 332.

¹² Order No. 672 at P 333.

10. The Reliability Standard was developed in an open and fair manner and in accordance with the Commission-approved Reliability Standard development process.¹³

The proposed Reliability Standard was developed in accordance with NERC's Commission approved, ANSI-accredited processes for developing and approving Reliability Standards.¹⁴

Exhibit F includes a summary of the Reliability Standard development proceedings and details the processes followed to develop the Reliability Standard. These processes included, among other things, three comment periods, pre-ballot review periods, and balloting periods.

Additionally, all meetings of the standard drafting team were properly noticed and open to the public.

11. NERC must explain any balancing of vital public interests in the development of proposed Reliability Standards.¹⁵

NERC has identified no competing public interests regarding the request for approval of proposed Reliability Standard COM-001-3. No comments were received that indicated the proposed Reliability Standard conflict with other vital public interests.

12. Proposed Reliability Standards must consider any other appropriate factors.¹⁶

NERC has identified no other factors relevant to whether the proposed Reliability Standard COM-001-3 is just and reasonable.

¹³ Order No. 672 at P 334.

¹⁴ See NERC Rules of Procedure, Section 300 (Reliability Standards Development) and Appendix 3A (Standard Processes Manual).

¹⁵ Order No. 672 at P 335.

¹⁶ Order No. 672 at P 323.

Exhibit D
Mapping Document

Mapping Document

COM-001-3 Communications

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 Additional Requirement(s)
COM-001-2.1	<p>New Requirement</p> <p>R12. Each Reliability Coordinator, Transmission Operator, Generator Operator, and Balancing Authority shall have internal Interpersonal Communication capabilities for the exchange of operating information.</p>
COM-001-2.1	<p>New Requirement</p> <p>R13. Each Distribution Provider shall have internal Interpersonal Communication capabilities for the exchange of operating information.</p>

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-001-3 Communications	X	X		X			X	X

Exhibit E

Analysis of Violation Risk Factors and Violation Severity Levels Justification Document

Violation Risk Factor and Violation Severity Level Justifications

COM-001-3 – Communications

Violation Risk Factor and Violation Severity Level Justifications

This document provides the drafting team's justification for assignment of violation risk factors (VRFs) and violation severity levels (VSLs) for Requirements R12 and R13 in: COM-001-3 – Communications

Each primary requirement is assigned a VRF and a set of one or more VSLs. These elements support the determination of an initial value range for the Base Penalty Amount regarding violations of requirements in FERC-approved Reliability Standards, as defined in the ERO Sanction Guidelines.

The Reliability Coordination Standard Drafting Team (SDT) applied the following NERC criteria and FERC Guidelines when proposing VRFs and VSL for the requirements under this project.

NERC Criteria – Violation Risk Factors

High Risk Requirement

A requirement that, if violated, could directly cause or contribute to bulk electric system instability, separation, or a cascading sequence of failures, or could place the bulk electric system at an unacceptable risk of instability, separation, or cascading failures; or, a requirement in a planning time frame that, if violated, could, under emergency, abnormal, or restorative conditions anticipated by the preparations, directly cause or contribute to bulk electric system instability, separation, or a cascading sequence of failures, or could place the bulk electric system at an unacceptable risk of instability, separation, or cascading failures, or could hinder restoration to a normal condition.

Medium Risk Requirement

A requirement that, if violated, could directly affect the electrical state or the capability of the bulk electric system, or the ability to effectively monitor and control the bulk electric system. However, violation of a medium risk requirement is unlikely to lead to bulk electric system instability, separation, or cascading failures; or, a requirement in a planning time frame that, if violated, could, under emergency, abnormal, or restorative conditions anticipated by the preparations, directly and adversely affect the electrical state or capability of the bulk electric system, or the ability to effectively monitor, control, or restore the bulk electric system. However, violation of a medium risk requirement is unlikely, under emergency, abnormal, or

restoration conditions anticipated by the preparations, to lead to bulk electric system instability, separation, or cascading failures, nor to hinder restoration to a normal condition.

Lower Risk Requirement

A requirement that is administrative in nature and a requirement that, if violated, would not be expected to adversely affect the electrical state or capability of the bulk electric system, or the ability to effectively monitor and control the bulk electric system; or, a requirement that is administrative in nature and a requirement in a planning time frame that, if violated, would not, under the emergency, abnormal, or restorative conditions anticipated by the preparations, be expected to adversely affect the electrical state or capability of the bulk electric system, or the ability to effectively monitor, control, or restore the bulk electric system. A planning requirement that is administrative in nature.

FERC Violation Risk Factor Guidelines

The SDT also considered consistency with the FERC Violation Risk Factor Guidelines for setting VRFs:¹

Guideline 1 – Consistency with the Conclusions of the Final Blackout Report

The Commission seeks to ensure that Violation Risk Factors assigned to Requirements of Reliability Standards in these identified areas appropriately reflect their historical critical impact on the reliability of the Bulk-Power System.

In the VSL Order, FERC listed critical areas (from the Final Blackout Report) where violations could severely affect the reliability of the Bulk-Power System:²

- Emergency operations
- Vegetation management
- Operator personnel training
- Protection systems and their coordination
- Operating tools (capabilities)³ and backup facilities
- Reactive power and voltage control
- System modeling and data exchange
- Communication protocol and facilities
- Requirements to determine equipment ratings

¹ North American Electric Reliability Corp., 119 FERC ¶ 61,145, order on reh'g and compliance filing, 120 FERC ¶ 61,145 (2007) ("VRF Rehearing Order").

² Id. at footnote 15.

³ Mandatory Reliability Standards for the Bulk-Power System, 118 FERC ¶ 61,218, FERC Stats. & Regs. ¶ 31,242 at PP 906 and 1660. (Order No. 693), order on reh'g, Mandatory Reliability Standards for the Bulk-Power System, 120 FERC ¶ 61,053 (Order No. 693-A) (2007).

- Synchronized data recorders
- Clearer criteria for operationally critical facilities
- Appropriate use of transmission loading relief

Guideline 2 – Consistency within a Reliability Standard

The Commission expects a rational connection between the sub-Requirement Violation Risk Factor assignments and the main Requirement Violation Risk Factor assignment.

Guideline 3 – Consistency among Reliability Standards

The Commission expects the assignment of Violation Risk Factors corresponding to Requirements that address similar reliability goals in different Reliability Standards would be treated comparably.

Guideline 4 – Consistency with NERC's Definition of the Violation Risk Factor Level

Guideline (4) was developed to evaluate whether the assignment of a particular Violation Risk Factor level conforms to NERC's definition of that risk level.

Guideline 5 – Treatment of Requirements that Co-mingle More Than One Obligation

Where a single Requirement co-mingles a higher risk reliability objective and a lesser risk reliability objective, the VRF assignment for such Requirements must not be watered down to reflect the lower risk level associated with the less important objective of the Reliability Standard.

The following discussion addresses how the SDT considered FERC's VRF Guidelines 2 through 5. The team did not address Guideline 1 directly because of an apparent conflict between Guidelines 1 and 4. Whereas Guideline 1 identifies a list of topics that encompass nearly all topics within NERC's Reliability Standards and implies that these requirements should be assigned a "High" VRF, Guideline 4 directs assignment of VRFs based on the impact of a specific requirement to the reliability of the system. The SDT believes that Guideline 4 is reflective of the intent of VRFs in the first instance and therefore concentrated its approach on the reliability impact of the requirements.

There are two new requirements in the standard. Neither of the requirements were assigned a "Lower" VRF. Requirement R12 is assigned a "High" VRF while Requirement R13 is assigned a "Medium" VRF.

NERC Criteria – Violation Severity Levels

Violation Severity Levels (VSLs) define the degree to which compliance with a requirement was not achieved. Each requirement must have at least one VSL. While it is preferable to have four VSLs for each requirement, some requirements do not have multiple "degrees" of noncompliant performance, and may have only one, two, or three VSLs.

Violation severity levels should be based on the guidelines shown in the table below:

Lower	Moderate	High	Severe
<p>Missing a minor element (or a small percentage) of the required performance</p> <p>The performance or product measured has significant value as it almost meets the full intent of the requirement.</p>	<p>Missing at least one significant element (or a moderate percentage) of the required performance.</p> <p>The performance or product measured still has significant value in meeting the intent of the requirement.</p>	<p>Missing more than one significant element (or is missing a high percentage) of the required performance or is missing a single vital component.</p> <p>The performance or product has limited value in meeting the intent of the requirement.</p>	<p>Missing most or all of the significant elements (or a significant percentage) of the required performance.</p> <p>The performance measured does not meet the intent of the requirement or the product delivered cannot be used in meeting the intent of the requirement.</p>

FERC Order of Violation Severity Levels

FERC’s VSL guidelines are presented below, followed by an analysis of whether the VSLs proposed for Requirements R12 and R13 in the standard meet the FERC Guidelines for assessing VSLs:

Guideline 1 – Violation Severity Level Assignments Should Not Have the Unintended Consequence of Lowering the Current Level of Compliance

Compare the VSLs to any prior levels of non-compliance and avoid significant changes that may encourage a lower level of compliance than was required when levels of non-compliance were used.

Guideline 2 – Violation Severity Level Assignments Should Ensure Uniformity and Consistency in the Determination of Penalties

A violation of a “binary” type requirement must be a “Severe” VSL.

Do not use ambiguous terms such as “minor” and “significant” to describe noncompliant performance.

Guideline 3 – Violation Severity Level Assignment Should Be Consistent with the Corresponding Requirement

VSLs should not expand on what is required in the requirement.

Guideline 4 – Violation Severity Level Assignment Should Be Based on A Single Violation, Not on A Cumulative Number of Violations

... unless otherwise stated in the requirement, each instance of non-compliance with a requirement is a separate violation. Section 4 of the Sanction Guidelines states that assessing penalties on a per violation per day basis is the “default” for penalty calculations.

VRF and VSL Justifications

VRF Justifications – COM-001-3, R12	
Proposed VRF	High
NERC VRF Discussion	
FERC VRF G1 Discussion	Guideline 1- Consistency w/ Blackout Report: N/A
FERC VRF G2 Discussion	Guideline 2- Consistency within a Reliability Standard: The requirement has no sub-requirements; only one VRF is assigned, so there is no conflict.
FERC VRF G3 Discussion	Guideline 3- Consistency among Reliability Standards: This requirement is a facility requirement that provides for internal communications capability, including internal communications within the same functional entity. There are no similar facility requirements in the standards. The approved VRF for COM-001-2, R1-R6 is High and therefore the proposed VRF for R12 is consistent.
FERC VRF G4 Discussion	Guideline 4- Consistency with NERC Definitions of VRFs: Failure to have internal Interpersonal Communication capability could limit or prevent communication between entities and directly affect the electrical state or the capability of the Bulk Power System and could lead to Bulk Power System instability, separation, or cascading failures. Therefore, this requirement is assigned a High VRF.
FERC VRF G5 Discussion	Guideline 5- Treatment of Requirements that Co-mingle More than One Obligation: The requirement, R12, contains only one objective; therefore, only one VRF was assigned.

Proposed VSLs for COM-001-3, R12				
R#	Lower	Moderate	High	Severe
R12	N/A	N/A	N/A	The Reliability Coordinator, Balancing Authority, Generator Operator, or Transmission Operator failed to have internal Interpersonal Communication capability for the exchange of operating information.
VSL Justifications – COM-001-3, R12				
NERC VSL Guidelines			Meets NERC’s VSL guidelines. There is not an incremental aspect to the violation and the VSL follows the guidelines for violations.	
FERC VSL G1 Violation Severity Level Assignments Should Not Have the Unintended Consequence of Lowering the Current Level of Compliance			N/A	
FERC VSL G2 Violation Severity Level Assignments Should Ensure Uniformity and Consistency in the Determination of Penalties Guideline 2a: The Single Violation Severity Level Assignment Category for "Binary" Requirements Is Not Consistent Guideline 2b: Violation Severity Level Assignments that Contain Ambiguous Language			Guideline 2a: The proposed VSL is consistent with Requirements R7, R8, and R11. Guideline 2b: The proposed VSL does not use any ambiguous terminology, thereby supporting uniformity and consistency in the determination of similar penalties for similar violations.	
FERC VSL G3			The proposed VSL uses the same terminology as used in the associated requirement, and is, therefore, consistent with the requirement.	

Proposed VSLs for COM-001-3, R12	
Violation Severity Level Assignment Should Be Consistent with the Corresponding Requirement	
FERC VSL G4 Violation Severity Level Assignment Should Be Based on A Single Violation, Not on A Cumulative Number of Violations	The VSL is based on a single violation and not cumulative violations.

VRF Justifications – COM-001-3, R13	
Proposed VRF	Medium
NERC VRF Discussion	
FERC VRF G1 Discussion	Guideline 1- Consistency w/ Blackout Report: N/A
FERC VRF G2 Discussion	Guideline 2- Consistency within a Reliability Standard: The requirement has no sub-requirements; only one VRF is assigned, so there is no conflict.
FERC VRF G3 Discussion	Guideline 3- Consistency among Reliability Standards: In COM-001-3, the Distribution Provider VRF is Medium because the Interpersonal Communications capabilities are potentially less impactful than similar Interpersonal Communication capabilities of Reliability Coordinators, Balancing Authorities, Generator Operators, or Transmission Operators.
FERC VRF G4 Discussion	Guideline 4- Consistency with NERC Definitions of VRFs: Failure to have internal Interpersonal Communication capability could limit or prevent communication within an entity; however, Bulk Power System instability, separation, or cascading failures are not likely to occur due to a failure to have internal Interpersonal Communication capabilities. Therefore, this requirement is assigned a Medium VRF.

VRF Justifications – COM-001-3, R13	
Proposed VRF	Medium
FERC VRF G5 Discussion	<p>Guideline 5- Treatment of Requirements that Co-mingle More than One Obligation:</p> <p>The requirement contains only one objective; therefore, only one VRF was assigned.</p>

Proposed VSLs for COM-001-3, R13				
R#	Lower	Moderate	High	Severe
R13	N/A	N/A	N/A	The Distribution Provider failed to have internal Interpersonal Communication capability for the exchange of operating information...

VSL Justifications – COM-001-3, R13	
NERC VSL Guidelines	Meets NERC’s VSL guidelines. There is not an incremental aspect to the violation and the VSL follows the guidelines for violations.
FERC VSL G1 Violation Severity Level Assignments Should Not Have the Unintended Consequence of Lowering the Current Level of Compliance	The proposed requirement is a revision to COM-001-2.1. The proposed VSL is binary.
FERC VSL G2 Violation Severity Level Assignments Should Ensure Uniformity and Consistency in the Determination of Penalties Guideline 2a: The Single Violation Severity Level Assignment	<p>Guideline 2a: N/A</p> <p>Guideline 2b: The proposed VSL does not use any ambiguous terminology, thereby supporting uniformity and</p>

Proposed VSLs for COM-001-3, R13	
Category for "Binary" Requirements Is Not Consistent Guideline 2b: Violation Severity Level Assignments that Contain Ambiguous Language	consistency in the determination of similar penalties for similar violations.
FERC VSL G3 Violation Severity Level Assignment Should Be Consistent with the Corresponding Requirement	The proposed VSL uses the same terminology as used in the associated requirement, and is, therefore, consistent with the requirement.
FERC VSL G4 Violation Severity Level Assignment Should Be Based on A Single Violation, Not on A Cumulative Number of Violations	The VSL is based on a single violation and not cumulative violations.

Exhibit F

Summary of Development History and Complete Record of Development

Summary of Development History

Summary of Development History

The development record for proposed Reliability Standard COM-001-3 is summarized below.

I. Overview of the Standard Drafting Team

When evaluating a proposed Reliability Standard, the Commission is expected to give “due weight” to the technical expertise of the ERO.¹ The technical expertise of the ERO is derived from the standard drafting team selected to lead each project in accordance with Section 4.3 of the NERC Standards Process Manual.² For this project, the standard drafting team consisted of industry experts, all with a diverse set of experiences. A roster of the standard drafting team members is included in Exhibit G.

II. Standard Development History

A. Standard Authorization Request Development

Project 2015-07 – Internal Communications Capabilities was initiated on June 10, 2015 as a Standard Authorization Request (“SAR”) to address the Commission’s directive in Order No. 808.³ In Order No. 808, the Commission “direct[ed] NERC to develop modifications to COM-001-2, or to develop a new standard, to address [the Commission’s] concerns regarding ensuring the adequacy of internal communications capability whenever internal communications could directly affect the reliable operation of the Bulk-Power System.”⁴ Proposed Reliability Standard COM-001-3 was designed by the standard drafting team to include two new requirements on internal Interpersonal Communication capabilities in compliance with the

¹ Section 215(d)(2) of the Federal Power Act; 16 U.S.C. §824(d) (2) (2012).

² The NERC *Standard Processes Manual* is available at http://www.nerc.com/comm/SC/Documents/Appendix_3A_StandardsProcessesManual.pdf.

³ Order No. 808, *Communications Reliability Standards*, 151 FERC ¶ 61,039, 80 Fed. Reg. 22,385 (2015) (to be codified at 18 C.F.R. pt. 40).

⁴ *Id.*, at P 41.

Commission's directive. The SAR was approved by the Standards Committee and was posted for a 30-day informal comment period from June 11, 2015 through July 15, 2015.

B. First Posting – Formal Comment Period, Ballot and Non-Binding Poll

Proposed Reliability COM-001-3 was first posted for a 45-day formal comment period from September 25, 2015 through November 16, 2015, with an initial ballot held from November 6, 2015 through November 16, 2015. Two documents were posted for guidance with the first draft: (i) the Unofficial Comment Form; and (ii) the Violation Risk Factors (“VRFs”) and Violation Severity Levels (“VSLs”) Justification document. The initial ballot received 88.18% quorum, and 53.60% approval.⁵ The Non-binding Poll reached quorum at 86.02% of the ballot pool, and the standard and associated documents received support from 56.25% of the voters. There were 54 sets of responses to the posting, including comments from approximately 110 different individuals from approximately 68 companies representing all 10 of the industry segments.⁶

C. Second Comment Period, Additional Ballot and Non-Binding Poll

Proposed Reliability Standard COM-001-3 was then posted for an additional 45-day formal comment period from March 23, 2016 through May 9, 2016, with an additional ballot held from April 27, 2016 through May 9, 2016. The additional ballot reached quorum at 81.03% of the ballot pool, and the standard and associated documents received support from 82.64% of the voters. The Non-binding Poll reached quorum at 79.57% of the ballot pool, and the standard

⁵ NERC, *Summary of Initial Ballot and Non-binding Poll Results*, Project 2015-07 Internal Communications Capabilities, available at [http://www.nerc.com/pa/Stand/Project%20201507%20Internal%20Communications%20Capabilitie/2015-07 Ballot Results Word Announcement 111815.pdf](http://www.nerc.com/pa/Stand/Project%20201507%20Internal%20Communications%20Capabilitie/2015-07%20Ballot%20Results%20Word%20Announcement%20111815.pdf).

⁶ NERC, *Consideration of Comments*, Project 2015-07 Internal Communications Capabilities, (March 2016), available at [http://www.nerc.com/pa/Stand/Project%20201507%20Internal%20Communications%20Capabilitie/REVISED Project%202015-07 IB CP Comment Report%20Responses 042016.pdf](http://www.nerc.com/pa/Stand/Project%20201507%20Internal%20Communications%20Capabilitie/REVISED%20Project%202015-07%20IB%20CP%20Comment%20Report%20Responses%20042016.pdf).

and associated documents received support from 84.85% of the voters. There were 42 sets of comments, including comments from approximately 101 different individuals and approximately 77 companies, representing 9 of the 10 industry segments.⁷

D. Final Ballot

Proposed Reliability Standard COM-001-3 was posted for a 10-day final ballot period from June 15, 2016 through June 24, 2016. The ballot for the proposed Reliability Standard and associated documents reached quorum at 84.52% of the ballot pool, and the standard received sufficient affirmative votes for approval, receiving support from 83.25% of the voters.⁸

E. Board of Trustees Adoption

Proposed Reliability Standard COM-001-3 was adopted by the NERC Board of Trustees on August 11, 2016.⁹

⁷ NERC, *Consideration of Comments*, Project 2015-07 Internal Communications Capabilities, (June 2016), available at

http://www.nerc.com/pa/Stand/Project%20201507%20Internal%20Communications%20Capabilitie/2015-07_Consideration_of_Comments_060116.pdf.

⁸ NERC, *Standards Announcement*, Project 2015-07, available at

http://www.nerc.com/pa/Stand/Project%20201507%20Internal%20Communications%20Capabilitie/2015-07_Final_Ballot_Results_Word_Announce_062716.pdf.

⁹ NERC, *Board of Trustees Agenda Package*, Agenda Item 6b (Project 2015-07 Internal Communications Capabilities COM-001-3), available at

http://www.nerc.com/gov/bot/Agenda%20highlights%20and%20Mintues%202013/Board_Open_August_11_2016_Pkg.pdf.

Complete Record of Development

Program Areas & Departments > Standards > Project 2015-07 Internal Communications Capabilities
Project 2015-07 Internal Communications Capabilities

Related Files

Status

A 10-day final ballot for **COM-001-3 - Communications** concluded **8 p.m. Eastern, Friday, June 24, 2016**. The voting results can be accessed via the links below. The standard will be submitted to the Board of Trustees for adoption and then filed with the appropriate regulatory authorities.

Background

The project will address the directive from [FERC Order No. 808](#) to modify the COM-001-2 standard or develop a new standard to address “internal communications capabilities that could involve the issuance or receipt of Operating Instructions or other communications that could have an impact on reliability.” See [Order No. 808, at P 1 and P 41](#).

Standard(s) Affected: [COM-001-2](#) - Communications

Purpose/Industry Need

On April 16, 2015, FERC issued Order No. 808, Communications Reliability Standards. In this order, FERC approved COM-001-2 and also directed that NERC to either develop a new standard or make the following modification to the existing COM-001-2 standard:

[FERC] direct[s] NERC to develop modifications to COM-001-2, or to develop a new standard, to address our concerns regarding ensuring the adequacy of internal communications capability whenever internal communications could directly affect the reliable operation of the Bulk-Power System. See [Order No. 808, at P 41](#).

[T]he Commission directs NERC to develop a modification to Reliability Standard COM-001-2 that addresses internal communications capabilities that could involve the issuance or receipt of Operating Instructions or other communications that could have an impact on reliability.

FERC’s directive thus encompasses a directive that the modified or new standard “address the adequacy of internal telecommunications (or other internal communication systems) that may have an adverse effect on reliability, even within a single functional entity, including: (1) communications between geographically separate control centers within the same functional entity; and (2) communications between a control center and field personnel. These scenarios present a gap in reliability of the Bulk-Power System that NERC should address.” See [Order No. 808, at P 41](#).

Draft	Actions	Dates	Results	Consideration of Comments
COM-001-3 Redline to Last Approved (43)				
Final Draft COM-001-3 Clean (35) Redline to Last Posted (36) Implementation Plan (37) Supporting Materials	Final Ballot Info (40) Vote	06/15/16 – 06/24/16	Summary (41) Ballot Results (42)	

<p>Mapping Document (38)</p> <p>VRF/VSL Justification (39)</p>				
<p>Draft 2</p> <p>COM-001-3</p> <p>Clean (20) Redline to Last Posted (21)</p> <p>Implementation Plan</p> <p>Clean (22) Redline to Last Posted (23)</p> <p>Supporting Materials</p> <p>Unofficial Comment Form (Word) (24)</p> <p>Mapping Document (25)</p> <p>VRF/VSL Justification (26)</p> <p>Draft Reliability Standard Audit Worksheet (RSAW)</p>	<p>Additional Ballot and Non-binding Poll</p> <p>Updated Info (27)</p> <p>Info (28)</p> <p>Vote</p>	<p>04/27/16 – 05/09/16*</p> <p>*Ballots and non-binding polls extended an additional business day (from 05/06/16) to reach quorum</p>	<p>Summary (30)</p> <p>Ballot Results (31)</p> <p>Non-binding Poll (32)</p>	
	<p>Comment Period</p> <p>Info (29)</p> <p>Submit Comments</p>	<p>03/23/16 – 05/09/16</p>	<p>Comments Received (33)</p>	<p>Consideration of Comments (34)</p>
	<p>Info</p> <p>Send RSAW feedback to: RSAWfeedback@nerc.net</p>	<p>04/06/16 - 05/09/16</p>		
<p>Draft 1</p> <p>COM-001-3</p> <p>Clean (7) Redline to Last Approved (8)</p> <p>Implementation Plan \ Mapping Document (9)</p>	<p>Initial Ballot and Non-binding Poll</p> <p>Updated Info (12)</p> <p>Info (13)</p> <p>Vote</p>	<p>11/06/15 – 11/16/15</p>	<p>Summary (15)</p> <p>Ballot Results (16)</p> <p>Non-binding Poll (17)</p>	<p>Consideration of Comments (19)</p> <p>Revised 4/20/16</p>

Unofficial Nomination Form

Project 2015-07 Internal Communications Capabilities

Complete the [electronic nomination](#) form as soon as possible, but no later than **8:00 p.m. Eastern, Wednesday, June 24, 2015**. This unofficial version is provided to assist nominees in compiling the information necessary to submit the electronic form. If you have any questions, contact [Sean Bodkin](#) or [Jordan Mallory](#).

By submitting a nomination form, you are indicating your willingness and agreement to actively participate in the review or drafting team meetings if appointed by the Standards Committee. If appointed, you are expected to attend most of the face-to-face drafting team meetings as well as participate in all the team meetings held via conference calls. Failure to do so may result in your removal from the review or drafting team.

The time commitment for these projects is expected to be one face-to-face meeting a month (on average two full working days) with conference calls scheduled as needed to meet the agreed upon timeline the review or drafting team sets forth. Review and drafting teams also will have side projects, either individually or by subgroup, to present to the larger team for discussion and review. Lastly, an important component of the review and drafting team efforts is outreach. Members of the teams should be conducting outreach during development prior to posting to ensure all issues can be discussed and resolved.

Nominations are being sought for Project 2015-07 Internal Communications Capabilities. Previous review or drafting team experience is beneficial but not required. A brief description of the desired qualifications and other pertinent information for the project is included below. The project is expected to be presented at the May 2016 Board of Trustees meeting for adoption.

Project 2015-07 Internal Communications Capabilities

The purpose of the proposed project is to address the directive from FERC Order No. 808 to modify the COM-001-2 standard or develop a new standard to address “internal communications capabilities that could involve the issuance or receipt of Operating Instructions or other communications that could have an impact on reliability.” Order No. 808, at P 1.

In Order No. 808, FERC directed “NERC to develop modifications to COM-001-2, or to develop a new standard, to address our concerns regarding ensuring the adequacy of internal communications capability whenever internal communications could directly affect the reliable operation of the Bulk-Power System.” Order No. 808, at P 41. In the same paragraph, FERC clarified that this intended to include a directive that the modified or new standard would “address the adequacy of internal telecommunications (or other internal communication systems) that may have an adverse effect on reliability, even within a single functional entity, including: (1) communications between geographically separate control centers within the same functional entity; and (2) communications between a control center and field personnel.” *Id.*

Standards affected: The project will propose new standard or revisions to COM-001-2.

NERC is seeking a cross section of the industry to participate on the team, but in particular is seeking individuals who have experience and expertise with internal communication systems and protocols across the United States and/or Canada.

Experience with developing standards inside or outside (e.g., IEEE, NAESB, ANSI, etc.) of the NERC process is beneficial, but is not required, and should be highlighted in the information submitted, if applicable.

Individuals who have facilitation skills and experience and/or legal or technical writing backgrounds are also strongly desired. Please include this in the description of qualifications as applicable.

Please provide the following information for the nominee:

Name:	
Title:	
Organization:	
Address:	
Telephone:	
Email:	

Select the Project(s) for which the nominee is volunteering. Nominees may check multiple projects but NERC will endeavor to place an individual on only one project if at all possible. If checking multiple projects, indicate in the space below first choice, second choice, and so on.

Project 2015-07 Internal Communications Capabilities

Please briefly describe the nominee’s experience and qualifications to serve on the selected project(s):

If you are currently a member of any NERC SAR or standard drafting team, please list each team here:

- Not currently on any active SAR or standard drafting team.
- Currently a member of the following SAR or standard drafting team(s):

If you previously worked on any NERC SAR or standard drafting team, please identify the team(s):

- No prior NERC SAR or standard drafting team.
- Prior experience on the following SAR or standard drafting team(s):

Select each NERC Region in which you have experience relevant to Project 2015-07:

- | | | |
|--------------------------------|-------------------------------|--|
| <input type="checkbox"/> ERCOT | <input type="checkbox"/> NPCC | <input type="checkbox"/> SPP |
| <input type="checkbox"/> FRCC | <input type="checkbox"/> RF | <input type="checkbox"/> WECC |
| <input type="checkbox"/> MRO | <input type="checkbox"/> SERC | <input type="checkbox"/> NA – Not Applicable |

Select each Industry Segment that you represent:

<input type="checkbox"/>	1 — Transmission Owners
<input type="checkbox"/>	2 — RTOs, ISOs
<input type="checkbox"/>	3 — Load-serving Entities
<input type="checkbox"/>	4 — Transmission-dependent Utilities
<input type="checkbox"/>	5 — Electric Generators
<input type="checkbox"/>	6 — Electricity Brokers, Aggregators, and Marketers
<input type="checkbox"/>	7 — Large Electricity End Users
<input type="checkbox"/>	8 — Small Electricity End Users
<input type="checkbox"/>	9 — Federal, State, and Provincial Regulatory or other Government Entities
<input type="checkbox"/>	10 — Regional Reliability Organizations and Regional Entities
<input type="checkbox"/>	NA – Not Applicable

Select each Function¹ in which you have current or prior expertise:

<input type="checkbox"/> Balancing Authority	<input type="checkbox"/> Transmission Operator
<input type="checkbox"/> Compliance Enforcement Authority	<input type="checkbox"/> Transmission Owner
<input type="checkbox"/> Distribution Provider	<input type="checkbox"/> Transmission Planner
<input type="checkbox"/> Generator Operator	<input type="checkbox"/> Transmission Service Provider
<input type="checkbox"/> Generator Owner	<input type="checkbox"/> Purchasing-selling Entity
<input type="checkbox"/> Interchange Authority	<input type="checkbox"/> Reliability Coordinator
<input type="checkbox"/> Load-serving Entity	<input type="checkbox"/> Reliability Assurer
<input type="checkbox"/> Market Operator	<input type="checkbox"/> Resource Planner
<input type="checkbox"/> Planning Coordinator	

Provide the names and contact information for two references who could attest to your technical qualifications and your ability to work well in a group:

Name:		Telephone:	
Organization:		Email:	

Provide the names and contact information for two references who could attest to your technical qualifications and your ability to work well in a group:

--	--	--	--

¹ These functions are defined in the [NERC Functional Model](#), which is available on the NERC web site.

Name:		Telephone:	
Organization:		Email:	
Provide the names and contact information of your immediate supervisor or a member of your management who can confirm your organization's willingness to support your active participation.			
Name:		Telephone:	
Title:		Email:	

Standards Announcement

Project 2015-07 Internal Communications Capabilities

Standard Drafting Team Nomination Period Open through June 24, 2015

[Now Available](#)

Nominations are being sought for standard drafting team members through **8 p.m. Eastern, Wednesday, June 24, 2015.**

Use the [electronic form](#) to submit a nomination. An unofficial Word version of the nomination form is posted on the [Standard Drafting Team Vacancies](#) page and the [project page](#).

By submitting a nomination form, you are indicating your willingness and agreement to actively participate in the review or drafting team meetings if appointed by the Standards Committee. If appointed, you are expected to attend most of the face-to-face drafting team meetings as well as participate in all the team meetings held via conference calls.

The time commitment for these projects is expected to be up to two face-to-face meetings per quarter (on average two full working days each meeting) with conference calls scheduled as needed to meet the agreed upon timeline the review or drafting team sets forth. Review and drafting teams also will have side projects, either individually or by subgroup, to present to the larger team for discussion and review. Lastly, an important component of the review and drafting team efforts is outreach. Members of the team should be conducting outreach during development prior to posting to ensure all issues can be discussed and resolved.

Previous drafting or review team experience is beneficial but not required. A brief description of the desired qualifications, expected commitment, and other pertinent information is included below.

Project 2015-07 Internal Communications Capabilities

The purpose of the proposed project is to address the directive from FERC Order No. 808 to modify the COM-001-2 standard or develop a new standard to address “internal communications capabilities that could involve the issuance or receipt of Operating Instructions or other communications that could have an impact on reliability.” Order No. 808, at P 1.

In Order No. 808, FERC directed “NERC to develop modifications to COM-001-2, or to develop a new standard, to address our concerns regarding ensuring the adequacy of internal communications capability whenever internal communications could directly affect the reliable operation of the Bulk-Power System.” Order No. 808, at P 41. In the same paragraph, FERC clarified that this intended to include a directive that the modified or new standard would “address the adequacy of internal

telecommunications (or other internal communication systems) that may have an adverse effect on reliability, even within a single functional entity, including: (1) communications between geographically separate control centers within the same functional entity; and (2) communications between a control center and field personnel.” Id.

Next Steps

The Standards Committee is expected to begin appointing members to the standard drafting team in July 2015. Nominees will be notified shortly after they have been appointed to the standard drafting team.

For information on the Standards Development Process, refer to the [Standard Processes Manual](#).

For more information or assistance, contact Standards Developer, [Jordan Mallory](#) (via email) or at (404) 446-2733.

North American Electric Reliability Corporation
3353 Peachtree Rd, NE
Suite 600, North Tower
Atlanta, GA 30326
404-446-2560 | www.nerc.com

Standards Authorization Request Form

When completed, please email this form to:
sarcomm@nerc.com

NERC welcomes suggestions to improve the reliability of the Bulk-Power System through improved reliability standards. Please use this form to submit your request to propose a new or a revision to a NERC's Reliability Standard.

Request to propose a new or a revision to a Reliability Standard

Title of Proposed Standard:	Internal Communications Capabilities		
Date Submitted:	June 10, 2015		
SAR Requester Information			
Name:	Ryan Stewart		
Organization:	NERC		
Telephone:	404-446-9712	E-mail:	Ryan.Stewart@nerc.net
SAR Type (Check as many as applicable)			
<input checked="" type="checkbox"/> New Standard	<input type="checkbox"/> Withdrawal of existing Standard		
<input checked="" type="checkbox"/> Revision to existing Standard	<input type="checkbox"/> Urgent Action		

SAR Information

Purpose (Describe what the standard action will achieve in support of Bulk Electric System reliability.):

The purpose of the proposed project is to address the directive from FERC Order No. 808 to modify the COM-001-2 standard or develop a new standard to address "internal communications capabilities that could involve the issuance or receipt of Operating Instructions or other communications that could have an impact on reliability." Order No. 808, at P 1. See quotes below from Order No. 808, at P 41 for more specificity within FERC's directive.

SAR Information

Industry Need (What is the industry problem this request is trying to solve?):

On April 16, 2015, FERC issued Order No. 808, Communications Reliability Standards. In this order, FERC approved COM-001-2 and also directed that NERC to either develop a new standard or make the following modification to the existing COM-001-2 standard:

[FERC] direct[s] NERC to develop modifications to COM-001-2, or to develop a new standard, to address our concerns regarding ensuring the adequacy of internal communications capability whenever internal communications could directly affect the reliable operation of the Bulk-Power System.

Order No. 808, at P 41.

FERC's directive thus encompasses a directive that the modified or new standard:

address the adequacy of internal telecommunications (or other internal communication systems) that may have an adverse effect on reliability, even within a single functional entity, including: (1) communications between geographically separate control centers within the same functional entity; and (2) communications between a control center and field personnel. These scenarios present a gap in reliability of the Bulk-Power System that NERC should address.

Id.

Brief Description (Provide a paragraph that describes the scope of this standard action.)

The proposed project will develop a new standard or modify existing requirements in COM-001-2 to address the directive from FERC Order No. 808, including its subparts. *See* Order No. 808, at PP 1, 41.

Detailed Description (Provide a description of the proposed project with sufficient details for the standard drafting team to execute the SAR. Also provide a justification for the development or revision of the standard, including an assessment of the reliability and market interface impacts of implementing or not implementing the standard action.)

As stated above, the purpose of the proposed project is to respond to the directive in FERC Order No. 808. The following is a description of the responses the standard drafting team (SDT) shall consider during development of the new or modified standards:

- The SDT shall address internal telecommunications or other internal communication systems "between geographically separate control centers within the same functional entity." Order No. 808, at P 41.

SAR Information

- The SDT shall address internal telecommunications or other internal communication systems “between a control center and field personnel.” *Id.*
- The SDT shall address “[t]he adequacy of internal communications capability whenever internal communications could directly affect the reliable operation of the Bulk-Power System.” *Id.*
- The SDT shall address “internal communications capabilities that could involve the issuance or receipt of Operating Instructions or other communications that could have an impact on reliability.” Order No. 808, at P 1.

Reliability Functions

The Standard will Apply to the Following Functions (Check each one that applies.)

<input type="checkbox"/>	Regional Reliability Organization	Conducts the regional activities related to planning and operations, and coordinates activities of Responsible Entities to secure the reliability of the Bulk Electric System within the region and adjacent regions.
<input checked="" type="checkbox"/>	Reliability Coordinator	Responsible for the real-time operating reliability of its Reliability Coordinator Area in coordination with its neighboring Reliability Coordinator’s wide area view.
<input checked="" type="checkbox"/>	Balancing Authority	Integrates resource plans ahead of time, and maintains load-interchange-resource balance within a Balancing Authority Area and supports Interconnection frequency in real time.
<input type="checkbox"/>	Interchange Authority	Ensures communication of interchange transactions for reliability evaluation purposes and coordinates implementation of valid and balanced interchange schedules between Balancing Authority Areas.
<input type="checkbox"/>	Planning Coordinator	Assesses the longer-term reliability of its Planning Coordinator Area.
<input type="checkbox"/>	Resource Planner	Develops a >one year plan for the resource adequacy of its specific loads within a Planning Coordinator area.
<input type="checkbox"/>	Transmission Planner	Develops a >one year plan for the reliability of the interconnected Bulk Electric System within its portion of the Planning Coordinator area.

Reliability Functions	
<input type="checkbox"/> Transmission Service Provider	Administers the transmission tariff and provides transmission services under applicable transmission service agreements (e.g., the pro forma tariff).
<input type="checkbox"/> Transmission Owner	Owns and maintains transmission facilities.
<input checked="" type="checkbox"/> Transmission Operator	Ensures the real-time operating reliability of the transmission assets within a Transmission Operator Area.
<input checked="" type="checkbox"/> Distribution Provider	Delivers electrical energy to the End-use customer.
<input type="checkbox"/> Generator Owner	Owns and maintains generation facilities.
<input checked="" type="checkbox"/> Generator Operator	Operates generation unit(s) to provide real and reactive power.
<input type="checkbox"/> Purchasing-Selling Entity	Purchases or sells energy, capacity, and necessary reliability-related services as required.
<input type="checkbox"/> Market Operator	Interface point for reliability functions with commercial functions.
<input type="checkbox"/> Load-Serving Entity	Secures energy and transmission service (and reliability-related services) to serve the End-use Customer.

Reliability and Market Interface Principles	
Applicable Reliability Principles (Check all that apply).	
<input checked="" type="checkbox"/>	1. Interconnected bulk power systems shall be planned and operated in a coordinated manner to perform reliably under normal and abnormal conditions as defined in the NERC Standards.
<input type="checkbox"/>	2. The frequency and voltage of interconnected Bulk-Power Systems shall be controlled within defined limits through the balancing of real and reactive power supply and demand.
<input checked="" type="checkbox"/>	3. Information necessary for the planning and operation of interconnected Bulk-Power Systems shall be made available to those entities responsible for planning and operating the systems reliably.
<input type="checkbox"/>	4. Plans for emergency operation and system restoration of interconnected Bulk-Power Systems shall be developed, coordinated, maintained and implemented.
<input checked="" type="checkbox"/>	5. Facilities for communication, monitoring and control shall be provided, used and maintained for the reliability of interconnected Bulk-Power Systems.
<input checked="" type="checkbox"/>	6. Personnel responsible for planning and operating interconnected Bulk-Power Systems shall be trained, qualified, and have the responsibility and authority to implement actions.

Reliability and Market Interface Principles

<input type="checkbox"/>	7. The security of the interconnected Bulk-Power Systems shall be assessed, monitored and maintained on a wide area basis.	
<input type="checkbox"/>	8. Bulk power systems shall be protected from malicious physical or cyber attacks.	
Does the proposed Standard comply with all of the following Market Interface Principles?		Enter (yes/no)
1.	A reliability standard shall not give any market participant an unfair competitive advantage.	Yes
2.	A reliability standard shall neither mandate nor prohibit any specific market structure.	Yes
3.	A reliability standard shall not preclude market solutions to achieving compliance with that standard.	Yes
4.	A reliability standard shall not require the public disclosure of commercially sensitive information. All market participants shall have equal opportunity to access commercially non-sensitive information that is required for compliance with reliability standards.	Yes

Related Standards

Standard No.	Explanation

Related SARs

SAR ID	Explanation

Related SARs	

Regional Variances	
Region	Explanation
ERCOT	None
FRCC	None
MRO	None
NPCC	None
RFC	None
SERC	None
SPP	None
WECC	None

Unofficial Comment Form

Project 2015-07 Internal Communications Capabilities

DO NOT use this form for submitting comments. Use the [electronic form](#) to submit comments on the Standard Authorization Request (SAR) by **8:00 p.m. Eastern, Wednesday, July 15, 2015**.

Documents and information about this project are available on the [project page](#). If you have questions, contact [Jordan Mallory](#) or [Sean Bodkin](#) (via email) or at 404-446-9733 (Jordan) or 202-400-3022 (Sean).

Background Information

This posting is soliciting informal comment.

The project will address the directive from FERC Order No. 808 to modify the COM-001-2 standard or develop a new standard to address “internal communications capabilities that could involve the issuance or receipt of Operating Instructions or other communications that could have an impact on reliability.” Order No. 808, at P 1.

In Order No. 808, FERC directed “NERC to develop modifications to COM-001-2, or to develop a new standard, to address our concerns regarding ensuring the adequacy of internal communications capability whenever internal communications could directly affect the reliable operation of the Bulk-Power System.” Order No. 808, at P 41. In the same paragraph, FERC clarified that this intended to include a directive that the modified or new standard would “address the adequacy of internal telecommunications (or other internal communication systems) that may have an adverse effect on reliability, even within a single functional entity, including: (1) communications between geographically separate control centers within the same functional entity; and (2) communications between a control center and field personnel.” *Id.*

Questions

The scope of this project includes:

- Internal telecommunications or other internal communication systems “between geographically separate control centers within the same functional entity.” Order No. 808, at P 41.
- Internal telecommunications or other internal communication systems “between a control center and field personnel.” *Id.*
- “[T]he adequacy of internal communications capability whenever internal communications could directly affect the reliable operation of the Bulk-Power System.” *Id.*
- “[I]nternal communications capabilities that could involve the issuance or receipt of Operating Instructions or other communications that could have an impact on reliability.” Order No. 808, at P 1.

1. Do you agree that the scope and objectives of the SAR address the directive in Order No. 808? If not, please explain why you do not agree and, if possible, provide specific language revisions that would make it acceptable to you.

Yes

No

Comments:

If you have any other comments on this SAR that you haven't already mentioned above, please provide them here:

Comments:

Standards Announcement

Project 2015-07 Internal Communications Capabilities Standard Authorization Request

Informal Comment Period Open through July 15, 2015

[Now Available](#)

A 30-day informal comment period for the **2015-07 Internal Communications Capabilities** Standard Authorization Request (SAR) is open through **8 p.m. Eastern, Wednesday, July 15, 2015**.

Commenting

Use the [electronic form](#) to submit comments on the SAR. If you experience any difficulties in using the electronic form, contact [Nasheema Santos](#). An unofficial Word version of the comment form is posted on the [project page](#).

For information on the Standards Development Process, refer to the [Standard Processes Manual](#).

For more information or assistance, contact Standards Developer, [Jordan Mallory](#) (via email) or by phone at (404) 446-2733.

North American Electric Reliability Corporation

3353 Peachtree Rd, NE

Suite 600, North Tower

Atlanta, GA 30326

404-446-2560 | www.nerc.com

Survey Report

Survey Details

Name 2015-07 Internal Communications Capabilities SAR

Description

Start Date 6/11/2015

End Date 7/15/2015

Associated Ballots

Survey Questions

1. Do you agree that the scope and objectives of the SAR address the directive in Order No. 808? If not, please explain why you do not agree and, if possible, provide specific language revisions that would make it acceptable to you.

Yes

No

2. If you have any other comments on this SAR that you haven't already mentioned above, please provide them here:

Responses By Question

1. Do you agree that the scope and objectives of the SAR address the directive in Order No. 808? If not, please explain why you do not agree and, if possible, provide specific language revisions that would make it acceptable to you.

Kathy Caignon - City of Vineland - 3 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Greg Froehling - Rayburn Country Electric Cooperative, Inc. - 3,4,6 - TRE,SPP

Selected Answer: No

Answer Comment:

The defined term used in the currently approved, pending effective standard,

"INTERPERSONAL COMMUNICATION: (FERC Approved, NERC Glossary term, effective 10-01-2015)

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

is sufficient to address the commissions concerns by simply adding clarity to each of the requirements applicable entities.

FERC concerns:

1. "Internal communications capabilities that could involve the issuance or receipt of Operating Instructions or other communications that could have an impact on reliability."
2. "Address the adequacy of internal telecommunications (or other internal communication systems) that may have an adverse effect on reliability, even within a single functional entity, including:

(1) communications between geographically separate control centers within the same functional entity; and

(2) communications between a control center and field personnel."

Examples to add:

R1.3 Reliability Coordinator control centers within the same functional entity.

R3.3 Transmission Operation control centers within the same functional entity.

R3.4 Transmission Operation control centers and field personnel.

R5.6 Balancing Authority control centers within the same functional entity.

R7.3 Distribution Provider control centers within the same functional entity.

R7.4 Distribution Provider control centers and field personnel.

I believe the simple changes outlined above and a "Technical Guide" as mentioned below would address all of the FERC concerns without adding a significant complexity to complying with the standard.

Document Name:

Likes: 0

Dislikes: 0

John Fontenot - Bryan Texas Utilities - 1 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Thomas Foltz - AEP - 5 -

Selected Answer: No

Answer Comment:

AEP believes that more specificity is needed in this SAR before we, along with industry, can provide meaningful and insightful feedback. At this point, there is no information regarding what possible changes NERC may consider making to either COM-001-2 or within a new standard. Though the SAR draws verbiage from FERC Order 808, the quotes are rather limited and do not provide specificity on FERC's concerns, nor on how the project plans to address them. We recommend that additional detail be provided in the SAR by either the Standards Committee or eventual drafting team, and re-posted for industry comment.

Document Name:

Likes: 0

Dislikes: 0

Emily Rousseau - MRO - 1,2,3,4,5,6 - MRO

Group Information

Group Name: MRO-NERC Standards Review Forum (NSRF)

Group Member Name	Entity	Region	Segments
Joe Depoorter	Madison Gas & Electric	MRO	3,4,5,6
Amy Casucelli	Xcel Energy	MRO	1,3,5,6
Chuck Lawrence	American Transmission Company	MRO	1
Chuck Wicklund	Otter Tail Power Company	MRO	1,3,5
Theresa Allard	Minnkota Power Cooperative, Inc	MRO	1,3,5,6
Dave Rudolph	Basin Electric Power Cooperative	MRO	1,3,5,6
Kayleigh Wilkerson	Lincoln Electric System	MRO	1,3,5,6
Jodi Jenson	Western Area Power Administration	MRO	1,6
Larry Heckert	Alliant Energy	MRO	4
Mahmood Safi	Omaha Public Utility District	MRO	1,3,5,6
Marie Knox	Midwest ISO Inc.	MRO	2
Mike Brytowski	Great River Energy	MRO	1,3,5,6
Randi Nyholm	Minnesota Power	MRO	1,5
Scott Nickels	Rochester Public Utilities	MRO	4
Terry Harbour	MidAmerican Energy Company	MRO	1,3,5,6
Tom Breene	Wisconsin Public Service Corporation	MRO	3,4,5,6
Tony Eddleman	Nebraska Public Power District	MRO	1,3,5

Voter Information

Voter	Segment
Emily Rousseau	1,2,3,4,5,6
Entity	Region(s)
MRO	MRO

Selected Answer: Yes

Answer Comment:

The NSRF agrees that this Project is to address the “adequacy of communication systems” and not how those systems are used. COM-002-4 covers how entities use and apply systems.

First bullet: Ok

Second and fourth bullet: The physical assets (Communication Systems) should be narrowly focused to those time periods when an Operating Instruction needs to be given.

Third bullet: Ok

Document Name:

Likes: 0

Dislikes: 0

Mike Smith - Manitoba Hydro - 1 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Brian Van Gheem - ACES Power Marketing - 6 - NA - Not Applicable**Group Information**

Group Name: ACES Standards Collaborators

Group Member Name	Entity	Region	Segments
Bob Solomon	Hoosier Energy Rural Electric Cooperative, Inc.	RFC	1
Ginger Mercier	Prairie Power, Inc.	SERC	1,3
Shari Heino	Brazos Electric Power Cooperative, Inc.	TRE	1,5
Bill Hutchison	Southern Illinois Power Cooperative	SERC	1
Michael Brytowski	Great River Energy	MRO	1,3,5,6
Jerry McVey	Sunflower Electric Power Corporation	SPP	1
Chip Koloini	Golden Spread Electric Cooperative, Inc.	SPP	5
Kevin Lyons	Central Iowa Power Cooperative	MRO	1

Voter Information

Voter	Segment
Brian Van Gheem	6
Entity	Region(s)
ACES Power Marketing	NA - Not Applicable

Selected Answer: Yes**Answer Comment:**

We support the intent of the SAR, as the scope and the objectives both identify the concerns FERC has with internal communications, particularly within the same registered entity. We do have interest in the amount of allowable flexibility that will be available for Alternative Interpersonal Communication capabilities with field personnel, as that could become administratively burdensome with the number of field personnel.

Document Name:

Likes: 0

Dislikes: 0

Scott McGough - Georgia System Operations Corporation - 3 -

Selected Answer: Yes

Answer Comment: Does this FERC directive cover data transfer capabilities (data) as well as interpersonal communications (voice/email)?

Document Name:

Likes: 0

Dislikes: 0

Scott McGough - Georgia System Operations Corporation - 3 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Scott McGough - Georgia System Operations Corporation - 3 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Scott McGough - Georgia System Operations Corporation - 3 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Scott McGough - Georgia System Operations Corporation - 3 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Scott McGough - Georgia System Operations Corporation - 3 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Scott McGough - Georgia System Operations Corporation - 3 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Scott McGough - Georgia System Operations Corporation - 3 -

Selected Answer: Yes

Answer Comment:
none

Document Name:

Likes: 0

Dislikes: 0

Stanley Beasley - Georgia Transmission Corporation - 1 - SERC

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Stanley Beasley - Stanley Beasley - -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Molly Devine - IDACORP - Idaho Power Company - 1 -

Selected Answer: Yes

Answer Comment: Agree that the scope and objectives of the SAR address the directive in Order No. 808.

Document Name:

Likes: 0

Dislikes: 0

Molly Devine - IDACORP - Idaho Power Company - 1 -

Selected Answer: Yes

Answer Comment: Agree that the scope and objectives of the SAR address the directive in Order No. 808.

Document Name:

Likes: 0

Dislikes: 0

Molly Devine - IDACORP - Idaho Power Company - 1 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Molly Devine - IDACORP - Idaho Power Company - 1 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Lance Bean - CMS Energy - Consumers Energy Company - 3,4,5 - RFC

Selected Answer: No

Answer Comment:

The STD should consider adding back in some of the requirements from COM-001-1 R1 and R2 . Under the R2 requirements the testing should only be on communication systems not used on a routine day to day operation. Communication systems used in day to day operations should be deemed, Adequate internal communication systems. Only back-up systems should need to be tested The STD will have to define Field Personal when addressing communication systems between control center personal and field personal. On call/call out procedures and cell phones may need to be addressed for field personal communications.

Dean E Fox
Consumers Energy
Supply Operations Training/Compliance Supervisor
517-788-1998

Document Name:

Likes: 0

Dislikes: 0

Leonard Kula - Independent Electricity System Operator - 2 -

Selected Answer: Yes

Answer Comment: We generally agree with the proposed scope and objectives of the SAR, but reserve judgment on the specific changes to the existing COM-001 standard or the proposed requirements in a new standard.

Document Name:

Likes: 0

Dislikes: 0

Leonard Kula - Independent Electricity System Operator - 2 -

Selected Answer: Yes

Answer Comment: We generally agree with the proposed scope and objectives of the SAR, but reserve judgment on the specific changes to the existing COM-001 standard or the proposed requirements in a new standard.

Document Name:

Likes: 0

Dislikes: 0

Mark Wilson - Independent Electricity System Operator - NA - Not Applicable - NPCC

Selected Answer: Yes

Answer Comment: We generally agree with the proposed scope and objectives of the SAR, but reserve judgment on the specific changes to the existing COM-001 standard or the proposed requirements in a new standard.

Document Name:

Likes: 0

Dislikes: 0

christina bigelow - Electric Reliability Council of Texas, Inc. - 2 -

Selected Answer: Yes

Answer Comment: ERCOT supports the comments submitted by the ISO/RTO Council Standards Review Committee.

Document Name:

Likes: 0

Dislikes: 0

christina bigelow - Electric Reliability Council of Texas, Inc. - 2 -

Selected Answer: Yes

Answer Comment: ERCOT supports the comments submitted by the ISO/RTO Council Standards Review Committee.

Document Name:

Likes: 0

Dislikes: 0

Matthew Beilfuss - Wisconsin Energy Corporation - 3,4,5 - RFC

Selected Answer: No

Answer Comment: COM-001-2 currently addresses communication infrastructure and capabilities between discrete functional roles (RC, TOP, BA, GOP, DP). Bullets 1 and 2 of the project scope identify either a geographic location or specific personnel that must be defined when evaluating the adequacy of intra-functional role communication paths. This will add some ambiguity and requires registered entity discretion when identifying the initiator and recipient of the communication. However, on balance this does focus on infrastructure and capabilities.

Bullets 3 and 4 go beyond the scope of a standard focused on infrastructure and capabilities. Both require an entity to classify the nature of the communication, as well as the initiator, recipient, and communication path. Classifying a communication with respect to its impact on “reliable operation of the Bulk Power System” (bullet 3) or if it “could involve the issuance or receipt of Operating Instructions or other communications that could have an impact on reliability”(bullet 4) is highly ambiguous, subject to interpretation, and may change based on conditions. Addressing these issues within the context of an infrastructure standard is misplaced. Additionally, I would presume that entities would naturally consider communications capabilities that support their understood intra-functional role reliability obligations as they would be relied upon for operational purposes other than “reliability”.

Document Name:

Likes: 0

Dislikes: 0

Matthew Beilfuss - Matthew Beilfuss - -

Selected Answer: No

Answer Comment:

COM-001-2 currently addresses communication infrastructure and capabilities between discrete functional roles (RC, TOP, BA, GOP, DP). Bullets 1 and 2 of the project scope identify either a geographic location or specific personnel that must be defined when evaluating the adequacy of intra-functional role communication paths. This will add some ambiguity and requires registered entity discretion when identifying the initiator and recipient of the communication. However, on balance this does focus on infrastructure and capabilities.

Bullets 3 and 4 go beyond the scope of a standard focused on infrastructure and capabilities. Both require an entity to classify the nature of the communication, as well as the initiator, recipient, and communication path. Classifying a communication with respect to its impact on “reliable operation of the Bulk Power System” (bullet 3) or if it “could involve the issuance or receipt of Operating Instructions or other communications that could have an impact on reliability”(bullet 4) is highly ambiguous, subject to interpretation, and may change based on conditions. Addressing these issues within the context of an infrastructure standard is misplaced. Additionally, I would presume that entities

would naturally consider communications capabilities that support their understood intra-functional role reliability obligations as they would be relied upon for operational purposes other than "reliability".

Document Name:

Likes: 0

Dislikes: 0

Tammy Porter - Oncor Electric Delivery - 1 - TRE

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Jared Shakespeare - Peak Reliability - 1 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Albert DiCaprio - PJM Interconnection, L.L.C. - 2 - RFC

Group Information

Group Name: ISO Standards Review Committee

Group Member Name	Entity	Region	Segments
Charles Yeung	SPP	SPP	2
Ben Li	IESO	NPCC	2
Mark Holman	PJM	RFC	2
Kathleen Goodman	ISONE	NPCC	2
Greg Campoli	NYISO	NPCC	2
Christina V. Bigelow	ERCOT	TRE	2
Ali Miremadi	CAISO	WECC	2
Terry Bilke	MISO	RFC	2

Voter Information

Voter	Segment
Albert DiCaprio	2
Entity	Region(s)
PJM Interconnection, L.L.C.	RFC

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Albert DiCaprio - Albert DiCaprio - -

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Albert DiCaprio - PJM Interconnection, L.L.C. - 2 - RFC

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Albert DiCaprio - Albert DiCaprio - -

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Colby Bellville - Duke Energy - 1,3,5,6 - FRCC,SERC,RFC

Group Information

Group Name: Duke Energy

Group Member Name	Entity	Region	Segments
Doug Hils	Duke Energy	RFC	1
Lee Schuster	Duke Energy	FRCC	3
Dale Goodwine	Duke Energy	SERC	5
Greg Cecil	Duke Energy	RFC	6

Voter Information

Voter	Segment
Colby Bellville	1,3,5,6
Entity	Region(s)
Duke Energy	FRCC,SERC,RFC

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Colby Bellville - Colby Bellville - -

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Si Truc Phan - Hydro-Qu?bec TransEnergie - 1 - NPCC

Selected Answer: No

Answer Comment: HQT support comments from RSC-NPCC

Document Name:

Likes: 0

Dislikes: 0

Si Truc Phan - Si Truc Phan - -

Selected Answer: No

Answer Comment: HQT supported comments from RSC of NPCC

Document Name:

Likes: 0

Dislikes: 0

Kathleen Black - DTE Energy - 3,4,5 - RFC

Selected Answer: Yes

Answer Comment: Agree that the scope and objectives of the SAR addressing the Directive in Order No. 808, but disagree with the order.

Document Name:

Likes: 0

Dislikes: 0

Lee Pedowicz - Northeast Power Coordinating Council - 10 - NPCC

Group Information

Group Name: NPCC--Project 2015-07

Group Member Name	Entity	Region	Segments
Alan Adamson	New York State Reliability Council, LLC	NPCC	10
David Burke	Orange and Rockland Utilities Inc.	NPCC	3
Greg Campoli	New York Independent System Operator	NPCC	2
Sylvain Clermont	Hydro-Quebec TransEnergie	NPCC	1
Kelly Dash	Consolidated Edison Co. of New York, Inc.	NPCC	1
Gerry Dunbar	Northeast Power Coordinating Council	NPCC	10
Mark Kenny	Northeast Utilities	NPCC	1
Helen Lainis	Independent Electricity System Operator	NPCC	2
Alan MacNaughton	New Brunswick Power Corporation	NPCC	9
Paul Malozewski	Hydro One Networks Inc.	NPCC	1
Bruce Metruck	New York Power Authority	NPCC	6
Lee Pedowicz	Northeast Power Coordinating Council	NPCC	10
Si Truc Phan	Hydro-Quebec TransEnergie	NPCC	1
David Ramkalawan	Ontario Power Generation, Inc.	NPCC	5
Brian Robinson	Utility Services	NPCC	8
Wayne Sipperly	New York Power Authority	NPCC	5
Edward Bedder	Orange and Rockland Utilities Inc.	NPCC	1
Peter Yost	Consolidated Edison Co. of New York, Inc.	NPCC	3
Michael Jones	National Grid	NPCC	1
Brian Shanahan	National Grid	NPCC	1

Michael Forte	Consolidated Edison Co. of New York, Inc.	NPCC	1
Glen Smith	Entergy Services, Inc.	NPCC	5
Brian O'Boyle	Consolidated Edison Co. of New York, Inc.	NPCC	8
RuiDa Shu	Northeast Power Coordinating Council	NPCC	10
Connie Lowe	Dominion Resources Services, Inc.	NPCC	5
Guy Zito	Northeast Power Coordinating Council	NPCC	10
Silvia Parada Mitchell	NextEra Energy, LLC	NPCC	5
Kathleen Goodman	ISO - New England	NPCC	2

Voter Information

Voter	Segment
Lee Pedowicz	10
Entity	Region(s)
Northeast Power Coordinating Council	NPCC

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Lee Pedowicz - Lee Pedowicz - -

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Bob Thomas - Illinois Municipal Electric Agency - 4 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Shannon Mickens - Southwest Power Pool, Inc. (RTO) - 2 - SPP

Group Information

Group Name: SPP Standards Review Group

Group Member Name	Entity	Region	Segments
Shannon Mickens	Southwest Power Pool Inc.	SPP	2
Michelle Corley	Cleco Power, LLC	SPP	1,3,5,6
Jason Smith	Southwest Power Pool Inc	SPP	2
Louis Guidry	Cleco Power, LLC	SPP	1,3,5,6
Robert Hirchak	Cleco Corporation	SPP	1,3,5,6
Mike Kiddwell	Empire District Electric Company	SPP	1,3,5
Tara Lightner	Sunflower Electric Power Corporation	SPP	1
Jess Gray	Omaha Public Power District	MRO	3
Gregory McAuley	Oklahoma Gas and Electric Co.	SPP	1,3,5,6
James "Jim" Nail	City of Independence, Missouri	SPP	3,5
Mahmood Safi	Omaha Public Power District	MRO	1,3,5
Ashley Stringer	Oklahoma Municipal Power Authority	SPP	4
Don Schmitt	Nebraska Public Power District	MRO	1,3,5
Scott Williams	City Utilities of Springfield	SPP	1,4
Greg Froehling	Rayburn County Electric Cooperative	SPP	3
Jim Dutton	Nebraska Public Power District	MRO	1,3,5
Matt Schell	Nebraska Public Power District	MRO	1,3,5

Voter Information

Voter	Segment
Shannon Mickens	2
Entity	Region(s)
Southwest Power Pool, Inc. (RTO)	SPP

Selected Answer: No

Answer Comment:

We have a concern in reference to the term 'Interpersonal Communication'. The review group feels that there is an uncertainty on the intent of the phrase 'any medium' within the definition. We would like to see more clarity provided on what this phrase is applicable to. Would this phrase be applicable only to real-time communication? Is it just for audible methods or does visual fit the equation? For example in Requirement R9, there is confusion on what is intended by the phrase 'initiate action to repair or designate a replacement'. Additionally in Requirement R10, our concern would be what would be designated as a 'medium' in this process (when does the time start). We would suggest to the drafting team to develop some type of technical documentation that will provide clarity to both the auditor and industry. Also, we would also like to see this technical document vetted and balloted through the industry in reference to the Standard Development Process.

The review group understands that the drafting team has just recently been developed however, we would suggest coordinating efforts with the Alignment of Terms SDT (Project 2015-04). We feel that this collaborative effort would help address any definition concerns. Additionally, we would suggest submitting a SAR to have the term included into other relevant documentation such as the Function Model, Glossary of Terms, and Rules of Procedure (RoP) to ensure that the term is properly aligned.

Finally, we would suggest some alternative language in reference to FERC's concerns pertaining to **COM-001-2**....the recommended language is listed as followed:

R1.3 Reliability Coordinator control centers within the same functional entity.

R3.7 Transmission Operation control centers within the same functional entity.

R3.8 Field Personnel.

R5.6 Balancing Authority control centers within the same functional entity.

R7.3 Distribution Provider control centers within the same functional entity.

R7.4 Distribution Provider control centers and field personnel.

Note to drafting team: We would suggest that phrase 'Field Personnel' not be included into Requirement R4 or Requirement R9 for it will have unrealistic expectations in reference to Alternative Testing pertaining to Internal Communication with Field Personnel.

Document Name:

Likes: 0

Dislikes: 0

Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Oshani Pathirane - Hydro One Networks, Inc. - 1,3 - NPCC

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 1 Hydro One Networks, Inc., 1, Farahbakhsh Payam

Dislikes: 0

Oshani Pathirane - Oshani Pathirane - -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Payam Farahbakhsh - Hydro One Networks, Inc. - 1 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Randall Hubbard - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - FRCC,WECC,TRE,SERC

Group Information

Group Name: Southern Company

Group Member Name	Entity	Region	Segments
Robert Schaffeld	Southern Company Services, Inc..	SERC	1
John Ciza	Southern Company Generation and Energy Marketing	SERC	6
R. Scott Moore	Alabama Power Company	SERC	3
William Shultz	Southern Company Generation	SERC	5

Voter Information

Voter	Segment
Randall Hubbard	1,3,5,6
Entity	Region(s)
Southern Company - Southern Company Services, Inc.	FRCC,WECC,TRE,SERC

Selected Answer: No

Answer Comment:

The SAR currently simply quotes from the FERC order and does not attempt to create a high level outline of what the standard should contain in order to give a future SDT good direction that is industry approved. The SAR should outline some high level objectives to be met by the standard so that the industry can agree on a more defined direction before pen is put to paper to write the actual requirements. An EXAMPLE might be:

- The standard should outlines what communications are and are not in scope
- The standard should requires a primary, secondary, and/or tertiary form of communications capability that are not interdependent and don't rely on the same infrastructure
- The standard should require each communication capability is tested on some periodic basis

Document Name:

Likes: 0

Dislikes: 0

Randall Hubbard - Randall Hubbard - -

Error: Subreport could not be shown.

Selected Answer: No

Answer Comment:

The SAR currently simply quotes from the FERC order and does not attempt to create a high level outline of what the standard should contain in order to give a future SDT good direction that is industry approved. The SAR should outline some high level objectives to be met by the standard so that the industry can agree on a more defined direction before pen is put to paper to write the actual requirements. An EXAMPLE might be:

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- The standard should requires a primary, secondary, and/or tertiary form of communications capability that are not interdependent and don't rely on the same infrastructure
- The standard should require each communication capability is tested on some periodic basis

Document Name:

Likes: 0

Dislikes: 0

Venona Greaff - Oxy - Occidental Chemical - 7 -

Group Information

Group Name: Oxy

Group Member Name	Entity	Region	Segments
Venona Greaff	Occidental Chemical Corporation	SERC	7
Michelle D'Antuono	Ingleside Cogeneration LP.	TRE	5

Voter Information

Voter	Segment
Venona Greaff	7
Entity	Region(s)
Oxy - Occidental Chemical	

Selected Answer: No

Answer Comment:

Occidental Chemical Corporation (OCC) believes that the Standards Authorization Request inappropriately expands the intent of FERC Order 808. In Paragraph 41 of the Order the Commission calls for three specific updates regarding internal communications capability – these are (1) Control Center to Control Center, (2) Control Center to field personnel, and (3) other communications that could directly affect BPS reliability which are fully transacted within a single Functional Entity’s operating footprint.

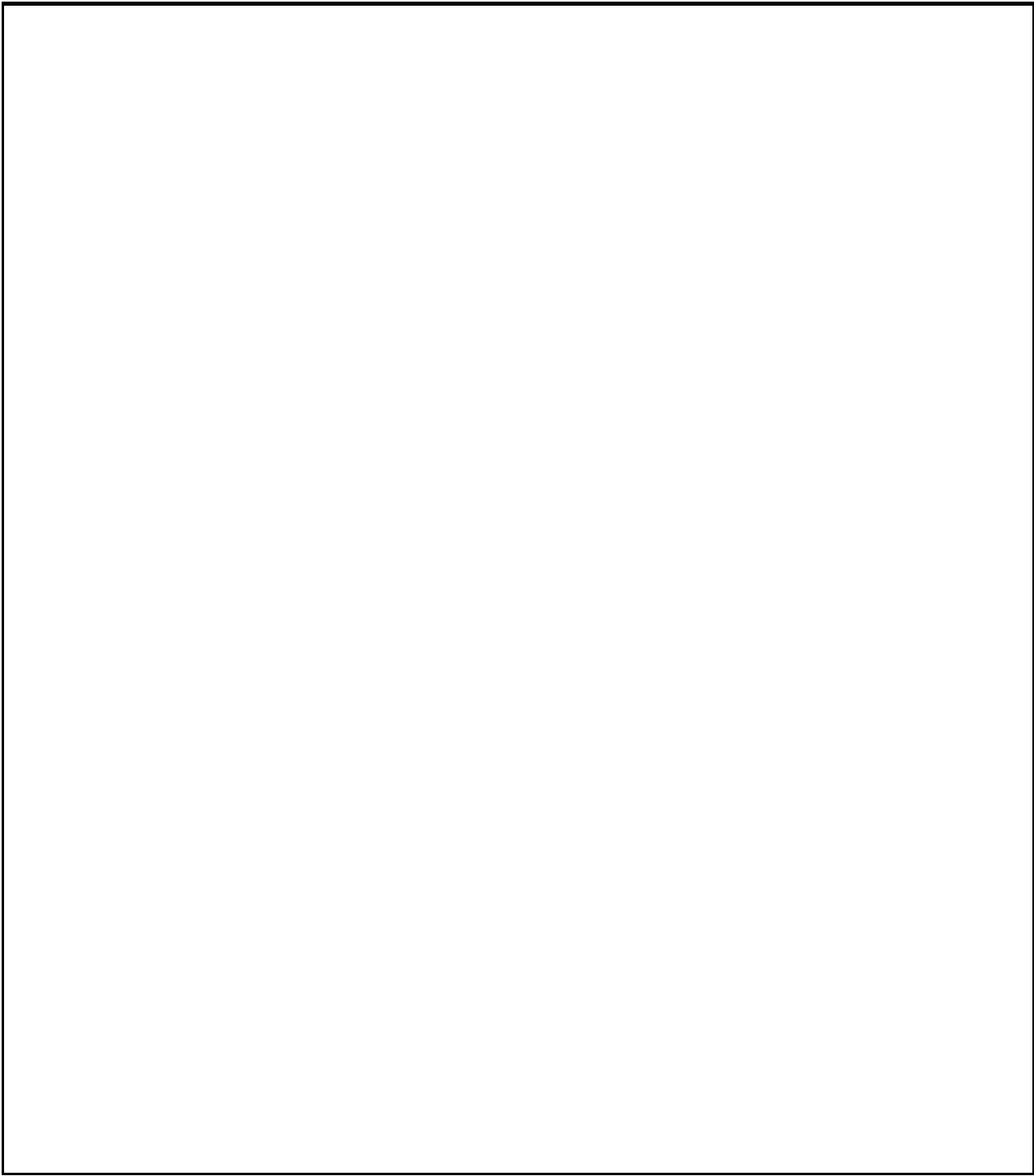
The SAR also references the rule summary in Paragraph 1 of the order which is far more open ended. In particular there was no mention of the “issuance or receipt of Operating Instructions or other communications” in the detailed ruling in Paragraph 41. Those concepts apply to COM-002-4.

OCC believes that the rule summary presented in Paragraph 1 should be removed from the SAR so that the scope of the project is properly limited to FERC’s stated concerns.

Document Name:

Likes: 0

Dislikes: 0



Venona Greaff - Oxy - Occidental Chemical - 7 -

Group Information

Group Name: Oxy

Group Member Name	Entity	Region	Segments
Venona Greaff	Occidental Chemical Corporation	SERC	7
Michelle D'Antuono	Ingleside Cogeneration LP.	TRE	5

Voter Information

Voter	Segment
Venona Greaff	7
Entity	Region(s)
Oxy - Occidental Chemical	

Selected Answer: No

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Venona Greaff - Oxy - Occidental Chemical - 7 -

Selected Answer: No

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

2. If you have any other comments on this SAR that you haven't already mentioned above, please provide them here:

Kathy Caignon - City of Vineland - 3 -

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Greg Froehling - Rayburn Country Electric Cooperative, Inc. - 3,4,6 - TRE,SPP

Selected Answer:

Answer Comment:

Since a drafting team is being formed... It would be time well spent to develop a "Technical Guide" to explore the expectations of the term "INTERPERSONAL COMMUNICATION". For example is real time communication the expectation or is it within 15 minutes, is it visual or audible communication and lastly common technologies used to achieve those goals.

Document Name:

Likes: 0

Dislikes: 0

John Fontenot - Bryan Texas Utilities - 1 -

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Thomas Foltz - AEP - 5 -

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Emily Rousseau - MRO - 1,2,3,4,5,6 - MRO

Group Information

Group Name: MRO-NERC Standards Review Forum (NSRF)

Group Member Name	Entity	Region	Segments
Joe Depoorter	Madison Gas & Electric	MRO	3,4,5,6
Amy Casucelli	Xcel Energy	MRO	1,3,5,6
Chuck Lawrence	American Transmission Company	MRO	1
Chuck Wicklund	Otter Tail Power Company	MRO	1,3,5
Theresa Allard	Minnkota Power Cooperative, Inc	MRO	1,3,5,6
Dave Rudolph	Basin Electric Power Cooperative	MRO	1,3,5,6
Kayleigh Wilkerson	Lincoln Electric System	MRO	1,3,5,6
Jodi Jenson	Western Area Power Administration	MRO	1,6
Larry Heckert	Alliant Energy	MRO	4
Mahmood Safi	Omaha Public Utility District	MRO	1,3,5,6
Marie Knox	Midwest ISO Inc.	MRO	2
Mike Brytowski	Great River Energy	MRO	1,3,5,6
Randi Nyholm	Minnesota Power	MRO	1,5
Scott Nickels	Rochester Public Utilities	MRO	4
Terry Harbour	MidAmerican Energy Company	MRO	1,3,5,6
Tom Breene	Wisconsin Public Service Corporation	MRO	3,4,5,6
Tony Eddleman	Nebraska Public Power District	MRO	1,3,5

Voter Information

Voter	Segment
Emily Rousseau	1,2,3,4,5,6
Entity	Region(s)
MRO	MRO

Selected Answer:

Answer Comment:

The NSRF does question the Reliability Functions applicability. There have been other projects that have included the TO since the TO may perform actions that mimic a TOP, ie, switching. The NSRF request that the SAR Team review this prior to the SAR going forward.

Document Name:

Likes: 0

Dislikes: 0

Mike Smith - Manitoba Hydro - 1 -

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Brian Van Gheem - ACES Power Marketing - 6 - NA - Not Applicable

Group Information

Group Name: ACES Standards Collaborators

Group Member Name	Entity	Region	Segments
Bob Solomon	Hoosier Energy Rural Electric Cooperative, Inc.	RFC	1
Ginger Mercier	Prairie Power, Inc.	SERC	1,3
Shari Heino	Brazos Electric Power Cooperative, Inc.	TRE	1,5
Bill Hutchison	Southern Illinois Power Cooperative	SERC	1
Michael Brytowski	Great River Energy	MRO	1,3,5,6
Jerry McVey	Sunflower Electric Power Corporation	SPP	1
Chip Koloini	Golden Spread Electric Cooperative, Inc.	SPP	5
Kevin Lyons	Central Iowa Power Cooperative	MRO	1

Voter Information

Voter	Segment
Brian Van Gheem	6
Entity	Region(s)
ACES Power Marketing	NA - Not Applicable

Selected Answer:

Answer Comment:

We support the intent of the SAR and have no further comments.

Document Name:

Likes: 0

Dislikes: 0

Scott McGough - Georgia System Operations Corporation - 3 -

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Scott McGough - Georgia System Operations Corporation - 3 -

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Scott McGough - Georgia System Operations Corporation - 3 -

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Scott McGough - Georgia System Operations Corporation - 3 -

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Scott McGough - Georgia System Operations Corporation - 3 -

Selected Answer:

Answer Comment: Does this FERC directive cover data transfer capabilities (data) as well as interpersonal communications (voice/email)?

Document Name:

Likes: 0

Dislikes: 0

Scott McGough - Georgia System Operations Corporation - 3 -

Selected Answer:

Answer Comment: Does this FERC directive cover data transfer capabilities (data) as well as interpersonal communications (voice/email)?

Document Name:

Likes: 0

Dislikes: 0

Scott McGough - Georgia System Operations Corporation - 3 -

Selected Answer:

Answer Comment:

Does this FERC directive cover data transfer capabilities (data) as well as interpersonal communications (voice/email)?

Document Name:

Likes: 0

Dislikes: 0

Scott McGough - Georgia System Operations Corporation - 3 -

Selected Answer:

Answer Comment:

Does this FERC directive cover data transfer capabilities (data) as well as interpersonal communications (voice/email)?

Document Name:

Likes: 0

Dislikes: 0

Stanley Beasley - Georgia Transmission Corporation - 1 - SERC

Selected Answer:

Answer Comment:

See GSOC comments.

Document Name:

Likes: 0

Dislikes: 0

Stanley Beasley - Stanley Beasley - -

Selected Answer:

Answer Comment: See GSOC comments

Document Name:

Likes: 0

Dislikes: 0

Molly Devine - IDACORP - Idaho Power Company - 1 -

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Molly Devine - IDACORP - Idaho Power Company - 1 -

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Molly Devine - IDACORP - Idaho Power Company - 1 -

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Molly Devine - IDACORP - Idaho Power Company - 1 -

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Lance Bean - CMS Energy - Consumers Energy Company - 3,4,5 - RFC

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Leonard Kula - Independent Electricity System Operator - 2 -

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Leonard Kula - Independent Electricity System Operator - 2 -

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Mark Wilson - Independent Electricity System Operator - NA - Not Applicable - NPCC

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

christina bigelow - Electric Reliability Council of Texas, Inc. - 2 -

Selected Answer:

Answer Comment: ERCOT supports the comments submitted by the ISO/RTO Council Standards Review Committee.

Document Name:

Likes: 0

Dislikes: 0

christina bigelow - Electric Reliability Council of Texas, Inc. - 2 -

Selected Answer:

Answer Comment: ERCOT supports the comments submitted by the ISO/RTO Council Standards Review Committee.

Document Name:

Likes: 0

Dislikes: 0

Matthew Beilfuss - Wisconsin Energy Corporation - 3,4,5 - RFC

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Matthew Beilfuss - Matthew Beilfuss - -

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Tammy Porter - Oncor Electric Delivery - 1 - TRE

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Jared Shakespeare - Peak Reliability - 1 -

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Albert DiCaprio - PJM Interconnection, L.L.C. - 2 - RFC

Group Information

Group Name: ISO Standards Review Committee

Group Member Name	Entity	Region	Segments
Charles Yeung	SPP	SPP	2
Ben Li	IESO	NPCC	2
Mark Holman	PJM	RFC	2
Kathleen Goodman	ISONE	NPCC	2
Greg Campoli	NYISO	NPCC	2
Christina V. Bigelow	ERCOT	TRE	2
Ali Miremadi	CAISO	WECC	2
Terry Bilke	MISO	RFC	2

Voter Information

Voter	Segment
Albert DiCaprio	2
Entity	Region(s)
PJM Interconnection, L.L.C.	RFC

Selected Answer:

Answer Comment:

The SDT could enhance the clarity of the Project by replacing the phrase “internal communications” with another phrase such as “communications between personnel that are not physically co-located”. This addition would ensure that the new requirement(s) applies explicitly and only to internal communications:

- between geographically separate control centers within the same functional entity, or*
- between a control center and field personnel.*

Although the SAR does identify these two objectives, the SAR does not limit itself to just those two objectives. This leaves the SAR ambiguous as regard to internal communications between two people sitting next to one another. The SRC

recommends that the SDT implement the revision above or other revisions to reduce the potential for ambiguity.

The SRC would also suggest that the phrase “adequacy of internal communications capability” be clarified. Is this phrase intended to refer to creation of a requirement that the hardware can adequately handle a conversation, or is it being used in the more generic sense that any new requirement must be adequate to address the two bullet points referenced above?

Document Name:

Likes: 0

Dislikes: 0

Albert DiCaprio - Albert DiCaprio - -

Error: Subreport could not be shown.

Selected Answer:

Answer Comment:

The SDT could enhance the clarity of the Project by replacing the phrase "internal communications" with another phrase such as "communications between personnel that are not physically co-located". This addition would ensure that the new requirement(s) applies explicitly and only to internal communications:

{C}- between geographically separate control centers within the same functional entity, or

{C}- between a control center and field personnel.

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Document Name:

Likes: 0

Dislikes: 0

Albert DiCaprio - PJM Interconnection, L.L.C. - 2 - RFC

Selected Answer:

Answer Comment:

The SDT could enhance the clarity of the Project by replacing the phrase “internal communications” with another phrase such as “communications between personnel that are not physically co-located”. This addition would ensure that the new requirement(s) applies explicitly and only to internal communications:

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Document Name:

Likes: 0

Dislikes: 0

Albert DiCaprio - Albert DiCaprio - -

Error: Subreport could not be shown.

Selected Answer:

Answer Comment:

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Document Name:

Likes: 0

Dislikes: 0

Colby Bellville - Duke Energy - 1,3,5,6 - FRCC,SERC,RFC

Group Information

Group Name: Duke Energy

Group Member Name	Entity	Region	Segments
Doug Hils	Duke Energy	RFC	1
Lee Schuster	Duke Energy	FRCC	3
Dale Goodwine	Duke Energy	SERC	5
Greg Cecil	Duke Energy	RFC	6

Voter Information

Voter	Segment
Colby Bellville	1,3,5,6
Entity	Region(s)
Duke Energy	FRCC,SERC,RFC

Selected Answer:

Answer Comment:

-Duke Energy requests further clarification from the SDT on how “adequacy” specifically, “adequacy of internal communications capability” will be measured. It is possible that what is considered adequate by one entity may not be to another, and thus could create a challenging climate to measure compliance with.

-Also, we request clarification on the usage of the term “control centers”. Is it the SDT’s intent to consider the use of the definition of “control center” from the currently effective COM-001-2 standard, or are we to consider using the definition of “Control Center” from the NERC Glossary of Terms? The terms have different definitions/meanings, and without this clarification, could result in varying interpretations throughout the industry.

-Lastly, we request clarification that the standard is only applicable to Functional Entities who operate at the BES level. In Order 808, FERC used the term “Bulk Power System,” this could be interpreted as a changing of the applicability to sub-BES levels (below 100kV Facilities not identified as BES). If this proposed revision/new standard is to be interpreted at sub-BES levels, then would a Distribution Provider be required to maintain internal communications procedures with distribution field personnel who are not

responsible for performing activities that affect the BES? Please advise as to whether the intent is to change the level of applicability.

Document Name:

Likes: 0

Dislikes: 0

Colby Bellville - Colby Bellville - -

Error: Subreport could not be shown.

Selected Answer:

Answer Comment:

Duke Energy requests further clarification from the SDT on how “adequacy” specifically, “adequacy of internal communications capability” will be measured. It is possible that what is considered adequate by one entity may not be to another, and thus could create a challenging climate to measure compliance with.

Also, we request clarification on the usage of the term “control centers”. Is it the SDT’s intent to consider the use of the definition of “control center” from the currently effective COM-001-2 standard, or are we to consider using the definition of “Control Center” from the NERC Glossary of Terms? The terms have different definitions/meanings, and without this clarification, could result in varying interpretations throughout the industry.

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Document Name:

Likes: 0

Dislikes: 0

Si Truc Phan - Hydro-Qu?bec TransEnergie - 1 - NPCC

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Si Truc Phan - Si Truc Phan - -

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Kathleen Black - DTE Energy - 3,4,5 - RFC

Selected Answer:

Answer Comment:

There is concern about the scope of this project. Internal communications between separate control centers within the same functional entity could include communications on market issues and operational issues such as equipment status updates. It looks like we may be going down a road requiring 3 way communications for these type of communications. We do not believe 3 way communication is required for separate control centers within the same functional entity. Other than what is already required for switching orders, we do not believe 3 way communication is required for communications between a control and field personnel. Where do you draw the line for these types of communications? If this change is for only those communications that may have an adverse effect on reliability, then the change should state "for internal communications regarding

reliability directives". Without this type of clarification, how can evidence be provided to show compliance?

Document Name:

Likes: 0

Dislikes: 0

Lee Pedowicz - Northeast Power Coordinating Council - 10 - NPCC**Group Information**

Group Name: NPCC--Project 2015-07

Group Member Name	Entity	Region	Segments
Alan Adamson	New York State Reliability Council, LLC	NPCC	10
David Burke	Orange and Rockland Utilities Inc.	NPCC	3
Greg Campoli	New York Independent System Operator	NPCC	2
Sylvain Clermont	Hydro-Quebec TransEnergie	NPCC	1
Kelly Dash	Consolidated Edison Co. of New York, Inc.	NPCC	1
Gerry Dunbar	Northeast Power Coordinating Council	NPCC	10
Mark Kenny	Northeast Utilities	NPCC	1
Helen Lainis	Independent Electricity System Operator	NPCC	2
Alan MacNaughton	New Brunswick Power Corporation	NPCC	9
Paul Malozewski	Hydro One Networks Inc.	NPCC	1
Bruce Metruck	New York Power Authority	NPCC	6
Lee Pedowicz	Northeast Power Coordinating Council	NPCC	10
Si Truc Phan	Hydro-Quebec TransEnergie	NPCC	1
David Ramkalawan	Ontario Power Generation, Inc.	NPCC	5
Brian Robinson	Utility Services	NPCC	8
Wayne Sipperly	New York Power Authority	NPCC	5
Edward Bedder	Orange and Rockland Utilities Inc.	NPCC	1
Peter Yost	Consolidated Edison Co. of New York, Inc.	NPCC	3
Michael Jones	National Grid	NPCC	1
Brian Shanahan	National Grid	NPCC	1

Michael Forte	Consolidated Edison Co. of New York, Inc.	NPCC	1
Glen Smith	Entergy Services, Inc.	NPCC	5
Brian O'Boyle	Consolidated Edison Co. of New York, Inc.	NPCC	8
RuiDa Shu	Northeast Power Coordinating Council	NPCC	10
Connie Lowe	Dominion Resources Services, Inc.	NPCC	5
Guy Zito	Northeast Power Coordinating Council	NPCC	10
Silvia Parada Mitchell	NextEra Energy, LLC	NPCC	5
Kathleen Goodman	ISO - New England	NPCC	2

Voter Information

Voter	Segment
Lee Pedowicz	10
Entity	Region(s)
Northeast Power Coordinating Council	NPCC

Selected Answer:

Answer Comment:

Any requirements must be sure to directly and unequivocally address internal communications capabilities that support making a Real-time Assessment of the BES.

Document Name:

Likes: 0

Dislikes: 0

Lee Pedowicz - Lee Pedowicz - -

Error: Subreport could not be shown.

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Bob Thomas - Illinois Municipal Electric Agency - 4 -

Selected Answer:

Answer Comment:

There is a need to minimize directives to further modify NERC-approved reliability standards given the impact on compliance resources (standards development tracking, implementation of the revised standard, revision of established compliance procedures, documentation and implementation of new internal controls, etc.). A FERC directive should be supported by information/data that there is an actual gap/problem (i.e., risk to reliability of the BES/BPS) that has occurred often enough to warrant further standards development/revision. The COM-001-2 SAR is an example of a FERC directive to address a perceived gap that does not appear to be supported by information/data that inadequate internal communications capabilities have actually produced a material risk to the BPS. If a requirement(s) specifying internal communications capabilities is deemed necessary, it should not apply to Distribution Provider.

Document Name:

Likes: 0

Dislikes: 0

Shannon Mickens - Southwest Power Pool, Inc. (RTO) - 2 - SPP

Group Information

Group Name: SPP Standards Review Group

Group Member Name	Entity	Region	Segments
Shannon Mickens	Southwest Power Pool Inc.	SPP	2
Michelle Corley	Cleco Power, LLC	SPP	1,3,5,6
Jason Smith	Southwest Power Pool Inc	SPP	2
Louis Guidry	Cleco Power, LLC	SPP	1,3,5,6
Robert Hirschak	Cleco Corporation	SPP	1,3,5,6
Mike Kiddwell	Empire District Electric Company	SPP	1,3,5
Tara Lightner	Sunflower Electric Power Corporation	SPP	1
Jess Gray	Omaha Public Power District	MRO	3
Gregory McAuley	Oklahoma Gas and Electric Co.	SPP	1,3,5,6
James "Jim" Nail	City of Independence, Missouri	SPP	3,5
Mahmood Safi	Omaha Public Power District	MRO	1,3,5
Ashley Stringer	Oklahoma Municipal Power Authority	SPP	4
Don Schmitt	Nebraska Public Power District	MRO	1,3,5
Scott Williams	City Utilities of Springfield	SPP	1,4
Greg Froehling	Rayburn County Electric Cooperative	SPP	3
Jim Dutton	Nebraska Public Power District	MRO	1,3,5
Matt Schell	Nebraska Public Power District	MRO	1,3,5

Voter Information

Voter	Segment
Shannon Mickens	2
Entity	Region(s)
Southwest Power Pool, Inc. (RTO)	SPP

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC

Selected Answer:

Answer Comment: N/A

Document Name:

Likes: 0

Dislikes: 0

Oshani Pathirane - Hydro One Networks, Inc. - 1,3 - NPCC

Selected Answer:

Answer Comment: Hydro One Networks Inc. noted a few minor technicalities:

1. In the "Purpose" section, the quoted text does not appear per verbatim out of the FERC Order, and should instead read, "*internal communications capabilities **to the extent that such communications** could involve the issuance or receipt of Operating Instructions or other communications that could have an impact on reliability.*"
2. In the "SAR Information" section, the quoted text does not appear per verbatim out of the FERC Order, and should instead read, "*internal communications capabilities **to the extent that such communications** could involve the issuance or receipt of Operating Instructions or other communications that could have an impact on reliability.*"

Document Name:

Likes: 1 Hydro One Networks, Inc., 1, Farahbakhsh Payam

Dislikes: 0

Oshani Pathirane - Oshani Pathirane - -

Selected Answer:

Answer Comment:

Hydro One Networks Inc. noted a few minor technicalities:

1. In the "Purpose" section, the quoted text does not appear per verbatim out of the Order, and should instead read, "*internal communications capabilities **to the extent that such communications** could involve the issuance or receipt of Operating Instructions or other communications that could have an impact on reliability.*"

2. In the "SAR Information" section, the quoted text does not appear per verbatim out of the Order, and should instead read, "*internal communications capabilities **to the extent that such communications** could involve the issuance or receipt of Operating Instructions or other communications that could have an impact on reliability.*"

Document Name:

Likes: 1 Hydro One Networks, Inc., 1, Farahbakhsh Payam

Dislikes: 0

Payam Farahbakhsh - Hydro One Networks, Inc. - 1 -

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Randall Hubbard - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - FRCC,WECC,TRE,SERC

Group Information

Group Name: Southern Company

Group Member Name	Entity	Region	Segments
Robert Schaffeld	Southern Company Services, Inc..	SERC	1
John Ciza	Southern Company Generation and Energy Marketing	SERC	6
R. Scott Moore	Alabama Power Company	SERC	3
William Shultz	Southern Company Generation	SERC	5

Voter Information

Voter	Segment
Randall Hubbard	1,3,5,6
Entity	Region(s)
Southern Company - Southern Company Services, Inc.	FRCC,WECC,TRE,SERC

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Randall Hubbard - Randall Hubbard - -

Error: Subreport could not be shown.

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Venona Greaff - Oxy - Occidental Chemical - 7 -

Group Information

Group Name: Oxy

Group Member Name	Entity	Region	Segments
Venona Greaff	Occidental Chemical Corporation	SERC	7
Michelle D'Antuono	Ingleside Cogeneration LP.	TRE	5

Voter Information

Voter	Segment
Venona Greaff	7
Entity	Region(s)
Oxy - Occidental Chemical	

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Venona Greaff - Oxy - Occidental Chemical - 7 -

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Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Venona Greaff - Oxy - Occidental Chemical - 7 -

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Standard Development Timeline

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

Description of Current Draft

Completed Actions	Date
Standards Committee approved Standard Authorization Request (SAR) for posting	June 10, 2015
SAR posted for comment	June 11, 2015

Anticipated Actions	Date
45-day formal comment period with ballot	September 2015
45-day formal comment period with additional ballot	November 2015
10-day final ballot	February 2016
NERC Board (Board) adoption	May 2016

New or Modified Term(s) Used in NERC Reliability Standards

This section includes all new or modified terms used in the proposed standard that will be included in the *Glossary of Terms Used in NERC Reliability Standards* upon applicable regulatory approval. Terms used in the proposed standard that are already defined and are not being modified can be found in the *Glossary of Terms Used in NERC Reliability Standards*. The new or revised terms listed below will be presented for approval with the proposed standard. Upon Board adoption, this section will be removed.

Term(s): None

When this standard receives Board adoption, the rationale boxes will be moved to the Supplemental Material Section of the standard.

A. Introduction

- 1. Title: Communications**
- 2. Number: COM-001-3**
- 3. Purpose: To establish Interpersonal Communication capabilities necessary to maintain reliability.**
- 4. Applicability:**
 - 4.1. Functional Entities:**
 - 4.1.1. Transmission Operator**
 - 4.1.2. Balancing Authority**
 - 4.1.3. Reliability Coordinator**
 - 4.1.4. Distribution Provider**
 - 4.1.5. Generator Operator**
- 5. Effective Date: See Implementation Plan**

B. Requirements and Measures

- R1.** 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): *[Violation Risk Factor: High] [Time Horizon: Real-time Operations]*
- 1.1.** All Transmission Operators and Balancing Authorities within its Reliability Coordinator Area.
 - 1.2.** Each adjacent Reliability Coordinator within the same Interconnection.
- M1.** Each Reliability Coordinator shall have and provide upon request evidence that it has Interpersonal Communication capability with all Transmission Operators and Balancing Authorities within its Reliability Coordinator Area and with each adjacent Reliability Coordinator within the same Interconnection, which could include, but is not limited to:
- physical assets, or
 - dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R1.)
- R2.** Each Reliability Coordinator shall designate an Alternative Interpersonal Communication capability with the following entities: *[Violation Risk Factor: High] [Time Horizon: Real-time Operations]*
- 2.1.** All Transmission Operators and Balancing Authorities within its Reliability Coordinator Area.
 - 2.2.** Each adjacent Reliability Coordinator within the same Interconnection.
- M2.** Each Reliability Coordinator shall have and provide upon request evidence that it designated an Alternative Interpersonal Communication capability with all Transmission Operators and Balancing Authorities within its Reliability Coordinator Area and with each adjacent Reliability Coordinator within the same Interconnection, which could include, but is not limited to:
- physical assets, or
 - dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R2.)
- R3.** Each Transmission Operator shall have Interpersonal Communication capability with the following entities (unless the Transmission Operator detects a failure of its

Interpersonal Communication capability in which case Requirement R10 shall apply):
[Violation Risk Factor: High] [Time Horizon: Real-time Operations]

- 3.1.** Its Reliability Coordinator.
 - 3.2.** Each Balancing Authority within its Transmission Operator Area.
 - 3.3.** Each Distribution Provider within its Transmission Operator Area.
 - 3.4.** Each Generator Operator within its Transmission Operator Area.
 - 3.5.** Each adjacent Transmission Operator synchronously connected.
 - 3.6.** Each adjacent Transmission Operator asynchronously connected.
- M3.** Each Transmission Operator shall have and provide upon request evidence that it has Interpersonal Communication capability with its Reliability Coordinator, each Balancing Authority, Distribution Provider, and Generator Operator within its Transmission Operator Area, and each adjacent Transmission Operator asynchronously or synchronously connected, which could include, but is not limited to:
- Physical assets, or
 - Dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communication. (R3.)
- R4.** Each Transmission Operator shall designate an Alternative Interpersonal Communication capability with the following entities: *[Violation Risk Factor: High] [Time Horizon: Real-time Operations]*
- 4.1.** Its Reliability Coordinator.
 - 4.2.** Each Balancing Authority within its Transmission Operator Area.
 - 4.3.** Each adjacent Transmission Operator synchronously connected.
 - 4.4.** Each adjacent Transmission Operator asynchronously connected.
- M4.** Each Transmission Operator shall have and provide upon request evidence that it designated an Alternative Interpersonal Communication capability with its Reliability Coordinator, each Balancing Authority within its Transmission Operator Area, and each adjacent Transmission Operator asynchronously and synchronously connected, which could include, but is not limited to:
- Physical assets, or
 - Dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R4.)

- R5.** Each Balancing Authority shall have Interpersonal Communication capability with the following entities (unless the Balancing Authority detects a failure of its Interpersonal Communication capability in which case Requirement R10 shall apply): *[Violation Risk Factor: High] [Time Horizon: Real-time Operations]*
- 5.1.** Its Reliability Coordinator.
 - 5.2.** Each Transmission Operator that operates Facilities within its Balancing Authority Area.
 - 5.3.** Each Distribution Provider within its Balancing Authority Area.
 - 5.4.** Each Generator Operator that operates Facilities within its Balancing Authority Area.
 - 5.5.** Each Adjacent Balancing Authority.
- M5.** Each Balancing Authority shall have and provide upon request evidence that it has Interpersonal Communication capability with its Reliability Coordinator, each Transmission Operator and Generator Operator that operates Facilities within its Balancing Authority Area, each Distribution Provider within its Balancing Authority Area, and each adjacent Balancing Authority, which could include, but is not limited to:
- Physical assets, or
 - Dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R5.)
- R6.** Each Balancing Authority shall designate an Alternative Interpersonal Communication capability with the following entities: *[Violation Risk Factor: High] [Time Horizon: Real-time Operations]*
- 6.1.** Its Reliability Coordinator.
 - 6.2.** Each Transmission Operator that operates Facilities within its Balancing Authority Area.
 - 6.3.** Each Adjacent Balancing Authority.
- M6.** Each Balancing Authority shall have and provide upon request evidence that it designated an Alternative Interpersonal Communication capability with its Reliability Coordinator, each Transmission Operator that operates Facilities within its Balancing Authority Area, and each adjacent Balancing Authority, which could include, but is not limited to:
- Physical assets, or

- Dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R6.)
- R7.** Each Distribution Provider shall have Interpersonal Communication capability with the following entities (unless the Distribution Provider detects a failure of its Interpersonal Communication capability in which case Requirement R11 shall apply): *[Violation Risk Factor: Medium] [Time Horizon: Real-time Operations]*
- 7.1.** Its Balancing Authority.
 - 7.2.** Its Transmission Operator.
- M7.** Each Distribution Provider shall have and provide upon request evidence that it has Interpersonal Communication capability with its Transmission Operator and its Balancing Authority, which could include, but is not limited to:
- Physical assets, or
 - Dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R7.)
- R8.** Each Generator Operator shall have Interpersonal Communication capability with the following entities (unless the Generator Operator detects a failure of its Interpersonal Communication capability in which case Requirement R11 shall apply): *[Violation Risk Factor: High] [Time Horizon: Real-time Operations]*
- 8.1.** Its Balancing Authority.
 - 8.2.** Its Transmission Operator.
- M8.** Each Generator Operator shall have and provide upon request evidence that it has Interpersonal Communication capability with its Balancing Authority and its Transmission Operator, which could include, but is not limited to:
- Physical assets, or
 - Dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R8.)
- R9.** Each Reliability Coordinator, Transmission Operator, and Balancing Authority shall 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. *[Violation Risk Factor: Medium][Time Horizon: Real-time Operations, Same-day Operations]*

- M9.** Each Reliability Coordinator, Transmission Operator, and Balancing Authority shall have and provide upon request evidence that it tested, at least once each calendar month, its Alternative Interpersonal Communication capability designated in Requirements 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 Communication capability within 2 hours. Evidence could include, but is not limited to: dated and time-stamped test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R9.)
- R10.** 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 capability that lasts 30 minutes or longer. *[Violation Risk Factor: Medium] [Time Horizon: Real-time Operations]*
- M10.** Each Reliability Coordinator, Transmission Operator, and Balancing Authority shall have and provide upon request evidence that it notified entities as identified in Requirements R1, R3, and R5, respectively within 60 minutes of the detection of a failure of its Interpersonal Communication capability that lasted 30 minutes or longer. Evidence could include, but is not limited to: dated and time-stamped test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R10.)
- R11.** Each Distribution Provider and Generator Operator that detects a failure of its Interpersonal Communication capability shall consult each entity affected by the failure, as identified in Requirement R7 for a Distribution Provider or Requirement R8 for a Generator Operator, to determine a mutually agreeable action for the restoration of its Interpersonal Communication capability. *[Violation Risk Factor: Medium] [Time Horizon: Real-time Operations]*
- M11.** Each Distribution Provider and Generator Operator that detected a failure of its Interpersonal Communication capability shall have and provide upon request evidence that it consulted with each entity affected by the failure, as identified in Requirement R7 for a Distribution Provider or Requirement R8 for a Generator Operator, to determine mutually agreeable action to restore the Interpersonal Communication capability. Evidence could include, but is not limited to: dated operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R11.)
- R12.** Each Reliability Coordinator, Transmission Operator, Generator Operator, and Balancing Authority shall have internal Interpersonal Communication capabilities for

the exchange of information that is necessary for the Reliable Operation of the BES. *[Violation Risk Factor: High] [Time Horizon: Real-time Operations]*

M12. Each Reliability Coordinator, Transmission Operator, Generator Operator, and Balancing Authority shall have and provide upon request evidence that it has internal Interpersonal Communication capability, which could include, but is not limited to:

- physical assets, or
- dated evidence, such as, equipment specifications and installation documentation, operating procedures, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications.
- Examples include, but are not limited to, between geographically separate control centers within the same functional entity, or between a control center and field switching personnel. (R12.)

R13. Each Distribution Provider shall have internal Interpersonal Communication capabilities for the exchange of information that is necessary for the Reliable Operation of the BES. *[Violation Risk Factor: Medium] [Time Horizon: Real-time Operations]*

M13. Each Distribution Provider shall have and provide upon request evidence that it has internal Interpersonal Communication capability, which could include, but is not limited to:

- physical assets, or
- dated evidence, such as, equipment specifications and installation documentation, operating procedures, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications.
- Examples include, but are not limited to, between geographically separate control centers within the same functional entity, or between a control center and field switching personnel. (R13.)

C. Compliance

1. Compliance Monitoring Process

1.1. Compliance Enforcement Authority:

“Compliance Enforcement Authority” or the Regional Entity, or any entity as otherwise designated by an Applicable Governmental Authority, in their respective roles of monitoring and/or enforcing compliance with mandatory and enforceable Reliability Standards in their respective jurisdictions.

1.2. Evidence Retention

The following evidence retention period(s) 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 applicable entity shall keep data or evidence to show compliance as identified below unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation:

- The Reliability Coordinator for Requirements R1, R2, R9, and R10, Measures M1, M2, M9, and M10 shall retain written documentation for the most recent twelve calendar months and voice recordings for the most recent 90 calendar days.
- The Transmission Operator for Requirements R3, R4, R9, and R10, Measures M3, M4, M9, and M10 shall retain written documentation for the most recent twelve calendar months and voice recordings for the most recent 90 calendar days.
- The Balancing Authority for Requirements R5, R6, R9, and R10, Measures M5, M6, M9, and M10 shall retain written documentation for the most recent twelve calendar months and voice recordings for the most recent 90 calendar days.
- The Distribution Provider for Requirements R7 and R11, Measures M7 and M11 shall retain written documentation for the most recent twelve calendar months and voice recordings for the most recent 90 calendar days.
- The Generator Operator for Requirements R8 and R11, Measures M8 and M11 shall retain written documentation for the most recent twelve calendar months and voice recordings for the most recent 90 calendar days.
- Responsible entities under Requirement R12, Measure M 12 shall retain written documentation for the most recent twelve calendar months and voice recordings for the most recent 90 calendar days.
- Responsible entities under Requirement R13, Measure M 13 shall retain written documentation for the most recent twelve calendar months and voice recordings for the most recent 90 calendar days.

1.3. Compliance Monitoring and Enforcement Program

As defined in the NERC Rules of Procedure, “Compliance Monitoring and Enforcement Program” refers to the identification of the processes that will be used to evaluate data or information for the purpose of assessing performance or outcomes with the associated Reliability Standard.

D. Violation Severity Levels

R #	Violation Severity Levels			
	Lower VSL	Moderate VSL	High VSL	Severe VSL
R1.	N/A	N/A	The Reliability Coordinator failed to have Interpersonal Communication capability with one of the entities listed in Requirement R1, Parts 1.1 or 1.2, except when the Reliability Coordinator detected a failure of its Interpersonal Communication capability in accordance with Requirement R10.	The Reliability Coordinator failed to have Interpersonal Communication capability with two or more of the entities listed in Requirement R1, Parts 1.1 or 1.2, except when the Reliability Coordinator detected a failure of its Interpersonal Communication capability in accordance with Requirement R10.
R2.	N/A	N/A	The Reliability Coordinator failed to designate Alternative Interpersonal Communication capability with one of the entities listed in Requirement R2, Parts 2.1 or 2.2.	The Reliability Coordinator failed to designate Alternative Interpersonal Communication capability with two or more of the entities listed in Requirement R2, Parts 2.1 or 2.2.
R3.	N/A	N/A	The Transmission Operator failed to have Interpersonal Communication capability	The Transmission Operator failed to have Interpersonal Communication capability

R #	Violation Severity Levels			
	Lower VSL	Moderate VSL	High VSL	Severe VSL
			with one of the entities listed in Requirement R3, Parts 3.1, 3.2, 3.3, 3.4, 3.5, or 3.6, except when the Transmission Operator detected a failure of its Interpersonal Communication capability in accordance with Requirement R10.	with two or more of the entities listed in Requirement R3, Parts 3.1, 3.2, 3.3, 3.4, 3.5, or 3.6, except when the Transmission Operator detected a failure of its Interpersonal Communication capability in accordance with Requirement R10.
R4.	N/A	N/A	The Transmission Operator failed to designate Alternative Interpersonal Communication capability with one of the entities listed in Requirement R4, Parts 4.1, 4.2, 4.3, or 4.4.	The Transmission Operator failed to designate Alternative Interpersonal Communication capability with two or more of the entities listed in Requirement R4, Parts 4.1, 4.2, 4.3, or 4.4.
R5.	N/A	N/A	The Balancing Authority failed to have Interpersonal Communication capability with one of the entities listed in Requirement R5, Parts 5.1, 5.2, 5.3, 5.4, or 5.5, except when the	The Balancing Authority failed to have Interpersonal Communication capability with two or more of the entities listed in Requirement R5, Parts 5.1, 5.2, 5.3, 5.4, or 5.5, except

R #	Violation Severity Levels			
	Lower VSL	Moderate VSL	High VSL	Severe VSL
			Balancing Authority detected a failure of its Interpersonal Communication capability in accordance with Requirement R10.	when the Balancing Authority detected a failure of its Interpersonal Communication capability in accordance with Requirement R10.
R6.	N/A	N/A	The Balancing Authority failed to designate Alternative Interpersonal Communication capability with one of the entities listed in Requirement R6, Parts 6.1, 6.2, or 6.3.	The Balancing Authority failed to designate Alternative Interpersonal Communication capability with two or more of the entities listed in Requirement R6, Parts 6.1, 6.2, or 6.3.
R7.	N/A	N/A	The Distribution Provider failed to have Interpersonal Communication capability with one of the entities listed in Requirement R7, Parts 7.1 or 7.2, except when the Distribution Provider detected a failure of its Interpersonal Communication capability in accordance with Requirement R11.	The Distribution Provider failed to have Interpersonal Communication capability with two or more of the entities listed in Requirement R7, Parts 7.1 or 7.2, except when the Distribution Provider detected a failure of its Interpersonal Communication capability in

R #	Violation Severity Levels			
	Lower VSL	Moderate VSL	High VSL	Severe VSL
				accordance with Requirement R11.
R8.	N/A	N/A	The Generator Operator failed to have Interpersonal Communication capability with one of the entities listed in Requirement R8, Parts 8.1 or 8.2, except when a Generator Operator detected a failure of its Interpersonal Communication capability in accordance with Requirement R11.	The Generator Operator failed to have Interpersonal Communication capability with two or more of the entities listed in Requirement R8, Parts 8.1 or 8.2, except when a Generator Operator detected a failure of its Interpersonal Communication capability in accordance with Requirement R11.
R9.	The Reliability Coordinator, Transmission Operator, or Balancing Authority tested the Alternative Interpersonal Communication capability but failed to initiate action to repair or designate a replacement Alternative Interpersonal Communication in more than 2 hours and less than or	The Reliability Coordinator, Transmission Operator, or Balancing Authority tested the Alternative Interpersonal Communication capability but failed to initiate action to repair or designate a replacement Alternative Interpersonal Communication in more than 4 hours and less than or	The Reliability Coordinator, Transmission Operator, or Balancing Authority tested the Alternative Interpersonal Communication capability but failed to initiate action to repair or designate a replacement Alternative Interpersonal Communication in more than 6 hours and less than or	The Reliability Coordinator, Transmission Operator, or Balancing Authority failed to test the Alternative Interpersonal Communication capability once each calendar month. OR The Reliability Coordinator, Transmission Operator, or

R #	Violation Severity Levels			
	Lower VSL	Moderate VSL	High VSL	Severe VSL
	equal to 4 hours upon an unsuccessful test.	equal to 6 hours upon an unsuccessful test.	equal to 8 hours upon an unsuccessful test.	Balancing Authority tested the Alternative Interpersonal Communication capability but failed to initiate action to repair or designate a replacement Alternative Interpersonal Communication in more than 8 hours upon an unsuccessful test.
R10.	The Reliability Coordinator, Transmission Operator, or Balancing Authority failed to notify the entities identified in Requirements R1, R3, and R5, respectively upon the detection of a failure of its Interpersonal Communication capability in more than 60 minutes but less than or equal to 70 minutes.	The Reliability Coordinator, Transmission Operator, or Balancing Authority failed to notify the entities identified in Requirements R1, R3, and R5, respectively upon the detection of a failure of its Interpersonal Communication capability in more than 70 minutes but less than or equal to 80 minutes.	The Reliability Coordinator, Transmission Operator, or Balancing Authority failed to notify the entities identified in Requirements R1, R3, and R5, respectively upon the detection of a failure of its Interpersonal Communication capability in more than 80 minutes but less than or equal to 90 minutes.	The Reliability Coordinator, Transmission Operator, or Balancing Authority failed to notify the entities identified in Requirements R1, R3, and R5, respectively upon the detection of a failure of its Interpersonal Communication capability in more than 90 minutes.
R11.	N/A	N/A	N/A	The Distribution Provider or Generator Operator that detected a failure of its Interpersonal

R #	Violation Severity Levels			
	Lower VSL	Moderate VSL	High VSL	Severe VSL
				Communication capability failed to consult with each entity affected by the failure, as identified in Requirement R7 for a Distribution Provider or Requirement R8 for a Generator Operator, to determine a mutually agreeable action for the restoration of the Interpersonal Communication capability.
R12.	N/A	N/A	N/A	The Reliability Coordinator, Transmission Operator, Generator Operator, or Balancing Authority failed to have internal Interpersonal Communication capability for the exchange of operating information.
R13.	N/A	N/A	N/A	The Distribution Provider failed to have internal Interpersonal Communication capability for the exchange of operating information.

E. Regional Variances

None.

F. Associated Documents

None.

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
1.1	October 29, 2008	BOT adopted errata changes; updated version number to “1.1”	Errata
2	November 7, 2015	Adopted by Board of Trustees	Revised in accordance with SAR for Project 2006-06, Reliability Coordination (RC SDT). Replaced R1 with R1-R8; R2 replaced by R9; R3 included within new R1; R4 remains enforce pending Project 2007-02; R5 redundant with EOP-008-0, retiring R5 as redundant with EOP-008-0,

			R1; retiring R6, relates to ERO procedures; R10 & R11, new.
2	April 16, 2015	FERC Order issued approving COM-001-2	

Rationale

During development of this standard, text boxes were embedded within the standard to explain the rationale for various parts of the standard. Upon BOT adoption, the text from the rationale text boxes was moved to this section.

Standard Development Timeline

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

Description of Current Draft

Completed Actions	Date
Standards Committee approved Standard Authorization Request (SAR) for posting	June 10, 2015
SAR posted for comment	June 11, 2015

Anticipated Actions	Date
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Term(s): None

When this standard receives Board adoption, the rationale boxes will be moved to the Supplemental Material Section of the standard.

A. Introduction

1. **Title:** **Communications**
2. **Number:** **COM-001-~~32~~**
3. **Purpose:** **To establish Interpersonal Communication capabilities necessary to maintain reliability.**
4. **Applicability:**
 - 4.1. **Functional Entities:**
 - 4.1.1. Transmission Operator
 - 4.1.2. Balancing Authority
 - 4.1.3. Reliability Coordinator
 - 4.1.4. Distribution Provider
 - 4.1.5. Generator Operator
5. **Effective Date:** ~~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. See Implementation Plan~~

B. Requirements and Measures

- R1.** 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): *[Violation Risk Factor: High] [Time Horizon: Real-time Operations]*
- 1.1.** All Transmission Operators and Balancing Authorities within its Reliability Coordinator Area.
 - 1.2.** Each adjacent Reliability Coordinator within the same Interconnection.
- M1.** Each Reliability Coordinator shall have and provide upon request evidence that it has Interpersonal Communication capability with all Transmission Operators and Balancing Authorities within its Reliability Coordinator Area and with each adjacent Reliability Coordinator within the same Interconnection, which could include, but is not limited to:
- physical assets, or
 - dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R1.)
- R2.** Each Reliability Coordinator shall designate an Alternative Interpersonal Communication capability with the following entities: *[Violation Risk Factor: High] [Time Horizon: Real-time Operations]*
- 2.1.** All Transmission Operators and Balancing Authorities within its Reliability Coordinator Area.
 - 2.2.** Each adjacent Reliability Coordinator within the same Interconnection.
- M2.** Each Reliability Coordinator shall have and provide upon request evidence that it designated an Alternative Interpersonal Communication capability with all Transmission Operators and Balancing Authorities within its Reliability Coordinator Area and with each adjacent Reliability Coordinator within the same Interconnection, which could include, but is not limited to:
- physical assets, or
 - dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R2.)
- R3.** Each Transmission Operator shall have Interpersonal Communication capability with the following entities (unless the Transmission Operator detects a failure of its

Interpersonal Communication capability in which case Requirement R10 shall apply):
[Violation Risk Factor: High] [Time Horizon: Real-time Operations]

- 3.1.** Its Reliability Coordinator.
 - 3.2.** Each Balancing Authority within its Transmission Operator Area.
 - 3.3.** Each Distribution Provider within its Transmission Operator Area.
 - 3.4.** Each Generator Operator within its Transmission Operator Area.
 - 3.5.** Each adjacent Transmission Operator synchronously connected.
 - 3.6.** Each adjacent Transmission Operator asynchronously connected.
- M3.** Each Transmission Operator shall have and provide upon request evidence that it has Interpersonal Communication capability with its Reliability Coordinator, each Balancing Authority, Distribution Provider, and Generator Operator within its Transmission Operator Area, and each adjacent Transmission Operator asynchronously or synchronously connected, which could include, but is not limited to:
- Physical assets, or
 - Dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communication. (R3.)
- R4.** Each Transmission Operator shall designate an Alternative Interpersonal Communication capability with the following entities: *[Violation Risk Factor: High] [Time Horizon: Real-time Operations]*
- 4.1.** Its Reliability Coordinator.
 - 4.2.** Each Balancing Authority within its Transmission Operator Area.
 - 4.3.** Each adjacent Transmission Operator synchronously connected.
 - 4.4.** Each adjacent Transmission Operator asynchronously connected.
- M4.** Each Transmission Operator shall have and provide upon request evidence that it designated an Alternative Interpersonal Communication capability with its Reliability Coordinator, each Balancing Authority within its Transmission Operator Area, and each adjacent Transmission Operator asynchronously and synchronously connected, which could include, but is not limited to:
- Physical assets, or
 - Dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R4.)

- R5.** Each Balancing Authority shall have Interpersonal Communication capability with the following entities (unless the Balancing Authority detects a failure of its Interpersonal Communication capability in which case Requirement R10 shall apply): *[Violation Risk Factor: High] [Time Horizon: Real-time Operations]*
- 5.1.** Its Reliability Coordinator.
 - 5.2.** Each Transmission Operator that operates Facilities within its Balancing Authority Area.
 - 5.3.** Each Distribution Provider within its Balancing Authority Area.
 - 5.4.** Each Generator Operator that operates Facilities within its Balancing Authority Area.
 - 5.5.** Each Adjacent Balancing Authority.
- M5.** Each Balancing Authority shall have and provide upon request evidence that it has Interpersonal Communication capability with its Reliability Coordinator, each Transmission Operator and Generator Operator that operates Facilities within its Balancing Authority Area, each Distribution Provider within its Balancing Authority Area, and each adjacent Balancing Authority, which could include, but is not limited to:
- Physical assets, or
 - Dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R5.)
- R6.** Each Balancing Authority shall designate an Alternative Interpersonal Communication capability with the following entities: *[Violation Risk Factor: High] [Time Horizon: Real-time Operations]*
- 6.1.** Its Reliability Coordinator.
 - 6.2.** Each Transmission Operator that operates Facilities within its Balancing Authority Area.
 - 6.3.** Each Adjacent Balancing Authority.
- M6.** Each Balancing Authority shall have and provide upon request evidence that it designated an Alternative Interpersonal Communication capability with its Reliability Coordinator, each Transmission Operator that operates Facilities within its Balancing Authority Area, and each adjacent Balancing Authority, which could include, but is not limited to:
- Physical assets, or

- Dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R6.)
- R7.** Each Distribution Provider shall have Interpersonal Communication capability with the following entities (unless the Distribution Provider detects a failure of its Interpersonal Communication capability in which case Requirement R11 shall apply): *[Violation Risk Factor: Medium] [Time Horizon: Real-time Operations]*
- 7.1.** Its Balancing Authority.
 - 7.2.** Its Transmission Operator.
- M7.** Each Distribution Provider shall have and provide upon request evidence that it has Interpersonal Communication capability with its Transmission Operator and its Balancing Authority, which could include, but is not limited to:
- Physical assets, or
 - Dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R7.)
- R8.** Each Generator Operator shall have Interpersonal Communication capability with the following entities (unless the Generator Operator detects a failure of its Interpersonal Communication capability in which case Requirement R11 shall apply): *[Violation Risk Factor: High] [Time Horizon: Real-time Operations]*
- 8.1.** Its Balancing Authority.
 - 8.2.** Its Transmission Operator.
- M8.** Each Generator Operator shall have and provide upon request evidence that it has Interpersonal Communication capability with its Balancing Authority and its Transmission Operator, which could include, but is not limited to:
- Physical assets, or
 - Dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R8.)
- R9.** Each Reliability Coordinator, Transmission Operator, and Balancing Authority shall 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. *[Violation Risk Factor: Medium][Time Horizon: Real-time Operations, Same-day Operations]*

- M9.** Each Reliability Coordinator, Transmission Operator, and Balancing Authority shall have and provide upon request evidence that it tested, at least once each calendar month, its Alternative Interpersonal Communication capability designated in Requirements 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 Communication capability within 2 hours. Evidence could include, but is not limited to: dated and time-stamped test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R9.)
- R10.** 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 capability that lasts 30 minutes or longer. *[Violation Risk Factor: Medium] [Time Horizon: Real-time Operations]*
- M10.** Each Reliability Coordinator, Transmission Operator, and Balancing Authority shall have and provide upon request evidence that it notified entities as identified in Requirements R1, R3, and R5, respectively within 60 minutes of the detection of a failure of its Interpersonal Communication capability that lasted 30 minutes or longer. Evidence could include, but is not limited to: dated and time-stamped test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R10.)
- R11.** Each Distribution Provider and Generator Operator that detects a failure of its Interpersonal Communication capability shall consult each entity affected by the failure, as identified in Requirement R7 for a Distribution Provider or Requirement R8 for a Generator Operator, to determine a mutually agreeable action for the restoration of its Interpersonal Communication capability. *[Violation Risk Factor: Medium] [Time Horizon: Real-time Operations]*
- M11.** Each Distribution Provider and Generator Operator that detected a failure of its Interpersonal Communication capability shall have and provide upon request evidence that it consulted with each entity affected by the failure, as identified in Requirement R7 for a Distribution Provider or Requirement R8 for a Generator Operator, to determine mutually agreeable action to restore the Interpersonal Communication capability. Evidence could include, but is not limited to: dated operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R11.)

R12. Each Reliability Coordinator, Transmission Operator, Generator Operator, and Balancing Authority shall have internal Interpersonal Communication capabilities for

the exchange of information that is necessary for the Reliable Operation of the BES. [Violation Risk Factor: High] [Time Horizon: Real-time Operations]

M12. Each Reliability Coordinator, Transmission Operator, Generator Operator, and Balancing Authority shall have and provide upon request evidence that it has internal Interpersonal Communication capability, which could include, but is not limited to:

- physical assets, or
- dated evidence, such as, equipment specifications and installation documentation, operating procedures, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications.
- Examples include, but are not limited to, between geographically separate control centers within the same functional entity, or between a control center and field switching personnel. (R12.)

R13. Each Distribution Provider shall have internal Interpersonal Communication capabilities for the exchange of information that is necessary for the Reliable Operation of the BES. [Violation Risk Factor: Medium] [Time Horizon: Real-time Operations]

M13. Each Distribution Provider shall have and provide upon request evidence that it has internal Interpersonal Communication capability, which could include, but is not limited to:

- physical assets, or
- dated evidence, such as, equipment specifications and installation documentation, operating procedures, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications.
- Examples include, but are not limited to, between geographically separate control centers within the same functional entity, or between a control center and field switching personnel. (R13.)

C. Compliance

1. Compliance Monitoring Process

1.1. Compliance Enforcement Authority:

~~The Regional Entity shall serve as the Compliance Enforcement Authority (CEA) unless the applicable entity is owned, operated, or controlled by the Regional Entity. In such cases, the ERO or a Regional Entity approved by FERC or other applicable governmental authority shall serve as CEA.~~

“Compliance Enforcement Authority” or the Regional Entity, or any entity as otherwise designated by an Applicable Governmental Authority, in their

respective roles of monitoring and/or enforcing compliance with mandatory and enforceable Reliability Standards in their respective jurisdictions.

~~1.2. Compliance Monitoring and Enforcement Process~~

~~Compliance Audit~~

~~Self Certification~~

~~Spot Checking~~

~~Compliance Investigation~~

~~Self Reporting~~

~~Complaint~~

~~1.3.1.2. Evidence Retention~~

The following evidence retention period(s) 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 applicable entity~~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:

- The Reliability Coordinator for Requirements R1, R2, R9, and R10, Measures M1, M2, M9, and M10 shall retain written documentation for the most recent twelve calendar months and voice recordings for the most recent 90 calendar days.
- The Transmission Operator for Requirements R3, R4, R9, and R10, Measures M3, M4, M9, and M10 shall retain written documentation for the most recent twelve calendar months and voice recordings for the most recent 90 calendar days.
- The Balancing Authority for Requirements R5, R6, R9, and R10, Measures M5, M6, M9, and M10 shall retain written documentation for the most recent twelve calendar months and voice recordings for the most recent 90 calendar days.
- The Distribution Provider for Requirements R7 and R11, Measures M7 and M11 shall retain written documentation for the most recent twelve calendar months and voice recordings for the most recent 90 calendar days.

- The Generator Operator for Requirements R8 and R11, Measures M8 and M11 shall retain written documentation for the most recent twelve calendar months and voice recordings for the most recent 90 calendar days.
- Responsible entities under Requirement R12, Measure M 12 shall retain written documentation for the most recent twelve calendar months and voice recordings for the most recent 90 calendar days.
- Responsible entities under Requirement R13, Measure M 13 shall retain written documentation for the most recent twelve calendar months and voice recordings for the most recent 90 calendar days.
- ~~If a Reliability Coordinator, Transmission Operator, Balancing Authority, Distribution Provider, or Generator Operator is found non-compliant, it shall keep information related to the non-compliance until mitigation is complete and approved or for the time specified above, whichever is longer.~~
- ~~The Compliance Enforcement Authority shall keep the last audit records and all requested and submitted subsequent audit records.~~

1.3. Compliance Monitoring and Enforcement Program

1.4. Additional Compliance Information

~~None~~

As defined in the NERC Rules of Procedure, “Compliance Monitoring and Enforcement Program” refers to the identification of the processes that will be used to evaluate data or information for the purpose of assessing performance or outcomes with the associated Reliability Standard.

D. Violation Severity Levels

R #	Violation Severity Levels			
	Lower VSL	Moderate VSL	High VSL	Severe VSL
R1.	N/A	N/A	The Reliability Coordinator failed to have Interpersonal Communication capability with one of the entities listed in Requirement R1, Parts 1.1 or 1.2, except when the Reliability Coordinator detected a failure of its Interpersonal Communication capability in accordance with Requirement R10.	The Reliability Coordinator failed to have Interpersonal Communication capability with two or more of the entities listed in Requirement R1, Parts 1.1 or 1.2, except when the Reliability Coordinator detected a failure of its Interpersonal Communication capability in accordance with Requirement R10.
R2.	N/A	N/A	The Reliability Coordinator failed to designate Alternative Interpersonal Communication capability with one of the entities listed in Requirement R2, Parts 2.1 or 2.2.	The Reliability Coordinator failed to designate Alternative Interpersonal Communication capability with two or more of the entities listed in Requirement R2, Parts 2.1 or 2.2.
R3.	N/A	N/A	The Transmission Operator failed to have Interpersonal Communication capability	The Transmission Operator failed to have Interpersonal Communication capability

			with one of the entities listed in Requirement R3, Parts 3.1, 3.2, 3.3, 3.4, 3.5, or 3.6, except when the Transmission Operator detected a failure of its Interpersonal Communication capability in accordance with Requirement R10.	with two or more of the entities listed in Requirement R3, Parts 3.1, 3.2, 3.3, 3.4, 3.5, or 3.6, except when the Transmission Operator detected a failure of its Interpersonal Communication capability in accordance with Requirement R10.
R4.	N/A	N/A	The Transmission Operator failed to designate Alternative Interpersonal Communication capability with one of the entities listed in Requirement R4, Parts 4.1, 4.2, 4.3, or 4.4.	The Transmission Operator failed to designate Alternative Interpersonal Communication capability with two or more of the entities listed in Requirement R4, Parts 4.1, 4.2, 4.3, or 4.4.
R5.	N/A	N/A	The Balancing Authority failed to have Interpersonal Communication capability with one of the entities listed in Requirement R5, Parts 5.1, 5.2, 5.3, 5.4, or 5.5, except when the Balancing Authority detected a failure of its Interpersonal Communication capability in	The Balancing Authority failed to have Interpersonal Communication capability with two or more of the entities listed in Requirement R5, Parts 5.1, 5.2, 5.3, 5.4, or 5.5, except when the Balancing Authority detected a failure of its Interpersonal

			accordance with Requirement R10.	Communication capability in accordance with Requirement R10.
R6.	N/A	N/A	The Balancing Authority failed to designate Alternative Interpersonal Communication capability with one of the entities listed in Requirement R6, Parts 6.1, 6.2, or 6.3.	The Balancing Authority failed to designate Alternative Interpersonal Communication capability with two or more of the entities listed in Requirement R6, Parts 6.1, 6.2, or 6.3.
R7.	N/A	N/A	The Distribution Provider failed to have Interpersonal Communication capability with one of the entities listed in Requirement R7, Parts 7.1 or 7.2, except when the Distribution Provider detected a failure of its Interpersonal Communication capability in accordance with Requirement R11.	The Distribution Provider failed to have Interpersonal Communication capability with two or more of the entities listed in Requirement R7, Parts 7.1 or 7.2, except when the Distribution Provider detected a failure of its Interpersonal Communication capability in accordance with Requirement R11.
R8.	N/A	N/A	The Generator Operator failed to have Interpersonal Communication capability with one of the entities	The Generator Operator failed to have Interpersonal Communication capability with two or more of the

			listed in Requirement R8, Parts 8.1 or 8.2, except when a Generator Operator detected a failure of its Interpersonal Communication capability in accordance with Requirement R11.	entities listed in Requirement R8, Parts 8.1 or 8.2, except when a Generator Operator detected a failure of its Interpersonal Communication capability in accordance with Requirement R11.
R9.	The Reliability Coordinator, Transmission Operator, or Balancing Authority tested the Alternative Interpersonal Communication capability but failed to initiate action to repair or designate a replacement Alternative Interpersonal Communication in more than 2 hours and less than or equal to 4 hours upon an unsuccessful test.	The Reliability Coordinator, Transmission Operator, or Balancing Authority tested the Alternative Interpersonal Communication capability but failed to initiate action to repair or designate a replacement Alternative Interpersonal Communication in more than 4 hours and less than or equal to 6 hours upon an unsuccessful test.	The Reliability Coordinator, Transmission Operator, or Balancing Authority tested the Alternative Interpersonal Communication capability but failed to initiate action to repair or designate a replacement Alternative Interpersonal Communication in more than 6 hours and less than or equal to 8 hours upon an unsuccessful test.	The Reliability Coordinator, Transmission Operator, or Balancing Authority failed to test the Alternative Interpersonal Communication capability once each calendar month. OR The Reliability Coordinator, Transmission Operator, or Balancing Authority tested the Alternative Interpersonal Communication capability but failed to initiate action to repair or designate a replacement Alternative Interpersonal Communication in more than 8 hours upon an unsuccessful test.

R10.	The Reliability Coordinator, Transmission Operator, or Balancing Authority failed to notify the entities identified in Requirements R1, R3, and R5, respectively upon the detection of a failure of its Interpersonal Communication capability in more than 60 minutes but less than or equal to 70 minutes.	The Reliability Coordinator, Transmission Operator, or Balancing Authority failed to notify the entities identified in Requirements R1, R3, and R5, respectively upon the detection of a failure of its Interpersonal Communication capability in more than 70 minutes but less than or equal to 80 minutes.	The Reliability Coordinator, Transmission Operator, or Balancing Authority failed to notify the entities identified in Requirements R1, R3, and R5, respectively upon the detection of a failure of its Interpersonal Communication capability in more than 80 minutes but less than or equal to 90 minutes.	The Reliability Coordinator, Transmission Operator, or Balancing Authority failed to notify the entities identified in Requirements R1, R3, and R5, respectively upon the detection of a failure of its Interpersonal Communication capability in more than 90 minutes.
R11.	N/A	N/A	N/A	The Distribution Provider or Generator Operator that detected a failure of its Interpersonal Communication capability failed to consult with each entity affected by the failure, as identified in Requirement R7 for a Distribution Provider or Requirement R8 for a Generator Operator, to determine a mutually agreeable action for the restoration of the Interpersonal Communication capability.

<u>R12.</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>The Reliability Coordinator, Transmission Operator, Generator Operator, or Balancing Authority failed to have internal Interpersonal Communication capability for the exchange of operating information.</u>
<u>R13.</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>The Distribution Provider failed to have internal Interpersonal Communication capability for the exchange of operating information.</u>

E. Regional Variances

None.

F. Associated Documents

None.

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
1.1	October 29, 2008	BOT adopted errata changes; updated version number to "1.1"	Errata
2	November 7, 2015	Adopted by Board of Trustees	Revised in accordance with SAR for Project 2006-06, Reliability Coordination (RC SDT). Replaced R1 with R1-R8; R2 replaced by R9; R3 included within new R1; R4 remains enforce pending Project 2007-02; R5 redundant with EOP-008-0, retiring R5 as redundant with EOP-008-0, R1; retiring R6, relates to ERO procedures; R10 & R11, new.
2	April April 16, 2015	FERC Order issued approving COM-001-2	

Rationale

During development of this standard, text boxes were embedded within the standard to explain the rationale for various parts of the standard. Upon BOT adoption, the text from the rationale text boxes was moved to this section.

Implementation Plan and Mapping Document

COM-001-3 Communications

Requested Approval

COM-001-3 – Communications

Requested Retirement

COM-001-2.1 – Communications

Prerequisite Approvals

None.

Defined Terms in the NERC Glossary

None.

Conforming Changes to Requirements in Already Approved Standards

None.

Revisions to Approved Standards and Definitions

The Standard Drafting Team (SDT) revised the COM-001-2.1 standard to propose additional Requirements R12 and R13, addressing FERC’s directive in Order No. 808, P41 “[t]o develop modifications to COM-001-2, or to develop a new standard, to address our concerns regarding ensuring the adequacy of internal communications capability...” The additions were made to address internal Interpersonal Communication capabilities for applicable entities.

Applicable Entities

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

Effective Date

New or Revised Standards

COM-001-3 Where approval by an applicable governmental authority is required, the standard shall become effective on the first day of the first calendar quarter that is 6 months after the effective date of the applicable governmental authority’s order

approving the standard, or as otherwise provided for by the applicable governmental authority.

Where approval by an applicable governmental authority is not required, the standard shall become effective on the first day of the first calendar quarter that is 6 months after the date the standard is adopted by the NERC Board of Trustees, or as otherwise provided for in that jurisdiction.

Standard for Retirement

COM-001-2.1 11:59:59 p.m. on the day immediately prior to the Effective Date of COM-001-3 in the particular jurisdiction in which the COM-001-3 standard is becoming effective.

New or Revised Definitions

None.

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 Additional Requirement(s)
COM-001-2.1	<p>New Requirement</p> <p>R12. Each Reliability Coordinator, Transmission Operator, Generator Operator, and Balancing Authority shall have internal Interpersonal Communication capabilities for the exchange of operating information.</p>
COM-001-2.1	<p>New Requirement</p> <p>R13. Each Distribution Provider shall have internal Interpersonal Communication capabilities for the exchange of operating information.</p>

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-001-3 Communications	X	X		X			X	X

Unofficial Comment Form

Project 2015-07 Internal Communications Capabilities

COM-001-3

DO NOT use this form for submitting comments. Use the [electronic form](#) to submit comments on the proposed **COM-001-3 – Communications** standard. The electronic comment form must be completed and submitted by **8:00 p.m. Eastern, Monday, November 16, 2015**.

If you have questions, contact [Jordan Mallory](#) (via email) or at (404) 446-9733 or [Sean Bodkin](#) (via email) or at (202) 400-3022.

The project page can be accessed by clicking [here](#).

Background Information

This posting is soliciting formal comment.

The project will address the directive from FERC Order No. 808 to modify the COM-001-2 standard or develop a new standard to address “internal communications capabilities that could involve the issuance or receipt of Operating Instructions or other communications that could have an impact on reliability.” Order No. 808, at P 1.

In Order No. 808, FERC directed “NERC to develop modifications to COM-001-2, or to develop a new standard, to address our concerns regarding ensuring the adequacy of internal communications capability whenever internal communications could directly affect the reliable operation of the Bulk-Power System.” Order No. 808, at P 41. In the same paragraph, FERC clarified that this intended to include a directive that the modified or new standard would “address the adequacy of internal telecommunications (or other internal communication systems) that may have an adverse effect on reliability, even within a single functional entity, including: (1) communications between geographically separate control centers within the same functional entity; and (2) communications between a control center and field personnel.” *Id.*

The SDT reviewed the FERC directives and developed proposed Requirements R12 and R13 for a proposed COM-001-3. The proposed Requirements address internal Interpersonal Communication capabilities as directed by FERC for Reliability Coordinators, Balancing Authorities, and Transmission Operators in Requirement R12 and for Distribution Providers and Generator Operators in Requirement R13. Two separate Requirements were developed to maintain VRF consistency with the existing Requirements from COM-001-2.

Questions

The scope of this project includes:

- Internal telecommunications or other internal communication systems “between geographically separate control centers within the same functional entity.” Order No. 808, at P 41.
- Internal telecommunications or other internal communication systems “between a control center and field personnel.” *Id.*
- “[T]he adequacy of internal communications capability whenever internal communications could directly affect the reliable operation of the Bulk-Power System.” *Id.*
- “[I]nternal communications capabilities that could involve the issuance or receipt of Operating Instructions or other communications that could have an impact on reliability.” Order No. 808, at P 1.

1. Do you agree that the proposed Requirements R12 and R13 in the proposed COM-001-3 address the directive in Order No. 808? If not, please explain why you do not agree and, if possible, provide specific language revisions that would make it acceptable to you.

Yes

No

Comments:

2. If you have any other comments on the proposed COM-001-3 that you haven’t already mentioned above, please provide them here:

Comments:

Violation Risk Factor and Violation Severity Level Justifications

COM-001-3 – Communications

Violation Risk Factor and Violation Severity Level Justifications

This document provides the drafting team's justification for assignment of violation risk factors (VRFs) and violation severity levels (VSLs) for Requirements R12 and R13 in: COM-001-3 – Communications

Each primary requirement is assigned a VRF and a set of one or more VSLs. These elements support the determination of an initial value range for the Base Penalty Amount regarding violations of requirements in FERC-approved Reliability Standards, as defined in the ERO Sanction Guidelines.

The Reliability Coordination Standard Drafting Team (SDT) applied the following NERC criteria and FERC Guidelines when proposing VRFs and VSL for the requirements under this project.

NERC Criteria – Violation Risk Factors

High Risk Requirement

A requirement that, if violated, could directly cause or contribute to bulk electric system instability, separation, or a cascading sequence of failures, or could place the bulk electric system at an unacceptable risk of instability, separation, or cascading failures; or, a requirement in a planning time frame that, if violated, could, under emergency, abnormal, or restorative conditions anticipated by the preparations, directly cause or contribute to bulk electric system instability, separation, or a cascading sequence of failures, or could place the bulk electric system at an unacceptable risk of instability, separation, or cascading failures, or could hinder restoration to a normal condition.

Medium Risk Requirement

A requirement that, if violated, could directly affect the electrical state or the capability of the bulk electric system, or the ability to effectively monitor and control the bulk electric system. However, violation of a medium risk requirement is unlikely to lead to bulk electric system instability, separation, or cascading failures; or, a requirement in a planning time frame that, if violated, could, under emergency, abnormal, or restorative conditions anticipated by the preparations, directly and adversely affect the electrical state or capability of the bulk electric system, or the ability to effectively monitor, control, or restore the bulk electric system. However, violation of a medium risk requirement is unlikely, under emergency, abnormal, or

restoration conditions anticipated by the preparations, to lead to bulk electric system instability, separation, or cascading failures, nor to hinder restoration to a normal condition.

Lower Risk Requirement

A requirement that is administrative in nature and a requirement that, if violated, would not be expected to adversely affect the electrical state or capability of the bulk electric system, or the ability to effectively monitor and control the bulk electric system; or, a requirement that is administrative in nature and a requirement in a planning time frame that, if violated, would not, under the emergency, abnormal, or restorative conditions anticipated by the preparations, be expected to adversely affect the electrical state or capability of the bulk electric system, or the ability to effectively monitor, control, or restore the bulk electric system. A planning requirement that is administrative in nature.

FERC Violation Risk Factor Guidelines

The SDT also considered consistency with the FERC Violation Risk Factor Guidelines for setting VRFs:¹

Guideline 1 – Consistency with the Conclusions of the Final Blackout Report

The Commission seeks to ensure that Violation Risk Factors assigned to Requirements of Reliability Standards in these identified areas appropriately reflect their historical critical impact on the reliability of the Bulk-Power System.

In the VSL Order, FERC listed critical areas (from the Final Blackout Report) where violations could severely affect the reliability of the Bulk-Power System:²

- Emergency operations
- Vegetation management
- Operator personnel training
- Protection systems and their coordination
- Operating tools (capabilities)³ and backup facilities
- Reactive power and voltage control
- System modeling and data exchange
- Communication protocol and facilities
- Requirements to determine equipment ratings
- Synchronized data recorders

¹ North American Electric Reliability Corp., 119 FERC ¶ 61,145, order on reh'g and compliance filing, 120 FERC ¶ 61,145 (2007) ("VRF Rehearing Order").

² Id. at footnote 15.

³ Mandatory Reliability Standards for the Bulk-Power System, 118 FERC ¶ 61,218, FERC Stats. & Regs. ¶ 31,242 at PP 906 and 1660. (Order No. 693), order on reh'g, Mandatory Reliability Standards for the Bulk-Power System, 120 FERC ¶ 61,053 (Order No. 693-A) (2007).

- Clearer criteria for operationally critical facilities
- Appropriate use of transmission loading relief

Guideline 2 – Consistency within a Reliability Standard

The Commission expects a rational connection between the sub-Requirement Violation Risk Factor assignments and the main Requirement Violation Risk Factor assignment.

Guideline 3 – Consistency among Reliability Standards

The Commission expects the assignment of Violation Risk Factors corresponding to Requirements that address similar reliability goals in different Reliability Standards would be treated comparably.

Guideline 4 – Consistency with NERC’s Definition of the Violation Risk Factor Level

Guideline (4) was developed to evaluate whether the assignment of a particular Violation Risk Factor level conforms to NERC’s definition of that risk level.

Guideline 5 – Treatment of Requirements that Co-mingle More Than One Obligation

Where a single Requirement co-mingles a higher risk reliability objective and a lesser risk reliability objective, the VRF assignment for such Requirements must not be watered down to reflect the lower risk level associated with the less important objective of the Reliability Standard.

The following discussion addresses how the SDT considered FERC’s VRF Guidelines 2 through 5. The team did not address Guideline 1 directly because of an apparent conflict between Guidelines 1 and 4. Whereas Guideline 1 identifies a list of topics that encompass nearly all topics within NERC’s Reliability Standards and implies that these requirements should be assigned a “High” VRF, Guideline 4 directs assignment of VRFs based on the impact of a specific requirement to the reliability of the system. The SDT believes that Guideline 4 is reflective of the intent of VRFs in the first instance and therefore concentrated its approach on the reliability impact of the requirements.

There ~~are two new~~ ~~are eleven~~ requirements in the standard. ~~Neither of the requirements were assigned a “Lower” VRF. None of the eleven requirements were assigned a “Lower” VRF.~~ Requirements ~~R12-R8~~ ~~is~~ ~~are~~ assigned a “High” VRF while ~~Requirement R13~~ ~~the other three requirements are~~ ~~is~~ assigned a “Medium” VRF.

NERC Criteria – Violation Severity Levels

Violation Severity Levels (VSLs) define the degree to which compliance with a requirement was not achieved. Each requirement must have at least one VSL. While it is preferable to have four VSLs for each requirement, some requirements do not have multiple “degrees” of noncompliant performance, and may have only one, two, or three VSLs.

Violation severity levels should be based on the guidelines shown in the table below:

Lower	Moderate	High	Severe
<p>Missing a minor element (or a small percentage) of the required performance</p> <p>The performance or product measured has significant value as it almost meets the full intent of the requirement.</p>	<p>Missing at least one significant element (or a moderate percentage) of the required performance.</p> <p>The performance or product measured still has significant value in meeting the intent of the requirement.</p>	<p>Missing more than one significant element (or is missing a high percentage) of the required performance or is missing a single vital component.</p> <p>The performance or product has limited value in meeting the intent of the requirement.</p>	<p>Missing most or all of the significant elements (or a significant percentage) of the required performance.</p> <p>The performance measured does not meet the intent of the requirement or the product delivered cannot be used in meeting the intent of the requirement.</p>

FERC Order of Violation Severity Levels

FERC’s VSL guidelines are presented below, followed by an analysis of whether the VSLs proposed for Requirements R12 and R13 in the standard meet the FERC Guidelines for assessing VSLs:

Guideline 1 – Violation Severity Level Assignments Should Not Have the Unintended Consequence of Lowering the Current Level of Compliance

Compare the VSLs to any prior levels of non-compliance and avoid significant changes that may encourage a lower level of compliance than was required when levels of non-compliance were used.

Guideline 2 – Violation Severity Level Assignments Should Ensure Uniformity and Consistency in the Determination of Penalties

A violation of a “binary” type requirement must be a “Severe” VSL.

Do not use ambiguous terms such as “minor” and “significant” to describe noncompliant performance.

Guideline 3 – Violation Severity Level Assignment Should Be Consistent with the Corresponding Requirement

VSLs should not expand on what is required in the requirement.

Guideline 4 – Violation Severity Level Assignment Should Be Based on A Single Violation, Not on A Cumulative Number of Violations

... unless otherwise stated in the requirement, each instance of non-compliance with a requirement is a separate violation. Section 4 of the Sanction Guidelines states that assessing penalties on a per violation per day basis is the “default” for penalty calculations.

VRF and VSL Justifications

VRF Justifications – COM-001- 33 , R12- R6	
Proposed VRF	High
NERC VRF Discussion	
FERC VRF G1 Discussion	Guideline 1- Consistency w/ Blackout Report: N/A
FERC VRF G2 Discussion	Guideline 2- Consistency within a Reliability Standard: The requirement has no sub-requirements; only one VRF is assigned, so there is no conflict. Each requirement specifies which functional entities that are required to have Interpersonal Communication capability and Alternative Interpersonal Communication capability. The VRF for each requirement are consistent with each other and are only applied at the Requirement level.
FERC VRF G3 Discussion	Guideline 3- Consistency among Reliability Standards: These requirements is are facility requirements that provides <u>for internal communications capability, including internal communications within the same between</u> functional entities. There are no similar facility requirements in the standards. The approved VRF for COM-001- 21-1 , R1 (which proposed R1-R6-replaces) is High and therefore the proposed VRF for R12- R6 is consistent.
FERC VRF G4 Discussion	Guideline 4- Consistency with NERC Definitions of VRFs: Failure to have <u>internal</u> Interpersonal Communication capability and Alternative Interpersonal Communication capability could limit or prevent communication between entities and directly affect the electrical state or the capability of the Bulk Power System and could lead to Bulk Power System instability, separation, or cascading failures. Therefore, this requirement is assigned a High VRF.

VRF Justifications – COM-001- 33 , R1 2 -R6	
Proposed VRF	High
FERC VRF G5 Discussion	<p>Guideline 5- Treatment of Requirements that Co-mingle More than One Obligation:</p> <p>The<u>Each of the six</u> requirements, R12-R6, contains only one objective; therefore, only one VRF was assigned.</p>

Proposed VSLs for COM-001- 33 , R1 2 -R6				
R#	Lower	Moderate	High	Severe
R 12 <u>1</u>	N/A	N/A	<p>N/A The Reliability Coordinator failed to have Interpersonal Communication capability with one of the entities listed in Requirement R1, Parts 1.1 or 1.2, except when the Reliability Coordinator detected a failure of its Interpersonal Communication capability in accordance with Requirement R10.</p>	<p>The Reliability Coordinator, <u>Balancing Authority, Generator Operator, or Transmission Operator</u> failed to have <u>internal Interpersonal Communication capability for the exchange of operating information.</u> with two or more of the entities listed in Requirement R1, Parts 1.1 or 1.2, except when the Reliability Coordinator detected a failure of its Interpersonal Communication capability in accordance with Requirement R10.</p>
VSL Justifications – COM-001- 33 , R1 2 -R6				
NERC VSL Guidelines			Meets NERC’s VSL guidelines. There is <u>not an an</u> incremental aspect to the violation and the VSL follows the guidelines for <u>incremental</u> violations.	
FERC VSL G1 Violation Severity Level Assignments Should Not Have the Unintended Consequence of Lowering the Current Level of Compliance			<p>N/A<u>The proposed requirement is a revis of COM-00-1 1.1, R1 and its sub requirements. Each sub requirement was separated out into a new stand alone requirement. The VSLs for the approved sub requirements are binary.</u></p>	

Proposed VSLs for COM-001- 33 , R1 2 -R6	
	however, proposed in these VSLs are increments because each entity may have multiple entities for which it must have an Interpersonal Communication capability.
<p>FERC VSL G2</p> <p>Violation Severity Level Assignments Should Ensure Uniformity and Consistency in the Determination of Penalties</p> <p>Guideline 2a: The Single Violation Severity Level Assignment Category for "Binary" Requirements Is Not Consistent</p> <p>Guideline 2b: Violation Severity Level Assignments that Contain Ambiguous Language</p>	<p>Guideline 2a:</p> <p><u>The proposed VSL is consistent with Requirements R7, R8, and R11.</u> N/A</p> <p>Guideline 2b:</p> <p>The proposed VSL does not use any ambiguous terminology, thereby supporting uniformity and consistency in the determination of similar penalties for similar violations.</p>
<p>FERC VSL G3</p> <p>Violation Severity Level Assignment Should Be Consistent with the Corresponding Requirement</p>	<p>The proposed VSL uses the same terminology as used in the associated requirement, and is, therefore, consistent with the requirement.</p>
<p>FERC VSL G4</p> <p>Violation Severity Level Assignment Should Be Based on A Single Violation, Not on A Cumulative Number of Violations</p>	<p>The VSL is based on a single violation and not cumulative violations.</p>

VRF Justifications – COM-001- 33 , R1 3	
Proposed VRF	Medium
NERC VRF Discussion	
FERC VRF G1 Discussion	<p>Guideline 1- Consistency w/ Blackout Report:</p> <p>N/A</p>

VRF Justifications – COM-001- 32 , R 13 ⁷	
Proposed VRF	Medium
FERC VRF G2 Discussion	Guideline 2- Consistency within a Reliability Standard: The requirement has no sub-requirements; only one VRF is assigned, so there is no conflict.
FERC VRF G3 Discussion	Guideline 3- Consistency among Reliability Standards: In COM-001- 32 , the Distribution Provider -VRF is Medium because <u>it</u> is not required to have an Alternative Interpersonal Communication <u>capability</u> . <u>The Interpersonal Communications capabilities are potentially less impactful than similar Interpersonal Communication capabilities of Reliability Coordinators, Balancing Authorities, Generator Operators, or Transmission Operators.</u> <u>and is not subject to Blackstart situations like that of the Generator Owner in Requirement R8.</u>
FERC VRF G4 Discussion	Guideline 4- Consistency with NERC Definitions of VRFs: Failure to have internal Interpersonal Communication capability could limit or prevent communication <u>within an-between</u> entities <u>and directly</u> ; however, Bulk Power System instability, separation, or cascading failures are not likely to occur due to a failure to <u>notify another entity of the failure</u> <u>have internal Interpersonal Communication capabilities</u> . Therefore, this requirement is assigned a Medium VRF.
FERC VRF G5 Discussion	Guideline 5- Treatment of Requirements that Co-mingle More than One Obligation: The requirement contains only one objective; therefore, only one VRF was assigned.

Proposed VSLs for COM-001- 32 , R 13 ⁷				
R#	Lower	Moderate	High	Severe
R7 <u>R13</u>	N/A	N/A	N/A The Distribution Provider failed to have interpersonal Communication capability	The Distribution Provider- failed to have <u>internal</u> Interpersonal Communication capability <u>for the exchange of operating</u>

Proposed VSLs for COM-001- 33 , R 137				
			with one of the entities listed in Requirement R7, Parts 7.1 or 7.2, except when the Distribution Provider detected a failure of its Interpersonal Communication capability in accordance with Requirement R11.	information... with two or more of the entities listed in Requirement R7, Parts 7.1 or 7.2, except when the Distribution Provider detected a failure of its Interpersonal Communication capability in accordance with Requirement R11.
VSL Justifications – COM-001- 33 , R 137				
NERC VSL Guidelines		Meets NERC’s VSL guidelines. There is <u>not</u> an incremental aspect to the violation and the VSL follows the guidelines for incremental violations.		
FERC VSL G1 Violation Severity Level Assignments Should Not Have the Unintended Consequence of Lowering the Current Level of Compliance		The proposed requirement is a revision to COM-001-2. The proposed VSL is binary. The proposed requirement is a revision of COM-001-1.1, R1 and its sub-requirements. Each sub-requirement was separated out into a new stand-alone requirement. The VSLs for the approved sub-requirements are incremental and this is reflected in the proposed VSLs.		
FERC VSL G2 Violation Severity Level Assignments Should Ensure Uniformity and Consistency in the Determination of Penalties Guideline 2a: The Single Violation Severity Level Assignment Category for "Binary" Requirements Is Not Consistent Guideline 2b: Violation Severity Level Assignments that Contain Ambiguous Language		Guideline 2a: N/A Guideline 2b: The proposed VSL does not use any ambiguous terminology, thereby supporting uniformity and consistency in the determination of similar penalties for similar violations.		
FERC VSL G3 Violation Severity Level Assignment		The proposed VSL uses the same terminology as used in the associated requirement, and is, therefore, consistent		

Proposed VSLs for COM-001- 3 , R 13	
Should Be Consistent with the Corresponding Requirement	with the requirement.
FERC VSL G4 Violation Severity Level Assignment Should Be Based on A Single Violation, Not on A Cumulative Number of Violations	The VSL is based on a single violation and not cumulative violations.

VRF Justifications—COM-001- 3 , R 8	
Proposed VRF	High
NERC VRF Discussion	
FERC VRF G1 Discussion	Guideline 1—Consistency w/ Blackout Report: N/A
FERC VRF G2 Discussion	Guideline 2—Consistency within a Reliability Standard: The requirement has no sub requirements; only one VRF was assigned so there is no conflict.
FERC VRF G3 Discussion	Guideline 3—Consistency among Reliability Standards: COM-001-2, Requirement R8 is an analog to Parts 3.4 and 5.4 and they have the same VRF (High). The Generator Owner may be subject to Blackstart plans and system restoration.
FERC VRF G4 Discussion	Guideline 4—Consistency with NERC Definitions of VRFs: Failure to have Interpersonal Communication capability could limit or prevent communication between entities and directly affect the electrical state or the capability of the Bulk Power System and could lead to Bulk Power System instability, separation, or cascading failures. Therefore, this requirement is assigned a High VRF.
FERC VRF G5	Guideline 5—Treatment of Requirements that Co-mingle More than One

VRF Justifications — COM-001-3, R8	
Proposed VRF	High
Discussion	Obligation: The requirement contains only one objective; therefore, only one VRF was assigned.

Proposed VSLs for COM-001-3, R8				
R#	Lower	Moderate	High	Severe
R8	N/A	N/A	The Generator Operator failed to have Interpersonal Communication capability with one of the entities listed in Requirement R8, Parts 8.1 or 8.2, except when a Generator Operator detected a failure of its Interpersonal Communication capability in accordance with Requirement R11.	The Generator Operator failed to have Interpersonal Communication capability with two or more of the entities listed in Requirement R8, Parts 8.1 or 8.2, except when a Generator Operator detected a failure of its Interpersonal Communication capability in accordance with Requirement R11.

VSL Justifications — COM-001-3, R8	
NERC VSL Guidelines	Meets NERC's VSL guidelines. There is an incremental aspect to the violation and the VSLs follow the guidelines for incremental violations.
FERC VSL G1 Violation Severity Level Assignments Should Not Have the Unintended Consequence of Lowering the Current Level of Compliance	The most comparable VSLs for a similar requirement are for the proposed analog requirement and its parts COM-001-2, Part 3.4 and Part 5.4. This requirement specifies the two-way nature of entities having Interpersonal Communications capability. In other words, if one entity is required to have Interpersonal Communications capability with another entity, then the reciprocal should also be required or the onus would be exclusively on one entity. Since Requirement R3 and R5 are assigned incremental VSLs, it appropriate for Requirement R8 to

Proposed VSLs for COM-001-3, R8	
	also be assigned an incremental VSL.
<p>FERC VSL G2</p> <p>Violation Severity Level Assignments Should Ensure Uniformity and Consistency in the Determination of Penalties</p> <p>Guideline 2a: The Single Violation Severity Level Assignment Category for "Binary" Requirements Is Not Consistent</p> <p>Guideline 2b: Violation Severity Level Assignments that Contain Ambiguous Language</p>	<p>Guideline 2a:</p> <p>N/A</p> <p>Guideline 2b:</p> <p>The proposed VSLs do not use any ambiguous terminology, thereby supporting uniformity and consistency in the determination of similar penalties for similar violations.</p>
<p>FERC VSL G3</p> <p>Violation Severity Level Assignment Should Be Consistent with the Corresponding Requirement</p>	<p>The proposed VSLs use the same terminology as used in the associated requirement, and are, therefore, consistent with the requirement.</p>
<p>FERC VSL G4</p> <p>Violation Severity Level Assignment Should Be Based on A Single Violation, Not on A Cumulative Number of Violations</p>	<p>The VSLs are based on a single violation and not cumulative violations.</p>

VRF Justifications – COM-001-3, R9	
Proposed VRF	Medium
NERC VRF Discussion	
FERC VRF G1 Discussion	

VRF Justifications—COM-001-3, R9	
Proposed VRF	Medium
FERC VRF G2 Discussion	<p>Guideline 2—Consistency within a Reliability Standard:</p> <p>The requirement has no sub requirements; only one VRF was assigned so there is no conflict.</p>
FERC VRF G3 Discussion	<p>Guideline 3—Consistency among Reliability Standards:</p> <p>COM-001-2, Requirement R9 is a requirement for entities to test their Alternative Interpersonal Communication capability and to take restorative action should the test fail and is a replacement requirement for COM-001-1.1, R2, which has an approved VRF of Medium.</p>
FERC VRF G4 Discussion	<p>COM-001-2, Requirement R9 is a requirement for entities to test their Alternative Interpersonal Communication capability and to take restorative action should the test fail. The act of testing in and of itself is not likely to “directly affect the electrical state or the capability of the bulk electric system, or the ability to effectively monitor and control the bulk electric system. However, violation of a medium risk requirement is unlikely to lead to bulk electric system instability, separation, or cascading failures...” Therefore, this requirement is assigned a Medium VRF.</p>
FERC VRF G5 Discussion	<p>Guideline 5—Treatment of Requirements that Co-mingle More than One Obligation:</p> <p>The requirement contains only one objective; therefore, only one VRF was assigned.</p>

Proposed VSLs for COM-001-3, R9				
R#	Lower	Moderate	High	Severe
R9	The Reliability Coordinator, Transmission Operator, or Balancing Authority tested the Alternative	The Reliability Coordinator, Transmission Operator, or Balancing Authority tested the Alternative	The Reliability Coordinator, Transmission Operator, or Balancing Authority tested the Alternative	The Reliability Coordinator, Transmission Operator, or Balancing Authority failed to test the Alternative

Proposed VSLs for COM-001-2, R9				
	Interpersonal Communication capability but failed to initiate action to repair or designate a replacement Alternative Interpersonal Communication in more than 2 hours and less than or equal to 4 hours upon an unsuccessful test.	Interpersonal Communication capability but failed to initiate action to repair or designate a replacement Alternative Interpersonal Communication in more than 4 hours and less than or equal to 6 hours upon an unsuccessful test.	Interpersonal Communication capability but failed to initiate action to repair or designate a replacement Alternative Interpersonal Communication in more than 6 hours and less than or equal to 8 hours upon an unsuccessful test.	Interpersonal Communication capability once each calendar month. OR The Reliability Coordinator, Transmission Operator, or Balancing Authority tested the Alternative Interpersonal Communication capability but failed to initiate action to repair or designate a replacement Alternative Interpersonal Communication in more than 8 hours upon an unsuccessful test.
VSL Justifications – COM-001-2, R9				
NERC VSL Guidelines		Meets NERC’s VSL guidelines. There is an incremental aspect to the violation and the VSLs follow the guidelines for incremental violations.		
FERC VSL G1 Violation Severity Level Assignments Should Not Have the Unintended Consequence of Lowering the Current Level of Compliance		The proposed requirement is a new and there are no comparable VSLs.		
FERC VSL G2 Violation Severity Level Assignments Should Ensure Uniformity and Consistency in the		Guideline 2a: N/A		

Proposed VSLs for COM-001-2, R9	
<p>Determination of Penalties</p> <p>Guideline 2a: The Single Violation Severity Level Assignment Category for "Binary" Requirements Is Not Consistent</p> <p>Guideline 2b: Violation Severity Level Assignments that Contain Ambiguous Language</p>	<p>Guideline 2b:</p> <p>The proposed VSL does not use any ambiguous terminology, thereby supporting uniformity and consistency in the determination of similar penalties for similar violations.</p>
<p>FERC VSL G3</p> <p>Violation Severity Level Assignment Should Be Consistent with the Corresponding Requirement</p>	<p>The proposed VSL uses the same terminology as used in the associated requirement, and is, therefore, consistent with the requirement.</p>
<p>FERC VSL G4</p> <p>Violation Severity Level Assignment Should Be Based on A Single Violation, Not on A Cumulative Number of Violations</p>	<p>The VSL is based on a single violation and not cumulative violations.</p>

VRF Justifications – COM-001-2, R10	
Proposed VRF	Medium
NERC VRF Discussion	
FERC VRF G1 Discussion	
FERC VRF G2 Discussion	<p>Guideline 2 – Consistency within a Reliability Standard:</p> <p>The requirement has no sub-requirements; only one VRF was assigned so there is no conflict.</p>
FERC VRF G3 Discussion	<p>Guideline 3 – Consistency among Reliability Standards:</p> <p>COM-001-2, Requirement R10 is a new requirement that was assigned a Medium VRF. When evaluating the VRF to be assigned to this requirement, the SDT took into account that this requirement is a notification item, not an</p>

VRF Justifications—COM-001-2, R10	
Proposed VRF	Medium
	actual action that has a direct impact on the Bulk Power System. Therefore, the simple act of failing to notify another entity of the failure of Interpersonal Communication capability, while it may impair the entity's ability to communicate, does not, in itself, lead to Bulk Power System instability, separation, or cascading failures. Therefore, this requirement is assigned a Medium VRF.
FERC VRF G4 Discussion	Guideline 4—Consistency with NERC Definitions of VRFs: COM-001-2, Requirement R10 mandates that entities notify entities of a failure of Interpersonal Communications capability. Bulk Power System instability, separation, or cascading failures are not likely to occur due to a failure to notify another entity of the failure. Therefore, this requirement is assigned a Medium VRF.
FERC VRF G5 Discussion	Guideline 5—Treatment of Requirements that Co-mingle More than One Obligation: The requirement contains only one objective; therefore, only one VRF was assigned.

Proposed VSLs for COM-001-2, R10				
R#	Lower	Moderate	High	Severe
R10	The Reliability Coordinator, Transmission Operator, or Balancing Authority failed to notify the entities identified in Requirements R1, R3, and R5, respectively upon the detection of a failure of its Interpersonal	The Reliability Coordinator, Transmission Operator, or Balancing Authority failed to notify the entities identified in Requirements R1, R3, and R5, respectively upon the detection of a failure of its Interpersonal	The Reliability Coordinator, Transmission Operator, or Balancing Authority failed to notify the entities identified in Requirements R1, R3, and R5, respectively upon the detection of a failure of its Interpersonal Communication	The Reliability Coordinator, Transmission Operator, or Balancing Authority failed to notify the entities identified in Requirements R1, R3, and R5, respectively upon the detection of a failure of its

Proposed VSLs for COM-001-3, R10				
	Communication capability in more than 60 minutes but less than or equal to 70 minutes.	Communication capability in more than 70 minutes but less than or equal to 80 minutes.	capability in more than 80 minutes but less than or equal to 90 minutes.	Interpersonal Communication capability in more than 90 minutes.
VSL Justifications— COM-001-3, R10				
NERC VSL Guidelines		Meets NERC's VSL guidelines. There is an incremental aspect to the violation and the VSLs follow the guidelines for incremental violations.		
FERC VSL G1 Violation Severity Level Assignments Should Not Have the Unintended Consequence of Lowering the Current Level of Compliance		The proposed requirement is new and there are no comparable VSLs.		
FERC VSL G2 Violation Severity Level Assignments Should Ensure Uniformity and Consistency in the Determination of Penalties Guideline 2a: The Single Violation Severity Level Assignment Category for "Binary" Requirements Is Not Consistent Guideline 2b: Violation Severity Level Assignments that Contain Ambiguous Language		Guideline 2a: N/A Guideline 2b: The proposed VSL does not use any ambiguous terminology, thereby supporting uniformity and consistency in the determination of similar penalties for similar violations.		
FERC VSL G3 Violation Severity Level Assignment Should Be Consistent with the Corresponding Requirement		The proposed VSL uses the same terminology as used in the associated requirement, and is, therefore, consistent with the requirement.		
FERC VSL G4 Violation Severity Level Assignment Should Be Based on A Single Violation, Not on A Cumulative Number of Violations		The VSL is based on a single violation and not cumulative violations.		

VRF Justifications—COM-001-2, R11	
Proposed VRF	Medium
NERC VRF Discussion	
FERC VRF G1 Discussion	
FERC VRF G2 Discussion	<p>Guideline 2—Consistency within a Reliability Standard:</p> <p>The requirement has no sub-requirements; only one VRF was assigned so there is no conflict.</p>
FERC VRF G3 Discussion	<p>Guideline 3—Consistency among Reliability Standards:</p> <p>COM-001-2, Requirement R11 is a new requirement that was assigned a Medium VRF. When evaluating the VRF to be assigned to this requirement, the SDT took into account that this requirement is a consultation item, not an actual action that has a direct impact on the Bulk Power System. Therefore, the simple act of failing to consult with another entity on the failure of Interpersonal Communications capability and its restoration, while it may impair the entity’s ability communicate, does not, in itself, lead to Bulk Power System instability, separation, or cascading failures. Therefore, this requirement is assigned a Medium VRF.</p>
FERC VRF G4 Discussion	<p>Guideline 4—Consistency with NERC Definitions of VRFs:</p> <p>COM-001-2, Requirement R11 mandates that entities consult with other entities regarding restoration of Interpersonal Communication capability. Bulk Power System instability, separation, or cascading failures are not likely to occur due to a failure to consult with another entity on restoration times. Therefore, this requirement is assigned a Medium VRF.</p>
FERC VRF G5 Discussion	<p>Guideline 5—Treatment of Requirements that Co-mingle More than One Obligation:</p> <p>The requirement contains only one objective; therefore, only one VRF was assigned.</p>

Proposed VSLs for COM-001-3, R11				
R#	Lower	Moderate	High	Severe
R11	N/A	N/A	N/A	The Distribution Provider or Generator Operator that detected a failure of its Interpersonal Communication capability failed to consult with each entity affected by the failure, as identified in Requirement R7 for a Distribution Provider or Requirement R8 for a Generator Operator, to determine a mutually agreeable action for the restoration of the Interpersonal Communication capability.
VSL Justifications—COM-001-3, R11				
NERC VSL Guidelines			Meets NERC’s VSL guidelines. This is a binary requirement and the VSL is severe.	
FERC VSL G1 Violation Severity Level Assignments Should Not Have the Unintended Consequence of Lowering the Current Level of Compliance			The proposed requirement is new and there are no comparable existing VSLs.	
FERC VSL G2 Violation Severity Level Assignments Should Ensure Uniformity and Consistency in the Determination of Penalties Guideline 2a: The Single Violation Severity Level Assignment Category for "Binary" Requirements Is Not Consistent Guideline 2b: Violation Severity Level Assignments that Contain Ambiguous Language			Guideline 2a: N/A Guideline 2b: The proposed VSL does not use any ambiguous terminology, thereby supporting uniformity and consistency in the determination of similar penalties for similar violations.	
FERC VSL G3			The proposed VSL uses the same terminology as used in the associated requirement, and is, therefore, consistent with the	

Proposed VSLs for COM-001-3, R11	
<p>Violation Severity Level Assignment Should Be Consistent with the Corresponding Requirement</p>	<p>requirement.</p>
<p>FERC VSL G4 Violation Severity Level Assignment Should Be Based on A Single Violation, Not on A Cumulative Number of Violations</p>	<p>The VSL is based on a single violation and not cumulative violations.</p>

Standards Announcement

Reminder

Project 2015-07 Internal Communications Capabilities COM-001-3

Initial Ballot and Non-binding Poll Open through November 16, 2015

[Now Available](#)

An initial ballot for **COM-001-3 Communications** and non-binding poll of the associated Violation Risk Factors and Violation Severity Levels are open through **8 p.m. Eastern, Monday, November 16, 2015**.

Balloting

Members of the ballot pool associated with this project may log in and submit their vote for the standard and non-binding poll by clicking [here](#). If you experience any difficulties in using the electronic form, contact [Nasheema Santos](#).

If you are having difficulty accessing the SBS due to a forgotten password, incorrect credential error messages, or system lock-out, contact NERC IT support directly at EROhelpdesk@nerc.net (Monday – Friday, 8 a.m. - 8 p.m. Eastern).

Next Steps

The ballot results will be announced and posted on the project page. The drafting team will consider all comments received during the formal comment period and determine the next steps for the project.

For more information on the Standards Development Process, refer to the [Standard Processes Manual](#).

For more information or assistance, contact Standards Developer, [Sean Bodkin](#) (via email) or at (202) 400-3022.

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Standards Announcement

Project 2015-07 Internal Communications Capabilities COM-001-3

Formal Comment Period Open through November 16, 2015
Ballot Pool Forming through October 26, 2015

[Now Available](#)

A 45-day formal comment period for **COM-001-3 - Communications**, is open through **8 p.m. Eastern, Monday, November 16, 2015**.

Commenting

Use the [electronic form](#) to submit comments on the standard. If you experience any difficulties in using the electronic form, contact [Nasheema Santos](#). An unofficial Word version of the comment form is posted on the [project page](#).

Join the Ballot Pools

Ballot pools are being formed through **8 p.m. Eastern, Monday, October 26, 2015**. Registered Ballot Body members may join the ballot pools [here](#).

If you are having difficulty accessing the SBS due to a forgotten password, incorrect credential error messages, or system lock-out, contact NERC IT support directly at EROhelpdesk@nerc.net (Monday – Friday, 8 a.m. - 8 p.m. Eastern).

Next Steps

An initial ballot for the standard and a non-binding poll of the associated Violation Risk Factors and Violation Severity Levels will be conducted **November 6 - 16, 2015**.

For more information on the Standards Development Process, refer to the [Standard Processes Manual](#).

For more information or assistance, contact either [Sean Bodkin](#) (via email) or at (202) 400-3022 or [Jordan Mallory](#) (via email) or at (404) 446-2733.

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Standards Announcement

Project 2015-07 Internal Communications Capabilities COM-001-3

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[Now Available](#)

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Next Steps

An initial ballot for the standard and a non-binding poll of the associated Violation Risk Factors and Violation Severity Levels will be conducted **November 6 - 16, 2015**.

For more information on the Standards Development Process, refer to the [Standard Processes Manual](#).

For more information or assistance, contact either [Sean Bodkin](#) (via email) or at (202) 400-3022 or [Jordan Mallory](#) (via email) or at (404) 446-2733.

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Standards Announcement

Project 2015-07 Internal Communications Capabilities COM-001-3

Initial Ballot and Non-binding Poll Results

[Now Available](#)

An initial ballot for **COM-001-3 Communications** and a non-binding poll of the associated Violation Risk Factors and Violation Severity Levels concluded **8 p.m. Eastern, November 16, 2015**.

The standard did not receive sufficient affirmative votes for approval. Voting statistics are listed below, and the [Ballot Results](#) page provides the detailed results.

Ballot	Non-binding Poll
Quorum / Approval	Quorum / Supportive Opinions
88.18% / 53.60%	86.02% / 56.25%

Next Steps

The drafting team will consider all comments received during the formal comment period and determine the next steps of the project.

For information on the Standards Development Process, refer to the [Standard Processes Manual](#)

For more information or assistance, contact Standards Developer, [Sean Bodkin](#) (via email) or at (202) 400-3022.

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BALLOT RESULTS

Survey: [View Survey Results \(/SurveyResults/Index/34\)](#)

Ballot Name: 2015-07 Internal Communications Capabilities COM-001-3 IN 1 ST

Voting Start Date: 11/6/2015 12:01:00 AM

Voting End Date: 11/16/2015 8:00:00 PM

Ballot Type: ST

Ballot Activity: IN

Ballot Series: 1

Total # Votes: 276

Total Ballot Pool: 312

Quorum: 88.46

Weighted Segment Value: 53.59

Segment	Ballot Pool	Segment Weight	Affirmative Votes	Affirmative Fraction	Negative Votes w/ Comment	Negative Fraction w/ Comment	Negative Votes w/o Comment	Abstain	No Vote
Segment: 1	79	1	38	0.585	27	0.415	1	3	10
Segment: 2	9	0.6	2	0.2	4	0.4	0	2	1
Segment: 3	72	1	28	0.491	29	0.509	1	3	11
Segment: 4	25	1	10	0.455	12	0.545	1	0	2
Segment: 5	67	1	29	0.509	28	0.491	0	2	8
Segment: 6	48	1	26	0.605	17	0.395	0	1	4
Segment: 7	2	0.2	1	0.1	1	0.1	0	0	0
Segment: 8	2	0.2	1	0.1	1	0.1	0	0	0
Segment:	2	0.2	1	0.1	1	0.1	0	0	0

Segment: 10	6	0.6	5	0.5	1	0.1	0	0	0
Totals:	312	6.8	141	3.644	121	3.156	3	11	36

BALLOT POOL MEMBERS

Show entries

Search:

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	Ameren - Ameren Services	Eric Scott		Affirmative	N/A
1	American Transmission Company, LLC	Andrew Puztai		Negative	Comments Submitted
1	APS - Arizona Public Service Co.	Michelle Amarantos		Affirmative	N/A
1	Arizona Electric Power Cooperative, Inc.	John Shaver		Negative	Third-Party Comments
1	Associated Electric Cooperative, Inc.	Phil Hart		Negative	Third-Party Comments
1	Austin Energy	Thomas Standifur		None	N/A
1	Avista - Avista Corporation	Bryan Cox	Rich Hydzik	Affirmative	N/A
1	Balancing Authority of Northern California	Kevin Smith	Joe Tarantino	Affirmative	N/A
1	BC Hydro and Power Authority	Patricia Robertson		None	N/A
1	Beaches Energy Services	Don Cuevas		Negative	Third-Party Comments

1	Berkshire Hathaway Energy - MidAmerican Energy Co.	Terry Harbour		Negative	Third-Party Comments
1	Black Hills Corporation	Wes Wingen		Abstain	N/A
1	Bonneville Power Administration	Donald Watkins		Affirmative	N/A
1	Bryan Texas Utilities	John Fontenot		Affirmative	N/A
1	CenterPoint Energy Houston Electric, LLC	John Brockhan		Affirmative	N/A
1	Central Hudson Gas & Electric Corp.	Frank Pace		Affirmative	N/A
1	Cleco Corporation	John Lindsey	Louis Guidry	Negative	Third-Party Comments
1	CMS Energy - Consumers Energy Company	Bruce Bugbee		Affirmative	N/A
1	Colorado Springs Utilities	Shawna Speer		Negative	Comments Submitted
1	Con Ed - Consolidated Edison Co. of New York	Chris de Graffenried	Kelly Silver	Affirmative	N/A
1	CPS Energy	Glenn Pressler		Abstain	N/A
1	Dairyland Power Cooperative	Robert Roddy		Negative	Third-Party Comments
1	Dominion - Dominion Virginia Power	Larry Nash	Candace Marshall	Negative	Comments Submitted
1	Duke Energy	Doug Hils		None	N/A
1	Edison International - Southern California Edison Company	Steven Mavis		Affirmative	N/A
1	Entergy - Entergy Services, Inc.	Oliver Burke		Negative	Comments Submitted
1	Exelon	Chris Scanlon		Affirmative	N/A
1	FirstEnergy -	William Smith		Negative	Third-Party

	FirstEnergy Corporation				Comments
1	Georgia Transmission Corporation	Jason Snodgrass	Stanley Beasley	None	N/A
1	Great Plains Energy - Kansas City Power and Light Co.	James McBee	Douglas Webb	Affirmative	N/A
1	Hydro One Networks, Inc.	Payam Farahbakhsh	Oshani Pathirane	Affirmative	N/A
1	Hydro-Quebec TransEnergie	Nicolas Turcotte		Affirmative	N/A
1	Iberdrola - Central Maine Power Company	Joe Turano		Affirmative	N/A
1	International Transmission Company Holdings Corporation	Michael Moltane	Meghan Ferguson	Negative	Comments Submitted
1	KAMO Electric Cooperative	Walter Kenyon		Negative	No Comment Submitted
1	Lakeland Electric	Larry Watt		None	N/A
1	Long Island Power Authority	Robert Ganley		Affirmative	N/A
1	Los Angeles Department of Water and Power	faranak sarbaz		Affirmative	N/A
1	Lower Colorado River Authority	Teresa Cantwell		Affirmative	N/A
1	M and A Electric Power Cooperative	William Price		None	N/A
1	Manitoba Hydro	Mike Smith		Affirmative	N/A
1	MEAG Power	David Weekley	Scott Miller	None	N/A
1	Muscatine Power and Water	Andy Kurriger		Negative	Third-Party Comments
1	N.W. Electric Power Cooperative, Inc.	Mark Ramsey		Negative	Third-Party Comments

1	National Grid USA	Michael Jones		Affirmative	N/A
1	NB Power Corporation	Alan MacNaughton		Affirmative	N/A
1	Nebraska Public Power District	Jamison Cawley		Negative	Third-Party Comments
1	New York Power Authority	Salvatore Spagnolo		Affirmative	N/A
1	NextEra Energy - Florida Power and Light Co.	Mike O'Neil		None	N/A
1	NiSource - Northern Indiana Public Service Co.	Charles Raney		Negative	Comments Submitted
1	Northeast Missouri Electric Power Cooperative	Kevin White		Negative	Third-Party Comments
1	OGE Energy - Oklahoma Gas and Electric Co.	Terri Pyle		Negative	Third-Party Comments
1	Oncor Electric Delivery	Rod Kinard	Tammy Porter	Affirmative	N/A
1	OTP - Otter Tail Power Company	Charles Wicklund		Negative	Third-Party Comments
1	Peak Reliability	Jared Shakespeare		Affirmative	N/A
1	PHI - Potomac Electric Power Co.	David Thorne		Negative	Third-Party Comments
1	Platte River Power Authority	John Collins		Affirmative	N/A
1	PNM Resources - Public Service Company of New Mexico	Laurie Williams		None	N/A
1	Portland General Electric Co.	John Walker		Abstain	N/A
1	PPL Electric Utilities Corporation	Brenda Truhe		Affirmative	N/A
1	PSEG - Public Service Electric and	Joseph Smith		Affirmative	N/A

	Gas Co.				
1	Public Utility District No. 1 of Snohomish County	Long Duong		Affirmative	N/A
1	Public Utility District No. 2 of Grant County, Washington	Michiko Sell		Affirmative	N/A
1	Puget Sound Energy, Inc.	Theresa Rakowsky		Negative	Third-Party Comments
1	Sacramento Municipal Utility District	Tim Kelley	Joe Tarantino	Affirmative	N/A
1	Salt River Project	Steven Cobb		Affirmative	N/A
1	Santee Cooper	Shawn Abrams		Affirmative	N/A
1	SCANA - South Carolina Electric and Gas Co.	Tom Hanzlik		Affirmative	N/A
1	Seattle City Light	Pawel Krupa		Affirmative	N/A
1	Southern Company - Southern Company Services, Inc.	Robert A. Schaffeld		Affirmative	N/A
1	Sunflower Electric Power Corporation	Bertha Ellen Watkins		Negative	Third-Party Comments
1	Tacoma Public Utilities (Tacoma, WA)	John Merrell		Affirmative	N/A
1	Tallahassee Electric (City of Tallahassee, FL)	Scott Langston		Negative	Comments Submitted
1	Tennessee Valley Authority	Howell Scott		Negative	Comments Submitted
1	Tri-State G and T Association, Inc.	Tracy Sliman		Affirmative	N/A
1	U.S. Bureau of Reclamation	Richard Jackson		None	N/A
1	United Illuminating	Jonathan Appelbaum		Negative	Third-Party Comments

1	Westar Energy	Kevin Giles		Negative	Third-Party Comments
1	Xcel Energy, Inc.	Dean Schiro		Negative	Third-Party Comments
2	BC Hydro and Power Authority	Venkataramakrishnan Vinnakota		Abstain	N/A
2	California ISO	Richard Vine		Affirmative	N/A
2	Electric Reliability Council of Texas, Inc.	Elizabeth Axson		Negative	Comments Submitted
2	Independent Electricity System Operator	Leonard Kula		Negative	Comments Submitted
2	ISO New England, Inc.	Michael Puscas	Robert Coughlin	Affirmative	N/A
2	Midcontinent ISO, Inc.	Terry Blke		Abstain	N/A
2	New York Independent System Operator	Gregory Campoli		None	N/A
2	PJM Interconnection, L.L.C.	Mark Holman	William Temple	Negative	Comments Submitted
2	Southwest Power Pool, Inc. (RTO)	Charles Yeung		Negative	Comments Submitted
3	Ameren - Ameren Services	David Jendras		Affirmative	N/A
3	APS - Arizona Public Service Co.	Jeri Freimuth		Affirmative	N/A
3	Associated Electric Cooperative, Inc.	Todd Bennett		Negative	Third-Party Comments
3	Austin Energy	Shuye Teng		Affirmative	N/A
3	Avista - Avista Corporation	Scott Kinney		Affirmative	N/A
3	Basin Electric Power Cooperative	Jeremy Voll		None	N/A
3	BC Hydro and Power Authority	Pat Harrington		Abstain	N/A

3	Beaches Energy Services	Steven Lancaster		Negative	Third-Party Comments
3	Berkshire Hathaway Energy - MidAmerican Energy Co.	Thomas Mielnik	Darnez Gresham	Negative	Third-Party Comments
3	Bonneville Power Administration	Rebecca Berdahl		Affirmative	N/A
3	Central Electric Power Cooperative (Missouri)	Adam Weber		Negative	Third-Party Comments
3	City of Farmington	Linda Jacobson-Quinn		Abstain	N/A
3	City of Green Cove Springs	Mark Schultz		Negative	Third-Party Comments
3	City of Leesburg	Chris Adkins		Negative	Third-Party Comments
3	City of Redding	Elizabeth Hadley	Bill Hughes	Affirmative	N/A
3	City Utilities of Springfield, Missouri	Scott Williams		Affirmative	N/A
3	Clark Public Utilities	Jack Stamper		Affirmative	N/A
3	Cleco Corporation	Michelle Corley	Louis Guidry	Negative	Third-Party Comments
3	CMS Energy - Consumers Energy Company	Karl Blaszkowski		Affirmative	N/A
3	Colorado Springs Utilities	Hillary Dobson		None	N/A
3	Con Ed - Consolidated Edison Co. of New York	Peter Yost		Affirmative	N/A
3	Dominion - Dominion Resources, Inc.	Connie Lowe		Negative	Comments Submitted
3	DTE Energy - Detroit Edison Company	Karie Barczak		None	N/A
3	Duke Energy	Lee Schuster		Affirmative	N/A
3	Edison International - Southern California	Romel Aquino		Affirmative	N/A

	Edison Company				
3	Eversource Energy	Mark Kenny		None	N/A
3	Exelon	John Bee		Affirmative	N/A
3	FirstEnergy - FirstEnergy Corporation	Theresa Ciancio		Negative	Third-Party Comments
3	Florida Municipal Power Agency	Joe McKinney	Chris Gowder	Negative	Comments Submitted
3	Georgia System Operations Corporation	Scott McGough		Negative	Comments Submitted
3	Great Plains Energy - Kansas City Power and Light Co.	Jessica Tucker	Douglas Webb	Affirmative	N/A
3	Great River Energy	Brian Glover		Negative	Third-Party Comments
3	Hydro One Networks, Inc.	Paul Malozewski	Oshani Pathirane	Affirmative	N/A
3	JEA	Garry Baker		None	N/A
3	Lakeland Electric	David Hadzima		None	N/A
3	Lincoln Electric System	Jason Fortik		None	N/A
3	Los Angeles Department of Water and Power	Mike Anctil		Affirmative	N/A
3	M and A Electric Power Cooperative	Stephen Pogue		Negative	Third-Party Comments
3	Manitoba Hydro	Karim Abdel-Hadi		Affirmative	N/A
3	MEAG Power	Roger Brand	Scott Miller	None	N/A
3	Muscatine Power and Water	Seth Shoemaker		Negative	Third-Party Comments
3	National Grid USA	Brian Shanahan		None	N/A
3	Nebraska Public Power District	Tony Eddleman		Negative	Third-Party Comments
3	New York Power Authority	David Rivera		Affirmative	N/A

3	NiSource - Northern Indiana Public Service Co.	Ramon Barany		Negative	Comments Submitted
3	North Carolina Electric Membership Corporation	doug white	Scott Brame	Negative	Third-Party Comments
3	Northeast Missouri Electric Power Cooperative	Skyler Wiegmann		Negative	Third-Party Comments
3	NW Electric Power Cooperative, Inc.	John Stickley		Negative	Third-Party Comments
3	Ocala Utility Services	Randy Hahn		Negative	Third-Party Comments
3	OGE Energy - Oklahoma Gas and Electric Co.	Donald Hargrove		Negative	Third-Party Comments
3	Owensboro Municipal Utilities	Thomas Lyons		Affirmative	N/A
3	PHI - Potomac Electric Power Co.	Mark Yerger		Negative	Third-Party Comments
3	Platte River Power Authority	Jeff Landis		Negative	No Comment Submitted
3	PNM Resources	Michael Mertz		None	N/A
3	Portland General Electric Co.	Thomas Ward		Abstain	N/A
3	PPL - Louisville Gas and Electric Co.	Charles Freibert		Affirmative	N/A
3	PSEG - Public Service Electric and Gas Co.	Jeffrey Mueller		Affirmative	N/A
3	Puget Sound Energy, Inc.	Andrea Basinski		Negative	Third-Party Comments
3	Rutherford EMC	Tom Haire		Negative	Comments Submitted
3	Sacramento Municipal Utility District	Rachel Moore	Joe Tarantino	Affirmative	N/A

3	Santee Cooper	James Poston		Affirmative	N/A
3	Seattle City Light	Dana Wheelock		Affirmative	N/A
3	Snohomish County PUD No. 1	Mark Oens		Affirmative	N/A
3	Southern Company - Alabama Power Company	R. Scott Moore		Affirmative	N/A
3	Tacoma Public Utilities (Tacoma, WA)	Marc Donaldson		Affirmative	N/A
3	Tallahassee Electric (City of Tallahassee, FL)	John Williams		Negative	Comments Submitted
3	Tennessee Valley Authority	Ian Grant		Negative	Comments Submitted
3	Tri-State G and T Association, Inc.	Janelle Marriott Gill		Affirmative	N/A
3	Turlock Irrigation District	James Ramos		None	N/A
3	WEC Energy Group, Inc.	James Keller		Negative	Comments Submitted
3	Westar Energy	Bo Jones		Negative	Third-Party Comments
3	Xcel Energy, Inc.	Michael Ibold		Negative	Third-Party Comments
4	Alliant Energy Corporation Services, Inc.	Kenneth Goldsmith		Negative	Third-Party Comments
4	Austin Energy	Tina Garvey		Affirmative	N/A
4	Blue Ridge Power Agency	Duane Dahlquist		Affirmative	N/A
4	City of Clewiston	Lynne Mila		Negative	Third-Party Comments
4	City of New Smyrna Beach Utilities Commission	Tim Beyrle		Negative	Third-Party Comments
4	City of Redding	Nick Zettel	Bill Hughes	Affirmative	N/A

4	City Utilities of Springfield, Missouri	John Allen		None	N/A
4	CMS Energy - Consumers Energy Company	Julie Hegedus		Affirmative	N/A
4	DTE Energy - Detroit Edison Company	Daniel Herring		None	N/A
4	FirstEnergy - Ohio Edison Company	Doug Hohlbaugh		Negative	Third-Party Comments
4	Flathead Electric Cooperative	Russ Schneider		Negative	No Comment Submitted
4	Florida Municipal Power Agency	Carol Chinn	Chris Gowder	Negative	Comments Submitted
4	Georgia System Operations Corporation	Guy Andrews		Negative	Comments Submitted
4	Illinois Municipal Electric Agency	Bob Thomas		Negative	Comments Submitted
4	Indiana Municipal Power Agency	Jack Alvey	Scott Berry	Negative	Comments Submitted
4	Keys Energy Services	Stanley Rzad		Negative	Third-Party Comments
4	MGE Energy - Madison Gas and Electric Co.	Joseph DePoorter		Negative	Third-Party Comments
4	North Carolina Electric Membership Corporation	John Lemire	Scott Brame	Negative	Third-Party Comments
4	Public Utility District No. 1 of Snohomish County	John Martinsen		Affirmative	N/A
4	Sacramento Municipal Utility District	Michael Ramirez	Joe Tarantino	Affirmative	N/A
4	Seattle City Light	Hao Li		Affirmative	N/A
4	Seminole Electric Cooperative, Inc.	Michael Ward		Affirmative	N/A

4	Tacoma Public Utilities (Tacoma, WA)	Hien Ho		Affirmative	N/A
4	Utility Services, Inc.	Brian Evans-Mongeon		Affirmative	N/A
4	WEC Energy Group, Inc.	Anthony Jankowski		Negative	Comments Submitted
5	AEP	Thomas Foltz		Negative	Comments Submitted
5	Ameren - Ameren Missouri	Sam Dwyer		Affirmative	N/A
5	APS - Arizona Public Service Co.	Stephanie Little		Affirmative	N/A
5	Associated Electric Cooperative, Inc.	Matthew Pacobit		Negative	Third-Party Comments
5	Austin Energy	Jeanie Doty		Affirmative	N/A
5	Avista - Avista Corporation	Steve Wenke		Affirmative	N/A
5	Basin Electric Power Cooperative	Mike Kraft		Negative	Third-Party Comments
5	BC Hydro and Power Authority	Clement Ma		Abstain	N/A
5	Berkshire Hathaway - NV Energy	Eric Schwarzrock	Jeffrey Watkins	None	N/A
5	Bonneville Power Administration	Francis Halpin		Affirmative	N/A
5	Brazos Electric Power Cooperative, Inc.	Shari Heino		Negative	Third-Party Comments
5	Choctaw Generation Limited Partnership, LLLP	Rob Watson		None	N/A
5	City of Independence, Power and Light Department	Jim Nail		Negative	Third-Party Comments
5	Cleco Corporation	Stephanie Huffman	Louis Guidry	Negative	Third-Party Comments

5	CMS Energy - Consumers Energy Company	David Greyerbiehl		Affirmative	N/A
5	Cogentrix Energy Power Management, LLC	Mike Hirst		None	N/A
5	Colorado Springs Utilities	Jeff Icke		Negative	Comments Submitted
5	Con Ed - Consolidated Edison Co. of New York	Brian O'Boyle		Affirmative	N/A
5	Dairyland Power Cooperative	Tommy Drea		Negative	Third-Party Comments
5	Dominion - Dominion Resources, Inc.	Randi Heise		Negative	Comments Submitted
5	DTE Energy - Detroit Edison Company	Jeffrey DePriest		None	N/A
5	Duke Energy	Dale Goodwine		Affirmative	N/A
5	Dynegy Inc.	Dan Roethemeyer		Affirmative	N/A
5	Edison International - Southern California Edison Company	Michael McSpadden		Affirmative	N/A
5	Entergy - Entergy Services, Inc.	Tracey Stubbs		Affirmative	N/A
5	Essential Power, LLC	Gerry Adamski		Negative	Comments Submitted
5	Exelon	Vince Catania		Affirmative	N/A
5	FirstEnergy - FirstEnergy Solutions	Robert Loy		Negative	Third-Party Comments
5	Florida Municipal Power Agency	David Schumann	Chris Gowder	Negative	Comments Submitted
5	Great Plains Energy - Kansas City Power and Light Co.	Harold Wyble	Douglas Webb	Affirmative	N/A
5	Great River Energy	Preston Walsh		Negative	Third-Party Comments
5	Hydro-Qu?bec	Roger Dufresne		Affirmative	N/A

	Production				
5	JEA	John Babik		Affirmative	N/A
5	Kissimmee Utility Authority	Mike Blough		Negative	Third-Party Comments
5	Lincoln Electric System	Kayleigh Wilkerson		Negative	Third-Party Comments
5	Los Angeles Department of Water and Power	Kenneth Silver		Affirmative	N/A
5	Lower Colorado River Authority	Dixie Wells		Affirmative	N/A
5	Massachusetts Municipal Wholesale Electric Company	David Gordon		Abstain	N/A
5	MEAG Power	Steven Grego	Scott Miller	None	N/A
5	Muscatine Power and Water	Mike Avesing		Negative	Third-Party Comments
5	NB Power Corporation	Rob Vance		Affirmative	N/A
5	Nebraska Public Power District	Don Schmit		Negative	Third-Party Comments
5	New York Power Authority	Wayne Sipperly		None	N/A
5	NextEra Energy	Allen Schriver		Affirmative	N/A
5	North Carolina Electric Membership Corporation	Robert Beadle	Scott Brame	Negative	Third-Party Comments
5	OGE Energy - Oklahoma Gas and Electric Co.	Leo Staples		Negative	Third-Party Comments
5	Omaha Public Power District	Mahmood Safi		Negative	Third-Party Comments
5	OTP - Otter Tail Power Company	Cathy Fogale		Negative	Third-Party Comments
5	Pacific Gas and Electric Company	Alex Chua		None	N/A

5	Platte River Power Authority	Tyson Archie		Affirmative	N/A
5	PSEG - PSEG Fossil LLC	Tim Kucey		Affirmative	N/A
5	Public Utility District No. 1 of Snohomish County	Sam Nietfeld		Affirmative	N/A
5	Public Utility District No. 2 of Grant County, Washington	Alex Ybarra		Affirmative	N/A
5	Puget Sound Energy, Inc.	Lynda Kupfer		Negative	Third-Party Comments
5	Sacramento Municipal Utility District	Susan Gill-Zobitz	Joe Tarantino	Affirmative	N/A
5	Seattle City Light	Mike Haynes		Affirmative	N/A
5	Seminole Electric Cooperative, Inc.	Brenda Atkins		Affirmative	N/A
5	Southern Company - Southern Company Generation	William D. Shultz		Affirmative	N/A
5	Southern Indiana Gas and Electric Co.	Scotty Brown	Rob Collins	None	N/A
5	Tacoma Public Utilities (Tacoma, WA)	Chris Mattson		Affirmative	N/A
5	Talen Generation, LLC	Donald Lock		Negative	Comments Submitted
5	Tallahassee Electric (City of Tallahassee, FL)	Karen Webb		Negative	Comments Submitted
5	Tennessee Valley Authority	Brandy Spraker		Negative	Comments Submitted
5	Tri-State G and T Association, Inc.	Mark Stein		Affirmative	N/A
5	U.S. Bureau of Reclamation	Erika Doot		Negative	Comments Submitted
5	WEC Energy Group,	Linda Horn		Negative	Comments

	Inc.				Submitted
5	Westar Energy	stephanie johnson		Negative	Third-Party Comments
6	AEP - AEP Marketing	Edward P Cox		Negative	Comments Submitted
6	Ameren - Ameren Services	Robert Quinlivan		Affirmative	N/A
6	APS - Arizona Public Service Co.	Bobbi Welch		Affirmative	N/A
6	Associated Electric Cooperative, Inc.	Brian Ackermann		Negative	Third-Party Comments
6	Austin Energy	Andrew Gallo		Affirmative	N/A
6	Berkshire Hathaway - PacifiCorp	Sandra Shaffer		Affirmative	N/A
6	Bonneville Power Administration	Alex Spain		Affirmative	N/A
6	City of Redding	Marvin Briggs	Bill Hughes	Affirmative	N/A
6	Cleco Corporation	Robert Hirschak	Louis Guidry	Negative	Third-Party Comments
6	Colorado Springs Utilities	Shannon Fair		Negative	Comments Submitted
6	Con Ed - Consolidated Edison Co. of New York	Robert Winston		Affirmative	N/A
6	Dominion - Dominion Resources, Inc.	Louis Slade		Negative	Comments Submitted
6	Duke Energy	Greg Cecil		Affirmative	N/A
6	Edison International - Southern California Edison Company	Earle Saunders		Affirmative	N/A
6	Entergy	Julie Hall		Affirmative	N/A
6	Exelon	Dave Carlson		Affirmative	N/A
6	FirstEnergy - FirstEnergy Solutions	Ann Ivanc		Negative	Third-Party Comments
6	Florida Municipal	Richard Montgomery	Chris Gowder	Negative	Comments

	Power Agency				Submitted
6	Florida Municipal Power Pool	Tom Reedy		Negative	Third-Party Comments
6	Great Plains Energy - Kansas City Power and Light Co.	Chris Bridges	Douglas Webb	Affirmative	N/A
6	Iberdrola - New York State Electric and Gas Corporation	Julie King		None	N/A
6	Lincoln Electric System	Eric Ruskamp		Negative	Third-Party Comments
6	Lower Colorado River Authority	Michael Shaw		Affirmative	N/A
6	Luminant - Luminant Energy	Brenda Hampton		Affirmative	N/A
6	Manitoba Hydro	Blair Mukanik		Affirmative	N/A
6	Muscatine Power and Water	Ryan Streck		Negative	Third-Party Comments
6	New York Power Authority	Shivaz Chopra		None	N/A
6	NextEra Energy - Florida Power and Light Co.	Silvia Mitchell		Affirmative	N/A
6	NiSource - Northern Indiana Public Service Co.	Joe O'Brien		Negative	Comments Submitted
6	OGE Energy - Oklahoma Gas and Electric Co.	Jerry Nottnagel		None	N/A
6	Oglethorpe Power Corporation	Donna Johnson		Negative	Third-Party Comments
6	Omaha Public Power District	Mark Trumble		None	N/A
6	Platte River Power Authority	Carol Ballantine		Affirmative	N/A
6	Portland General Electric Co.	Shawn Davis		Abstain	N/A

6	PPL - Louisville Gas and Electric Co.	Linn Oelker		Affirmative	N/A
6	PSEG - PSEG Energy Resources and Trade LLC	Karla Jara		Affirmative	N/A
6	Sacramento Municipal Utility District	Diane Clark	Joe Tarantino	Affirmative	N/A
6	Santee Cooper	Michael Brown		Affirmative	N/A
6	Seattle City Light	Charles Freeman		Affirmative	N/A
6	Seminole Electric Cooperative, Inc.	Trudy Novak		Affirmative	N/A
6	Snohomish County PUD No. 1	Kenn Backholm		Affirmative	N/A
6	Southern Company - Southern Company Generation and Energy Marketing	John J. Ciza		Affirmative	N/A
6	Tacoma Public Utilities (Tacoma, WA)	Rick Applegate		Affirmative	N/A
6	Talen Energy Marketing, LLC	Elizabeth Davis		Negative	Comments Submitted
6	Tennessee Valley Authority	Marjorie Parsons		Negative	Comments Submitted
6	WEC Energy Group, Inc.	David Hathaway		Negative	Comments Submitted
6	Westar Energy	Megan Wagner		Negative	Third-Party Comments
6	Xcel Energy, Inc.	Peter Colussy		Negative	Third-Party Comments
7	Exxon Mobil	Jay Barnett		Negative	Comments Submitted
7	Luminant Mining Company LLC	Stewart Rake		Affirmative	N/A
8	David Kiguel	David Kiguel		Negative	Third-Party Comments

8	Massachusetts Attorney General	Frederick Plett		Affirmative	N/A
9	City of Vero Beach	Ginny Beigel		Negative	Third-Party Comments
9	Commonwealth of Massachusetts Department of Public Utilities	Donald Nelson		Affirmative	N/A
10	Midwest Reliability Organization	Russel Mountjoy		Affirmative	N/A
10	Northeast Power Coordinating Council	Guy V. Zito		Affirmative	N/A
10	ReliabilityFirst	Anthony Jablonski		Affirmative	N/A
10	SERC Reliability Corporation	David Greene		Affirmative	N/A
10	Southwest Power Pool Regional Entity	Bob Reynolds		Affirmative	N/A
10	Texas Reliability Entity, Inc.	Rachel Coyne		Negative	Comments Submitted

Showing 1 to 312 of 312 entries

Previous 1 Next

BALLOT RESULTS

Survey: [View Survey Results \(/SurveyResults/Index/34\)](#)

Ballot Name: 2015-07 Internal Communications Capabilities COM-001-3 Non-binding Poll IN 1 NB

Voting Start Date: 11/6/2015 12:01:00 AM

Voting End Date: 11/16/2015 8:00:00 PM

Ballot Type: NB

Ballot Activity: IN

Ballot Series: 1

Total # Votes: 240

Total Ballot Pool: 278

Quorum: 86.33

Weighted Segment Value: 56.25

Segment	Ballot Pool	Segment Weight	Affirmative Votes	Affirmative Fraction	Negative Votes w/ Comment	Negative Fraction w/ Comment	Negative Votes w/o Comment	Abstain	No Vote
Segment: 1	69	1	30	0.612	19	0.388	0	10	10
Segment: 2	9	0.3	1	0.1	2	0.2	0	4	2
Segment: 3	65	1	23	0.523	21	0.477	0	9	12
Segment: 4	23	1	8	0.421	11	0.579	0	2	2
Segment: 5	57	1	19	0.514	18	0.486	0	13	7
Segment: 6	43	1	19	0.633	11	0.367	0	9	4
Segment: 7	2	0.2	1	0.1	1	0.1	0	0	0
Segment: 8	2	0.1	1	0.1	0	0	0	0	1
Segment: 9	2	0.2	1	0.1	1	0.1	0	0	0

Segment: 10	6	0.5	5	0.5	0	0	0	1	0
Totals:	278	6.3	108	3.603	84	2.697	0	48	38

BALLOT POOL MEMBERS

Show entries

Search:

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	Ameren - Ameren Services	Eric Scott		Abstain	N/A
1	APS - Arizona Public Service Co.	Michelle Amarantos		Affirmative	N/A
1	Arizona Electric Power Cooperative, Inc.	John Shaver		Negative	Third-Party Comments
1	Associated Electric Cooperative, Inc.	Phil Hart		Negative	Third-Party Comments
1	Austin Energy	Thomas Standifur		None	N/A
1	Avista - Avista Corporation	Bryan Cox	Rich Hydzik	Affirmative	N/A
1	Balancing Authority of Northern California	Kevin Smith	Joe Tarantino	Affirmative	N/A
1	BC Hydro and Power Authority	Patricia Robertson		None	N/A
1	Beaches Energy Services	Don Cuevas		Negative	Third-Party Comments
1	Berkshire Hathaway Energy - MidAmerican Energy	Terry Harbour		Negative	Third-Party Comments

1	Bonneville Power Administration	Donald Watkins		Affirmative	N/A
1	Bryan Texas Utilities	John Fontenot		Affirmative	N/A
1	CenterPoint Energy Houston Electric, LLC	John Brockhan		Abstain	N/A
1	Central Hudson Gas & Electric Corp.	Frank Pace		Affirmative	N/A
1	Cleco Corporation	John Lindsey	Louis Guidry	Negative	Comments Submitted
1	Colorado Springs Utilities	Shawna Speer		Negative	Comments Submitted
1	Con Ed - Consolidated Edison Co. of New York	Chris de Graffenried	Kelly Silver	Affirmative	N/A
1	CPS Energy	Glenn Pressler		Abstain	N/A
1	Dairyland Power Cooperative	Robert Roddy		Abstain	N/A
1	Dominion - Dominion Virginia Power	Larry Nash	Candace Marshall	Abstain	N/A
1	Duke Energy	Doug Hils		None	N/A
1	Edison International - Southern California Edison Company	Steven Mavis		Affirmative	N/A
1	Entergy - Entergy Services, Inc.	Oliver Burke		Negative	Comments Submitted
1	FirstEnergy - FirstEnergy Corporation	William Smith		Negative	Third-Party Comments
1	Georgia Transmission Corporation	Jason Snodgrass	Stanley Beasley	None	N/A
1	Great Plains Energy - Kansas City Power and Light Co.	James McBee	Douglas Webb	Affirmative	N/A
1	Hydro One Networks,	Payam Farahbakhsh	Oshani Pathirane	Affirmative	N/A

1	Hydro-Quebec TransEnergie	Nicolas Turcotte		Affirmative	N/A
1	International Transmission Company Holdings Corporation	Michael Moltane	Meghan Ferguson	Negative	Comments Submitted
1	KAMO Electric Cooperative	Walter Kenyon		Negative	Comments Submitted
1	Lakeland Electric	Larry Watt		None	N/A
1	Long Island Power Authority	Robert Ganley		Abstain	N/A
1	Los Angeles Department of Water and Power	faranak sarbaz		Affirmative	N/A
1	Lower Colorado River Authority	Teresa Cantwell		Affirmative	N/A
1	M and A Electric Power Cooperative	William Price		None	N/A
1	Manitoba Hydro	Mike Smith		Affirmative	N/A
1	MEAG Power	David Weekley	Scott Miller	None	N/A
1	Muscatine Power and Water	Andy Kurriger		Negative	Third-Party Comments
1	N.W. Electric Power Cooperative, Inc.	Mark Ramsey		Negative	Third-Party Comments
1	National Grid USA	Michael Jones		Affirmative	N/A
1	Nebraska Public Power District	Jamison Cawley		Abstain	N/A
1	New York Power Authority	Salvatore Spagnolo		Affirmative	N/A
1	NextEra Energy - Florida Power and Light Co.	Mike O'Neil		None	N/A
1	NiSource - Northern Indiana Public Service Co.	Charles Raney		Negative	Comments Submitted
1	Northeast Missouri Electric Power	Kevin White		Negative	Third-Party Comments

	Cooperative				
1	OGE Energy - Oklahoma Gas and Electric Co.	Terri Pyle		Negative	Third-Party Comments
1	Oncor Electric Delivery	Rod Kinard	Tammy Porter	Affirmative	N/A
1	Peak Reliability	Jared Shakespeare		Affirmative	N/A
1	Platte River Power Authority	John Collins		Abstain	N/A
1	PNM Resources - Public Service Company of New Mexico	Laurie Williams		None	N/A
1	Portland General Electric Co.	John Walker		Abstain	N/A
1	PPL Electric Utilities Corporation	Brenda Truhe		Affirmative	N/A
1	PSEG - Public Service Electric and Gas Co.	Joseph Smith		Abstain	N/A
1	Public Utility District No. 1 of Snohomish County	Long Duong		Affirmative	N/A
1	Public Utility District No. 2 of Grant County, Washington	Michiko Sell		Affirmative	N/A
1	Puget Sound Energy, Inc.	Theresa Rakowsky		Negative	Third-Party Comments
1	Sacramento Municipal Utility District	Tim Kelley	Joe Tarantino	Affirmative	N/A
1	Salt River Project	Steven Cobb		Affirmative	N/A
1	Santee Cooper	Shawn Abrams		Affirmative	N/A
1	SCANA - South Carolina Electric and Gas Co.	Tom Hanzlik		Affirmative	N/A
1	Seattle City Light	Pawel Krupa		Affirmative	N/A

1	Southern Company - Southern Company Services, Inc.	Robert A. Schaffeld		Affirmative	N/A
1	Tacoma Public Utilities (Tacoma, WA)	John Merrell		Affirmative	N/A
1	Tallahassee Electric (City of Tallahassee, FL)	Scott Langston		Negative	Comments Submitted
1	Tennessee Valley Authority	Howell Scott		Negative	Comments Submitted
1	Tri-State G and T Association, Inc.	Tracy Sliman		Affirmative	N/A
1	U.S. Bureau of Reclamation	Richard Jackson		None	N/A
1	United Illuminating Co.	Jonathan Appelbaum		Affirmative	N/A
1	Westar Energy	Kevin Giles		Negative	Third-Party Comments
2	BC Hydro and Power Authority	Venkataramakrishnan Vinnakota		Abstain	N/A
2	California ISO	Richard Vine		Affirmative	N/A
2	Electric Reliability Council of Texas, Inc.	Elizabeth Axson		Negative	Comments Submitted
2	Independent Electricity System Operator	Leonard Kula		Negative	Comments Submitted
2	ISO New England, Inc.	Michael Puscas	Robert Coughlin	Abstain	N/A
2	Midcontinent ISO, Inc.	Terry Bilke		Abstain	N/A
2	New York Independent System Operator	Gregory Campoli		None	N/A
2	PJM Interconnection, L.L.C.	Mark Holman	William Temple	None	N/A
2	Southwest Power Pool, Inc. (RTO)	Charles Yeung		Abstain	N/A

3	Ameren - Ameren Services	David Jendras		Abstain	N/A
3	APS - Arizona Public Service Co.	Jeri Freimuth		Affirmative	N/A
3	Associated Electric Cooperative, Inc.	Todd Bennett		Negative	Third-Party Comments
3	Austin Energy	Shuye Teng		Affirmative	N/A
3	Avista - Avista Corporation	Scott Kinney		Affirmative	N/A
3	Basin Electric Power Cooperative	Jeremy Voll		None	N/A
3	BC Hydro and Power Authority	Pat Harrington		Abstain	N/A
3	Beaches Energy Services	Steven Lancaster		Negative	Third-Party Comments
3	Berkshire Hathaway Energy - MidAmerican Energy Co.	Thomas Mielnik	Darnez Gresham	Negative	Third-Party Comments
3	Bonneville Power Administration	Rebecca Berdahl		Affirmative	N/A
3	Central Electric Power Cooperative (Missouri)	Adam Weber		Negative	Third-Party Comments
3	City of Farmington	Linda Jacobson-Quinn		Abstain	N/A
3	City of Green Cove Springs	Mark Schultz		Negative	Third-Party Comments
3	City of Leesburg	Chris Adkins		Negative	Third-Party Comments
3	City of Redding	Elizabeth Hadley	Bill Hughes	Affirmative	N/A
3	City Utilities of Springfield, Missouri	Scott Williams		Abstain	N/A
3	Clark Public Utilities	Jack Stamper		Affirmative	N/A
3	Cleco Corporation	Michelle Corley	Louis Guidry	Negative	Comments Submitted
3	City of Leesburg	Chris Adkins		None	N/A

	Utilities				
3	Con Ed - Consolidated Edison Co. of New York	Peter Yost		Affirmative	N/A
3	Dominion - Dominion Resources, Inc.	Connie Lowe		Abstain	N/A
3	DTE Energy - Detroit Edison Company	Karie Barczak		None	N/A
3	Duke Energy	Lee Schuster		Affirmative	N/A
3	Edison International - Southern California Edison Company	Romel Aquino		Affirmative	N/A
3	Eversource Energy	Mark Kenny		None	N/A
3	FirstEnergy - FirstEnergy Corporation	Theresa Ciancio		Negative	Third-Party Comments
3	Florida Municipal Power Agency	Joe McKinney	Chris Gowder	Negative	Comments Submitted
3	Georgia System Operations Corporation	Scott McGough		Negative	Comments Submitted
3	Great Plains Energy - Kansas City Power and Light Co.	Jessica Tucker	Douglas Webb	Affirmative	N/A
3	Great River Energy	Brian Glover		Negative	Third-Party Comments
3	Hydro One Networks, Inc.	Paul Malozewski	Oshani Pathirane	Affirmative	N/A
3	JEA	Garry Baker		None	N/A
3	Lakeland Electric	David Hadzima		None	N/A
3	Lincoln Electric System	Jason Fortik		None	N/A
3	Los Angeles Department of Water and Power	Mike Anctil		Affirmative	N/A
3	M and A Electric Power Cooperative	Stephen Pogue		Negative	Comments Submitted

3	Manitoba Hydro	Karim Abdel-Hadi		Affirmative	N/A
3	MEAG Power	Roger Brand	Scott Miller	None	N/A
3	Muscatine Power and Water	Seth Shoemaker		Negative	Third-Party Comments
3	National Grid USA	Brian Shanahan		None	N/A
3	Nebraska Public Power District	Tony Eddleman		Abstain	N/A
3	New York Power Authority	David Rivera		Affirmative	N/A
3	NiSource - Northern Indiana Public Service Co.	Ramon Barany		Negative	Comments Submitted
3	Northeast Missouri Electric Power Cooperative	Skyler Wiegmann		Negative	Third-Party Comments
3	NW Electric Power Cooperative, Inc.	John Stickley		Negative	Third-Party Comments
3	OGE Energy - Oklahoma Gas and Electric Co.	Donald Hargrove		Negative	Third-Party Comments
3	Owensboro Municipal Utilities	Thomas Lyons		Affirmative	N/A
3	Platte River Power Authority	Jeff Landis		Affirmative	N/A
3	PNM Resources	Michael Mertz		None	N/A
3	Portland General Electric Co.	Thomas Ward		Abstain	N/A
3	PPL - Louisville Gas and Electric Co.	Charles Freibert		None	N/A
3	PSEG - Public Service Electric and Gas Co.	Jeffrey Mueller		Abstain	N/A
3	Puget Sound Energy, Inc.	Andrea Basinski		Negative	Third-Party Comments
3	Rutherford EMC	Tom Haire		Negative	Comments Submitted

3	Sacramento Municipal Utility District	Rachel Moore	Joe Tarantino	Affirmative	N/A
3	Santee Cooper	James Poston		Affirmative	N/A
3	Seattle City Light	Dana Wheelock		Affirmative	N/A
3	Snohomish County PUD No. 1	Mark Oens		Affirmative	N/A
3	Southern Company - Alabama Power Company	R. Scott Moore		Affirmative	N/A
3	Tacoma Public Utilities (Tacoma, WA)	Marc Donaldson		Affirmative	N/A
3	Tallahassee Electric (City of Tallahassee, FL)	John Williams		Negative	Comments Submitted
3	Tennessee Valley Authority	Ian Grant		Abstain	N/A
3	Tri-State G and T Association, Inc.	Janelle Marriott Gill		Affirmative	N/A
3	Westar Energy	Bo Jones		Negative	Third-Party Comments
3	Xcel Energy, Inc.	Michael Ibold		None	N/A
4	Alliant Energy Corporation Services, Inc.	Kenneth Goldsmith		Negative	Third-Party Comments
4	Austin Energy	Tina Garvey		Affirmative	N/A
4	Blue Ridge Power Agency	Duane Dahlquist		Affirmative	N/A
4	City of Clewiston	Lynne Mila		Negative	Third-Party Comments
4	City of New Smyrna Beach Utilities Commission	Tim Beyrle		Negative	Third-Party Comments
4	City of Redding	Nick Zettel	Bill Hughes	Affirmative	N/A
4	City Utilities of Springfield, Missouri	John Allen		None	N/A

4	DTE Energy - Detroit Edison Company	Daniel Herring		None	N/A
4	FirstEnergy - Ohio Edison Company	Doug Hohlbaugh		Negative	Third-Party Comments
4	Flathead Electric Cooperative	Russ Schneider		Negative	Comments Submitted
4	Florida Municipal Power Agency	Carol Chinn	Chris Gowder	Negative	Comments Submitted
4	Georgia System Operations Corporation	Guy Andrews		Negative	Comments Submitted
4	Illinois Municipal Electric Agency	Bob Thomas		Abstain	N/A
4	Indiana Municipal Power Agency	Jack Alvey	Scott Berry	Negative	Comments Submitted
4	Keys Energy Services	Stanley Rzad		Negative	Third-Party Comments
4	North Carolina Electric Membership Corporation	John Lemire	Scott Brame	Negative	Third-Party Comments
4	Public Utility District No. 1 of Snohomish County	John Martinsen		Affirmative	N/A
4	Sacramento Municipal Utility District	Michael Ramirez	Joe Tarantino	Affirmative	N/A
4	Seattle City Light	Hao Li		Affirmative	N/A
4	Seminole Electric Cooperative, Inc.	Michael Ward		Affirmative	N/A
4	Tacoma Public Utilities (Tacoma, WA)	Hien Ho		Affirmative	N/A
4	Utility Services, Inc.	Brian Evans-Mongeon		Abstain	N/A
4	WEC Energy Group, Inc.	Anthony Jankowski		Negative	Comments Submitted
5	AEP	Thomas Foltz		Abstain	N/A

5	Ameren - Ameren Missouri	Sam Dwyer		Abstain	N/A
5	Associated Electric Cooperative, Inc.	Matthew Pacobit		Negative	Comments Submitted
5	Austin Energy	Jeanie Doty		Affirmative	N/A
5	Avista - Avista Corporation	Steve Wenke		Abstain	N/A
5	Basin Electric Power Cooperative	Mike Kraft		Negative	Comments Submitted
5	BC Hydro and Power Authority	Clement Ma		Abstain	N/A
5	Bonneville Power Administration	Francis Halpin		Affirmative	N/A
5	Brazos Electric Power Cooperative, Inc.	Shari Heino		Negative	Third-Party Comments
5	Choctaw Generation Limited Partnership, LLLP	Rob Watson		None	N/A
5	City of Independence, Power and Light Department	Jim Nail		Negative	Third-Party Comments
5	Cleco Corporation	Stephanie Huffman	Louis Guidry	Negative	Comments Submitted
5	CMS Energy - Consumers Energy Company	David Greyerbiehl		Abstain	N/A
5	Cogentrix Energy Power Management, LLC	Mike Hirst		None	N/A
5	Colorado Springs Utilities	Jeff Icke		Negative	Comments Submitted
5	Con Ed - Consolidated Edison Co. of New York	Brian O'Boyle		Affirmative	N/A
5	Dairyland Power Cooperative	Tommy Drea		Negative	Third-Party Comments

5	Dominion - Dominion Resources, Inc.	Randi Heise		Abstain	N/A
5	DTE Energy - Detroit Edison Company	Jeffrey DePriest		None	N/A
5	Duke Energy	Dale Goodwine		Affirmative	N/A
5	Dynegy Inc.	Dan Roethemeyer		Affirmative	N/A
5	Edison International - Southern California Edison Company	Michael McSpadden		Affirmative	N/A
5	Entergy - Entergy Services, Inc.	Tracey Stubbs		Abstain	N/A
5	FirstEnergy - FirstEnergy Solutions	Robert Loy		Negative	Third-Party Comments
5	Florida Municipal Power Agency	David Schumann	Chris Gowder	Negative	Comments Submitted
5	Great Plains Energy - Kansas City Power and Light Co.	Harold Wyble	Douglas Webb	Affirmative	N/A
5	Great River Energy	Preston Walsh		Negative	Third-Party Comments
5	Hydro-Quebec Production	Roger Dufresne		Affirmative	N/A
5	JEA	John Babik		Affirmative	N/A
5	Kissimmee Utility Authority	Mike Blough		Negative	Third-Party Comments
5	Lincoln Electric System	Kayleigh Wilkerson		Abstain	N/A
5	Los Angeles Department of Water and Power	Kenneth Silver		Affirmative	N/A
5	Lower Colorado River Authority	Dixie Wells		Affirmative	N/A
5	Massachusetts Municipal Wholesale Electric Company	David Gordon		Abstain	N/A
5	MEAG Power	Steven Grego	Scott Miller	None	N/A
5	Muscatine Power	Mike Avesing		Negative	Third-Party

	and Water				Comments
5	Nebraska Public Power District	Don Schmit		Abstain	N/A
5	New York Power Authority	Wayne Sipperly		None	N/A
5	NextEra Energy	Allen Schriver		Affirmative	N/A
5	OGE Energy - Oklahoma Gas and Electric Co.	Leo Staples		Negative	Third-Party Comments
5	Omaha Public Power District	Mahmood Safi		Negative	Third-Party Comments
5	Pacific Gas and Electric Company	Alex Chua		None	N/A
5	PSEG - PSEG Fossil LLC	Tim Kucey		Abstain	N/A
5	Public Utility District No. 1 of Snohomish County	Sam Nietfeld		Affirmative	N/A
5	Public Utility District No. 2 of Grant County, Washington	Alex Ybarra		Affirmative	N/A
5	Puget Sound Energy, Inc.	Lynda Kupfer		Negative	Comments Submitted
5	Sacramento Municipal Utility District	Susan Gill-Zobitz	Joe Tarantino	Affirmative	N/A
5	Seattle City Light	Mike Haynes		Affirmative	N/A
5	Seminole Electric Cooperative, Inc.	Brenda Atkins		Affirmative	N/A
5	Southern Company - Southern Company Generation	William D. Shultz		Affirmative	N/A
5	Southern Indiana Gas and Electric Co.	Scotty Brown	Rob Collins	None	N/A
5	Tacoma Public Utilities (Tacoma, WA)	Chris Mattson		Affirmative	N/A

5	Tallahassee Electric (City of Tallahassee, FL)	Karen Webb		Negative	Comments Submitted
5	Tennessee Valley Authority	Brandy Spraker		Abstain	N/A
5	Tri-State G and T Association, Inc.	Mark Stein		Abstain	N/A
5	U.S. Bureau of Reclamation	Erika Doot		Negative	Comments Submitted
5	Westar Energy	stephanie johnson		Negative	Third-Party Comments
6	AEP - AEP Marketing	Edward P Cox		Abstain	N/A
6	Ameren - Ameren Services	Robert Quinlivan		Abstain	N/A
6	APS - Arizona Public Service Co.	Bobbi Welch		Affirmative	N/A
6	Associated Electric Cooperative, Inc.	Brian Ackermann		Negative	Comments Submitted
6	Austin Energy	Andrew Gallo		Affirmative	N/A
6	Berkshire Hathaway - PacifiCorp	Sandra Shaffer		Abstain	N/A
6	Bonneville Power Administration	Alex Spain		Affirmative	N/A
6	City of Redding	Marvin Briggs	Bill Hughes	Affirmative	N/A
6	Cleco Corporation	Robert Hirschak	Louis Guidry	Negative	Third-Party Comments
6	Colorado Springs Utilities	Shannon Fair		Negative	Comments Submitted
6	Con Ed - Consolidated Edison Co. of New York	Robert Winston		Affirmative	N/A
6	Duke Energy	Greg Cecil		Affirmative	N/A
6	Edison International - Southern California Edison Company	Earle Saunders		Affirmative	N/A
6	Energy	Julie Hall		Affirmative	N/A

6	FirstEnergy - FirstEnergy Solutions	Ann Ivanc		Negative	Third-Party Comments
6	Florida Municipal Power Agency	Richard Montgomery	Chris Gowder	Negative	Comments Submitted
6	Florida Municipal Power Pool	Tom Reedy		Negative	Third-Party Comments
6	Great Plains Energy - Kansas City Power and Light Co.	Chris Bridges	Douglas Webb	Affirmative	N/A
6	Lincoln Electric System	Eric Ruskamp		Abstain	N/A
6	Lower Colorado River Authority	Michael Shaw		Affirmative	N/A
6	Luminant - Luminant Energy	Brenda Hampton		Affirmative	N/A
6	Manitoba Hydro	Blair Mukanik		Affirmative	N/A
6	Muscatine Power and Water	Ryan Streck		Negative	Third-Party Comments
6	New York Power Authority	Shivaz Chopra		None	N/A
6	NextEra Energy - Florida Power and Light Co.	Silvia Mitchell		Abstain	N/A
6	NiSource - Northern Indiana Public Service Co.	Joe O'Brien		Negative	Comments Submitted
6	OGE Energy - Oklahoma Gas and Electric Co.	Jerry Nottnagel		None	N/A
6	Oglethorpe Power Corporation	Donna Johnson		Negative	Comments Submitted
6	Omaha Public Power District	Mark Trumble		None	N/A
6	Platte River Power Authority	Carol Ballantine		Abstain	N/A
6	Portland General Electric Co.	Shawn Davis		Abstain	N/A

6	PPL - Louisville Gas and Electric Co.	Linn Oelker		None	N/A
6	PSEG - PSEG Energy Resources and Trade LLC	Karla Jara		Abstain	N/A
6	Sacramento Municipal Utility District	Diane Clark	Joe Tarantino	Affirmative	N/A
6	Santee Cooper	Michael Brown		Affirmative	N/A
6	Seattle City Light	Charles Freeman		Affirmative	N/A
6	Seminole Electric Cooperative, Inc.	Trudy Novak		Affirmative	N/A
6	Snohomish County PUD No. 1	Kenn Backholm		Affirmative	N/A
6	Southern Company - Southern Company Generation and Energy Marketing	John J. Ciza		Affirmative	N/A
6	Tacoma Public Utilities (Tacoma, WA)	Rick Applegate		Affirmative	N/A
6	Talen Energy Marketing, LLC	Elizabeth Davis		Negative	Comments Submitted
6	Tennessee Valley Authority	Marjorie Parsons		Abstain	N/A
6	Westar Energy	Megan Wagner		Negative	Third-Party Comments
7	Exxon Mobil	Jay Barnett		Negative	Comments Submitted
7	Luminant Mining Company LLC	Stewart Rake		Affirmative	N/A
8	David Kiguel	David Kiguel		None	N/A
8	Massachusetts Attorney General	Frederick Plett		Affirmative	N/A
9	City of Vero Beach	Ginny Beigel		Negative	Third-Party Comments
9	City of Vero Beach	Donna Nelson		Affirmative	N/A

	Massachusetts Department of Public Utilities				
10	Midwest Reliability Organization	Russel Mountjoy		Affirmative	N/A
10	Northeast Power Coordinating Council	Guy V. Zito		Affirmative	N/A
10	ReliabilityFirst	Anthony Jablonski		Affirmative	N/A
10	SERC Reliability Corporation	David Greene		Affirmative	N/A
10	Southwest Power Pool Regional Entity	Bob Reynolds		Abstain	N/A
10	Texas Reliability Entity, Inc.	Rachel Coyne		Affirmative	N/A

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Survey Report

Survey Details

Name 2015-07 Internal Communications Capabilities | COM-001-3

Description

Start Date 9/25/2015

End Date 11/16/2015

Associated Ballots

2015-07 Internal Communications Capabilities COM-001-3 IN 1 ST

2015-07 Internal Communications Capabilities COM-001-3 Non-binding Poll IN 1 NB

Survey Questions

1. Do you agree that the proposed Requirements R12 and R13 in the proposed COM-001-3 address the directive in Order No. 808? If not, please explain why you do not agree and, if possible, provide specific language revisions that would make it acceptable to you.

Yes

No

2. If you have any other comments on the proposed COM-001-3 that you haven't already mentioned above, please provide them here.

Responses By Question

1. Do you agree that the proposed Requirements R12 and R13 in the proposed COM-001-3 address the directive in Order No. 808? If not, please explain why you do not agree and, if possible, provide specific language revisions that would make it acceptable to you.

John Fontenot - Bryan Texas Utilities - 1 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

John Fontenot - Bryan Texas Utilities - 1 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

John Fontenot - Bryan Texas Utilities - 1 -

Selected Answer: Yes

Answer Comment:
na

Document Name:

Likes: 0

Dislikes: 0

Selected Answer:

Answer Comment:

We agree with adding these two requirements to address the FERC directive, but we do not support the proposed wording for these requirements.

Requirements R12 and R13 mandate the provision of internal interpersonal communication capabilities within the same entity when performing its reliability function. Without specific wording that such capabilities are only required for communication between geographically separate control centers within the same functional entity, or between a control center and field switching personnel, these requirements can and will result in entities not having physically separated control centers or staff perform its tasks to be non-compliant. The IESO and most of ISOs and RTOs in North America fall into this category.

The Measures for these two requirements do make reference to physically separate control centers or staff in an example for evidence of compliance. However, the specific example only illustrates a way to comply with the requirement. Those entities that do not have physically separated control centers or deploy field staff will not be able to provide such evidence, and hence will fail the two requirements unless they incur in unnecessary expense to install internal interpersonal communication capabilities for communication within the control room, which serves no purpose and add no value at all.

To address the intent of the ERRC directive, which we interpret to be requiring internal interpersonal communication capabilities for physically separated control centers or between control center and field personnel within the same entity, we propose the following revisions to R12 and R13:

R12. Each Reliability Coordinator, Transmission Operator, Generator Operator, and Balancing Authority shall have internal Interpersonal Communication capabilities for the exchange of information between geographically separate control centers within the same functional entity, or

between a control center and field switching personnel, that is necessary for the Reliable Operation of the BES.

R13. Each Distribution Provider shall have internal Interpersonal Communication capabilities for the exchange of information between geographically separate control centers within the same functional entity, or between a control center and field switching personnel, that is necessary for the Reliable Operation of the BES.

Alternatively, these requirements can be rearranged as follows:

R12. Each Reliability Coordinator, Transmission Operator, Generator Operator, and Balancing Authority shall have internal Interpersonal Communication capabilities between geographically separate control centers within the same functional entity, or between a control center and field switching personnel, for the exchange of information that is necessary for the Reliable Operation of the BES.

Similar rearrangement for the proposed R13.

Document Name:

Likes: 0

Dislikes: 0

Jim McDougal - Public Utility District No. 1 of Snohomish County - 4 - WECC

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

John Williams - Tallahassee Electric (City of Tallahassee, FL) - 3 -

Selected Answer: No

Answer Comment:

While TAL agrees that the new requirements address the FERC Order, we question what differentiates R12 and R13 from R1, R3, R5, R7 and R8. It appears the only addition is the word "internal" and "for the exchange of information that is necessary for the Reliable Operation of the BES". The definition of Interpersonal Communication is "Any medium that allows two or more individuals to interact, consult, or exchange information." This information is inherent to the reliable operation of the BES.

It seems that R12 and R13 are duplicative and do not add any clarity to the standard. What is the difference between (R12 and R13) and (R1, R3, R5, R7 and R8)? What is intended in R12 & R13 that would not be required in the existing R1, R3, R5, R7 and R8?

The additions as they stand are not clear and unambiguous, hence our Negative Vote.

Document Name:

Likes: 2 Tallahassee Electric (City of Tallahassee, FL),5, Webb Karen
Tallahassee Electric (City of Tallahassee, FL),1, Langston Scott

Dislikes: 0

Tom Haire - Rutherford EMC - 3 -

Selected Answer: No

Answer Comment:

For a small DP, field communications between control center and operating personnel (both internal to the DP and with other functional entities) may or may not necessarily flow through a control center or by means of communication that can be recorded, logged, or stored. This requirement is overly burdensome and, by that token, could result in slower response during an emergency when pace of response is paramount.

Document Name:

Likes: 0

Dislikes: 0

Scott Williams - City Utilities of Springfield, Missouri - 3 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Karen Webb - Tallahassee Electric (City of Tallahassee, FL) - 5 -

Selected Answer: No

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

William Hutchison - Southern Illinois Power Cooperative - 1 -

Selected Answer: No

Answer Comment: Comments to be provided by ACES and NRECA

Document Name:

Likes: 0

Dislikes: 0

Joe O'Brien - NiSource - Northern Indiana Public Service Co. - 6 -

Selected Answer: No

Answer Comment:

R12 and R13 Evidence Retention prescribes retaining voice recordings for 90 calendar days. However, M12 and M13 do not necessarily require voice recordings at all; it could be logs, transcripts, test records

Document Name:

Likes: 0

Dislikes: 0

Thomas Foltz - AEP - 5 -

Selected Answer: Yes

Answer Comment:

While R3 is specific in regards to whom the communication capabilities are to be had ***with***, R12 and R13 provide that specificity only within the Measure and not the Requirement.

The inclusion of the word "or" within the third bullet of M12 and M13 may unintentionally imply a mutually exclusive relationship in regards to providing evidence of Interpersonal Communication capability "between geographically separate control centers within the same functional entity" ***or*** " between a control center and field switching personnel".

Document Name:

Likes: 0

Dislikes: 0

Matthew Beilfuss - WEC Energy Group, Inc. - 3,4,5,6 - RFC

Selected Answer: No

Answer Comment:

The comments in FERC Order No. 808 addressed concerns with COM-001-2 R1.1, which is applicable to Reliability Coordinators, Transmission Operators and Balancing Authorities. The proposed changes include internal communications for Distribution Providers and Generator Operators.

R12 and R13 do not address the “adequacy” of the internal communications capabilities.

Document Name:

Likes: 0

Dislikes: 0

Emily Rousseau - MRO - 1,2,3,4,5,6 - MRO

Group Information

Group Name: MRO-NERC Standards Review Forum (NSRF)

Group Member Name	Entity	Region	Segments
Joe Depoorter	Madison Gas & Electric	MRO	3,4,5,6
Chuck Lawrence	American Transmission Company	MRO	1
Chuck Wicklund	Otter Tail Power Company	MRO	1,3,5
Theresa Allard	Minnkota Power Cooperative, Inc	MRO	1,3,5,6
Dave Rudolph	Basin Electric Power Cooperative	MRO	1,3,5,6
Kayleigh Wilkerson	Lincoln Electric System	MRO	1,3,5,6
Jodi Jenson	Western Area Power Administration	MRO	1,6
Larry Heckert	Alliant Energy	MRO	4
Mahmood Safi	Omaha Public Utility District	MRO	1,3,5,6
Shannon Weaver	Midwest ISO Inc.	MRO	2

Mike Brytowski	Great River Energy	MRO	1,3,5,6
Brad Perrett	Minnesota Power	MRO	1,5
Scott Nickels	Rochester Public Utilities	MRO	4
Terry Harbour	MidAmerican Energy Company	MRO	1,3,5,6
Tom Breene	Wisconsin Public Service Corporation	MRO	3,4,5,6
Tony Eddleman	Nebraska Public Power District	MRO	1,3,5
Amy Casucelli	Xcel Energy	MRO	1,3,5,6

Voter Information

Voter	Segment
Emily Rousseau	1,2,3,4,5,6
Entity	Region(s)
MRO	MRO

Selected Answer: No

Answer Comment:

1. The broad nature of the proposed requirements allows flexibility for compliance, but creates confusion when identifying evidence requirements. Entities with multiple communication options would have to consider collecting evidence on every available system to ensure they have evidence of communications in various communications system failure scenarios. While this may not be the intent, this concern could arise in an audit environment. The NSRF recommends that the SDT incorporate the newly formed "Implementation Guidance" within this updated Standard to assist entities with this compliance gap of "what types of evidence could we have to assure our internal capabilities are present and operational".

2. The broad nature of the proposed requirements also contributes to a concern with the proposed Violation Severity Levels (VSL) for R12 and R13, where failure to provide evidence for a single method of internal communications could lead to a Severe VSL classification. With additional clarity added to R12 and R13, we recommend the High and Severe VSL classifications be used to address varying degrees of non-compliance, similar to other requirements in this standard.

3. The NSRF questions why GOP is contained in R12 when in part, the last paragraph of the Background Information (page 1) states: "The proposed Requirements address internal Interpersonal Communication capabilities as directed by FERC for Reliability Coordinators, Balancing Authorities, and Transmission Operators in Requirement R12 and for Distribution Providers **and Generator Operators** in Requirement R13". Recommend GOP be removed from R12 and moved to R13.

Document Name:

Likes: 0

Dislikes: 0

Louis Slade - Dominion - Dominion Resources, Inc. - 6 -

Group Information

Group Name: Dominion

Group Member Name	Entity	Region	Segments
Randi Heise	NERC Compliance Policy	NPCC	5,6
Connie Lowe	NERC Compliance Policy	SERC	1,3,5,6
Louis Slade	NERC Compliance Policy	RFC	5,6

Chip Humphrey	Power Generation Compliance	SERC	5
Nancy Ashberry	Power Generation Compliance	RFC	5
Larry Nash	Electric Transmission Compliance	SERC	1,3
Candace L Marshall	Electric Transmission Compliance	SERC	1,3
Larry W Bateman	Transmission Compliance	SERC	1,3
Jeffrey N Bailey	Nuclear Compliance	SERC	5
Russell Deane	Nuclear Compliance	NPCC	5

Voter Information

Voter

Louis Slade

Segment

6

Entity

Dominion - Dominion Resources, Inc.

Region(s)

Selected Answer: Yes

Answer Comment:

While Dominion agrees that the SDT met the directive, and could support the standard as proposed, we have seen comments indicating that many do not. We can't support the language we've seen in those posted comments and therefore offer the following for consideration.

Document Name: NCP draft comments Dominion submitted comments - Project_2015-07_Unofficial_Comment_Form_COM-001-3_Directive_09252015.docx

Likes: 0

Dislikes: 0

Oliver Burke - Entergy - Entergy Services, Inc. - 1 -

Selected Answer: No

Answer Comment: Entergy supports Dominion's comments on R12 and R13.

Document Name:

Likes: 0

Dislikes: 0

John Falsey - Invenergy LLC - 5 - FRCC,MRO,WECC,TRE,NPCC,SERC,SPP,RFC

Selected Answer: No

Answer Comment: Agree with PJM

Comments: Suggest replacing the phrase "*internal communications*" with another phrase such as "*communications between personnel that are not physically co-located.*" This change would ensure that the new requirement(s) applies explicitly and only to internal communications:

- between geographically separate control centers within the same functional entity, or
- between a control center and field personnel.

Document Name:

Likes: 0

Dislikes: 0

Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Richard Hoag - FirstEnergy - FirstEnergy Corporation - 1,3,4,5,6 - RFC

Group Information

Group Name: FE RBB

Group Member Name	Entity	Region	Segments
William Smith	FirstenergyCorp	RFC	1
Cindy Stewart	FirstEnergy Corp.	RFC	3
Doug Hohlbaugh	Ohio Edison	RFC	4
Robert Loy	FirstEnergy Solutions	RFC	5
Richard Hoag	FirstenergyCorp	RFC	NA - Not Applicable
Ann Ivanc	FirstEnergy Solutions	FRCC	6

Voter Information

Voter Richard Hoag **Segment** 1,3,4,5,6

Entity FirstEnergy - FirstEnergy Corporation **Region(s)** RFC

Selected Answer: No

Answer Comment:

FE Supports both PJM's and the ISO/RTO Council Standards Review Committee position.

Suggest replacing the phrase "*internal communications*" with another phrase such as "*communications between personnel that are not physically co-located.*" This change would ensure that the new requirement(s) applies explicitly and only to internal communications:

- between geographically separate control centers within the same functional entity, or
- between a control center and field personnel.

The phrase "*adequacy of internal communications capability*" is ambiguous and needs to be clarified. Is this phrase intended to refer to creation of a requirement that the hardware can adequately handle a conversation, or is it being used in the more generic sense that any new requirement must be adequate to address the two bullet points above?

PJM supports the comments submitted by the ISO/RTO Council Standards Review Committee.

Document Name:

Likes: 0

Dislikes: 0

Patti Metro - National Rural Electric Cooperative Association - 3 -

Selected Answer: No

Answer Comment:

NRECA does not believe the SDT has properly addressed the directive listed within FERC Order No. 808, but has unnecessarily included Generator Operator in requirement R12 and the stand alone R13 for Distribution Providers. R12 should be modified to only include Reliability Coordinators, Balancing Authorities and Transmission Operators and R13 is not necessary

Document Name:

Likes: 0

Dislikes: 0

Chris Gowder - Chris Gowder On Behalf of: Carol Chinn, Florida Municipal Power Agency, 5, 6, 4, 3
David Schumann, Florida Municipal Power Agency, 5, 6, 4, 3
Joe McKinney, Florida Municipal Power Agency, 5, 6, 4, 3
Richard Montgomery, Florida Municipal Power Agency, 5, 6, 4, 3

Error: Subreport could not be shown.

Selected Answer: No

Answer Comment:

FMPA supports the Bureau of Reclamation's comments and believes the proposed revisions go beyond the scope of the FERC directive and what is required for BES reliability by including GOP and DP in the new requirements.

Document Name:

Likes: 0

Dislikes: 0

Scott Langston - Tallahassee Electric (City of Tallahassee, FL) - 1 -

Selected Answer: No

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Jay Barnett - Exxon Mobil - 7 -

Selected Answer: No

Answer Comment:

Internal Interpersonal Communications used solely to communicate within a Facility (i.e. radio communication between operators) are inherent and necessary for the safe and reliable operation of that Facility and should be excluded from COM-001-3 due to the lack of reliability benefit.

Document Name:

Likes: 1 Colorado Springs Utilities, 1, Speer Shawna

Dislikes: 0

Erika Doot - U.S. Bureau of Reclamation - 5 -

Selected Answer: No

Answer Comment:

The Bureau of Reclamation appreciates the drafting team's efforts to address the reliability gap discussed in FERC Order No. 808 P 41 (Apr. 16, 2015) that was created when internal communications addressed in Requirement R1.1 of COM-001-1 were not included in COM-001-2.

As noted in P 41, Requirement R1.1 only applies to Reliability Coordinators, Transmission Operators and Balancing Authorities. However, the proposed changes in COM-001-3 go beyond the scope of FERC Order No. 808 by adding requirements for internal communications for Generator Operators and Distribution Providers. Reclamation suggests that the Generator Operator and Distribution Provider functions should be removed from requirements R12 and R13 proposed for COM-001-3.

Reclamation believes that the proposed requirement for the Reliability Coordinator, Transmission Operator, and Balancing Authority functions fully addresses the reliability gap discussed in Order No. 808, P 41. This suggestion is consistent with FERC's acknowledgement in Order 808 of the lower impact of Generator Operator and Distribution Provider communications on the Bulk-Power System.

Document Name:

Likes: 0

Dislikes: 0

Meghan Ferguson - Meghan Ferguson On Behalf of: Michael Moltane, International Transmission Company Holdings Corporation, 1

Selected Answer: No

Answer Comment:

Reliable operation of the BES requires that generation, transmission, and load operate in synchronism. Communication between and within entities involved in generation, transmission, and distribution is an important element in ensuring reliability. We agree with the inclusion of the GOP and DP entities in the standard. However, we disagree that the VRF associated with the DP is somehow different than for the GOP or the TOP. Load shed is an integral aspect of maintaining reliability and is preferred to be implemented at the distribution level rather than the transmission level to ensure the maximum level of reliability.

Document Name:

Likes: 0

Dislikes: 0

Donald Lock - Talen Generation, LLC - 5 -

Selected Answer: No

Answer Comment:

Talen Energy supports FERC's objective in Order 808, but we believe that COM-001-3 R12 is presently worded so generically that interpretations by entities as to its practical meaning might miss the specific points that FERC emphasized, and might add plant-internal communications that FERC did not intend to cover. We respectfully suggest that, similar to PER-005, only Control Centers should have a compliance obligation for R12. That is, R12 should have a Generator Operator footnote stating, "This requirement applies for Generator Operators only for communications between geographically separate Control Centers and between Control Center operators and field personnel they direct. It does not apply for operators located at a generator plant site."

Document Name:

Likes: 0

Dislikes: 0

Joel Wise - Tennessee Valley Authority - 1,3,5,6 - SERC

Selected Answer: No

Answer Comment:

As noted in FERC Order No. 808 P41, COM-001-1.1 Requirement R1.1 only applied to Reliability Coordinators, Transmission Operators and Balancing Authorities. However, the proposed changes in COM-001-3 go beyond the scope of FERC Order No. 808 by adding requirements for internal communications for Generator Operators. TVA suggests that the Generator Operator function should be removed from requirements R12 proposed for COM-001-3.

Document Name:

Likes: 0

Dislikes: 0

William Temple - William Temple On Behalf of: Mark Holman, PJM Interconnection, L.L.C., 2

Selected Answer: No

Answer Comment:

Suggest replacing the phrase "*internal communications*" with another phrase such as "*communications between personnel that are not physically co-located.*" This change would ensure that the new requirement(s) applies explicitly and only to internal communications:

- between geographically separate control centers within the same functional entity, or
- between a control center and field personnel.

The phrase "*adequacy of internal communications capability*" is ambiguous and needs to be clarified. Is this phrase intended to refer to creation of a requirement that the hardware can adequately handle a conversation, or is it being used in the more generic sense that any new requirement must be adequate to address the two bullet points above?

PJM supports the comments submitted by the ISO/RTO Council Standards Review Committee.

Document Name:

Likes: 0

Dislikes: 0

Bob Thomas - Illinois Municipal Electric Agency - 4 -

Selected Answer: No

Answer Comment:

Illinois Municipal Electric Agency (IMEA) recommends deletion of proposed Requirement 13 since it is not necessary for Reliable Operation of the BES. IMEA questions the necessity of both R12 and R3. IMEA is not aware of any communication of event analysis information indicating the lack of internal Interpersonal Communication capability is an issue, or that the lack of this capability contributed to reduced reliability of the BES. If for some reason R12 is needed, IMEA supports consideration of other survey suggestions. R13 is not needed for reliability of the BES.

Document Name:

Likes: 0

Dislikes: 0

Jason Smith - Southwest Power Pool, Inc. (RTO) - 2 - MRO,WECC,SERC,SPP

Group Information

Group Name: SPP Standards Review Group

Group Member Name	Entity	Region	Segments
Shannon Mickens	Southwest Power Pool	SPP	2
Jason Smith	Southwest Power Pool	SPP	2
John Allen	City Utilities Springfield Missouri	SPP	1,4
Darryl Boggess	Western Farmers Electric Cooperative	SPP	1,5
James Nail	City of Independence, Missouri	SPP	3,5
Ron Gunderson	Nebraska Public Power District	MRO	1,3,5
Brandon Levander	Nebraska Public Power District	MRO	1,3,5
Ashley Stringer	Oklahoma Municipal Power Authority	SPP	4
Don Schmit	Nebraska Public Power District	MRO	1,3,5
Mahmood Safi	Omaha Public Power District	MRO	1,3,5

Scott Williams	City Utilities of Springfield Missouri	SPP	1,4
Amy Casuscelli	Xcel Energy	SPP	1,3,5,6

Voter Information

Voter	Segment
Jason Smith	2
Entity	Region(s)
Southwest Power Pool, Inc. (RTO)	MRO,WECC,SERC,SPP

Selected Answer: No

Answer Comment:

We feel that the wording of the two new measures M12 and M13 introduce several ambiguities. The first is that the Measures seem to attempt to define what “internal” Interpersonal Communication capabilities are. The wording of both measures is inconsistent as well. It seems that demonstration of “capability” is being defined in the Measures as simply providing evidence of a physical asset or evidence that documentation of previous communication was made.

There is also concern that it may not be clear to auditors that the “operating procedures” used to preserve or maintain the capability may not be the procedure or process used by operators sitting at the real-time desk. These processes or procedures may be utilized by support staff such as IT staff that may do things behind the scenes to ensure the capability is maintained.

R12 and R13 may not be applicable to all registered entities mentioned. In some cases, the registered entities may have no need for “internal” communication capability since all of the personnel necessary to perform their functional obligations are in the same room. It seems the SDT intends that this is an acceptable arrangement, but we struggle to understand how internal communication capability can be demonstrated when under an audit but is not necessary for the registered entity to perform its obligations.

We also feel the SDT has exceeded the FERC directive by including the GOP and DP in the applicability of these new requirements and should be eliminated from the applicability of R12 and R13.

We suggest that the SDT consider rewriting R12 and R13 to be explicitly applicable to situations where the single, registered entity (RC, TOP, BA, GOP, DP) is required to have “internal” communication capabilities when it has either or both geographically separated control centers or a need to communicate with field personnel in carrying out its functional responsibilities. This would remove or lessen the burden on the term “internal” being carried by the current wording. The FERC directive seems to be limited to those two specific types of scenarios that were envisioned by the original COM-001-1 language. For example:

R12. Each Reliability Coordinator, Transmission Operator, Generator Operator, and Balancing Authority shall have internal Interpersonal Communication capabilities for the exchange of information that is necessary for the Reliable Operation of the BES *when:*

- *The RC, TOP, GOP, or BA must communicate with its personnel who are residing in geographically separated control centers, or*
- *The RC, TOP, GOP, or BA must communicate with field personnel.*

Perhaps including in the Measure another bullet such as: Evidence could include an analysis of reliability related tasks (as developed for PER-005-2) to be performed by the RC, TOP, BA, GOP, or DP that require use of an internal communication medium. That medium is the internal communication capability that must be demonstrated. Alternatively, a definition of Internal Intercommunication Capability could be created that clarifies when internal communication capabilities are required.

Document Name:

Likes: 0

Dislikes: 0

Scott Berry - Scott Berry On Behalf of: Jack Alvey, Indiana Municipal Power Agency,1, 4

Selected Answer: No

Answer Comment:

In requirement R12, the phrase “*for the exchange of information that is necessary for the Reliable Operation of the BES*” is ambiguous and needs to be clarified. In addition, the requirement needs to specify which parties the RC, TOP, GOP, and BA need internal Interpersonal Communication capabilities with in order to be compliant.

Document Name:

Likes: 0

Dislikes: 0

Dixie Wells - Lower Colorado River Authority - 5 -

Group Information

Group Name: LCRA Compliance

Group Member Name	Entity	Region	Segments
Michael Shaw	LCRA	TRE	6
Teresa Cantwell	LCRA	TRE	1
Dixie Wells	LCRA	TRE	5

Voter Information

Voter **Segment**

Dixie Wells 5

Entity **Region(s)**

Lower Colorado River Authority

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Tammy Porter - Tammy Porter On Behalf of: Rod Kinard, Oncor Electric Delivery,1

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7 - NPCC

Group Information

Group Name: RSC

Group Member Name	Entity	Region	Segments
Paul Malozewski	Hydro One.	NPCC	1
Guy Zito	Northeast Power Coordinating Council	NPCC	NA - Not Applicable
Michael Forte	Con Edison	NPCC	1
Brian Shanahan	National Grid	NPCC	1
Rob Vance	New Brunswick Power	NPCC	1
Robert J. Pellegrini	United Illuminating	NPCC	1
Sylvain Clermont	Hydro Quebec	NPCC	1
Edward Bedder	Orange and Rockland Utilities	NPCC	1
Mark J. Kenny	Eversource Energy	NPCC	1
Gregory A. Campoli	NY-ISO	NPCC	2
Si Truc Phan	Hydro Quebec	NPCC	2
Randy MacDonald	New Brunswick Power	NPCC	2
Kelly Dash	Con Edison	NPCC	3
David Burke	Orange and Rockland Utilities	NPCC	3
Peter Yost	Con Edison	NPCC	4
Wayne Sipperly	New York Power Authority	NPCC	4

Connie Lowe	Dominion Resources Services	NPCC	4
David Ramkalawan	Ontario Power Generation	NPCC	4
Glen Smith	Entergy Services	NPCC	4
Brian O'Boyle	Con Edison	NPCC	5
Brian Robinson	Utility Services	NPCC	5
Bruce Metruck	New York Power Authority	NPCC	6
Alan Adamson	New York State Reliability Council	NPCC	7
Kathleen M. Goodman	ISO-New England	NPCC	2
Helen Lainis	Independent Electricity System Operator	NPCC	2

Voter Information

Voter	Segment
Ruida Shu	1,2,3,4,5,6,7
Entity	Region(s)
Northeast Power Coordinating Council	NPCC

Selected Answer: No

Answer Comment:

Communication with field personnel may be done via cellphones. The Standard should explain that it is sufficient to simply designate cellphone communications as the means to communicate and not require phone lists to be provided.

Does the Standard create an obligation for field personnel to be able to communicate immediately with the control center? For example, a vegetation inspector may see a potential encroachment into a transmission line, but is in a cellphone dead zone. Is being in a dead zone a violation of R13 since the internal Interpersonal Communication Capability was not capable of communicating? There needs to be guidance that dead zones are allowed for field personnel. The Requirement should recognize non-functioning capability.

What constitutes being "geographically separate"? How many miles? Who determines this distance?

We agree with adding these two requirements to address the FERC directive, but we do not support the proposed wording for these requirements.

Requirements R12 and R13 mandate the provision of internal interpersonal communication capabilities within the same entity when performing its reliability function. Without specific wording that such capabilities are only required for communication between geographically separate control centers within the same functional entity, or between a control center and field switching personnel, these requirements can and will result in entities not having physically separated control centers or staff perform its tasks to be non-compliant. The IESO and most of ISOs and RTOs in North America fall into this category.

The Measures for these two requirements do make reference to physically separate control centers or staff in an example for evidence of compliance. However, the specific example only illustrates a way to comply with the requirement. Those entities that do not have physically separated control centers or deploy field staff will not be able to provide such evidence, and hence will fail the two requirements unless they incur in unnecessary expense to install internal interpersonal communication capabilities for communication within the control room, which serves no purpose and adds no value at all.

To address the intent of the FERC directive, which we interpret to be requiring internal interpersonal communication capabilities for physically separated control centers or between control center and field personnel within the same entity, we propose the following revisions to R12 and R13:

“R12. Each Reliability Coordinator, Transmission Operator, Generator Operator, and Balancing Authority shall have internal Interpersonal Communication capabilities for the exchange of information between geographically separate control centers within the same functional entity, or between a control center and field switching personnel, that is necessary for the Reliable Operation of the BES.”

“R13. Each Distribution Provider shall have internal Interpersonal Communication capabilities for the exchange of information between geographically separate control centers within the same functional entity, or between a control center and field switching personnel, that is necessary for the Reliable Operation of the BES.”

Alternatively, these requirements can be rearranged as follows:

“R12. Each Reliability Coordinator, Transmission Operator, Generator Operator, and Balancing Authority shall have internal Interpersonal Communication capabilities between geographically separate control centers within the same functional entity, or between a control center and field switching personnel, for the exchange of information that is necessary for the Reliable Operation of the BES.”

Similar rearrangement for the proposed R13.

Document Name:

Likes: 0

Dislikes: 0

Venona Greaff - Oxy - Occidental Chemical - 7 -

Group Information

Group Name: Oxy

Group Member Name	Entity	Region	Segments
Venona Greaff	Occidental Chemical Corporation	SERC	7
Michelle D'Antuono	Ingleside Cogeneration LP.	TRE	5

Voter Information

Voter **Segment**

Venona Greaff 7

Entity **Region(s)**

Oxy - Occidental Chemical

Selected Answer: No

Answer Comment:

Occidental Chemical Corporation (OCC) believes that the strategy taken by the Standards Drafting Team (SDT) to address FERC's directives is too open ended.

Examples are provided in the associated Measures, but do not expressly limit the expansion in scope to (1) control center-to-control center and (2) control center-to-field personnel information exchange. Since the Commission only required those two additions to the standard, it seems unnecessary to open the door for other communication pathways that may happen to exist.

FERC will see no material difference between two internal TOP Control Centers versus those operated by two separate Registered Entities – both requiring Alternative Interpersonal Communication capability. Comparatively, a Distribution Provider's internal work centers would not need this level of redundancy.

It was not easy for industry to reach consensus on COM-001-2. It took six years to reach the right balance of precision and flexibility needed to specify the Entity-to-Entity information exchange links that are necessary for reliable electric system operations. As such, we propose that the SDT leverage the standard's existing structure to enact FERC's directives. This entails the addition of the two new specific communication pathways as sub-requirements to the existing requirements. As an example, we suggest that R5.5 and R5.6 would be added as shown below:

R5. Each Balancing Authority shall have Interpersonal Communication capability with the following entities (unless the Balancing Authority detects a failure of its Interpersonal Communication capability in which case Requirement R10 shall apply): [Violation Risk Factor: High] [Time Horizon: Real-time Operations]

5.1. Its Reliability Coordinator.

5.2. Each Transmission Operator that operates Facilities within its Balancing Authority Area.

5.3. Each Distribution Provider within its Balancing Authority Area.

5.4. Each Generator Operator that operates Facilities within its Balancing Authority Area.

5.5. Each Adjacent Balancing Authority.

5.6. Each internal control center which operates two or more Facilities within its Balancing Authority Area.

5.7. Field personnel who execute tasks that require element switching as part of that task.

Document Name:

Likes: 0

Dislikes: 0

Michelle D'Antuono - Oxy - Ingleside Cogeneration LP - 5 -

Selected Answer: No

Answer Comment: See Occidental Chemical Corporation's comments.

Document Name:

Likes: 0

Dislikes: 0

Scott McGough - Georgia System Operations Corporation - 3 -

Selected Answer: No

Answer Comment: One of the Measurement bullets is stated as:

“Examples include, but are not limited to, geographically separate control centers within the same functional entity, or between a control center and field personnel”

This Measurement needs to be proofed, as it does not specify a “capability”. It summarizes a condition which seems meant to describe what “internal” might mean – not what constitutes a Communications capability. The Measurement bullet appropriately qualifies “geographically separate control centers” by referring to “within the same functional entity”, and could state the same with regard to “between a control center and field personnel [within the same functional entity]” to reinforce that the requirement is meant to be interpreted to “internal” communications only.

Field personnel may be too vague for registered entities. Perhaps a reference could be made to personnel that operate or maintain Facilities (or some other term from the NERC Glossary).

Finally, because “internal” is not defined, the reference to “Including, but not limited to” may not be appropriate, because it creates an unbounded condition of an undefined term – rather than setting a baseline (i.e., a non-exclusive list) of the types of records or evidence that would demonstrate compliance with a requirement.

Document Name:

Likes: 0

Dislikes: 0

Colby Bellville - Duke Energy - 1,3,5,6 - FRCC,SERC,RFC

Group Information

Group Name: Duke Energy

Group Member Name	Entity	Region	Segments
Doug Hils	Duke Energy	RFC	1
Lee Schuster	Duke Energy	FRCC	3
Dale Goodwine	Duke Energy	SERC	5
Greg Cecil	Duke Energy	RFC	6

Voter Information

Voter	Segment
Colby Bellville	1,3,5,6
Entity	Region(s)
Duke Energy	FRCC,SERC,RFC

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Ben Li - Independent Electricity System Operator - 2 - NPCC

Group Information

Group Name: ISO/RTO Council Standards Review Committee

Group Member Name	Entity	Region	Segments
Charles Yeung	SPP	SPP	2
Greg Campoli	NYISO	NPCC	2
Ali Miremadi	CAISO	WECC	2
Ben Li	IESO	NPCC	2
Kathleen Goodman	ISO-NE	NPCC	2
Mark Holman	PJM	RFC	2
Terry Bilke	MISO	MRO	2

Voter Information

Voter **Segment**

Ben Li 2

Entity **Region(s)**

Independent Electricity System Operator NPCC

Selected Answer: No

Answer Comment:

Although the proposed requirements “address” the stated concerns, the proposals introduce an unneeded level of ambiguity. Please see our comments and suggestions under Q2.

Document Name:

Likes: 0

Dislikes: 0

Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC

Group Information

Group Name: Southern Company

Group Member Name	Entity	Region	Segments
Robert A. Schaffeld	Southern Company Services, Inc.	SERC	1
R. Scott Moore	Alabama Power Company	SERC	3
William D. Shultz	Southern Company Generation	SERC	5
John J. Ciza	Southern Company Generation and Energy Marketing	SERC	6

Voter Information

Voter	Segment
Pamela Hunter	1,3,5,6
Entity	Region(s)
Southern Company - Southern Company Services, Inc.	SERC

Selected Answer:

Answer Comment:

While Southern believes that the proposed requirements are a good attempt by the SDT to address the directive in FERC Order 808, we also believe that the current COM-001-2 standard already implies that the named functions should have Interpersonal Communications capabilities for the exchange of reliability information internally between such functions that are a part of the same organization, but are geographically dispersed. To add additional requirements would be duplicative in nature, would only result in an added administrative burden on the industry and would not substantially contribute to the overall reliability of the system.

Document Name:

Likes: 0

Dislikes: 0

Gerry Adamski - Essential Power, LLC - 5 -

Selected Answer: No

Answer Comment:

Essential Power supports the comments submitted by PJM regarding this proposed standard.

Document Name:

Likes: 0

Dislikes: 0

Richard Vine - California ISO - 2 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Rachel Coyne - Texas Reliability Entity, Inc. - 10 -

Selected Answer: No

Answer Comment:

Although the language in new Requirements 12 and 13 appears to mirror FERC-approved language in other existing COM-001 requirements that certain functions “shall have Interpersonal Communication capability,” the new standards do not incorporate the various provisions throughout the remainder of COM-001 that appear designed to ensure those communication capabilities are also adequate. For example, under the current COM-001-3 requirements for external communications, Transmission Operators (TOPs) are required to maintain Interpersonal Communications capability (R3), as well as Alternative Interpersonal Communication capability with certain functions as a backup (R4). In addition, TOPs are required to test Alternative Interpersonal Communications capability monthly (R9) and notify certain entities of any failure of its Interpersonal Communications capability lasting thirty minutes or longer (R10). Taken together, these additional requirements appear to be designed to ensure that a TOP’s communications capabilities are reliable and adequate, particularly for communications that are necessary for BES reliability.

Texas RE recommends the SDT consider whether in the absence of these additional requirements of Alternative Interpersonal Communications, testing, and notification, Requirements 12 and 13 satisfy FERC’s directive to ensure “adequate” internal communications capability. The SDT could address this issue by either: (1) incorporating appropriate requirements from the existing COM-001 requirements into Requirements 12 and 13; or (2) revising Requirements 12 and 13 to require registered entities to have “adequate” internal Interpersonal Communication capability.

Document Name:

Likes: 0

Dislikes: 0

Elizabeth Axson - Electric Reliability Council of Texas, Inc. - 2 -

Selected Answer: No

Answer Comment:

Comments: ERCOT respectfully suggests that Requirements R12 and R13 are overly broad as written, which could result in ambiguity and subjectivity regarding the communications capabilities that are necessary. While the measures attempt to better bound the expectations, ERCOT suggests that the measure is not the appropriate location for ensuring the clarity of the proposed requirement. To ensure that expectations are clear, concise, and definitive, ERCOT recommends the following revisions to Requirements R12 and R13:

R12. Each Reliability Coordinator, Transmission Operator, Generator Operator, and Balancing Authority shall have internal Interpersonal Communication capabilities to exchange information as necessary to preserve the Reliable Operation of the BES between its:

- Geographically separate control centers
- Geographically separate control centers and field personnel. [Violation Risk Factor: High] [Time Horizon: Real-time Operations]

R13. Each Distribution Provider shall have internal Interpersonal Communication capabilities to exchange information as necessary to preserve the Reliable Operation of the BES between its:

- Geographically separate control centers
- Geographically separate control centers and field personnel. [Violation Risk Factor: Medium] [Time Horizon: Real-time Operations]

Alternatively, ERCOT suggests that requirements R12 and R13 be combined as follows:

R12. Each Reliability Coordinator, Transmission Operator, Generator Operator, Distribution Provider, and Balancing Authority shall internal Interpersonal Communication capabilities to exchange information as necessary to preserve the Reliable Operation of the BES between its:

- Geographically separate control centers
- Geographically separate control centers and field personnel. [Violation Risk Factor: High] [Time Horizon: Real-time Operations]

Document Name: Project_2015-07_Unofficial_Comment_Form_COM-001-3_Directive_09252015_draft from CVB.docx

Likes: 0

Dislikes: 0

Shawna Speer - Colorado Springs Utilities - 1 -

Group Information

Group Name: Colorado Springs Utilities

Group Member Name	Entity	Region	Segments
Shawna Speer	Colorado Springs Utilities	WECC	1
Shannon Fair	Colorado Springs Utilities	WECC	6
Charles Morgan	Colorado Springs Utilities	WECC	3
Kaleb Brimhall	Colorado Springs Utilities	WECC	5

Voter Information

Voter	Segment
Shawna Speer	1
Entity	Region(s)
Colorado Springs Utilities	

Selected Answer: No

Answer Comment:

Colorado Springs Utilities does not see a reliability gap requiring the addition of Requirements R12. and R13. Communication with field personnel is a requirement of conducting business.

Document Name:

Likes: 0

Dislikes: 0

Andrew Puztai - American Transmission Company, LLC - 1 -

Selected Answer: No

Answer Comment:

ATC has the following concerns:(as applicable to Transmiision Operators in Requirement 12) and ask that the SDT consider these in the next draft of Reliability Standard COM-001:

The broad nature of the proposed requirement (**Requirements R12 in the proposed COM-001-3**) allows flexibility for compliance, but creates confusion when identifying evidence requirements. Entities with multiple communication options would have to consider collecting evidence on every available system to ensure they have evidence of communications in various communications system failure scenarios.

The broad nature of the proposed requirements also contributes to a concern with the proposed Violation Severity Levels (VSL) for R12, where failure to provide evidence for a single method of internal communications could lead to a Severe VSL classification.

Document Name:

Likes: 0

Dislikes: 0

Joshua Andersen - Salt River Project - 1,3,5,6 - WECC

Selected Answer: No

Answer Comment:

This language is too vague to properly address the direction from FERC Order No. 808 to include:

(1) communications between geographically separate control centers within the same functional entity;

(2) communications between a control center and field personnel.

While the language in the measures tries to address the two aforementioned items, the measures are not an auditable portion of the standard, and it is recommended the two items be specifically addressed in R12 and R13.

Document Name:

Likes: 0

Dislikes: 0

Brian Van Gheem - ACES Power Marketing - 6 - NA - Not Applicable

Selected Answer: No

Answer Comment:

1) We feel the SDT has not properly addressed the directive listed within FERC Order No. 808. Paragraph 41 of this Order specifically addresses a reliability gap which was created when “internal communications,” which was listed within with the previous standard, COM-001-1.1, was not incorporated into COM-001-2. The previous standard only applied to RCs, TOPs, and BAs. We understand that FERC Order No. 693, Paragraph 508 directed the expansion of the standard’s applicability to include GOPs and DPs. However, we feel that directive was already addressed in COM-001-2. Does a GOP need to demonstrate internal communication capabilities between its operations dispatch or control center and its power plants? We also question if communications with geographically separate operational or control centers applies to DPs. Therefore, we feel the SDT should develop requirements that apply only to RCs, TOPs, and BAs to address the FERC directive. The inclusion of DPs and GOPs go beyond the scope of FERC Order No. 808.

2) The measure of these proposed requirements do not align with other requirements within the standard. While an applicable entity could provide proof of compliance through demonstration of a physical asset or proof of that asset’s use, these requirements expect an entity to include examples of all possible internal communications. How would an entity demonstrate communication between staff physically located within the same room? We recommend embedding the “Examples” criteria listed within the measures of these standards into the language of each proposed requirement.

3) In light of our comments, we propose the SDT consider these two alternatives for the requirements:

a) “Reliability Coordinators, Transmission Operators, and Balancing Authorities, each with geographically separate control centers, shall have Interpersonal Communication capabilities between each separate control center for the exchange of information that is necessary for the Reliable Operation of the BES.”

b) “Each Balancing Authority and Transmission Operator shall have Interpersonal Communication capabilities with their field switching personnel for the exchange of information that is necessary for the Reliable Operation of the BES.”

Document Name:

Likes: 0

Dislikes: 0

2. *If you have any other comments on the proposed COM-001-3 that you haven't already mentioned above, please provide them here.*

John Fontenot - Bryan Texas Utilities - 1 -

Selected Answer:

Answer Comment:

n/a

Document Name:

Likes: 0

Dislikes: 0

John Fontenot - Bryan Texas Utilities - 1 -

Selected Answer:

Answer Comment:

na

Document Name:

Likes: 0

Dislikes: 0

John Fontenot - Bryan Texas Utilities - 1 -

Selected Answer:

Answer Comment:

na

Document Name:

Likes: 0

Dislikes: 0

Leonard Kula - Independent Electricity System Operator - 2 -

Selected Answer:

Answer Comment:

Communication capabilities are the basic “tools” needed for applicable entities to perform their functions. As such, they are more suited for inclusion in the Organization Certification requirements, not Reliability standards which are intended to drive the right behavior to mitigate specific risks or achieve specific reliability outcomes. We urge the SDT and NERC to consider moving the proposed additional requirements and/or the entire COM-001 to Organization Certification Requirements.

Document Name:

Likes: 1 Tallahassee Electric (City of Tallahassee, FL), 5, Webb Karen

Dislikes: 0

Jim McDougal - Public Utility District No. 1 of Snohomish County - 4 - WECC

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

John Williams - Tallahassee Electric (City of Tallahassee, FL) - 3 -

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Tom Haire - Rutherford EMC - 3 -

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Scott Williams - City Utilities of Springfield, Missouri - 3 -

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Karen Webb - Tallahassee Electric (City of Tallahassee, FL) - 5 -

Selected Answer:

Answer Comment: Please see social survey

Document Name:

Likes: 0

Dislikes: 0

William Hutchison - Southern Illinois Power Cooperative - 1 -

Selected Answer:

Answer Comment:

None

Document Name:

Likes: 0

Dislikes: 0

Joe O'Brien - NiSource - Northern Indiana Public Service Co. - 6 -

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Thomas Foltz - AEP - 5 -

Selected Answer:

Answer Comment:

While AEP is supportive of the overall efforts of this project team, AEP has chosen to vote negative due to our concerns regarding R12 and R13. As stated previously, while R3 is specific in regards to whom the communication capabilities are to be had *with*, R12 and R13 provide that specificity only within the Measure and not the Requirement.

Document Name:

Likes: 0

Dislikes: 0

Matthew Beilfuss - WEC Energy Group, Inc. - 3,4,5,6 - RFC

Selected Answer:

Answer Comment:

R12 and R13 as written do not meet the tenants of a results based standard. Specifically they do not focus on required actions or results (the "what"), but rather focus on the methods by which to accomplish actions or results (the "how"). Results based standards require "each requirement to identify a clear and measurable expected outcome, such as: a) a stated level of reliability performance, b) a reduction in a specified reliability risk (prevention), or c) a necessary competency."

It is difficult to contemplate a situation where a functional entity would be meeting existing reliability standards **and not** have an internal Interpersonal Communication capability between control centers or to field personnel necessary for the Reliable Operation of the BES. The existing standards are the measures of entities Reliable Operation of the BES, not the existence of an internal communications capability. The activity required as part of the R12 and R13 is the documentation associated with the measure. As such, both requirements as written qualify under Paragraph 81 Criterion:

A. Overarching Criterion: "The Reliability Standard requirement requires responsible entities ("entities") to conduct an activity or task that does little, if anything, to benefit or protect the reliable operation of the BES."

B1. Administrative: "The Reliability Standard requirement requires responsible entities to perform a function that is administrative in nature, does not support reliability and is needlessly burdensome." In the case of R12 and R13 the requirement is purely documentation, having something in line with the measures.

B3. Documentation: "The Reliability Standard requirement requires responsible entities to develop a document (e.g., plan, policy or procedure) which is not necessary to protect BES reliability. This criterion is designed to identify requirements that require the development of a document that is unrelated to reliability or has no performance or results-based function. In other words, the document is required, but no execution of a reliability activity or task is associated with or required by the document.

Document Name:

Likes: 0

Dislikes: 0

Emily Rousseau - MRO - 1,2,3,4,5,6 - MRO

[Group Information](#)

Group Name: MRO-NERC Standards Review Forum (NSRF)

Group Member Name	Entity	Region	Segments
Joe Depoorter	Madison Gas & Electric	MRO	3,4,5,6
Chuck Lawrence	American Transmission Company	MRO	1
Chuck Wicklund	Otter Tail Power Company	MRO	1,3,5
Theresa Allard	Minnkota Power Cooperative, Inc	MRO	1,3,5,6
Dave Rudolph	Basin Electric Power Cooperative	MRO	1,3,5,6
Kayleigh Wilkerson	Lincoln Electric System	MRO	1,3,5,6
Jodi Jenson	Western Area Power Administration	MRO	1,6
Larry Heckert	Alliant Energy	MRO	4
Mahmood Safi	Omaha Public Utility District	MRO	1,3,5,6
Shannon Weaver	Midwest ISO Inc.	MRO	2
Mike Brytowski	Great River Energy	MRO	1,3,5,6
Brad Perrett	Minnesota Power	MRO	1,5
Scott Nickels	Rochester Public Utilities	MRO	4
Terry Harbour	MidAmerican Energy Company	MRO	1,3,5,6
Tom Breene	Wisconsin Public Service Corporation	MRO	3,4,5,6
Tony Eddleman	Nebraska Public Power District	MRO	1,3,5
Amy Casucelli	Xcel Energy	MRO	1,3,5,6

Voter Information

Voter	Segment
Emily Rousseau	1,2,3,4,5,6
Entity	Region(s)
MRO	MRO

Selected Answer:

Answer Comment:

Measure M9 in COM-001-2 contains guidance (also included in RSAW guidance) pertaining to evidence requirements for R9 that conflict with the R9 requirement scope. Recommend that conflicting guidance be deleted or clarified to indicate that one applicable entity can be contacted to verify that an entity's Alternative Interpersonal Communication capability works. Requiring each entity to contact all other entities is redundant and wasteful under the Paragraph 81 concepts. Since COM-001-2 or COM-001-3 R9 doesn't state that "each" Alternative Interpersonal Communication capability path will be tested with "each" identified entity, then testing one Alternative Interpersonal Communication capability is acceptable under the R9 requirement scope. NERC auditors should not expand the scope of a requirement through measures or through the RSAW process.

Document Name:

Likes: 0

Dislikes: 0

Louis Slade - Dominion - Dominion Resources, Inc. - 6 -

Group Information

Group Name: Dominion

Group Member Name	Entity	Region	Segments
Randi Heise	NERC Compliance Policy	NPCC	5,6
Connie Lowe	NERC Compliance Policy	SERC	1,3,5,6
Louis Slade	NERC Compliance Policy	RFC	5,6
Chip Humphrey	Power Generation Compliance	SERC	5
Nancy Ashberry	Power Generation Compliance	RFC	5
Larry Nash	Electric Transmission Compliance	SERC	1,3
Candace L Marshall	Electric Transmission Compliance	SERC	1,3
Larry W Bateman	Transmission Compliance	SERC	1,3
Jeffrey N Bailey	Nuclear Compliance	SERC	5
Russell Deane	Nuclear Compliance	NPCC	5

Voter Information

Voter **Segment**

Louis Slade 6

Entity **Region(s)**

Dominion - Dominion Resources, Inc.

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Oliver Burke - Entergy - Entergy Services, Inc. - 1 -

Selected Answer:

Answer Comment:

Entergy has no additional comments.

Document Name:

Likes: 0

Dislikes: 0

John Falsey - Invenergy LLC - 5 - FRCC,MRO,WECC,TRE,NPCC,SERC,SPP,RFC

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Richard Hoag - FirstEnergy - FirstEnergy Corporation - 1,3,4,5,6 - RFC

Group Information

Group Name: FE RBB

Group Member Name	Entity	Region	Segments
William Smith	FirstenergyCorp	RFC	1
Cindy Stewart	FirstEnergy Corp.	RFC	3
Doug Hohlbaugh	Ohio Edison	RFC	4
Robert Loy	FirstEnergy Solutions	RFC	5
Richard Hoag	FirstenergyCorp	RFC	NA - Not Applicable
Ann Ivanc	FirstEnergy Solutions	FRCC	6

Voter Information

Voter	Segment
Richard Hoag	1,3,4,5,6

Entity	Region(s)
FirstEnergy - FirstEnergy Corporation	RFC

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Patti Metro - National Rural Electric Cooperative Association - 3 -

Selected Answer:

Answer Comment:

The following are comments about how the term “capability” is used in the relationship of the term in the Requirements and the Measurement for R12 and R13:

- The Requirement and Measurement establish that the registered entity must have internal Interpersonal Communications “capability”. The Measurement bullet reading “Examples include, but are not limited to, between geographically separate control centers within the same functional entity, or between a control center and field switching personnel” does not specify a “capability. It summarizes a condition which seems meant to describe what “internal” might mean. It does not appear to constitute a Communications capability.
- The Measurement bullet appropriately qualifies “geographically separate control centers” by referring to “within the same functional entity”. Suggest modifying the requirements to state the same with regard to “between a control center and field personnel [within the same functional entity]” to reinforce that the requirement is meant to be interpreted to “internal” communications only.

Assuming that R12 and R13 are modified because of the overreach of including the Generator Operators and Distribution Providers the following revised R12 is provided for consideration:

- R12 - Reliability Coordinators, Transmission Operators, and Balancing Authorities, each with geographically separate control centers, shall have Interpersonal Communication capabilities between each separate control center and with their field switching personnel for the exchange of information that is necessary for the Reliable Operation of the BES.

R12 and R13 are vague because “internal” is not clearly defined, therefore, the reference to “Including, but not limited to” may not be appropriate, because it creates an unbounded condition of an undefined term. A list of the types of records or evidence that would demonstrate compliance with a requirement should be included in the measure.

The six-month implementation time frame is not adequate to incorporate the infrastructure needed to demonstrate compliance with this standard which may include conducting training, developing procedures with internal controls and possibly installation of new equipment to monitoring capability. Suggest modifying the implementation to 12 to 18 months.

It is unclear whether it is necessary to demonstrate internal communication capabilities between control center and power plants. If it is necessary, it should be stated as such in the requirements.

An explanation of what constitutes an “Alternative Interpersonal Communication” is required. It is unclear whether this form of communication is a “different medium” or a “different infrastructure”.

Document Name:

Likes: 0

Dislikes: 0

Chris Gowder - Chris Gowder On Behalf of: Carol Chinn, Florida Municipal Power Agency, 5, 6, 4, 3
David Schumann, Florida Municipal Power Agency, 5, 6, 4, 3
Joe McKinney, Florida Municipal Power Agency, 5, 6, 4, 3
Richard Montgomery, Florida Municipal Power Agency, 5, 6, 4, 3

Error: Subreport could not be shown.

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Scott Langston - Tallahassee Electric (City of Tallahassee, FL) - 1 -

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Jay Barnett - Exxon Mobil - 7 -

Selected Answer:

Answer Comment:

No other comment.

Document Name:

Likes: 0

Dislikes: 0

Erika Doot - U.S. Bureau of Reclamation - 5 -

Selected Answer:

Answer Comment:

Reclamation suggests that the drafting team develop a guidelines and technical basis section to clarify the scope of evidence required under normal and communications failure scenarios. Reclamation notes that the broad nature of Requirements R12 and R13 allows flexibility for compliance, but also creates confusion when identifying evidence requirements. Registered entities with multiple communication options would have to consider collecting evidence on all of them to ensure they have evidence of communication capability in various communications system failure scenarios. While this may not be the intent of the drafting team, this concern could arise in an audit environment, and could be mitigated by a clarifying guidelines and technical basis section.

Document Name:

Likes: 0

Dislikes: 0

Meghan Ferguson - Meghan Ferguson On Behalf of: Michael Moltane, International Transmission Company Holdings Corporation, 1

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Donald Lock - Talen Generation, LLC - 5 -

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Joel Wise - Tennessee Valley Authority - 1,3,5,6 - SERC

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

William Temple - William Temple On Behalf of: Mark Holman, PJM Interconnection, L.L.C., 2

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Bob Thomas - Illinois Municipal Electric Agency - 4 -

Selected Answer:

Answer Comment: NA

Document Name:

Likes: 0

Dislikes: 0

Jason Smith - Southwest Power Pool, Inc. (RTO) - 2 - MRO,WECC,SERC,SPP

Group Information

Group Name: SPP Standards Review Group

Group Member Name	Entity	Region	Segments
Shannon Mickens	Southwest Power Pool	SPP	2
Jason Smith	Southwest Power Pool	SPP	2
John Allen	City Utilities Springfield Missouri	SPP	1,4
Darryl Boggess	Western Farmers Electric Cooperative	SPP	1,5
James Nail	City of Independence, Missouri	SPP	3,5
Ron Gunderson	Nebraska Public Power District	MRO	1,3,5
Brandon Levander	Nebraska Public Power District	MRO	1,3,5
Ashley Stringer	Oklahoma Muncipal Power Authority	SPP	4
Don Schmit	Nebraska Public Power District	MRO	1,3,5
Mahmood Safi	Omaha Public Power District	MRO	1,3,5
Scott Williams	City Utilities of Springfield Missouri	SPP	1,4
Amy Casuscelli	Xcel Energy	SPP	1,3,5,6

Voter Information

Voter

Jason Smith

Segment

2

Entity

Southwest Power Pool, Inc. (RTO)

Region(s)

MRO,WECC,SERC,SPP

Selected Answer:**Answer Comment:****Document Name:****Likes:** 0**Dislikes:** 0**Scott Berry - Scott Berry On Behalf of: Jack Alvey, Indiana Municipal Power Agency, 1, 4****Selected Answer:****Answer Comment:****Document Name:****Likes:** 0**Dislikes:** 0**Dixie Wells - Lower Colorado River Authority - 5 -****Group Information**

Group Name: LCRA Compliance

Group Member Name	Entity	Region	Segments
Michael Shaw	LCRA	TRE	6
Teresa Cantwell	LCRA	TRE	1
Dixie Wells	LCRA	TRE	5

Voter Information

Voter	Segment
Entity	Region(s)
Dixie Wells	5
Lower Colorado River Authority	

Selected Answer:

Answer Comment:

In Order No. 808, P 38, ITC comments that when communications are handled between functional entities within the same organization “face-to-face,” that the requirements in COM-001-2 would not apply. While not a directive, in Order No. 808, P 40, the Commission states “requirements concerning Alternative Interpersonal Communication only apply when those communications are performed by means other than direct, face-to-face situations.” For multi-registered entities that communicate face-to-face, we feel the standard should address those situations.

Additionally, while version 3 is being drafted, we feel the SDT should also review the associated RSAW. Most notably under the “Evidence Requested” section of R9, it appears to require that entities must test their Alternative Interpersonal Communication capability with all applicable entities under R2, R4, or R6 respectively. The requirement only states that the entity must test their Alternative Interpersonal Communication capability at least once per calendar month and the measure clarifies the testing to “its Alternative Interpersonal Communication capability designated in Requirements R2, R4, or R6.”

Document Name:

Likes: 0

Dislikes: 0

Tammy Porter - Tammy Porter On Behalf of: Rod Kinard, Oncor Electric Delivery,1

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7 - NPCC

Group Information

Group Name: RSC

Group Member Name	Entity	Region	Segments
Paul Malozewski	Hydro One.	NPCC	1
Guy Zito	Northeast Power Coordinating Council	NPCC	NA - Not Applicable
Michael Forte	Con Edison	NPCC	1
Brian Shanahan	National Grid	NPCC	1
Rob Vance	New Brunswick Power	NPCC	1
Robert J. Pellegrini	United Illuminating	NPCC	1
Sylvain Clermont	Hydro Quebec	NPCC	1
Edward Bedder	Orange and Rockland Utilities	NPCC	1
Mark J. Kenny	Eversource Energy	NPCC	1
Gregory A. Campoli	NY-ISO	NPCC	2
Si Truc Phan	Hydro Quebec	NPCC	2
Randy MacDonald	New Brunswick Power	NPCC	2
Kelly Dash	Con Edison	NPCC	3
David Burke	Orange and Rockland Utilities	NPCC	3
Peter Yost	Con Edison	NPCC	4
Wayne Sipperly	New York Power Authority	NPCC	4

Connie Lowe	Dominion Resources Services	NPCC	4
David Ramkalawan	Ontario Power Generation	NPCC	4
Glen Smith	Entergy Services	NPCC	4
Brian O'Boyle	Con Edison	NPCC	5
Brian Robinson	Utility Services	NPCC	5
Bruce Metruck	New York Power Authority	NPCC	6
Alan Adamson	New York State Reliability Council	NPCC	7
Kathleen M. Goodman	ISO-New England	NPCC	2
Helen Lainis	Independent Electricity System Operator	NPCC	2

Voter Information

Voter	Segment
Ruida Shu	1,2,3,4,5,6,7
Entity	Region(s)
Northeast Power Coordinating Council	NPCC

Selected Answer:

Answer Comment:

Suggest a Guidelines and Technical Basis Section be added in COM-001-3 to address the following:

A guideline and technical basis or specific Requirement language for Requirements R12 and R13 to explain and incorporate the FERC Directive that the concern is communication between “(1) communications between geographically separate control centers within the same functional entity; and (2) communications between a control center and field personnel.”

This Standard requires that an Entity establishes the *capability* to exchange information. The Standard intentionally requires the *capability* for Interpersonal Communication and not the *ability* for engaging in Interpersonal Communication. Capability represents only a potential to engage in communication. By using the word capability the Standard allows for the communication medium to be non-functioning from time to time.

Interpersonal Communication is defined in the NERC Glossary as “Any medium that allows two or more individuals to interact, consult, or exchange information.” There is no restriction on the types of medium that can be used. Common types are phone system, wireless, radio, written (paper and electronic) and in-person.

For R1 thru R8 the Interpersonal Communication capability is established between functional entities and not based on corporate affiliation. For example if Company A is registered as a TOP and RC. The TOP function and RC function operate from different rooms in the same building. Then Interpersonal Communication capability is required and an alternate Interpersonal Communication capability is designated.

The Standard does not require that Interpersonal Communication capability is functioning 100% of the time. When the primary Interpersonal Communication capability fails the entity switches to the designated alternate Interpersonal Communication capability with recognition that there will be a point in time when no designated capability is available.

This Standard does not require the bailout of a specific type of communication infrastructure.

Communication capabilities are the basic “tools” needed for applicable entities to perform their functions. As such, they are more suited for inclusion in the Organization Certification requirements, not Reliability standards which are intended to drive the right behavior to mitigate specific risks or achieve specific reliability outcomes. We urge the SDT and NERC to consider moving the proposed additional requirements and/or the entire COM-001 to Organization Certification Requirements.

Please provide a Guidance Section with the following wording and provide the answers to the following questions:

QUESTION: An open question under this proposed standard is whether both alternate technologies AND alternate forms of communications can serve as back-up?

Same Type - That is, can alternate technology substitute voice for voice; i.e.,

digital phone Voice Over IP (VOIP) is a viable alternative for dedicated analog lane lines or light-pipe lines?

QUESTION: May we assume that an acceptable Alternative Interpersonal Communications capability is not necessarily the same type in the form of an alternate technology?

May a different types of communications serve as back-up; i.e., can cell phone voice be used as a substitute for or be backed-up by internet-based e-mail communications?

We suggest that the SDT, for the sake of clarification, add a Technical and Guidance Section of the Standard. For example, add the following suggested wording:

Guidance Section

Requirement R4:

Same Type, Different Technologies- Alternative Interpersonal Communication capabilities are many and evolving with the changing technology. Current examples of viable Alternative Interpersonal Communication capabilities could include digital phone (Voice Over IP), Satellite phone, and/or a Cell Phone network that could individually or collectively serve as a viable alternate/back-up for a dedicated landline fiber-optics voice connection.

Different Types, Different Technologies- A viable Alternative Interpersonal Communication capability for a dedicated direct-digital computer communications protocol might include internet-based e-mail communications. Different types and technologies may be mixed in communicating with different entities. GOP back-up could be cell phone, while the RC back-up could be e-mail.

Requirement R9 – Each Reliability Coordinator, Transmission Operator, and Balancing Authority must test its Alternative Interpersonal Communication capability at least once each calendar month. If the test is unsuccessful, the responsible entity must initiate action to repair or designate a replacement Alternative Interpersonal Communication capability within **2 hours**.

QUESTIONS:

• Is the expectation that the repair be “initiated” within two (2) hours and is this realistic?

• What is “initiate action to repair?” If the system operator sends an e-mail repair request to IT, is that sufficient to “initiate action to repair?”

• If action cannot be initiated within two (2) hours, is this a reportable event?

• What happens if the system operator must take other specific actions to follow an RC or TOP reliability directive, e.g., to protect system reliability, then does the entity get an exception, a free “pass,” on the two (2) hour requirement?

• Would the SDT accept a longer initiation time, e.g., four (4) hours?

• Would the SDT accept an exception clause for reliability directives and system emergencies, i.e., add the wording to R9 “... initiate action to repair within 2 hours, except during a declared system emergency or unless required to follow RC, BA or TOP directive(s) to protect, maintain or restore system reliability.”

There is an error in the R9 and R10 VSL table that has been carried over from the COM-001-2 version. In the R9 Lower VSL column , it states “...but failed to initiate action to repair or designate a replacement Alternative Interpersonal Communication in more than 2 hours and less than or equal to 4 hours upon an unsuccessful test”. The RC, TOP, BA did not fail to initiate the action, they did the action, but not within the time required. The VSL should be rephrased to remove the word “failed”. The same comment applies to R9 Moderate, High and Severe VSL.

A similar comment applies to the R10 VSL. The RC, TOP and BA did not fail to notify the entities identified in R1, R3 and R5, they did it, just not in the time required. It should read “...notified the entities in R1, R3 and R5 respectively upon detection of a failure of its Interpersonal Communication capability, but in a delay of more than 60 minutes and less than or equal to 70 minutes). The same comment applies to R10 Moderate, High and Severe VSL.

Document Name:

Likes: 0

Dislikes: 0

Venona Greaff - Oxy - Occidental Chemical - 7 -

Group Information

Group Name: Oxy

Group Member Name	Entity	Region	Segments
Venona Greaff	Occidental Chemical Corporation	SERC	7
Michelle D'Antuono	Ingleside Cogeneration LP.	TRE	5

Voter Information

Voter **Segment**

Venona Greaff 7

Entity **Region(s)**

Oxy - Occidental Chemical

Selected Answer:

Answer Comment:

OCC does not agree that the statutory term “Reliable Operation”, which relates to the Bulk Power System, should be used in the context of requirements applicable to the Bulk Electric System. They are not the same and are inconsistent with the principles of clarity that are fundamental to reliability compliance oversight.

Additionally, OCC believes that the proposed new requirements apply to two individuals located in the same work center. Registered Entities with a large multi-function work center may choose to include those forms of communication, but that should be their choice. However, M12 and M13 leave open the possibility that CEA’s will be second-guessing the Operating Entity’s choice of applicable communications – which we do not believe is the SDT’s intent.

Document Name:

Likes: 0

Dislikes: 0

Michelle D'Antuono - Oxy - Ingleside Cogeneration LP - 5 -

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Scott McGough - Georgia System Operations Corporation - 3 -

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Colby Bellville - Duke Energy - 1,3,5,6 - FRCC,SERC,RFC

Group Information

Group Name: Duke Energy

Group Member Name	Entity	Region	Segments
Doug Hils	Duke Energy	RFC	1
Lee Schuster	Duke Energy	FRCC	3
Dale Goodwine	Duke Energy	SERC	5
Greg Cecil	Duke Energy	RFC	6

Voter Information

Voter

Segment

Colby Bellville

1,3,5,6

Entity

Region(s)

Duke Energy

FRCC,SERC,RFC

Selected Answer:

Answer Comment:

Duke Energy requests confirmation from the drafting team that the intent of this standard is to address only that an entity have the capabilities to exchange information that is necessary for the Reliable Operation of the BES, and not individual instances where field personnel may lose communication capability depending on geographic situation. For example, an entity may have the physical capability (via SAT Phone, etc) to communicate with field personnel, but said field personnel enters into an area where communication is limited based on mountainous terrain. It is our interpretation that this momentary interruption is not an instance of non-compliance, and that as long as a permanent capability to communicate exists (existence of the SAT phone), the entity would be considered compliant. Is this interpretation accurate?

Duke Energy suggests the removal of the term “switching” from the phrase “field switching personnel” found in the measure of both requirements. We feel that the removal of the term promotes greater flexibility for entity interpretation, and more closely aligns with the language that exists in FERC Order 808.

Duke Energy recommends the drafting team consider the following term and definition to be used in place of “internal Interpersonal Communication”:

Intrapersonal Communication:

Any medium that allows two or more individuals to interact, consult, or exchange information within the same functional entity or between a control center and field personnel.

We feel that this definition fits the context with which the drafting team was intending, and helps bring clarity to an area that may be considered confusing to some in the industry.

Document Name:

Likes: 0

Dislikes: 0

Ben Li - Independent Electricity System Operator - 2 - NPCC

Group Information

Group Name: ISO/RTO Council Standards Review Committee

Group Member Name	Entity	Region	Segments
Charles Yeung	SPP	SPP	2
Greg Campoli	NYISO	NPCC	2
Ali Miremadi	CAISO	WECC	2
Ben Li	IESO	NPCC	2
Kathleen Goodman	ISO-NE	NPCC	2
Mark Holman	PJM	RFC	2
Terry Bilke	MISO	MRO	2

Voter Information

Voter	Segment
Ben Li	2
Entity	Region(s)
Independent Electricity System Operator	NPCC

Selected Answer:

Answer Comment:

The SRC recommends:

- that the SDT offer the Industry the option (and FERC the alternative) to make this capability a certification requirement rather than a relativity standard requirement that the SDT
- the phrase “information that is necessary for the reliable operation of the BES” be replaced by “Operating Instructions.” The phrase “necessary for reliable operation of the BES” is unnecessary; not addressed in the measures; and creates unneeded ambiguity.
- the SDT revise Requirements 12 & 13 to clarify what “internal” communications means so that the Requirements are clear about the applicability of these requirements. This issue could be addressed by moving the language from the 3rd bullet of Measures 12 & 13 which reads – “Geographically separate control centers within the same functional entity” – into the Requirements such that R12 and R13 will read:

R12. Each Reliability Coordinator, Transmission Operator, Generator Operator, and Balancing Authority shall have internal Interpersonal Communication capabilities for the exchange of information between geographically separate control centers within the same functional entity that is necessary for the Reliable Operation of the BES.

R13. Each Distribution Provider shall have internal Interpersonal Communication capabilities for the exchange of information between geographically separate control centers within the same functional entity that is necessary for the Reliable Operation of the BES.

The 3rd bullet of Measures M12 & M13 needs to be deleted or corrected. The “example” provided in the 3rd bullet does not given an example of communications “capability”. It provides an illustration of what “internal” means, and as noted above, that should be in the Requirement itself.

- If the 3rd bullet of Measures M12 & M13 is kept, then fixing the bullet so that the references to communications between a control center and field switching personnel refer to such communications as occurring within the same Registered Entity (i.e., “internal”).
- If the 3rd bullet in Measures M12 and M13 are kept, clarify the references to “field switching personnel” by including a reference to the NERC Glossary, so that the Measures are not relying on an undefined term. Perhaps the Measures could refer to “personnel that operate or maintain Facilities” (or some other term from the NERC Glossary).

Document Name:

Likes: 0

Dislikes: 0

Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC

Group Information

Group Name: Southern Company

Group Member Name	Entity	Region	Segments
Robert A. Schaffeld	Southern Company Services, Inc.	SERC	1
R. Scott Moore	Alabama Power Company	SERC	3
William D. Shultz	Southern Company Generation	SERC	5
John J. Ciza	Southern Company Generation and Energy Marketing	SERC	6

Voter Information

Voter	Segment
Pamela Hunter	1,3,5,6

Entity	Region(s)
Southern Company - Southern Company Services, Inc.	SERC

Selected Answer:

Answer Comment:

Southern recommends that the proposed requirements be modified as follows:

R12. Each Reliability Coordinator, Transmission Operator, and Balancing Authority that identifies the need to exchange information necessary for the Reliable Operation of the BES between geographically separate control centers within the same functional entity, or between a control center and field switching personnel shall have Interpersonal Communication capability addressing how this information is to be exchanged.

R13. Each Distribution Provider and Generator Operator that identifies the need to exchange information necessary for the Reliable Operation of the BES between geographically separate control centers within the same functional entity, or between a control center and field switching personnel shall have Interpersonal Communication capability addressing how this information is to be exchanged.

Document Name:

Likes: 0

Dislikes: 0

Gerry Adamski - Essential Power, LLC - 5 -

Selected Answer:

Answer Comment:

Essential Power supports the comments submitted by PJM regarding this proposed standard.

Document Name:

Likes: 0

Dislikes: 0

Richard Vine - California ISO - 2 -

Selected Answer:

Answer Comment:

The California ISO suggests that the drafting team consider removing the R5.3 requirement for interpersonal communications between the Balancing Authority (BA) and Distribution Provider (DP) since this relationship doesn't always occur in practice. In particular, in the ISO's Balancing Authority Area communications with the Distribution Provider would occur through the Transmission Operator function, and as such there is no need for Interpersonal Communication between the BA and DP.

This same reasoning might apply to requirement R7.1 as well.

Document Name:

Likes: 0

Dislikes: 0

Rachel Coyne - Texas Reliability Entity, Inc. - 10 -

Selected Answer:

Answer Comment:

Texas RE is still concerned about the use of the term Transmission Operator Area (which appears in R3.2, R3.3, R3.4, R4.2, and M4) and what that may introduce in terms of a responsible entity obligations. Please see Texas RE's comments submitted for the Initial Ballot of Project 2007-06.2. While those requirements are not within the scope of this Standard Authorization Request, Texas RE is concerned there will be misunderstandings regarding the applicability of other requirements due to the use of the term.

Texas RE noticed the third bullet point in both Measure 12 (M12) and Measure 13 (M13) does not follow the same pattern as the previous two bullets. Texas RE recommends eliminating the third bullet in both M12 and M13 or, alternatively, move them into the language of the Requirements themselves.

M12 lists types of evidence that a Reliability Coordinator, Transmission Operator, Generation Operator, and Balancing Authority "shall have and provide upon request," including evidence of "physical assets" or "dated evidence, such as equipment specifications and installation documentation, operating procedures, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications." M13 contains identical language regarding forms of evidence for Distribution Providers.

In contrast to these evidentiary examples, the third bullet point in M12 and M13 does not list types of evidence necessary to demonstrate compliance. Rather, it lists two examples, presumably taken from FERC Order No. 808, of situations in which internal Interpersonal Communication capability for the exchange of information could be necessary for the reliable operation of the Bulk Electric System (BES). As such, it is confusing to include these elements in the list of evidence Registered Entities should retain to demonstrate compliance with Requirements 12 and 13.

To address this, Texas RE recommends eliminating the third bullet point in M12 and M13. In the alternative, the third point in these two measures should be moved to the text of Requirements 12 and 13, as well as clarified such that it refers to examples of situations in which adequate internal Interpersonal Communications are necessary for the reliable operation of the BES by revising it to read as follows: "Examples of situations in which the exchange of information could be necessary for the Reliable Operation of the BES include, but are not limited to, communications between geographically separate control centers within the same functional entity, or between a control center and field switching personnel."

Likes: 0

Dislikes: 0

Elizabeth Axson - Electric Reliability Council of Texas, Inc. - 2 -

Selected Answer:

Answer Comment:

Comments: ERCOT proposes the above revisions to the proposed requirements to ensure that there is clarity regarding the expectations and to allow those entities that are most familiar with their operating configuration to identify, determine, and establish the Interpersonal Communication capabilities that are most appropriate for its structure and operating characteristics. Without clarity and the ability of entities to identify what communications capabilities best facilitate its operations, it is possible that significant cost and ongoing maintenance will be expended with little or no benefit to reliability.

Document Name:

Likes: 0

Dislikes: 0

Shawna Speer - Colorado Springs Utilities - 1 -

Group Information

Group Name: Colorado Springs Utilities

Group Member Name	Entity	Region	Segments
Shawna Speer	Colorado Springs Utilities	WECC	1
Shannon Fair	Colorado Springs Utilities	WECC	6
Charles Morgan	Colorado Springs Utilities	WECC	3
Kaleb Brimhall	Colorado Springs Utilities	WECC	5

Voter Information

Voter	Segment
Shawna Speer	1
Entity	Region(s)
Colorado Springs Utilities	

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Andrew Puztai - American Transmission Company, LLC - 1 -

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Joshua Andersen - Salt River Project - 1,3,5,6 - WECC

Selected Answer:

Answer Comment: None

Document Name:

Likes: 0

Dislikes: 0

Brian Van Gheem - ACES Power Marketing - 6 - NA - Not Applicable

Selected Answer:

Answer Comment:

- 1) We are concerned that the changes proposed in Reliability Standard COM-001-3 are too vague and provide a wide range of interpretations for auditors. We feel the SDT's approach to addressing the FERC Order No. 808 directive could be handled through modification of existing requirements.
- 2) The VSLs for Requirements R12 and R13 currently have only a Severe VSL identified. We believe the VSL criteria for these requirements should focus less on the ability to possess Interpersonal Communication capabilities and more on how they will be used within a specific timeframe. We feel this shift would move these requirements more towards human performance improvements and situational awareness for System Operators and supporting staff.
- 3) We feel the six-month time frame listed within the implementation plan is too short for smaller entities, like DPs, to incorporate the infrastructure needed to demonstrate compliance with this standard. We recommend a 18-month time frame to better prepare all entities, as this allow entities time to budget and allocate resources that support the documentation of internal communications.
- 4) We thank you for this opportunity to comment on this standard.

Document Name:

Likes: 0

Dislikes: 0

Unofficial Comment Form

Project 2015-07 Internal Communications Capabilities

COM-001-3

DO NOT use this form for submitting comments. Use the [electronic form](#) to submit comments on the proposed **COM-001-3 – Communications** standard. The electronic comment form must be completed and submitted by **8:00 p.m. Eastern, Monday, November 16, 2015**.

If you have questions, contact [Jordan Mallory](#) (via email) or at (404) 446-9733 or [Sean Bodkin](#) (via email) or at (202) 400-3022.

The project page can be accessed by clicking [here](#).

Background Information

This posting is soliciting formal comment.

The project will address the directive from FERC Order No. 808 to modify the COM-001-2 standard or develop a new standard to address “internal communications capabilities that could involve the issuance or receipt of Operating Instructions or other communications that could have an impact on reliability.” Order No. 808, at P 1.

In Order No. 808, FERC directed “NERC to develop modifications to COM-001-2, or to develop a new standard, to address our concerns regarding ensuring the adequacy of internal communications capability whenever internal communications could directly affect the reliable operation of the Bulk-Power System.” Order No. 808, at P 41. In the same paragraph, FERC clarified that this intended to include a directive that the modified or new standard would “address the adequacy of internal telecommunications (or other internal communication systems) that may have an adverse effect on reliability, even within a single functional entity, including: (1) communications between geographically separate control centers within the same functional entity; and (2) communications between a control center and field personnel.” *Id.*

The SDT reviewed the FERC directives and developed proposed Requirements R12 and R13 for a proposed COM-001-3. The proposed Requirements address internal Interpersonal Communication capabilities as directed by FERC for Reliability Coordinators, Balancing Authorities, and Transmission Operators in Requirement R12 and for Distribution Providers and Generator Operators in Requirement R13. Two separate Requirements were developed to maintain VRF consistency with the existing Requirements from COM-001-2.

Questions

The scope of this project includes:

- Internal telecommunications or other internal communication systems “between geographically separate control centers within the same functional entity.” Order No. 808, at P 41.
- Internal telecommunications or other internal communication systems “between a control center and field personnel.” *Id.*
- “[T]he adequacy of internal communications capability whenever internal communications could directly affect the reliable operation of the Bulk-Power System.” *Id.*
- “[I]nternal communications capabilities that could involve the issuance or receipt of Operating Instructions or other communications that could have an impact on reliability.” Order No. 808, at P 1.

1. Do you agree that the proposed Requirements R12 and R13 in the proposed COM-001-3 address the directive in Order No. 808? If not, please explain why you do not agree and, if possible, provide specific language revisions that would make it acceptable to you.

- Yes
 No

Comments:

While Dominion agrees that the SDT met the directive, and could support the standard as proposed, we have seen comments indicating that many do not. We can't support the language we've seen in those posted comments and therefore offer the following for consideration.

R12. Each Reliability Coordinator, Transmission Operator, , and Balancing Authority that identifies the need to exchange information necessary for the Reliable Operation of the BES between **geographically separate control centers within the same functional entity, or between a control center and field switching personnel shall have Interpersonal Communication capability addressing how this information is to be exchanged.**

R13. Each Distribution Provider and Generator Operator that identifies the need to exchange of information necessary for the Reliable Operation of the BES between **geographically separate control centers within the same functional entity, or between a control center and field switching personnel shall have Interpersonal Communication capability addressing how this information is to be exchanged.**

2. If you have any other comments on the proposed COM-001-3 that you haven't already mentioned above, please provide them here:

Comments:

Unofficial Comment Form

Project 2015-07 Internal Communications Capabilities

COM-001-3

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In Order No. 808, FERC directed “NERC to develop modifications to COM-001-2, or to develop a new standard, to address our concerns regarding ensuring the adequacy of internal communications capability whenever internal communications could directly affect the reliable operation of the Bulk-Power System.” Order No. 808, at P 41. In the same paragraph, FERC clarified that this intended to include a directive that the modified or new standard would “address the adequacy of internal telecommunications (or other internal communication systems) that may have an adverse effect on reliability, even within a single functional entity, including: (1) communications between geographically separate control centers within the same functional entity; and (2) communications between a control center and field personnel.” *Id.*

The SDT reviewed the FERC directives and developed proposed Requirements R12 and R13 for a proposed COM-001-3. The proposed Requirements address internal Interpersonal Communication capabilities as directed by FERC for Reliability Coordinators, Balancing Authorities, and Transmission Operators in Requirement R12 and for Distribution Providers and Generator Operators in Requirement R13. Two separate Requirements were developed to maintain VRF consistency with the existing Requirements from COM-001-2.

Questions

The scope of this project includes:

- Internal telecommunications or other internal communication systems “between geographically separate control centers within the same functional entity.” Order No. 808, at P 41.
- Internal telecommunications or other internal communication systems “between a control center and field personnel.” *Id.*
- “[T]he adequacy of internal communications capability whenever internal communications could directly affect the reliable operation of the Bulk-Power System.” *Id.*
- “[I]nternal communications capabilities that could involve the issuance or receipt of Operating Instructions or other communications that could have an impact on reliability.” Order No. 808, at P 1.

1. Do you agree that the proposed Requirements R12 and R13 in the proposed COM-001-3 address the directive in Order No. 808? If not, please explain why you do not agree and, if possible, provide specific language revisions that would make it acceptable to you.

- Yes
 No

Comments: ERCOT respectfully suggests that Requirements R12 and R13 are overly broad as written, which could result in ambiguity and subjectivity regarding the communications capabilities that are necessary. While the measures attempt to better bound the expectations, ERCOT suggests that the measure is not the appropriate location for ensuring the clarity of the proposed requirement. To ensure that expectations are clear, concise, and definitive, ERCOT recommends the following revisions to Requirements R12 and R13:

R12. Each Reliability Coordinator, Transmission Operator, Generator Operator, and Balancing Authority shall have internal Interpersonal Communication capabilities to exchange information as necessary to preserve the Reliable Operation of the BES between its:

- Geographically separate control centers
- Geographically separate control centers and field personnel. [Violation Risk Factor: High]
[Time Horizon: Real-time Operations]

R13. Each Distribution Provider shall have internal Interpersonal Communication capabilities to exchange information as necessary to preserve the Reliable Operation of the BES between its:

- Geographically separate control centers

- Geographically separate control centers and field personnel. [Violation Risk Factor: Medium] [Time Horizon: Real-time Operations]

Alternatively, ERCOT suggests that requirements R12 and R13 be combined as follows:

R12. Each Reliability Coordinator, Transmission Operator, Generator Operator, Distribution Provider, and Balancing Authority shall internal Interpersonal Communication capabilities to exchange information as necessary to preserve the Reliable Operation of the BES between its:

- Geographically separate control centers
 - Geographically separate control centers and field personnel. [Violation Risk Factor: High] [Time Horizon: Real-time Operations]
2. If you have any other comments on the proposed COM-001-3 that you haven't already mentioned above, please provide them here:

Comments: ERCOT proposes the above revisions to the proposed requirements to ensure that there is clarity regarding the expectations and to allow those entities that are most familiar with their operating configuration to identify, determine, and establish the Interpersonal Communication capabilities that are most appropriate for its structure and operating characteristics. Without clarity and the ability of entities to identify what communications capabilities best facilitate its operations, it is possible that significant cost and ongoing maintenance will be expended with little or no benefit to reliability.

Consideration of Comments

Project Name: 2015-07 Internal Communications Capabilities | COM-001-3

Comment Period Start Date: 9/25/2015

Comment Period End Date: 11/16/2015

Associated Ballots: 2015-07 Internal Communications Capabilities COM-001-3 IN 1 ST

2015-07 Internal Communications Capabilities COM-001-3 Non-binding Poll IN 1 NB

There were 54 responses, including comments from approximately 110 different people from approximately 68 different companies representing 10 of the 10 Industry Segments as shown on the following pages.

All comments submitted can be reviewed in their original format on the project page.

If you feel that your comment has been overlooked, please let us know immediately. Our goal is to give every comment serious consideration in this process. If you feel there has been an error or omission, you can contact the Director of Standards, Howard Gugel (via email) or at (404) 446-9693.

Questions

- 1. Do you agree that the proposed Requirements R12 and R13 in the proposed COM-001-3 address the directive in Order No. 808? If not, please explain why you do not agree and, if possible, provide specific language revisions that would make it acceptable to you.**
- 2. If you have any other comments on the proposed COM-001-3 that you haven't already mentioned above, please provide them here.**

The Industry Segments are:

- 1 — Transmission Owners
- 2 — RTOs, ISOs
- 3 — Load-serving Entities
- 4 — Transmission-dependent Utilities
- 5 — Electric Generators
- 6 — Electricity Brokers, Aggregators, and Marketers
- 7 — Large Electricity End Users
- 8 — Small Electricity End Users
- 9 — Federal, State, Provincial Regulatory or other Government Entities
- 10 — Regional Reliability Organizations, Regional Entities

1. Do you agree that the proposed Requirements R12 and R13 in the proposed COM-001-3 address the directive in Order No. 808? If not, please explain why you do not agree and, if possible, provide specific language revisions that would make it acceptable to you.

John Fontenot - Bryan Texas Utilities - 1 -

Selected Answer: Yes

Answer Comment: na

Leonard Kula - Independent Electricity System Operator - 2 -

Answer Comment: We agree with adding these two requirements to address the FERC directive, but we do not support the proposed wording for these requirements.

Requirements R12 and R13 mandate the provision of internal interpersonal communication capabilities within the same entity when performing its reliability function. Without specific wording that such capabilities are only required for communication between geographically separate control centers within the same functional entity, or between a control center and field switching personnel, these requirements can and will result in entities not having physically separated control centers or staff perform its tasks to be non-compliant. The IESO and most of ISOs and RTOs in North America fall into this category.

The Measures for these two requirements do make reference to

physically separate control centers or staff in an example for evidence of compliance. However, the specific example only illustrates a way to comply with the requirement. Those entities that do not have physically separated control centers or deploy field staff will not be able to provide such evidence, and hence will fail the two requirements unless they incur in unnecessary expense to install internal interpersonal communication capabilities for communication within the control room, which serves no purpose and add no value at all.

To address the intent of the ERRC directive, which we interpret to be requiring internal interpersonal communication capabilities for physically separated control centers or between control center and field personnel within the same entity, we propose the following revisions to R12 and R13:

R12. Each Reliability Coordinator, Transmission Operator, Generator Operator, and Balancing Authority shall have internal Interpersonal Communication capabilities for the exchange of information between geographically separate control centers within the same functional entity, or between a control center and field switching personnel, that is necessary for the Reliable Operation of the BES.

R13. Each Distribution Provider shall have internal Interpersonal Communication capabilities for the exchange of information between geographically separate control centers within the same functional entity, or between a control center and field switching personnel, that is necessary for the Reliable Operation of the BES.

Alternatively, these requirements can be rearranged as follows:

R12. Each Reliability Coordinator, Transmission Operator, Generator Operator, and Balancing Authority shall have internal Interpersonal

Communication capabilities between geographically separate control centers within the same functional entity, or between a control center and field switching personnel, for the exchange of information that is necessary for the Reliable Operation of the BES.

Similar rearrangement for the proposed R13.

Response: The SDT reviewed the FERC Order and concluded that the two scenarios were intended to serve as examples and not limitations. The SDT agrees that the examples are more appropriate in the Requirement and has addressed this in the current draft of COM-001-3.

Jim McDougal - Public Utility District No. 1 of Snohomish County - 4 - WECC

Selected Answer: Yes

John Williams - Tallahassee Electric (City of Tallahassee, FL) - 3 -

Selected Answer: No

Answer Comment:

While TAL agrees that the new requirements address the FERC Order, we question what differentiates R12 and R13 from R1, R3, R5, R7 and R8. It appears the only addition is the word “internal” and “for the exchange of information that is necessary for the Reliable Operation of the BES”. The definition of Interpersonal Communication is “Any medium that allows two or more individuals to interact, consult, or exchange information.” This information is inherent to the reliable operation of the BES.

It seems that R12 and R13 are duplicative and do not add any clarity to the standard. What is the difference between (R12 and R13) and (R1, R3, R5, R7 and R8)? What is intended in R12 & R13 that would not be required in the existing R1, R3, R5, R7 and R8?

The additions as they stand are not clear and unambiguous, hence our Negative Vote.

Response: The FERC Order directed NERC to address specifically internal communications that are necessary for Reliable Operation of the BES. Interpersonal Communications was created as a defined term in Order No. 808. The existing approved language for Interpersonal Communication was used to ensure consistency within the COM-001 standard and succinctly address the FERC directive. The language used allows for differences among individual entities to be addressed at the entity level.

Likes: 2 Tallahassee Electric (City of Tallahassee, FL), 5, Webb Karen
Tallahassee Electric (City of Tallahassee, FL), 1, Langston Scott

Tom Haire - Rutherford EMC - 3 -

Selected Answer: No

Answer Comment:

For a small DP, field communications between control center and operating personnel (both internal to the DP and with other functional entities) may or may not necessarily flow through a control center or by means of communication that can be recorded, logged, or stored. This requirement is overly burdensome and, by that token, could result in slower response during an emergency when pace of response is paramount.

Response: The requirements and measures do not require specific types of evidence, but instead refer to the mediums and capabilities. An entity could provide evidence appropriate to its situations and acceptable to the enforcement authority on an individual basis. Based on this specific example, evidence of the physical asset may be appropriate to demonstrate compliance. If an entity keeps voice recordings to document internal Interpersonal Communications, an entity would be expected to retain the evidence as outlined in the evidence retention section of the draft standard.

Scott Williams - City Utilities of Springfield, Missouri - 3 -

Selected Answer: Yes

Karen Webb - Tallahassee Electric (City of Tallahassee, FL) - 5 -

Selected Answer: No

William Hutchison - Southern Illinois Power Cooperative - 1 -

Selected Answer: No

Answer Comment:

Comments to be provided by ACES and NRECA

Response: See response under ACES and NRCEA.

Joe O'Brien - NiSource - Northern Indiana Public Service Co. - 6 -

Selected Answer: No

Answer Comment: R12 and R13 Evidence Retention prescribes retaining voice recordings for 90 calendar days. However, M12 and M13 do not necessarily require voice recordings at all; it could be logs, transcripts, test records

Response: The requirements and measures do not require specific types of evidence, but instead refer to the mediums and capabilities. An entity could provide evidence appropriate to its situations and acceptable to the enforcement authority on an individual basis. Evidence of the physical asset may be appropriate to demonstrate compliance. If an entity keeps voice recordings to document internal Interpersonal Communications, an entity would be expected to retain the evidence as outlined in the evidence retention section of the draft standard.

Thomas Foltz - AEP - 5 -

Selected Answer: Yes

Answer Comment: While R3 is specific in regards to whom the communication capabilities are to be had ***with***, R12 and R13 provide that specificity only within the Measure and not the Requirement.

The inclusion of the word "or" within the third bullet of M12 and M13 may unintentionally imply a mutually exclusive relationship in regards to providing evidence of Interpersonal Communication capability "between geographically separate control centers within the same functional entity" ***or*** "between a control center and field switching personnel".

Response: Thank you for your comment. The SDT has revised the Standard to include the examples in the Requirements.

Matthew Beilfuss - WEC Energy Group, Inc. - 3,4,5,6 - RFC

Selected Answer: No

Answer Comment: The comments in FERC Order No. 808 addressed concerns with COM-001-2 R1.1, which is applicable to Reliability Coordinators, Transmission Operators and Balancing Authorities. The proposed changes include internal communications for Distribution Providers and Generator Operators.

R12 and R13 do not address the “adequacy” of the internal communications capabilities.

Response: FERC did not limit its directives to those functional entities. Rather, FERC stated that “pursuant to section 215(d)(5) of the FPA, we [FERC] direct NERC to develop modifications to COM-001-2.1, or to develop a new standard, to address our concerns regarding ensuring the adequacy of internal communications capability whenever internal communications could directly affect the reliable operation of the Bulk-Power System.” P 41 (emphasis added). Note that, the NOPR on COM-001-2.1 which led to Order No. 808 stated that “internal communications can have an impact on reliability, including certain communications between a control center and a generating unit operator....” NOPR, at P 28.

In addition, note that COM-001-2.1 was expanded per Order No. 693, P 475 to include DPs and GOPs. Proposed Requirements R12 and R13 reflect that general update since COM-001-1.1.

FERC also stated in P 53 of Order No. 808 “that setting performance criteria for the email and telephonic communications at issue here is both impractical and unnecessary.”

Emily Rousseau - MRO - 1,2,3,4,5,6 - MRO

Group Name: MRO-NERC Standards Review Forum (NSRF)

Group Member Name	Entity	Region	Segments
Joe Depoorter	Madison Gas & Electric	MRO	3,4,5,6
Chuck Lawrence	American Transmission Company	MRO	1
Chuck Wicklund	Otter Tail Power Company	MRO	1,3,5
Theresa Allard	Minnkota Power Cooperative, Inc	MRO	1,3,5,6
Dave Rudolph	Basin Electric Power Cooperative	MRO	1,3,5,6
Kayleigh Wilkerson	Lincoln Electric System	MRO	1,3,5,6
Jodi Jenson	Western Area Power Administration	MRO	1,6
Larry Heckert	Alliant Energy	MRO	4
Mahmood Safi	Omaha Public Utility District	MRO	1,3,5,6
Shannon Weaver	Midwest ISO Inc.	MRO	2
Mike Brytowski	Great River Energy	MRO	1,3,5,6
Brad Perrett	Minnesota Power	MRO	1,5
Scott Nickels	Rochester Public Utilities	MRO	4
Terry Harbour	MidAmerican Energy Company	MRO	1,3,5,6
Tom Breene	Wisconsin Public Service Corporation	MRO	3,4,5,6
Tony Eddleman	Nebraska Public Power District	MRO	1,3,5
Amy Casucelli	Xcel Energy	MRO	1,3,5,6

Selected Answer: No

Answer Comment:

1. The broad nature of the proposed requirements allows flexibility for compliance, but creates confusion when identifying evidence requirements. Entities with multiple communication options would have to consider collecting evidence on every available system to ensure they have evidence of communications in various communications system failure scenarios. While this may not be the intent, this concern could arise in an audit environment. The NSRF recommends that the SDT incorporate the newly formed “Implementation Guidance” within this updated Standard to assist entities with this compliance gap of “what types of evidence could we have to assure our internal capabilities are present and operational”.

Response: **Internal Interpersonal Communications requirements do not address alternate internal Interpersonal Communications. The RSAW is the compliance tool to assist both entities and compliance auditors on the types of evidence used to demonstrate compliance, not the draft Standard.**

2. The broad nature of the proposed requirements also contributes to a concern with the proposed Violation Severity Levels (VSL) for R12 and R13, where failure to provide evidence for a single method of internal communications could lead to a Severe VSL classification. With additional clarity added to R12 and R13, we recommend the High and Severe VSL classifications be used to address varying degrees of non-compliance, similar to other requirements in this standard.

Response: **These requirements are not amenable to being partitioned into multiple VSLs. An entity either has internal Interpersonal Communications capabilities or not, regardless of the media used.**

3. The NSRF questions why GOP is contained in R12 when in part, the last paragraph of the Background Information (page 1) states: “The proposed Requirements address internal Interpersonal Communication capabilities as directed by FERC for Reliability Coordinators, Balancing Authorities, and Transmission Operators in Requirement R12 and for Distribution Providers **and Generator Operators** in Requirement R13”. Recommend GOP be removed from R12 and moved to R13.

Response: **The narrative was incorrect and the posted version of the proposed COM-001-3 had R13 as applicable to the DP and has the GOP in R12. The DP uses a non-defined term “control center” and has a lower VRF requiring a separate Requirement.**

Louis Slade - Dominion - Dominion Resources, Inc. - 6 -

Group Name: Dominion

Group Member Name	Entity	Region	Segments
Randi Heise	NERC Compliance Policy	NPCC	5,6
Connie Lowe	NERC Compliance Policy	SERC	1,3,5,6
Louis Slade	NERC Compliance Policy	RFC	5,6
Chip Humphrey	Power Generation Compliance	SERC	5
Nancy Ashberry	Power Generation Compliance	RFC	5
Larry Nash	Electric Transmission Compliance	SERC	1,3

Candace L Marshall	Electric Transmission Compliance	SERC	1,3
Larry W Bateman	Transmission Compliance	SERC	1,3
Jeffrey N Bailey	Nuclear Compliance	SERC	5
Russell Deane	Nuclear Compliance	NPCC	5

Selected Answer: Yes

Answer Comment:

While Dominion agrees that the SDT met the directive, and could support the standard as proposed, we have seen comments indicating that many do not. We can't support the language we've seen in those posted comments and therefore offer the following for consideration.

R12. Each Reliability Coordinator, Transmission Operator, , and Balancing Authority that identifies the need to exchange information necessary for the Reliable Operation of the BES between geographically separate control centers within the same functional entity, or between a control center and field switching personnel shall have Interpersonal Communication capability addressing how this information is to be exchanged.

R13. Each Distribution Provider and Generator Operator that identifies the need to exchange of information necessary for the Reliable Operation of the BES between geographically separate control centers within the same functional entity, or between a control center and field switching personnel shall have Interpersonal Communication capability addressing how this information is to be exchanged.

Response: The SDT reviewed the FERC Order and concluded that the two scenarios were intended to serve as examples and not limitations. The SDT agrees that the examples are more appropriate in the Requirement and has addressed this in the current draft of COM-001-3.

Oliver Burke - Entergy - Entergy Services, Inc. - 1 -

Selected Answer: No

Answer Comment: Entergy supports Dominion's comments on R12 and R13.

Response: The SDT reviewed the FERC Order and concluded that the two scenarios were intended to serve as examples and not limitations. The SDT agrees that the examples are more appropriate in the Requirement and has addressed this in the current draft of COM-001-3.

John Falsey - Invenergy LLC - 5 - FRCC,MRO,WECC,TRE,NPCC,SERC,SPP,RFC

Selected Answer: No

Answer Comment: Agree with PJM

Comments: Suggest replacing the phrase "*internal communications*" with another phrase such as "*communications between personnel that are not physically co-located.*" This change would ensure that the new requirement(s) applies explicitly and only to internal communications:

- between geographically separate control centers within the same functional entity, or
- between a control center and field personnel.

Response: The SDT reviewed the FERC Order and concluded that the two scenarios were intended to serve as examples and not limitations. The SDT agrees that the examples are more appropriate in the Requirement and has addressed this in the current draft of COM-001-3.

Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC

Selected Answer: Yes

Richard Hoag - FirstEnergy - FirstEnergy Corporation - 1,3,4,5,6 - RFC

Group Name: FE RBB

Group Member Name	Entity	Region	Segments
William Smith	FirstenergyCorp	RFC	1
Cindy Stewart	FirstEnergy Corp.	RFC	3
Doug Hohlbaugh	Ohio Edison	RFC	4
Robert Loy	FirstEnergy Solutions	RFC	5
Richard Hoag	FirstenergyCorp	RFC	NA - Not Applicable
Ann Ivanc	FirstEnergy Solutions	FRCC	6

Selected Answer: No

Answer Comment:

FE Supports both PJM's and the ISO/RTO Council Standards Review Committee position.

Suggest replacing the phrase "*internal communications*" with another phrase such as "*communications between personnel that are not physically co-located.*" This change would ensure that the new requirement(s) applies explicitly and only to internal communications:

- between geographically separate control centers within the same functional entity, or
- between a control center and field personnel.

The phrase “*adequacy of internal communications capability*” is ambiguous and needs to be clarified. Is this phrase intended to refer to creation of a requirement that the hardware can adequately handle a conversation, or is it being used in the more generic sense that any new requirement must be adequate to address the two bullet points above?

PJM supports the comments submitted by the ISO/RTO Council Standards Review Committee.

Response: The SDT reviewed the FERC Order and concluded that the two scenarios were intended to serve as examples and not limitations. The SDT agrees that the examples are more appropriate in the Requirement and has addressed this in the current draft of COM-001-3.

FERC stated in P 53 of Order No. 808 “that setting performance criteria for the email and telephonic communications at issue here is both impractical and unnecessary.”

Patti Metro - National Rural Electric Cooperative Association - 3 -

Selected Answer:

No

Answer Comment:

NRECA does not believe the SDT has properly addressed the directive listed within FERC Order No. 808, but has unnecessarily included Generator Operator in requirement R12 and the stand alone R13 for Distribution Providers. R12 should be modified to only include Reliability Coordinators, Balancing Authorities and Transmission Operators and R13 is not necessary

Response: FERC did not limit its directives to those functional entities. Rather, FERC stated that “pursuant to section 215(d)(5) of the FPA, we [FERC] direct NERC to develop modifications to COM-001-2.1, or to develop a new standard, to address our concerns regarding ensuring the adequacy of internal communications capability whenever internal communications could directly affect the reliable operation of the Bulk-Power System.” P 41 (emphasis added). Note that, the NOPR on COM-001-2.1 which led to Order No. 808 stated that “internal communications can have an impact on reliability, including certain communications between a control center and a generating unit operator....” NOPR, at P 28.

In addition, note that COM-001-2.1 was expanded per Order No. 693, P 475 to include DPs and GOPs. Proposed Requirements R12 and R13 reflect that general update since COM-001-1.1.

Chris Gowder - Chris Gowder On Behalf of: Carol Chinn, Florida Municipal Power Agency, 5, 6, 4, 3
David Schumann, Florida Municipal Power Agency, 5, 6, 4, 3
Joe McKinney, Florida Municipal Power Agency, 5, 6, 4, 3
Richard Montgomery, Florida Municipal Power Agency, 5, 6, 4, 3

Selected Answer:

No

Answer Comment:

FMPA supports the Bureau of Reclamation’s comments and believes the proposed revisions go beyond the scope of the FERC directive and what is required for BES reliability by including GOP and DP in the new

requirements.

Response: FERC did not limit its directives to those functional entities. Rather, FERC stated that “pursuant to section 215(d)(5) of the FPA, we [FERC] direct NERC to develop modifications to COM-001-2.1, or to develop a new standard, to address our concerns regarding ensuring the adequacy of internal communications capability whenever internal communications could directly affect the reliable operation of the Bulk-Power System.” P 41 (emphasis added). Note that, the NOPR on COM-001-2.1 which led to Order No. 808 stated that “internal communications can have an impact on reliability, including certain communications between a control center and a generating unit operator...” NOPR, at P 28.

In addition, note that COM-001-2.1 was expanded per Order No. 693, P 475 to include DPs and GOPs. Proposed Requirements R12 and R13 reflect that general update since COM-001-1.1.

Scott Langston - Tallahassee Electric (City of Tallahassee, FL) - 1 -

Selected Answer: No

Jay Barnett - Exxon Mobil - 7 -

Selected Answer: No

Answer Comment:

Internal Interpersonal Communications used solely to communicate within a Facility (i.e. radio communication between operators) are inherent and necessary for the safe and reliable operation of that Facility and should be excluded from COM-001-3 due to the lack of reliability benefit.

Response: FERC Order No. 808 required NERC to explicitly require internal communications as part of a modified or new standard to address identified reliability gaps.

Likes:

1 Colorado Springs Utilities, 1, Speer Shawna

Erika Doot - U.S. Bureau of Reclamation - 5 -

Selected Answer:

No

Answer Comment:

The Bureau of Reclamation appreciates the drafting team's efforts to address the reliability gap discussed in FERC Order No. 808 P 41 (Apr. 16, 2015) that was created when internal communications addressed in Requirement R1.1 of COM-001-1 were not included in COM-001-2.

As noted in P 41, Requirement R1.1 only applies to Reliability Coordinators, Transmission Operators and Balancing Authorities. However, the proposed changes in COM-001-3 go beyond the scope of FERC Order No. 808 by adding requirements for internal communications for Generator Operators and Distribution Providers. Reclamation suggests that the Generator Operator and Distribution Provider functions should be removed from requirements R12 and R13 proposed for COM-001-3.

Reclamation believes that the proposed requirement for the Reliability Coordinator, Transmission Operator, and Balancing Authority functions

fully addresses the reliability gap discussed in Order No. 808, P 41. This suggestion is consistent with FERC's acknowledgement in Order 808 of the lower impact of Generator Operator and Distribution Provider communications on the Bulk-Power System.

Response: FERC did not limit its directives to those functional entities. Rather, FERC stated that “pursuant to section 215(d)(5) of the FPA, we [FERC] direct NERC to develop modifications to COM-001-2.1, or to develop a new standard, to address our concerns regarding ensuring the adequacy of internal communications capability whenever internal communications could directly affect the reliable operation of the Bulk-Power System.” P 41 (emphasis added). Note that, the NOPR on COM-001-2.1 which led to Order No. 808 stated that “internal communications can have an impact on reliability, including certain communications between a control center and a generating unit operator....” NOPR, at P 28.

In addition, note that COM-001-2.1 was expanded per Order No. 693, P 475 to include DPs and GOPs. Proposed Requirements R12 and R13 reflect that general update since COM-001-1.1.

Meghan Ferguson - Meghan Ferguson On Behalf of: Michael Moltane, International Transmission Company Holdings Corporation, 1

Selected Answer:

No

Answer Comment:

Reliable operation of the BES requires that generation, transmission, and load operate in synchronism. Communication between and within entities involved in generation, transmission, and distribution is an important element in ensuring reliability. We agree with the inclusion of the GOP and DP entities in the standard. However, we disagree that the VRF associated with the DP is somehow different than for the GOP or the TOP. Load shed is an integral aspect of maintaining reliability and is preferred to be implemented at the distribution level rather than the

transmission level to ensure the maximum level of reliability.

Response: In order to be consistent with the approved VRF in COM-001-2.1, the SDT chose a medium VRF for DPs. The SDT discussed revising the VRF for DPs for internal Interpersonal Communications, but were unable to define a technical justification.

Donald Lock - Talen Generation, LLC - 5 -

Selected Answer:

No

Answer Comment:

Talen Energy supports FERC’s objective in Order 808, but we believe that COM-001-3 R12 is presently worded so generically that interpretations by entities as to its practical meaning might miss the specific points that FERC emphasized, and might add plant-internal communications that FERC did not intend to cover. We respectfully suggest that, similar to PER-005, only Control Centers should have a compliance obligation for R12. That is, R12 should have a Generator Operator footnote stating, “This requirement applies for Generator Operators only for communications between geographically separate Control Centers and between Control Center operators and field personnel they direct. It does not apply for operators located at a generator plant site.”

Response: FERC did not state any limitations for internal Interpersonal Communications, but directed NERC “to develop modifications to COM-001-2.1, or to develop a new standard, to address our concerns regarding ensuring the adequacy of internal communications capability whenever internal communications could directly affect the reliable operation of the Bulk-Power System.”

The SDT reviewed the FERC Order and concluded that the two scenarios were intended to serve as examples and not limitations. The SDT agrees that the examples are more appropriate in the Requirement and has addressed this in the current draft of COM-001-3.

Joel Wise - Tennessee Valley Authority - 1,3,5,6 - SERC

Selected Answer: No

Answer Comment: As noted in FERC Order No. 808 P41, COM-001-1.1 Requirement R1.1 only applied to Reliability Coordinators, Transmission Operators and Balancing Authorities. However, the proposed changes in COM-001-3 go beyond the scope of FERC Order No. 808 by adding requirements for internal communications for Generator Operators. TVA suggests that the Generator Operator function should be removed from requirements R12 proposed for COM-001-3.

Response: FERC did not limit its directives to those functional entities. Rather, FERC stated that “pursuant to section 215(d)(5) of the FPA, we [FERC] direct NERC to develop modifications to COM-001-2.1, or to develop a new standard, to address our concerns regarding ensuring the adequacy of internal communications capability whenever internal communications could directly affect the reliable operation of the Bulk-Power System.” P 41 (emphasis added). Note that, the NOPR on COM-001-2.1 which led to Order No. 808 stated that “internal communications can have an impact on reliability, including certain communications between a control center and a generating unit operator....” NOPR, at P 28.

In addition, note that COM-001-2.1 was expanded per Order No. 693, P 475 to include DPs and GOPs. Proposed Requirements R12 and R13 reflect that general update since COM-001-1.1.

William Temple - William Temple On Behalf of: Mark Holman, PJM Interconnection, L.L.C., 2

Selected Answer: No

Answer Comment:

Suggest replacing the phrase “*internal communications*” with another phrase such as “*communications between personnel that are not physically co-located.*” This change would ensure that the new requirement(s) applies explicitly and only to internal communications:

- between geographically separate control centers within the same functional entity, or
- between a control center and field personnel.

The phrase “*adequacy of internal communications capability*” is ambiguous and needs to be clarified. Is this phrase intended to refer to creation of a requirement that the hardware can adequately handle a conversation, or is it being used in the more generic sense that any new requirement must be adequate to address the two bullet points above?

PJM supports the comments submitted by the ISO/RTO Council Standards Review Committee.

Response: The SDT reviewed the FERC Order and concluded that the two scenarios were intended to serve as examples and not limitations. The SDT agrees that the examples are more appropriate in the Requirement and has addressed this in the current draft of COM-001-3.

FERC stated in P 53 of Order No. 808 “that setting performance criteria for the email and telephonic communications at issue here is both impractical and unnecessary.”

Bob Thomas - Illinois Municipal Electric Agency - 4 -

Selected Answer:

No

Answer Comment:

Illinois Municipal Electric Agency (IMEA) recommends deletion of proposed Requirement 13 since it is not necessary for Reliable Operation of the BES. IMEA questions the necessity of both R12 and R3. IMEA is not aware of any communication of event analysis information indicating the lack of internal Interpersonal Communication capability is an issue, or that the lack of this capability contributed to reduced reliability of the BES. If for some reason R12 is needed, IMEA supports consideration of other survey suggestions. R13 is not needed for reliability of the BES.

Response: FERC Order No. 808 required NERC to explicitly require internal communications as part of a modified or new standard to address identified reliability gaps.

Jason Smith - Southwest Power Pool, Inc. (RTO) - 2 - MRO,WECC,SERC,SPP

Group Name: SPP Standards Review Group

Group Member Name	Entity	Region	Segments
Shannon Mickens	Southwest Power Pool	SPP	2
Jason Smith	Southwest Power Pool	SPP	2
John Allen	City Utilities Springfield Missouri	SPP	1,4
Darryl Boggess	Western Farmers Electric Cooperative	SPP	1,5
James Nail	City of Independence, Missouri	SPP	3,5
Ron Gunderson	Nebraska Public Power District	MRO	1,3,5
Brandon Levander	Nebraska Public Power District	MRO	1,3,5
Ashley Stringer	Oklahoma Municipal Power Authority	SPP	4
Don Schmit	Nebraska Public Power District	MRO	1,3,5
Mahmood Safi	Omaha Public Power District	MRO	1,3,5

Scott Williams	City Utilities of Springfield Missouri	SPP	1,4
Amy Casuscelli	Xcel Energy	SPP	1,3,5,6

Selected Answer: No

Answer Comment:

We feel that the wording of the two new measures M12 and M13 introduce several ambiguities. The first is that the Measures seem to attempt to define what “internal” Interpersonal Communication capabilities are. The wording of both measures is inconsistent as well. It seems that demonstration of “capability” is being defined in the Measures as simply providing evidence of a physical asset or evidence that documentation of previous communication was made.

Response: **The SDT reviewed the FERC Order and concluded that the two scenarios were intended to serve as examples and not limitations. The SDT agrees that the examples are more appropriate in the Requirement and has addressed this in the current draft of COM-001-3.**

FERC stated in P 53 of Order No. 808 “that setting performance criteria for the email and telephonic communications at issue here is both impractical and unnecessary.”

There is also concern that it may not be clear to auditors that the “operating procedures” used to preserve or maintain the capability may not be the procedure or process used by operators sitting at the real-time desk. These processes or procedures may be utilized by support staff such as IT staff that may do things behind the scenes to ensure the capability is maintained.

Response: **Either type of evidence could demonstrate compliance. Operating procedures are not necessarily limited to desk procedures. The entity should work with the compliance enforcement authority to determine which type of evidence is most appropriate for their individual facts and circumstances.**

R12 and R13 may not be applicable to all registered entities mentioned. In some cases, the registered entities may have no need for “internal” communication capability since all of the personnel necessary to perform their functional obligations are in the same room. It seems the SDT intends that this is an acceptable arrangement, but we struggle to understand how internal communication capability can be demonstrated when under an audit but is not necessary for the registered entity to perform its obligations.

Response: **Under the risk based compliance and enforcement process, the scope of an audit would be determined in a cooperative manner. Face to face communications would not be considered internal Interpersonal Communications capabilities.**

We also feel the SDT has exceeded the FERC directive by including the GOP and DP in the applicability of these new requirements and should be eliminated from the applicability of R12 and R13.

Response: **FERC did not limit its directives to those functional entities. Rather, FERC stated that “pursuant to section 215(d)(5) of the FPA, we [FERC] direct NERC to develop modifications to COM-001-2.1, or to develop a new standard, to address our concerns regarding ensuring the adequacy of internal communications capability whenever internal communications could directly affect the reliable operation of the Bulk-Power System.” P 41 (emphasis added). Note that, the NOPR on COM-001-2.1 which led to Order No. 808 stated that “internal**

communications can have an impact on reliability, including certain communications between a control center and a generating unit operator....” NOPR, at P 28.

In addition, note that COM-001-2.1 was expanded per Order No. 693, P 475 to include DPs and GOPs. Proposed Requirements R12 and R13 reflect that general update since COM-001-1.1.

We suggest that the SDT consider rewriting R12 and R13 to be explicitly applicable to situations where the single, registered entity (RC, TOP, BA, GOP, DP) is required to have “internal” communication capabilities when it has either or both geographically separated control centers or a need to communicate with field personnel in carrying out its functional responsibilities. This would remove or lessen the burden on the term “internal” being carried by the current wording. The FERC directive seems to be limited to those two specific types of scenarios that were envisioned by the original COM-001-1 language. For example:

R12. Each Reliability Coordinator, Transmission Operator, Generator Operator, and Balancing Authority shall have internal Interpersonal Communication capabilities for the exchange of information that is necessary for the Reliable Operation of the BES *when*:

- *The RC, TOP, GOP, or BA must communicate with its personnel who are residing in geographically separated control centers, or*
- *The RC, TOP, GOP, or BA must communicate with field personnel.*

Perhaps including in the Measure another bullet such as: Evidence could include an analysis of reliability related tasks (as developed for PER-005-2) to be performed by the RC, TOP, BA, GOP, or DP that require

use of an internal communication medium. That medium is the internal communication capability that must be demonstrated. Alternatively, a definition of Internal Intercommunication Capability could be created that clarifies when internal communication capabilities are required.

Response: The SDT reviewed the FERC Order and concluded that the two scenarios were intended to serve as examples and not limitations. The SDT agrees that the examples are more appropriate in the Requirement and has addressed this in the current draft of COM-001-3.

Response:

Scott Berry - Scott Berry On Behalf of: Jack Alvey, Indiana Municipal Power Agency, 1, 4

Selected Answer:

No

Answer Comment:

In requirement R12, the phrase *“for the exchange of information that is necessary for the Reliable Operation of the BES”* is ambiguous and needs to be clarified. In addition, the requirement needs to specify which parties the RC, TOP, GOP, and BA need internal Interpersonal Communication capabilities with in order to be compliant.

Response: FERC did not state any limitations for internal Interpersonal Communications, but directed NERC “to develop modifications to COM-001-2.1, or to develop a new standard, to address our concerns regarding ensuring the adequacy of internal communications capability whenever internal communications could directly affect the reliable operation of the Bulk-Power System.”

Dixie Wells - Lower Colorado River Authority - 5 -

Group Name: LCRA Compliance

Group Member Name	Entity	Region	Segments
Michael Shaw	LCRA	TRE	6
Teresa Cantwell	LCRA	TRE	1
Dixie Wells	LCRA	TRE	5

Selected Answer: Yes

Tammy Porter - Tammy Porter On Behalf of: Rod Kinard, Oncor Electric Delivery, 1

Selected Answer: Yes

Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7 - NPCC

Group Name: RSC

Group Member Name	Entity	Region	Segments
Paul Malozewski	Hydro One.	NPCC	1
Guy Zito	Northeast Power Coordinating Council	NPCC	NA - Not Applicable
Michael Forte	Con Edison	NPCC	1
Brian Shanahan	National Grid	NPCC	1
Rob Vance	New Brunswick Power	NPCC	1
Robert J. Pellegrini	United Illuminating	NPCC	1
Sylvain Clermont	Hydro Quebec	NPCC	1
Edward Bedder	Orange and Rockland Utilities	NPCC	1
Mark J. Kenny	Eversource Energy	NPCC	1
Gregory A. Campoli	NY-ISO	NPCC	2
Si Truc Phan	Hydro Quebec	NPCC	2
Randy MacDonald	New Brunswick Power	NPCC	2
Kelly Dash	Con Edison	NPCC	3
David Burke	Orange and Rockland Utilities	NPCC	3
Peter Yost	Con Edison	NPCC	4
Wayne Sipperly	New York Power Authority	NPCC	4
Connie Lowe	Dominion Resources Services	NPCC	4
David Ramkalawan	Ontario Power Generation	NPCC	4
Glen Smith	Entergy Services	NPCC	4
Brian O'Boyle	Con Edison	NPCC	5

Brian Robinson	Utility Services	NPCC	5
Bruce Metruck	New York Power Authority	NPCC	6
Alan Adamson	New York State Reliability Council	NPCC	7
Kathleen M. Goodman	ISO-New England	NPCC	2
Helen Lainis	Independent Electricity System Operator	NPCC	2

Selected Answer:

No

Answer Comment:

Communication with field personnel may be done via cellphones. The Standard should explain that it is sufficient to simply designate cellphone communications as the means to communicate and not require phone lists to be provided.

Response: **The Measure allows compliance to be demonstrated by providing physical assets to demonstrate capabilities.**

Does the Standard create an obligation for field personnel to be able to communicate immediately with the control center? For example, a vegetation inspector may see a potential encroachment into a transmission line, but is in a cellphone dead zone. Is being in a dead zone a violation of R13 since the internal Interpersonal Communication Capability was not capable of communicating? There needs to be guidance that dead zones are allowed for field personnel. The Requirement should recognize non-functioning capability.

Response: **The requirements address capabilities, not individual unit performance. As FERC stated in Order No. 808, "NERC maintains that additional specifications are not necessary because the standard as written requires applicable entities to have the working capability needed to maintain reliability... we are satisfied that technical**

specifications regarding minimum levels of performance for the mediums used to satisfy the requirements of COM-001-2.1 are not necessary at this time. “

What constitutes being “geographically separate”? How many miles? Who determines this distance?

Response: The example was meant to be illustrative and is not a specific requirement or limitation. The requirement address internal Interpersonal Communication capabilities, not just at geographically separate control centers.

We agree with adding these two requirements to address the FERC directive, but we do not support the proposed wording for these requirements.

Requirements R12 and R13 mandate the provision of internal interpersonal communication capabilities within the same entity when performing its reliability function. Without specific wording that such capabilities are only required for communication between geographically separate control centers within the same functional entity, or between a control center and field switching personnel, these requirements can and will result in entities not having physically separated control centers or staff perform its tasks to be non-compliant. The IESO and most of ISOs and RTOs in North America fall into this category.

The Measures for these two requirements do make reference to physically separate control centers or staff in an example for evidence of compliance. However, the specific example only illustrates a way to comply with the requirement. Those entities that do not have physically separated control centers or deploy field staff will not be able to provide

such evidence, and hence will fail the two requirements unless they incur in unnecessary expense to install internal interpersonal communication capabilities for communication within the control room, which serves no purpose and adds no value at all.

To address the intent of the FERC directive, which we interpret to be requiring internal interpersonal communication capabilities for physically separated control centers or between control center and field personnel within the same entity, we propose the following revisions to R12 and R13:

“R12. Each Reliability Coordinator, Transmission Operator, Generator Operator, and Balancing Authority shall have internal Interpersonal Communication capabilities for the exchange of information between geographically separate control centers within the same functional entity, or between a control center and field switching personnel, that is necessary for the Reliable Operation of the BES.”

“R13. Each Distribution Provider shall have internal Interpersonal Communication capabilities for the exchange of information between geographically separate control centers within the same functional entity, or between a control center and field switching personnel, that is necessary for the Reliable Operation of the BES.

Alternatively, these requirements can be rearranged as follows:

“R12. Each Reliability Coordinator, Transmission Operator, Generator Operator, and Balancing Authority shall have internal Interpersonal Communication capabilities between geographically separate control centers within the same functional entity, or between a control center and field switching personnel, for the exchange of information that is necessary for the Reliable Operation of the BES.”

Similar rearrangement for the proposed R13.

Response: **The SDT reviewed the FERC Order and concluded that the two scenarios were intended to serve as examples and not limitations. The SDT agrees that the examples are more appropriate in the Requirement and has addressed this in the current draft of COM-001-3.**

Response:

Venona Greaff - Oxy - Occidental Chemical - 7 -

Group Name: Oxy

Group Member Name	Entity	Region	Segments
Venona Greaff	Occidental Chemical Corporation	SERC	7
Michelle D'Antuono	Ingleside Cogeneration LP.	TRE	5

Selected Answer: No

Answer Comment:

Occidental Chemical Corporation (OCC) believes that the strategy taken by the Standards Drafting Team (SDT) to address FERC's directives is too open ended. Examples are provided in the associated Measures, but do not expressly limit the expansion in scope to (1) control center-to-control center and (2) control center-to-field personnel information exchange. Since the Commission only required those two additions to the standard, it seems unnecessary to open the door for other communication pathways that may happen to exist.

Response: **The SDT reviewed the FERC Order and concluded that the two scenarios were intended to serve as examples and not limitations. The SDT agrees that the examples are more appropriate in the Requirement and has addressed this in the current draft of COM-001-3.**

FERC will see no material difference between two internal TOP Control Centers versus those operated by two separate Registered Entities – both requiring Alternative Interpersonal Communication capability. Comparatively, a Distribution Provider's internal work centers would not need this level of redundancy.

Response: **The SDT does not address Alternative internal Interpersonal Communication capabilities. Reliability Standard COM-001-2.1 does not impose requirements on DPs and GOPs regarding designation or testing of Alternative Interpersonal Communication capability. Note, Order No. 808 stated, for example, "We are persuaded by the comments of NERC and others that additional testing requirements for distribution providers and generator operators are not necessary at this time. NERC and other commenters assert that the primary Interpersonal Communication systems used by a distribution provider or generator operator will effectively be tested through routine use, and that any potential failures in a given generator operator or**

distribution provider’s external communication system will not have a substantial impact on the Bulk-Power System. In light of this explanation, as well as our recognition in Order No. 693 that telecommunication requirements for applicable entities will vary according to their roles, we decline to require any additional testing requirements for distribution providers and generator operators at this time.” P 44.

It was not easy for industry to reach consensus on COM-001-2. It took six years to reach the right balance of precision and flexibility needed to specify the Entity-to-Entity information exchange links that are necessary for reliable electric system operations. As such, we propose that the SDT leverage the standard’s existing structure to enact FERC’s directives. This entails the addition of the two new specific communication pathways as sub-requirements to the existing requirements. As an example, we suggest that R5.5 and R5.6 would be added as shown below:

R5. Each Balancing Authority shall have Interpersonal Communication capability with the following entities (unless the Balancing Authority detects a failure of its Interpersonal Communication capability in which case Requirement R10 shall apply): [Violation Risk Factor: High] [Time Horizon: Real-time Operations]

5.1. Its Reliability Coordinator.

5.2. Each Transmission Operator that operates Facilities within its Balancing Authority Area.

5.3. Each Distribution Provider within its Balancing Authority Area.

5.4. Each Generator Operator that operates Facilities within its

Balancing Authority Area.

5.5. Each Adjacent Balancing Authority.

5.6. **Each internal control center which operates two or more Facilities within its Balancing Authority Area.**

5.7. **Field personnel who execute tasks that require element switching as part of that task.**

Response: **The SDT reviewed the FERC Order and concluded that the two scenarios were intended to serve as examples and not limitations. The SDT agrees that the examples are more appropriate in the Requirement and has addressed this in the current draft of COM-001-3.**

Response:

Michelle D'Antuono - Oxy - Ingleside Cogeneration LP - 5 -

Selected Answer: No

Answer Comment: See Occidental Chemical Corporation's comments.

Response: See response to Occidental Chemical Corporation.

Scott McGough - Georgia System Operations Corporation - 3 -

Selected Answer:

No

Answer Comment:

One of the Measurement bullets is stated as:

“Examples include, but are not limited to, geographically separate control centers within the same functional entity, or between a control center and field personnel”

This Measurement needs to be proofed, as it does not specify a “capability”. It summarizes a condition which seems meant to describe what “internal” might mean – not what constitutes a Communications capability. The Measurement bullet appropriately qualifies “geographically separate control centers” by referring to “within the same functional entity”, and could state the same with regard to “between a control center and field personnel [within the same functional entity]” to reinforce that the requirement is meant to be interpreted to “internal” communications only.

Response: **Thank you for the comment. FERC stated in P 53 of Order No. 808 “that setting performance criteria for the email and telephonic communications at issue here is both impractical and unnecessary.”**

Field personnel may be too vague for registered entities. Perhaps a reference could be made to personnel that operate or maintain Facilities (or some other term from the NERC Glossary).

Finally, because “internal” is not defined, the reference to “Including, but not limited to” may not be appropriate, because it creates an unbounded condition of an undefined term – rather than setting a

baseline (i.e., a non-exclusive list) of the types of records or evidence that would demonstrate compliance with a requirement.

Response: **FERC did not state any limitations for internal Interpersonal Communications, but directed NERC to develop modifications to COM-001-2.1, or to develop a new standard, to address our concerns regarding ensuring the adequacy of internal communications capability whenever internal communications could directly affect the reliable operation of the Bulk-Power System. Limiting field personnel to those that only operate or maintain Facilities could result in a reliability gap.**

Colby Bellville - Duke Energy - 1,3,5,6 - FRCC,SERC,RFC

Group Name: Duke Energy

Group Member Name	Entity	Region	Segments
Doug Hils	Duke Energy	RFC	1
Lee Schuster	Duke Energy	FRCC	3
Dale Goodwine	Duke Energy	SERC	5
Greg Cecil	Duke Energy	RFC	6

Selected Answer: Yes

Ben Li - Independent Electricity System Operator - 2 - NPCC

Group Name: ISO/RTO Council Standards Review Committee

Group Member Name	Entity	Region	Segments
Charles Yeung	SPP	SPP	2
Greg Campoli	NYISO	NPCC	2
Ali Miremadi	CAISO	WECC	2
Ben Li	IESO	NPCC	2
Kathleen Goodman	ISO-NE	NPCC	2
Mark Holman	PJM	RFC	2
Terry Bilke	MISO	MRO	2

Selected Answer: No

Answer Comment:

Although the proposed requirements “address” the stated concerns, the proposals introduce an unneeded level of ambiguity. Please see our comments and suggestions under Q2.

Response: See response under Q2.

Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC

Group Name: Southern Company

Group Member Name	Entity	Region	Segments
Robert A. Schaffeld	Southern Company Services, Inc.	SERC	1
R. Scott Moore	Alabama Power Company	SERC	3
William D. Shultz	Southern Company Generation	SERC	5
John J. Ciza	Southern Company Generation and Energy Marketing	SERC	6

Answer Comment:

While Southern believes that the proposed requirements are a good attempt by the SDT to address the directive in FERC Order 808, we also believe that the current COM-001-2 standard already implies that the named functions should have Interpersonal Communications capabilities for the exchange of reliability information internally between such functions that are a part of the same organization, but are geographically dispersed. To add additional requirements would be duplicative in nature, would only result in an added administrative burden on the industry and would not substantially contribute to the overall reliability of the system.

Response: This issue was discussed in comments on the NOPR (see Order No. 808, P 37-39). FERC directed “[N]ERC to develop modifications to COM-001-2.1, or to develop a new standard, to address our concerns regarding ensuring the adequacy of internal communications capability whenever internal communications could directly affect the reliable operation of the Bulk-Power System.” P 41

Gerry Adamski - Essential Power, LLC - 5 -

Selected Answer: No

Answer Comment: Essential Power supports the comments submitted by PJM regarding this proposed standard.

Response: See response to PJM comments.

Richard Vine - California ISO - 2 -

Selected Answer: Yes

Rachel Coyne - Texas Reliability Entity, Inc. - 10 -

Selected Answer: No

Answer Comment: Although the language in new Requirements 12 and 13 appears to mirror FERC-approved language in other existing COM-001 requirements that certain functions “shall have Interpersonal Communication capability,” the new standards do not incorporate the various provisions throughout the remainder of COM-001 that appear designed to ensure those communication capabilities are also adequate. For example, under the current COM-001-3 requirements for

external communications, Transmission Operators (TOPs) are required to maintain Interpersonal Communications capability (R3), as well as Alternative Interpersonal Communication capability with certain functions as a backup (R4). In addition, TOPs are required to test Alternative Interpersonal Communications capability monthly (R9) and notify certain entities of any failure of its Interpersonal Communications capability lasting thirty minutes or longer (R10). Taken together, these additional requirements appear to be designed to ensure that a TOP's communications capabilities are reliable and adequate, particularly for communications that are necessary for BES reliability.

Texas RE recommends the SDT consider whether in the absence of these additional requirements of Alternative Interpersonal Communications, testing, and notification, Requirements 12 and 13 satisfy FERC's directive to ensure "adequate" internal communications capability. The SDT could address this issue by either: (1) incorporating appropriate requirements from the existing COM-001 requirements into Requirements 12 and 13; or (2) revising Requirements 12 and 13 to require registered entities to have "adequate" internal Interpersonal Communication capability.

Response: FERC Order No. 808 does not reference Alternative internal Interpersonal Communication capabilities. FERC directed NERC "to develop modifications to COM-001-2.1, or to develop a new standard, to address our concerns regarding ensuring the adequacy of internal communications capability whenever internal communications could directly affect the reliable operation of the Bulk-Power System."

FERC stated in P 53 of Order No. 808 "that setting performance criteria for the email and telephonic communications at issue here is both impractical and unnecessary."

Elizabeth Axson - Electric Reliability Council of Texas, Inc. - 2 -

Selected Answer:

No

Answer Comment:

Comments: ERCOT respectfully suggests that Requirements R12 and R13 are overly broad as written, which could result in ambiguity and subjectivity regarding the communications capabilities that are necessary. While the measures attempt to better bound the expectations, ERCOT suggests that the measure is not the appropriate location for ensuring the clarity of the proposed requirement. To ensure that expectations are clear, concise, and definitive, ERCOT recommends the following revisions to Requirements R12 and R13:

R12. Each Reliability Coordinator, Transmission Operator, Generator Operator, and Balancing Authority shall have internal Interpersonal Communication capabilities to exchange information as necessary to preserve the Reliable Operation of the BES between its:

- Geographically separate control centers
 - Geographically separate control centers and field personnel.
- [Violation Risk Factor: High] [Time Horizon: Real-time Operations]

R13. Each Distribution Provider shall have internal Interpersonal Communication capabilities to exchange information as necessary to preserve the Reliable Operation of the BES between its:

- Geographically separate control centers
 - Geographically separate control centers and field personnel.
- [Violation Risk Factor: Medium] [Time Horizon: Real-time Operations]

Alternatively, ERCOT suggests that requirements R12 and R13 be combined as follows:

R12. Each Reliability Coordinator, Transmission Operator, Generator Operator, Distribution Provider, and Balancing Authority shall internal Interpersonal Communication capabilities to exchange information as

necessary to preserve the Reliable Operation of the BES between its:
 • Geographically separate control centers
 • Geographically separate control centers and field personnel.
 [Violation Risk Factor: High] [Time Horizon: Real-time Operations]

Response: The SDT reviewed the FERC Order and concluded that the two scenarios were intended to serve as examples and not limitations. The SDT agrees that the examples are more appropriate in the Requirement and has addressed this in the current draft of COM-001-3.

DPs are in a separate Requirement to address the lower risk that a DP presents compared to the RC, TOP, BA or GOP. The separate Requirement also uses the non-defined term “control center” rather than the NERC defined term “Control Center” based on the current definition of the defined term. This separate Requirement for the DP is consistent with the other Requirements in COM-001-2.1.

Shawna Speer - Colorado Springs Utilities - 1 -

Group Name: Colorado Springs Utilities

Group Member Name	Entity	Region	Segments
Shawna Speer	Colorado Springs Utilities	WECC	1
Shannon Fair	Colorado Springs Utilities	WECC	6
Charles Morgan	Colorado Springs Utilities	WECC	3
Kaleb Brimhall	Colorado Springs Utilities	WECC	5

Selected Answer: No

Answer Comment:

Colorado Springs Utilities does not see a reliability gap requiring the addition of Requirements R12. and R13. Communication with field personnel is a requirement of conducting business.

Response: FERC Order No. 808 required NERC to explicitly require internal communications as part of a modified or new standard to address identified reliability gaps.

Andrew Puztai - American Transmission Company, LLC - 1 -

Selected Answer:

No

Answer Comment:

ATC has the following concerns:(as applicable to Transmission Operators in Requirement 12) and ask that the SDT consider these in the next draft of Reliability Standard COM-001:

The broad nature of the proposed requirement (**Requirements R12 in the proposed COM-001-3**) allows flexibility for compliance, but creates confusion when identifying evidence requirements. Entities with multiple communication options would have to consider collecting evidence on every available system to ensure they have evidence of communications in various communications system failure scenarios.

Response: **Internal Interpersonal Communications requirements do not address alternate internal Interpersonal Communications. The RSAW is the compliance tool to assist both entities and compliance auditors on the types of evidence used to demonstrate compliance, not the draft Standard.**

The broad nature of the proposed requirements also contributes to a concern with the proposed Violation Severity Levels (VSL) for R12,

where failure to provide evidence for a single method of internal communications could lead to a Severe VSL classification.

Response: **These requirements are not amenable to being partitioned into multiple VSLs. An entity either has internal Interpersonal Communications capabilities or not, regardless of the media used.**

Response:

Joshua Andersen - Salt River Project - 1,3,5,6 - WECC

Selected Answer:

No

Answer Comment:

This language is too vague to properly address the direction from FERC Order No. 808 to include:

(1) communications between geographically separate control centers within the same functional entity;

(2) communications between a control center and field personnel.

While the language in the measures tries to address the two aforementioned items, the measures are not an auditable portion of the standard, and it is recommended the two items be specifically addressed in R12 and R13.

Response: The SDT reviewed the FERC Order and concluded that the two scenarios were intended to serve as examples and not limitations. The SDT agrees that the examples are more appropriate in the Requirement and has addressed this in the current draft of COM-001-3.

Brian Van Gheem - ACES Power Marketing - 6 - NA - Not Applicable

Selected Answer:

No

Answer Comment:

- 1) We feel the SDT has not properly addressed the directive listed within FERC Order No. 808. Paragraph 41 of this Order specifically addresses a reliability gap which was created when “internal communications,” which was listed within with the previous standard, COM-001-1.1, was not incorporated into COM-001-2. The previous standard only applied to RCs, TOPs, and BAs. We understand that FERC Order No. 693, Paragraph 508 directed the expansion of the standard’s applicability to include GOPs and DPs. However, we feel that directive was already addressed in COM-001-2. Does a GOP need to

demonstrate internal communication capabilities between its operations dispatch or control center and its power plants? We also question if communications with geographically separate operational or control centers applies to DPs. Therefore, we feel the SDT should develop requirements that apply only to RCs, TOPs, and BAs to address the FERC directive. The inclusion of DPs and GOPs go beyond the scope of FERC Order No. 808.

Response: FERC did not limit its directives to those functional entities. Rather, FERC stated that “pursuant to section 215(d)(5) of the FPA, we [FERC] direct NERC to develop modifications to COM-001-2.1, or to develop a new standard, to address our concerns regarding ensuring the adequacy of internal communications capability whenever internal communications could directly affect the reliable operation of the Bulk-Power System.” P 41 (emphasis added). Note that, the NOPR on COM-001-2.1 which led to Order No. 808 stated that “internal communications can have an impact on reliability, including certain communications between a control center and a generating unit operator...” NOPR, at P 28.

In addition, note that COM-001-2.1 was expanded per Order No. 693, P 475 to include DPs and GOPs. Proposed Requirements R12 and R13 reflect that general update since COM-001-1.1.

2) The measure of these proposed requirements do not align with other requirements within the standard. While an applicable entity could provide proof of compliance through demonstration of a physical asset or proof of that asset’s use, these requirements expect an entity to include examples of all

possible internal communications. How would an entity demonstrate communication between staff physically located within the same room? We recommend embedding the “Examples” criteria listed within the measures of these standards into the language of each proposed requirement.

Response: The SDT reviewed the FERC Order and concluded that the two scenarios were intended to serve as examples and not limitations. The SDT agrees that the examples are more appropriate in the Requirement and has addressed this in the current draft of COM-001-3.

3) In light of our comments, we propose the SDT consider these two alternatives for the requirements:

a) “Reliability Coordinators, Transmission Operators, and Balancing Authorities, each with geographically separate control centers, shall have Interpersonal Communication capabilities between each separate control center for the exchange of information that is necessary for the Reliable Operation of the BES.”

b) “Each Balancing Authority and Transmission Operator shall have Interpersonal Communication capabilities with their field switching personnel for the exchange of information that is necessary for the Reliable Operation of the BES.”

2. *If you have any other comments on the proposed COM-001-3 that you haven't already mentioned above, please provide them here.*

John Fontenot - Bryan Texas Utilities - 1 -

Selected Answer:

Answer Comment: n/a

Leonard Kula - Independent Electricity System Operator - 2 -

Answer Comment: Communication capabilities are the basic “tools” needed for applicable entities to perform their functions. As such, they are more suited for inclusion in the Organization Certification requirements, not Reliability standards which are intended to drive the right behavior to mitigate specific risks or achieve specific reliability outcomes. We urge the SDT and NERC to consider moving the proposed additional requirements and/or the entire COM-001 to Organization Certification Requirements.

Response: FERC directed NERC “to develop modifications to COM-001-2.1, or to develop a new standard, to address our concerns regarding ensuring the adequacy of internal communications capability whenever internal communications could directly affect the reliable operation of the Bulk-Power System.”

Likes: 1 Tallahassee Electric (City of Tallahassee, FL), 5, Webb Karen

Karen Webb - Tallahassee Electric (City of Tallahassee, FL) - 5 -

Answer Comment: Please see social survey

Response:

William Hutchison - Southern Illinois Power Cooperative - 1 -

Answer Comment: None

Thomas Foltz - AEP - 5 -

Answer Comment: While AEP is supportive of the overall efforts of this project team, AEP has chosen to vote negative due to our concerns regarding R12 and R13. As stated previously, while R3 is specific in regards to whom the communication capabilities are to be had *with*, R12 and R13 provide that specificity only within the Measure and not the Requirement.

Response: See previous AEP response above.

Matthew Beilfuss - WEC Energy Group, Inc. - 3,4,5,6 - RFC

Answer Comment: R12 and R13 as written do not meet the tenants of a results based standard. Specifically they do not focus on required actions or results (the "what"), but rather focus on the methods by which to accomplish actions or results (the "how"). Results based standards require "each requirement to identify a clear and measurable expected outcome, such

as: a) a stated level of reliability performance, b) a reduction in a specified reliability risk (prevention), or c) a necessary competency.”

It is difficult to contemplate a situation where a functional entity would be meeting existing reliability standards **and not** have an internal Interpersonal Communication capability between control centers or to field personnel necessary for the Reliable Operation of the BES. The existing standards are the measures of entities Reliable Operation of the BES, not the existence of an internal communications capability. The activity required as part of the R12 and R13 is the documentation associated with the measure. As such, both requirements as written qualify under Paragraph 81 Criterion:

A. Overarching Criterion: “The Reliability Standard requirement requires responsible entities (“entities”) to conduct an activity or task that does little, if anything, to benefit or protect the reliable operation of the BES.”

B1. Administrative: “The Reliability Standard requirement requires responsible entities to perform a function that is administrative in nature, does not support reliability and is needlessly burdensome.” In the case of R12 and R13 the requirement is purely documentation, having something in line with the measures.

B3. Documentation: “The Reliability Standard requirement requires responsible entities to develop a document (*e.g.*, plan, policy or procedure) which is not necessary to protect BES reliability. This criterion is designed to identify requirements that require the development of a document that is unrelated to reliability or has no performance or results-based function. In other words, the document is required, but no execution of a reliability activity or task is associated

with or required by the document.

Response: FERC directed NERC “to develop modifications to COM-001-2.1, or to develop a new standard, to address our concerns regarding ensuring the adequacy of internal communications capability whenever internal communications could directly affect the reliable operation of the Bulk-Power System.” R12 and R13 address reliability gaps identified in Order No. 808 and are consistent with the approved Requirements in COM-001-2.1.

FERC also stated in P 53 of Order No. 808 “that setting performance criteria for the email and telephonic communications at issue here is both impractical and unnecessary.”

Emily Rousseau - MRO - 1,2,3,4,5,6 - MRO

Group Name: MRO-NERC Standards Review Forum (NSRF)

Group Member Name	Entity	Region	Segments
Joe Depoorter	Madison Gas & Electric	MRO	3,4,5,6
Chuck Lawrence	American Transmission Company	MRO	1
Chuck Wicklund	Otter Tail Power Company	MRO	1,3,5
Theresa Allard	Minnkota Power Cooperative, Inc	MRO	1,3,5,6
Dave Rudolph	Basin Electric Power Cooperative	MRO	1,3,5,6
Kayleigh Wilkerson	Lincoln Electric System	MRO	1,3,5,6
Jodi Jenson	Western Area Power Administration	MRO	1,6
Larry Heckert	Alliant Energy	MRO	4

Mahmood Safi	Omaha Public Utility District	MRO	1,3,5,6
Shannon Weaver	Midwest ISO Inc.	MRO	2
Mike Brytowski	Great River Energy	MRO	1,3,5,6
Brad Perrett	Minnesota Power	MRO	1,5
Scott Nickels	Rochester Public Utilities	MRO	4
Terry Harbour	MidAmerican Energy Company	MRO	1,3,5,6
Tom Breene	Wisconsin Public Service Corporation	MRO	3,4,5,6
Tony Eddleman	Nebraska Public Power District	MRO	1,3,5
Amy Casucelli	Xcel Energy	MRO	1,3,5,6

Answer Comment:

Measure M9 in COM-001-2 contains guidance (also included in RSAW guidance) pertaining to evidence requirements for R9 that conflict with the R9 requirement scope. Recommend that conflicting guidance be deleted or clarified to indicate that one applicable entity can be contacted to verify that an entity's Alternative Interpersonal Communication capability works. Requiring each entity to contact all other entities is redundant and wasteful under the Paragraph 81 concepts. Since COM-001-2 or COM-001-3 R9 doesn't state that "each" Alternative Interpersonal Communication capability path will be tested with "each" identified entity, then testing one Alternative Interpersonal Communication capability is acceptable under the R9 requirement scope. NERC auditors should not expand the scope of a requirement through measures or through the RSAW process.

Response: Thank you for your comment, but the scope of the SDT did not include addressing requirement R9.

Oliver Burke - Entergy - Entergy Services, Inc. - 1 -

Answer Comment:

Entergy has no additional comments.

Response:**Patti Metro - National Rural Electric Cooperative Association - 3 -****Answer Comment:**

The following are comments about how the term “capability” is used in the relationship of the term in the Requirements and the Measurement for R12 and R13:

- The Requirement and Measurement establish that the registered entity must have internal Interpersonal Communications “capability”. The Measurement bullet reading “Examples include, but are not limited to, between geographically separate control centers within the same functional entity, or between a control center and field switching personnel” does not specify a “capability”. It summarizes a condition which seems meant to describe what “internal” might mean. It does not appear to constitute a Communications capability.
- The Measurement bullet appropriately qualifies “geographically separate control centers” by referring to “within the same functional entity”. Suggest modifying the requirements to state the same with regard to “between a control center and field personnel [within the same functional entity]” to reinforce that the requirement is meant to be interpreted to “internal” communications only.

Response: The SDT reviewed the FERC Order and concluded that the two scenarios were intended to serve as examples and not limitations. The SDT agrees that the examples are more appropriate in the

Requirement and has addressed this in the current draft of COM-001-3.

The SDT does not feel limiting the field personnel to within the same functional area is appropriate based on the diverse models used throughout North America.

Assuming that R12 and R13 are modified because of the overreach of including the Generator Operators and Distribution Providers the following revised R12 is provided for consideration:

- R12 - Reliability Coordinators, Transmission Operators, and Balancing Authorities, each with geographically separate control centers, shall have Interpersonal Communication capabilities between each separate control center and with their field switching personnel for the exchange of information that is necessary for the Reliable Operation of the BES.

R12 and R13 are vague because “internal” is not clearly defined, therefore, the reference to “Including, but not limited to” may not be appropriate, because it creates an unbounded condition of an undefined term. A list of the types of records or evidence that would demonstrate compliance with a requirement should be included in the measure.

The six-month implementation time frame is not adequate to incorporate the infrastructure needed to demonstrate compliance with this standard which may include conducting training, developing procedures with internal controls and possibly installation of new equipment to monitoring capability. Suggest modifying the implementation to 12 to 18 months.

Response: **COM-001-2.1 requires GOPs and DPs to be able to demonstrate compliance with Interpersonal Communication capabilities. Expanding the requirement to internal Interpersonal Communication capabilities should require minimal additional monitoring capability. The SDT agrees that some investment may be required and is expanding the implementation period to 9 months.**

It is unclear whether it is necessary to demonstrate internal communication capabilities between control center and power plants. If it is necessary, it should be stated as such in the requirements.

Response: **Yes, because FERC did not state any limitations for internal Interpersonal Communications, but directed NERC “to develop modifications to COM-001-2.1, or to develop a new standard, to address our concerns regarding ensuring the adequacy of internal communications capability whenever internal communications could directly affect the reliable operation of the Bulk-Power System.” Communications between control centers and power plants that fall under the definition of Interpersonal Communications are included.**

An explanation of what constitutes an “Alternative Interpersonal Communication” is required. It is unclear whether this form of communication is a “different medium” or a “different infrastructure”.

Response: **The SDT does not address interpretations or revisions to the definition of Alternative Interpersonal Communications as that would be outside the scope of this project.**

Jay Barnett - Exxon Mobil - 7 -

Answer Comment: No other comment.

Erika Doot - U.S. Bureau of Reclamation - 5 -

Answer Comment: Reclamation suggests that the drafting team develop a guidelines and technical basis section to clarify the scope of evidence required under normal and communications failure scenarios. Reclamation notes that the broad nature of Requirements R12 and R13 allows flexibility for compliance, but also creates confusion when identifying evidence requirements. Registered entities with multiple communication options would have to consider collecting evidence on all of them to ensure they have evidence of communication capability in various communications system failure scenarios. While this may not be the intent of the drafting team, this concern could arise in an audit environment, and could be mitigated by a clarifying guidelines and technical basis section.

Response: The SDT does not address interpretations or revisions to the definition of Alternative Interpersonal Communications as that would be outside the scope of this project.

Bob Thomas - Illinois Municipal Electric Agency - 4 -

Answer Comment: NA

Dixie Wells - Lower Colorado River Authority - 5 -

Group Name:

LCRA Compliance

Group Member Name	Entity	Region	Segments
Michael Shaw	LCRA	TRE	6
Teresa Cantwell	LCRA	TRE	1
Dixie Wells	LCRA	TRE	5

Answer Comment:

In Order No. 808, P 38, ITC comments that when communications are handled between functional entities within the same organization “face-to-face,” that the requirements in COM-001-2 would not apply. While not a directive, in Order No. 808, P 40, the Commission states “requirements concerning Alternative Interpersonal Communication only apply when those communications are performed by means other than direct, face-to-face situations.” For multi-registered entities that communicate face-to-face, we feel the standard should address those situations.

Additionally, while version 3 is being drafted, we feel the SDT should also review the associated RSAW. Most notably under the “Evidence Requested” section of R9, it appears to require that entities must test their Alternative Interpersonal Communication capability with all applicable entities under R2, R4, or R6 respectively. The requirement only states that the entity must test their Alternative Interpersonal Communication capability at least once per calendar month and the measure clarifies the testing to “its Alternative Interpersonal Communication capability designated in Requirements R2, R4, or R6.”

Response: The scope of the project is narrowly defined by the FERC directive and does not include addressing Alternative Communication Capabilities or reviewing or revising Requirements R2, R4, or R6.

Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7 - NPCC

Group Name: RSC

Group Member Name	Entity	Region	Segments
Paul Malozewski	Hydro One.	NPCC	1
Guy Zito	Northeast Power Coordinating Council	NPCC	NA - Not Applicable
Michael Forte	Con Edison	NPCC	1
Brian Shanahan	National Grid	NPCC	1
Rob Vance	New Brunswick Power	NPCC	1
Robert J. Pellegrini	United Illuminating	NPCC	1
Sylvain Clermont	Hydro Quebec	NPCC	1
Edward Bedder	Orange and Rockland Utilities	NPCC	1
Mark J. Kenny	Eversource Energy	NPCC	1
Gregory A. Campoli	NY-ISO	NPCC	2
Si Truc Phan	Hydro Quebec	NPCC	2
Randy MacDonald	New Brunswick Power	NPCC	2
Kelly Dash	Con Edison	NPCC	3
David Burke	Orange and Rockland Utilities	NPCC	3
Peter Yost	Con Edison	NPCC	4
Wayne Sipperly	New York Power Authority	NPCC	4
Connie Lowe	Dominion Resources Services	NPCC	4
David Ramkalawan	Ontario Power Generation	NPCC	4

Glen Smith	Entergy Services	NPCC	4
Brian O'Boyle	Con Edison	NPCC	5
Brian Robinson	Utility Services	NPCC	5
Bruce Metruck	New York Power Authority	NPCC	6
Alan Adamson	New York State Reliability Council	NPCC	7
Kathleen M. Goodman	ISO-New England	NPCC	2
Helen Lainis	Independent Electricity System Operator	NPCC	2

Answer Comment:

Suggest a Guidelines and Technical Basis Section be added in COM-001-3 to address the following:

A guideline and technical basis or specific Requirement language for Requirements R12 and R13 to explain and incorporate the FERC Directive that the concern is communication between “(1) communications between geographically separate control centers within the same functional entity; and (2) communications between a control center and field personnel.”

This Standard requires that an Entity establishes the *capability* to exchange information. The Standard intentionally requires the *capability* for Interpersonal Communication and not the *ability* for engaging in Interpersonal Communication. Capability represents only a potential to engage in communication. By using the word capability the Standard allows for the communication medium to be non-functioning from time to time.

Interpersonal Communication is defined in the NERC Glossary as “Any medium that allows two or more individuals to interact, consult, or

exchange information.” There is no restriction on the types of medium that can be used. Common types are phone system, wireless, radio, written (paper and electronic) and in-person.

For R1 thru R8 the Interpersonal Communication capability is established between functional entities and not based on corporate affiliation. For example if Company A is registered as a TOP and RC. The TOP function and RC function operate from different rooms in the same building. Then Interpersonal Communication capability is required and an alternate Interpersonal Communication capability is designated.

The Standard does not require that Interpersonal Communication capability is functioning 100% of the time. When the primary Interpersonal Communication capability fails the entity switches to the designated alternate Interpersonal Communication capability with recognition that there will be a point in time when no designated capability is available.

This Standard does not require the bailout of a specific type of communication infrastructure.

Communication capabilities are the basic “tools” needed for applicable entities to perform their functions. As such, they are more suited for inclusion in the Organization Certification requirements, not Reliability standards which are intended to drive the right behavior to mitigate specific risks or achieve specific reliability outcomes. We urge the SDT and NERC to consider moving the proposed additional requirements and/or the entire COM-001 to Organization Certification Requirements.

Please provide a Guidance Section with the following wording and provide the answers to the following questions:

QUESTION: An open question under this proposed standard is whether both alternate technologies AND alternate forms of communications can serve as back-up?

Same Type - That is, can alternate technology substitute voice for voice; i.e., digital phone Voice Over IP (VOIP) is a viable alternative for dedicated analog land lines or light-pipe lines?

Response: **This question is outside the scope of the project. Alternate forms of communication and back-ups were not included in the FERC directive or SAR scope.**

QUESTION: May we assume that an acceptable Alternative Interpersonal Communications capability is not necessarily the same type in the form of an alternate technology?

May a different types of communications serve as back-up; i.e., can cell phone voice be used as a substitute for or be backed-up by internet-based e-mail communications?

Response: **This question is outside the scope of the project. Alternate forms of communication and back-ups were not included in the FERC directive or SAR scope.**

We suggest that the SDT, for the sake of clarification, add a Technical and Guidance Section of the Standard. For example, add the following suggested wording:

Guidance Section

Requirement R4:

Same Type, Different Technologies - Alternative Interpersonal Communication capabilities are many and evolving with the changing technology. Current examples of viable Alternative Interpersonal Communication capabilities could include digital phone (Voice Over IP), Satellite phone, and/or a Cell Phone network that could individually or collectively serve as a viable alternate/back-up for a dedicated landline fiber-optics voice connection.

Different Types, Different Technologies - A viable Alternative Interpersonal Communication capability for a dedicated direct-digital computer communications protocol might include internet-based e-mail communications. Different types and technologies may be mixed in communicating with different entities. GOP back-up could be cell phone, while the RC back-up could be e-mail.

Requirement R9 – Each Reliability Coordinator, Transmission Operator, and Balancing Authority must test its Alternative Interpersonal Communication capability at least once each calendar month. If the test is unsuccessful, the responsible entity must initiate action to repair or designate a replacement Alternative Interpersonal Communication capability within **2 hours**.

QUESTIONS:

• Is the expectation that the repair be “initiated” within two (2) hours and is this realistic?

• What is “initiate action to repair?” If the system operator sends an e-mail repair request to IT, is that sufficient to “initiate action to repair?”

• If action cannot be initiated within two (2) hours, is this a

reportable event?

• What happens if the system operator must take other specific actions to follow an RC or TOP reliability directive, e.g., to protect system reliability, then does the entity get an exception, a free “pass,” on the two (2) hour requirement?

• Would the SDT accept a longer initiation time, e.g., four (4) hours?

• Would the SDT accept an exception clause for reliability directives and system emergencies, i.e., add the wording to R9 “... initiate action to repair within 2 hours, except during a declared system emergency or unless required to follow RC, BA or TOP directive(s) to protect, maintain or restore system reliability.”

There is an error in the R9 and R10 VSL table that has been carried over from the COM-001-2 version. In the R9 Lower VSL column, it states “...but failed to initiate action to repair or designate a replacement Alternative Interpersonal Communication in more than 2 hours and less than or equal to 4 hours upon an unsuccessful test”. The RC, TOP, BA did not fail to initiate the action, they did the action, but not within the time required. The VSL should be rephrased to remove the word “failed”. The same comment applies to R9 Moderate, High and Severe VSL.

A similar comment applies to the R10 VSL. The RC, TOP and BA did not fail to notify the entities identified in R1, R3 and R5, they did it, just not in the time required. It should read “...notified the entities in R1, R3 and R5 respectively upon detection of a failure of its Interpersonal Communication capability, but in a delay of more than 60 minutes and less than or equal to 70 minutes). The same comment applies to R10

Moderate, High and Severe VSL.

Response: These questions are outside the scope of the project. Alternate forms of communication and back-ups were not included in the FERC directive or SAR scope.

Venona Greaff - Oxy - Occidental Chemical - 7 -

Group Name: Oxy

Group Member Name	Entity	Region	Segments
Venona Greaff	Occidental Chemical Corporation	SERC	7
Michelle D'Antuono	Ingleside Cogeneration LP.	TRE	5

Answer Comment:

OCC does not agree that the statutory term “Reliable Operation”, which relates to the Bulk Power System, should be used in the context of requirements applicable to the Bulk Electric System. They are not the same and are inconsistent with the principles of clarity that are fundamental to reliability compliance oversight.

Additionally, OCC believes that the proposed new requirements apply to two individuals located in the same work center. Registered Entities with a large multi-function work center may choose to include those forms of communication, but that should be their choice. However, M12 and M13 leave open the possibility that CEA’s will be second-guessing the Operating Entity’s choice of applicable communications – which we do not believe is the SDT’s intent.

Response: Reviewing the defined term “Reliable Operations” is outside the scope of this project.

The requirements and measures do not require specific types of evidence, but instead refer to the mediums and capabilities. An entity could provide evidence appropriate to its situations and acceptable to the compliance enforcement authority on an individual basis.

The Measures of the proposed R12 and R13 leave the entity flexibility for the medium that best fits their facts and circumstances.

Colby Bellville - Duke Energy - 1,3,5,6 - FRCC,SERC,RFC

Group Name: Duke Energy

Group Member Name	Entity	Region	Segments
Doug Hils	Duke Energy	RFC	1
Lee Schuster	Duke Energy	FRCC	3
Dale Goodwine	Duke Energy	SERC	5
Greg Cecil	Duke Energy	RFC	6

Answer Comment:

Duke Energy requests confirmation from the drafting team that the intent of this standard is to address only that an entity have the capabilities to exchange information that is necessary for the Reliable Operation of the BES, and not individual instances where field personnel may lose communication capability depending on geographic situation. For example, an entity may have the physical capability (via SAT Phone, etc) to communicate with field personnel, but said field personnel enters into an area where communication is limited based on mountainous terrain. It is our interpretation that this momentary interruption is not an instance of non-compliance, and that as long as a permanent capability to communicate exists (existence of the SAT

phone), the entity would be considered compliant. Is this interpretation accurate?

Response: **Yes.**

Duke Energy suggests the removal of the term “switching” from the phrase “field switching personnel” found in the measure of both requirements. We feel that the removal of the term promotes greater flexibility for entity interpretation, and more closely aligns with the language that exists in FERC Order 808.

Response: **The SDT agrees and has modified the Requirement to include field personnel as one of the examples.**

Duke Energy recommends the drafting team consider the following term and definition to be used in place of “internal Interpersonal Communication”:

Intrapersonal Communication:

Any medium that allows two or more individuals to interact, consult, or exchange information within the same functional entity or between a control center and field personnel.

We feel that this definition fits the context with which the drafting team was intending, and helps bring clarity to an area that may be considered confusing to some in the industry.

Response: **The current revision to the requirements to add clarity to what internal Interpersonal Communication capabilities include should eliminate the need for a separate defined term.**

Ben Li - Independent Electricity System Operator - 2 - NPCC

Group Name: ISO/RTO Council Standards Review Committee

Group Member Name	Entity	Region	Segments
Charles Yeung	SPP	SPP	2
Greg Campoli	NYISO	NPCC	2
Ali Miremadi	CAISO	WECC	2
Ben Li	IESO	NPCC	2
Kathleen Goodman	ISO-NE	NPCC	2
Mark Holman	PJM	RFC	2
Terry Bilke	MISO	MRO	2

Answer Comment:

The SRC recommends:

- that the SDT offer the Industry the option (and FERC the alternative) to make this capability a certification requirement rather than a relativity standard requirement that the SDT

Response: **FERC directed NERC “to develop modifications to COM-001-2.1, or to develop a new standard, to address our concerns regarding ensuring the adequacy of internal communications capability whenever internal communications could directly affect the reliable operation of the Bulk-Power System.” R12 and R13 address reliability**

gaps identified in Order No. 808 and are consistent with the approved Requirements in COM-001-2.1.

- the phrase “information that is necessary for the reliable operation of the BES” be replaced by “Operating Instructions.” The phrase “necessary for reliable operation of the BES” is unnecessary; not addressed in the measures; and creates unneeded ambiguity.

Response: **“Information necessary for the Reliable Operation of the BES” go beyond an Operating Instruction. FERC used the phrase “could directly affect the Reliable Operation of the BPS” in P 41, and the SDT concluded that using the proposed language is consistent with the language in the FERC Order.**

- the SDT revise Requirements 12 & 13 to clarify what “internal” communications means so that the Requirements are clear about the applicability of these requirements. This issue could be addressed by moving the language from the 3rd bullet of Measures 12 & 13 which reads – “Geographically separate control centers within the same functional entity” – into the Requirements such that R12 and R13 will read:

R12. Each Reliability Coordinator, Transmission Operator, Generator Operator, and Balancing Authority shall have internal Interpersonal Communication capabilities for the exchange of information between geographically separate control centers within the same functional entity that is necessary for the Reliable Operation of the BES.

R13. Each Distribution Provider shall have internal Interpersonal Communication capabilities for the exchange of information between geographically separate control centers within the same functional entity that is necessary for the Reliable Operation of the BES.

The 3rd bullet of Measures M12 & M13 needs to be deleted or corrected. The “example” provided in the 3rd bullet does not give an example of communications “capability”. It provides an illustration of what “internal” means, and as noted above, that should be in the Requirement itself.

- If the 3rd bullet of Measures M12 & M13 is kept, then fixing the bullet so that the references to communications between a control center and field switching personnel refer to such communications as occurring within the same Registered Entity (i.e., “internal”).
- If the 3rd bullet in Measures M12 and M13 are kept, clarify the references to “field switching personnel” by including a reference to the NERC Glossary, so that the Measures are not relying on an undefined term. Perhaps the Measures could refer to “personnel that operate or maintain Facilities” (or some other term from the NERC Glossary).

Response: **The SDT reviewed the FERC Order and concluded that the two scenarios were intended to serve as examples and not limitations. The SDT agrees that the examples are more appropriate in the Requirement and has addressed this in the current draft of COM-001-3.**

Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC

Group Name:

Southern Company

Group Member Name	Entity	Region	Segments
Robert A. Schaffeld	Southern Company Services, Inc.	SERC	1
R. Scott Moore	Alabama Power Company	SERC	3
William D. Shultz	Southern Company Generation	SERC	5
John J. Ciza	Southern Company Generation and Energy Marketing	SERC	6

Answer Comment:

Southern recommends that the proposed requirements be modified as follows:

R12. Each Reliability Coordinator, Transmission Operator, and Balancing Authority that identifies the need to exchange information necessary for the Reliable Operation of the BES between geographically separate control centers within the same functional entity, or between a control center and field switching personnel shall have Interpersonal Communication capability addressing how this information is to be exchanged.

R13. Each Distribution Provider and Generator Operator that identifies the need to exchange information necessary for the Reliable Operation of the BES between geographically separate control centers within the same functional entity, or between a control center and field switching personnel shall have Interpersonal Communication capability addressing how this information is to be exchanged.

Response: The SDT reviewed the FERC Order and concluded that the two scenarios were intended to serve as examples and not limitations. The SDT agrees that the examples are more appropriate in the Requirement and has addressed this in the current draft of COM-001-3.

Gerry Adamski - Essential Power, LLC - 5 -

Answer Comment:

Essential Power supports the comments submitted by PJM regarding this proposed standard.

Response: See response to PJM comments.

Richard Vine - California ISO - 2 -

Answer Comment:

The California ISO suggests that the drafting team consider removing the R5.3 requirement for interpersonal communications between the Balancing Authority (BA) and Distribution Provider (DP) since this relationship doesn't always occur in practice. In particular, in the ISO's Balancing Authority Area communications with the Distribution Provider would occur through the Transmission Operator function, and as such there is no need for Interpersonal Communication between the BA and DP.

This same reasoning might apply to requirement R7.1 as well.

Response: R5.3 and R7.1 are outside the scope of the project.

Rachel Coyne - Texas Reliability Entity, Inc. - 10 -

Answer Comment:

Texas RE is still concerned about the use of the term Transmission Operator Area (which appears in R3.2, R3.3, R3.4, R4.2, and M4) and what that may introduce in terms of a responsible entity obligations. Please see Texas RE's comments submitted for the Initial

Ballot of Project 2007-06.2. While those requirements are not within the scope of this Standard Authorization Request, Texas RE is concerned there will be misunderstandings regarding the applicability of other requirements due to the use of the term.

Response: Reviewing the term Transmission Operator Area is outside the scope of this project.

Texas RE noticed the third bullet point in both Measure 12 (M12) and Measure 13 (M13) does not follow the same pattern as the previous two bullets. Texas RE recommends eliminating the third bullet in both M12 and M13 or, alternatively, move them into the language of the Requirements themselves.

Response: The SDT reviewed the FERC Order and concluded that the two scenarios were intended to serve as examples and not limitations. The SDT agrees that the examples are more appropriate in the Requirement and has addressed this in the current draft of COM-001-3.

M12 lists types of evidence that a Reliability Coordinator, Transmission Operator, Generation Operator, and Balancing Authority “shall have and provide upon request,” including evidence of “physical assets” or “dated evidence, such as equipment specifications and installation documentation, operating procedures, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications.” M13 contains identical language regarding forms of evidence for Distribution Providers.

In contrast to these evidentiary examples, the third bullet point in M12 and M13 does not list types of evidence necessary to demonstrate compliance. Rather, it lists two examples, presumably taken from FERC

Order No. 808, of situations in which internal Interpersonal Communication capability for the exchange of information could be necessary for the reliable operation of the Bulk Electric System (BES). As such, it is confusing to include these elements in the list of evidence Registered Entities should retain to demonstrate compliance with Requirements 12 and 13.

To address this, Texas RE recommends eliminating the third bullet point in M12 and M13. In the alternative, the third point in these two measures should be moved to the text of Requirements 12 and 13, as well as clarified such that it refers to examples of situations in which adequate internal Interpersonal Communications are necessary for the reliable operation of the BES by revising it to read as follows: “Examples *of situations in which the exchange of information could be necessary for the Reliable Operation of the BES* include, but are not limited to, *communications* between geographically separate control centers within the same functional entity, or between a control center and field switching personnel.”

Elizabeth Axson - Electric Reliability Council of Texas, Inc. - 2 -

Answer Comment:

Comments: ERCOT proposes the above revisions to the proposed requirements to ensure that there is clarity regarding the expectations and to allow those entities that are most familiar with their operating configuration to identify, determine, and establish the Interpersonal Communication capabilities that are most appropriate for its structure and operating characteristics. Without clarity and the ability of entities to identify what communications capabilities best facilitate its operations, it is possible that significant cost and ongoing maintenance will be expended with little or no benefit to reliability.

Response: See previous response to Q1.

Joshua Andersen - Salt River Project - 1,3,5,6 - WECC

Answer Comment:

None

Brian Van Gheem - ACES Power Marketing - 6 - NA - Not Applicable

Answer Comment:

1) We are concerned that the changes proposed in Reliability Standard COM-001-3 are too vague and provide a wide range of interpretations for auditors. We feel the SDT's approach to addressing the FERC Order No. 808 directive could be handled through modification of existing requirements.

Response: **The SDT concluded that the two additional proposed Requirements addressed the FERC directives in Order No. 808 in the most efficient and effective manner.**

2) The VSLs for Requirements R12 and R13 currently have only a Severe VSL identified. We believe the VSL criteria for these requirements should focus less on the ability to possess Interpersonal Communication capabilities and more on how they will be used within a specific timeframe. We feel this shift would move these requirements more towards human performance improvements and situational awareness for System Operators and supporting staff.

Response: **These requirements are not amenable to being partitioned into multiple VSLs. An entity either has internal Interpersonal Communications capabilities or not, regardless of the media used.**

3) We feel the six-month time frame listed within the implementation plan is too short for smaller entities, like DPs, to incorporate the infrastructure needed to demonstrate compliance with this standard. We recommend a 18-month time frame to better prepare all entities, as this allow entities time to budget and allocate resources that support the documentation of internal communications.

Response: **The SDT agrees and has proposed extending the implementation period to 9 months.**

- 4) We thank you for this opportunity to comment on this standard.

End of Report

Standard Development Timeline

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

Description of Current Draft

Completed Actions	Date
Standards Committee approved Standard Authorization Request (SAR) for posting	June 10, 2015
SAR posted for comment	June 11, 2015
45-day comment period with ballot	September 25, 2015

Anticipated Actions	Date
45-day formal comment period with additional ballot	March 2016
10-day final ballot	May 2016
NERC Board (Board) adoption	August 2016

New or Modified Term(s) Used in NERC Reliability Standards

This section includes all new or modified terms used in the proposed standard that will be included in the *Glossary of Terms Used in NERC Reliability Standards* upon applicable regulatory approval. Terms used in the proposed standard that are already defined and are not being modified can be found in the *Glossary of Terms Used in NERC Reliability Standards*. The new or revised terms listed below will be presented for approval with the proposed standard. Upon Board adoption, this section will be removed.

Term(s): None

When this standard receives Board adoption, the rationale boxes will be moved to the Supplemental Material Section of the standard.

A. Introduction

1. **Title:** **Communications**
2. **Number:** **COM-001-3**
3. **Purpose:** To establish Interpersonal Communication capabilities necessary to maintain reliability.
4. **Applicability:**
 - 4.1. **Functional Entities:**
 - 4.1.1. Transmission Operator
 - 4.1.2. Balancing Authority
 - 4.1.3. Reliability Coordinator
 - 4.1.4. Distribution Provider
 - 4.1.5. Generator Operator
5. **Effective Date:** See Implementation Plan

B. Requirements and Measures

- R1.** 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):
[Violation Risk Factor: High] [Time Horizon: Real-time Operations]
 - 1.1.** All Transmission Operators and Balancing Authorities within its Reliability Coordinator Area.
 - 1.2.** Each adjacent Reliability Coordinator within the same Interconnection.
- M1.** Each Reliability Coordinator shall have and provide upon request evidence that it has Interpersonal Communication capability with all Transmission Operators and Balancing Authorities within its Reliability Coordinator Area and with each adjacent Reliability Coordinator within the same Interconnection, which could include, but is not limited to:
 - physical assets, or
 - dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R1.)

- R2.** Each Reliability Coordinator shall designate an Alternative Interpersonal Communication capability with the following entities: *[Violation Risk Factor: High]*
[Time Horizon: Real-time Operations]
- 2.1.** All Transmission Operators and Balancing Authorities within its Reliability Coordinator Area.
 - 2.2.** Each adjacent Reliability Coordinator within the same Interconnection.
- M2.** Each Reliability Coordinator shall have and provide upon request evidence that it designated an Alternative Interpersonal Communication capability with all Transmission Operators and Balancing Authorities within its Reliability Coordinator Area and with each adjacent Reliability Coordinator within the same Interconnection, which could include, but is not limited to:
- physical assets, or
 - dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R2.)
- R3.** Each Transmission Operator shall have Interpersonal Communication capability with the following entities (unless the Transmission Operator detects a failure of its Interpersonal Communication capability in which case Requirement R10 shall apply): *[Violation Risk Factor: High]* *[Time Horizon: Real-time Operations]*
- 3.1.** Its Reliability Coordinator.
 - 3.2.** Each Balancing Authority within its Transmission Operator Area.
 - 3.3.** Each Distribution Provider within its Transmission Operator Area.
 - 3.4.** Each Generator Operator within its Transmission Operator Area.
 - 3.5.** Each adjacent Transmission Operator synchronously connected.
 - 3.6.** Each adjacent Transmission Operator asynchronously connected.
- M3.** Each Transmission Operator shall have and provide upon request evidence that it has Interpersonal Communication capability with its Reliability Coordinator, each Balancing Authority, Distribution Provider, and Generator Operator within its Transmission Operator Area, and each adjacent Transmission Operator asynchronously or synchronously connected, which could include, but is not limited to:
- Physical assets, or
 - Dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communication. (R3.)

- R4.** Each Transmission Operator shall designate an Alternative Interpersonal Communication capability with the following entities: *[Violation Risk Factor: High]*
[Time Horizon: Real-time Operations]
- 4.1.** Its Reliability Coordinator.
 - 4.2.** Each Balancing Authority within its Transmission Operator Area.
 - 4.3.** Each adjacent Transmission Operator synchronously connected.
 - 4.4.** Each adjacent Transmission Operator asynchronously connected.
- M4.** Each Transmission Operator shall have and provide upon request evidence that it designated an Alternative Interpersonal Communication capability with its Reliability Coordinator, each Balancing Authority within its Transmission Operator Area, and each adjacent Transmission Operator asynchronously and synchronously connected, which could include, but is not limited to:
- Physical assets, or
 - Dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R4.)
- R5.** Each Balancing Authority shall have Interpersonal Communication capability with the following entities (unless the Balancing Authority detects a failure of its Interpersonal Communication capability in which case Requirement R10 shall apply): *[Violation Risk Factor: High]* *[Time Horizon: Real-time Operations]*
- 5.1.** Its Reliability Coordinator.
 - 5.2.** Each Transmission Operator that operates Facilities within its Balancing Authority Area.
 - 5.3.** Each Distribution Provider within its Balancing Authority Area.
 - 5.4.** Each Generator Operator that operates Facilities within its Balancing Authority Area.
 - 5.5.** Each Adjacent Balancing Authority.
- M5.** Each Balancing Authority shall have and provide upon request evidence that it has Interpersonal Communication capability with its Reliability Coordinator, each Transmission Operator and Generator Operator that operates Facilities within its Balancing Authority Area, each Distribution Provider within its Balancing Authority Area, and each adjacent Balancing Authority, which could include, but is not limited to:
- Physical assets, or

- Dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R5.)
- R6.** Each Balancing Authority shall designate an Alternative Interpersonal Communication capability with the following entities: *[Violation Risk Factor: High] [Time Horizon: Real-time Operations]*
- 6.1.** Its Reliability Coordinator.
 - 6.2.** Each Transmission Operator that operates Facilities within its Balancing Authority Area.
 - 6.3.** Each Adjacent Balancing Authority.
- M6.** Each Balancing Authority shall have and provide upon request evidence that it designated an Alternative Interpersonal Communication capability with its Reliability Coordinator, each Transmission Operator that operates Facilities within its Balancing Authority Area, and each adjacent Balancing Authority, which could include, but is not limited to:
- Physical assets, or
 - Dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R6.)
- R7.** Each Distribution Provider shall have Interpersonal Communication capability with the following entities (unless the Distribution Provider detects a failure of its Interpersonal Communication capability in which case Requirement R11 shall apply): *[Violation Risk Factor: Medium] [Time Horizon: Real-time Operations]*
- 7.1.** Its Balancing Authority.
 - 7.2.** Its Transmission Operator.
- M7.** Each Distribution Provider shall have and provide upon request evidence that it has Interpersonal Communication capability with its Transmission Operator and its Balancing Authority, which could include, but is not limited to:
- Physical assets, or
 - Dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R7.)
- R8.** Each Generator Operator shall have Interpersonal Communication capability with the following entities (unless the Generator Operator detects a failure of its Interpersonal Communication capability in which case Requirement R11 shall apply): *[Violation Risk Factor: High] [Time Horizon: Real-time Operations]*

8.1. Its Balancing Authority.

8.2. Its Transmission Operator.

M8. Each Generator Operator shall have and provide upon request evidence that it has Interpersonal Communication capability with its Balancing Authority and its Transmission Operator, which could include, but is not limited to:

- Physical assets, or
- Dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R8.)

R9. Each Reliability Coordinator, Transmission Operator, and Balancing Authority shall 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. *[Violation Risk Factor: Medium][Time Horizon: Real-time Operations, Same-day Operations]*

M9. Each Reliability Coordinator, Transmission Operator, and Balancing Authority shall have and provide upon request evidence that it tested, at least once each calendar month, its Alternative Interpersonal Communication capability designated in Requirements 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 Communication capability within 2 hours. Evidence could include, but is not limited to: dated and time-stamped test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R9.)

R10. 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 capability that lasts 30 minutes or longer. *[Violation Risk Factor: Medium] [Time Horizon: Real-time Operations]*

M10. Each Reliability Coordinator, Transmission Operator, and Balancing Authority shall have and provide upon request evidence that it notified entities as identified in Requirements R1, R3, and R5, respectively within 60 minutes of the detection of a failure of its Interpersonal Communication capability that lasted 30 minutes or longer. Evidence could include, but is not limited to: dated and time-stamped test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R10.)

- R11.** Each Distribution Provider and Generator Operator that detects a failure of its Interpersonal Communication capability shall consult each entity affected by the failure, as identified in Requirement R7 for a Distribution Provider or Requirement R8 for a Generator Operator, to determine a mutually agreeable action for the restoration of its Interpersonal Communication capability. *[Violation Risk Factor: Medium] [Time Horizon: Real-time Operations]*
- M11.** Each Distribution Provider and Generator Operator that detected a failure of its Interpersonal Communication capability shall have and provide upon request evidence that it consulted with each entity affected by the failure, as identified in Requirement R7 for a Distribution Provider or Requirement R8 for a Generator Operator, to determine mutually agreeable action to restore the Interpersonal Communication capability. Evidence could include, but is not limited to: dated operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R11.)
- R12.** Each Reliability Coordinator, Transmission Operator, Generator Operator, and Balancing Authority shall have internal Interpersonal Communication capabilities for the exchange of information necessary for the Reliable Operation of the BES. This includes communication capabilities between Control Centers within the same functional entity, or between a Control Center and field personnel. *[Violation Risk Factor: High] [Time Horizon: Real-time Operations]*
- M12.** Each Reliability Coordinator, Transmission Operator, Generator Operator, and Balancing Authority shall have and provide upon request evidence that it has internal Interpersonal Communication capability, which could include, but is not limited to:
- physical assets, or
 - dated evidence, such as, equipment specifications and installation documentation, operating procedures, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications.
- R13.** Each Distribution Provider shall have internal Interpersonal Communication capabilities for the exchange of information necessary for the Reliable Operation of the BES. This includes communication capabilities between control centers within the same functional entity, or between a control center and field personnel. *[Violation Risk Factor: Medium] [Time Horizon: Real-time Operations]*
- M13.** Each Distribution Provider shall have and provide upon request evidence that it has internal Interpersonal Communication capability, which could include, but is not limited to:
- physical assets, or
 - dated evidence, such as, equipment specifications and installation documentation, operating procedures, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications.

C. Compliance

1. Compliance Monitoring Process

1.1. Compliance Enforcement Authority:

“Compliance Enforcement Authority” or the Regional Entity, or any entity as otherwise designated by an Applicable Governmental Authority, in their respective roles of monitoring and/or enforcing compliance with mandatory and enforceable Reliability Standards in their respective jurisdictions.

1.2. Evidence Retention

The following evidence retention period(s) 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 applicable entity shall keep data or evidence to show compliance as identified below unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation:

- The Reliability Coordinator for Requirements R1, R2, R9, and R10, Measures M1, M2, M9, and M10 shall retain written documentation for the most recent twelve calendar months and voice recordings for the most recent 90 calendar days.
- The Transmission Operator for Requirements R3, R4, R9, and R10, Measures M3, M4, M9, and M10 shall retain written documentation for the most recent twelve calendar months and voice recordings for the most recent 90 calendar days.
- The Balancing Authority for Requirements R5, R6, R9, and R10, Measures M5, M6, M9, and M10 shall retain written documentation for the most recent twelve calendar months and voice recordings for the most recent 90 calendar days.
- The Distribution Provider for Requirements R7 and R11, Measures M7 and M11 shall retain written documentation for the most recent twelve calendar months and voice recordings for the most recent 90 calendar days.
- The Generator Operator for Requirements R8 and R11, Measures M8 and M11 shall retain written documentation for the most recent twelve calendar months and voice recordings for the most recent 90 calendar days.
- Responsible entities under Requirement R12, Measure M12 shall retain written documentation for the most recent twelve calendar months and voice recordings for the most recent 90 calendar days.
- Responsible entities under Requirement R13, Measure M13 shall retain written documentation for the most recent twelve calendar months and voice recordings for the most recent 90 calendar days.

1.3. Compliance Monitoring and Enforcement Program

As defined in the NERC Rules of Procedure, “Compliance Monitoring and Enforcement Program” refers to the identification of the processes that will be used to evaluate data or information for the purpose of assessing performance or outcomes with the associated Reliability Standard.

Violation Severity Levels

R #	Violation Severity Levels			
	Lower VSL	Moderate VSL	High VSL	Severe VSL
R1.	N/A	N/A	The Reliability Coordinator failed to have Interpersonal Communication capability with one of the entities listed in Requirement R1, Parts 1.1 or 1.2, except when the Reliability Coordinator detected a failure of its Interpersonal Communication capability in accordance with Requirement R10.	The Reliability Coordinator failed to have Interpersonal Communication capability with two or more of the entities listed in Requirement R1, Parts 1.1 or 1.2, except when the Reliability Coordinator detected a failure of its Interpersonal Communication capability in accordance with Requirement R10.
R2.	N/A	N/A	The Reliability Coordinator failed to designate Alternative Interpersonal Communication capability with one of the entities listed in Requirement R2, Parts 2.1 or 2.2.	The Reliability Coordinator failed to designate Alternative Interpersonal Communication capability with two or more of the entities listed in Requirement R2, Parts 2.1 or 2.2.

R3.	N/A	N/A	The Transmission Operator failed to have Interpersonal Communication capability with one of the entities listed in Requirement R3, Parts 3.1, 3.2, 3.3, 3.4, 3.5, or 3.6, except when the Transmission Operator detected a failure of its Interpersonal Communication capability in accordance with Requirement R10.	The Transmission Operator failed to have Interpersonal Communication capability with two or more of the entities listed in Requirement R3, Parts 3.1, 3.2, 3.3, 3.4, 3.5, or 3.6, except when the Transmission Operator detected a failure of its Interpersonal Communication capability in accordance with Requirement R10.
R4.	N/A	N/A	The Transmission Operator failed to designate Alternative Interpersonal Communication capability with one of the entities listed in Requirement R4, Parts 4.1, 4.2, 4.3, or 4.4.	The Transmission Operator failed to designate Alternative Interpersonal Communication capability with two or more of the entities listed in Requirement R4, Parts 4.1, 4.2, 4.3, or 4.4.
R5.	N/A	N/A	The Balancing Authority failed to have Interpersonal Communication capability with one of the entities listed in Requirement R5, Parts 5.1, 5.2, 5.3, 5.4, or 5.5, except when the	The Balancing Authority failed to have Interpersonal Communication capability with two or more of the entities listed in Requirement R5, Parts 5.1, 5.2, 5.3, 5.4, or 5.5, except

			Balancing Authority detected a failure of its Interpersonal Communication capability in accordance with Requirement R10.	when the Balancing Authority detected a failure of its Interpersonal Communication capability in accordance with Requirement R10.
R6.	N/A	N/A	The Balancing Authority failed to designate Alternative Interpersonal Communication capability with one of the entities listed in Requirement R6, Parts 6.1, 6.2, or 6.3.	The Balancing Authority failed to designate Alternative Interpersonal Communication capability with two or more of the entities listed in Requirement R6, Parts 6.1, 6.2, or 6.3.
R7.	N/A	N/A	The Distribution Provider failed to have Interpersonal Communication capability with one of the entities listed in Requirement R7, Parts 7.1 or 7.2, except when the Distribution Provider detected a failure of its Interpersonal Communication capability in accordance with Requirement R11.	The Distribution Provider failed to have Interpersonal Communication capability with two or more of the entities listed in Requirement R7, Parts 7.1 or 7.2, except when the Distribution Provider detected a failure of its Interpersonal Communication capability in accordance with Requirement R11.
R8.	N/A	N/A	The Generator Operator failed to have Interpersonal	The Generator Operator failed to have Interpersonal

			Communication capability with one of the entities listed in Requirement R8, Parts 8.1 or 8.2, except when a Generator Operator detected a failure of its Interpersonal Communication capability in accordance with Requirement R11.	Communication capability with two or more of the entities listed in Requirement R8, Parts 8.1 or 8.2, except when a Generator Operator detected a failure of its Interpersonal Communication capability in accordance with Requirement R11.
R9.	The Reliability Coordinator, Transmission Operator, or Balancing Authority tested the Alternative Interpersonal Communication capability but failed to initiate action to repair or designate a replacement Alternative Interpersonal Communication in more than 2 hours and less than or equal to 4 hours upon an unsuccessful test.	The Reliability Coordinator, Transmission Operator, or Balancing Authority tested the Alternative Interpersonal Communication capability but failed to initiate action to repair or designate a replacement Alternative Interpersonal Communication in more than 4 hours and less than or equal to 6 hours upon an unsuccessful test.	The Reliability Coordinator, Transmission Operator, or Balancing Authority tested the Alternative Interpersonal Communication capability but failed to initiate action to repair or designate a replacement Alternative Interpersonal Communication in more than 6 hours and less than or equal to 8 hours upon an unsuccessful test.	The Reliability Coordinator, Transmission Operator, or Balancing Authority failed to test the Alternative Interpersonal Communication capability once each calendar month. OR The Reliability Coordinator, Transmission Operator, or Balancing Authority tested the Alternative Interpersonal Communication capability but failed to initiate action to repair or designate a replacement Alternative Interpersonal Communication in more

				than 8 hours upon an unsuccessful test.
R10.	The Reliability Coordinator, Transmission Operator, or Balancing Authority failed to notify the entities identified in Requirements R1, R3, and R5, respectively upon the detection of a failure of its Interpersonal Communication capability in more than 60 minutes but less than or equal to 70 minutes.	The Reliability Coordinator, Transmission Operator, or Balancing Authority failed to notify the entities identified in Requirements R1, R3, and R5, respectively upon the detection of a failure of its Interpersonal Communication capability in more than 70 minutes but less than or equal to 80 minutes.	The Reliability Coordinator, Transmission Operator, or Balancing Authority failed to notify the entities identified in Requirements R1, R3, and R5, respectively upon the detection of a failure of its Interpersonal Communication capability in more than 80 minutes but less than or equal to 90 minutes.	The Reliability Coordinator, Transmission Operator, or Balancing Authority failed to notify the entities identified in Requirements R1, R3, and R5, respectively upon the detection of a failure of its Interpersonal Communication capability in more than 90 minutes.
R11.	N/A	N/A	N/A	The Distribution Provider or Generator Operator that detected a failure of its Interpersonal Communication capability failed to consult with each entity affected by the failure, as identified in Requirement R7 for a Distribution Provider or Requirement R8 for a Generator Operator, to determine a mutually agreeable action for the restoration of the

				Interpersonal Communication capability.
R12.	N/A	N/A	N/A	The Reliability Coordinator, Transmission Operator, Generator Operator, or Balancing Authority failed to have internal Interpersonal Communication capability for the exchange of operating information.
R13.	N/A	N/A	N/A	The Distribution Provider failed to have internal Interpersonal Communication capability for the exchange of operating information.

D. Regional Variances

None.

E. Associated Documents

None.

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
1.1	October 29, 2008	BOT adopted errata changes; updated version number to "1.1"	Errata
2	November 7, 2015	Adopted by Board of Trustees	Revised in accordance with SAR for Project 2006-06, Reliability Coordination (RC SDT). Replaced R1 with R1-R8; R2 replaced by R9; R3 included within new R1; R4 remains enforce pending Project 2007-02; R5 redundant with EOP-008-0, retiring R5 as redundant with EOP-008-0, R1; retiring R6, relates to ERO procedures; R10 & R11, new.
2	April 16, 2015	FERC Order issued approving COM-001-2	
2.1	November 13, 2015	FERC Order issued approving errata to COM-001-2.1	Errata to correct inadvertent numbering errors in the parts to Requirement R6.

Rationale

Rationale for Requirement R12:

The focus of the requirement is on the *capabilities* that an entity must have for the purpose of exchanging information necessary for the Reliable Operation of the BES. That is, the entity must have the capability to communicate internally by, “any medium that allows two or more individuals to interact, consult, or exchange information.” The standard does not prescribe the specific type of capability (*i.e.*, hardware or software). The determination of the appropriate type of capability is left to the entity. Regardless, the entity must have the capability to exchange information *whenever* the internal Interpersonal Communications may directly impact operations of the BES. Therefore, the applicable entities must have the capability to exchange information between Control Centers of that functional entity. For example, a TOP with multiple control centers that are geographical separated must have the capability to communicate internally between or among those control centers. The communication capability may occur through any medium that supports Interpersonal Communication, such as land line telephone, cellular device, Voice Over Internet Protocol (VOIP), satellite telephone, radio, or electronic message. Also, applicable entities must have the capability to exchange information between a Control Center and field personnel. For example, a TOP system operator providing instruction to a field personnel to perform a reliability activity, such as switching Facilities.

In the course of normal control center operation, system operators within a single Control Center communicate as needed to ensure the reliability of the BES, including face-to-face communications. These internal communications are ongoing and occur throughout the day as part of day-to-day operations. However, these types of communications are not the focus of this requirement. The focus is on the capability of an entity to communicate internally where face-to-face communications are not available.

Rationale for Requirement R13:

The NERC Glossary definition for “Control Center” was not used in this requirement because Distribution Provider is not listed as an entity within the definition. The Glossary definition for “Control Center” is, “[o]ne or more facilities hosting operating personnel that monitor and control the Bulk Electric System (BES) in real-time to perform the reliability tasks, including their associated data centers, of: 1) a Reliability Coordinator, 2) a Balancing Authority, 3) a Transmission Operator for transmission Facilities at two or more locations, or 4) a Generator Operator for generation Facilities at two or more locations.” Therefore in this requirement, control center is intended to mean the Distribution Provider facilities hosting operating personnel performing the operational functions of the Distribution Provider that are necessary for the reliable operation of the BES, often referred to as a distribution control center, or distribution center. Examples of Distribution Providers exchanging information necessary for the Reliable Operation of the BES include Distribution Providers included in restoration plans, load shed plans, load reconfiguration, and voltage control plans. The Distribution Provider must have the capability to exchange information *whenever* the internal Interpersonal

Supplemental Material

Communications may directly impact operations of the BES. Therefore, the Distribution Provider must have the capability to exchange information between control centers as necessary. For example, a Distribution Provider with multiple control centers that are geographical separated, where face-to-face communications are not available, must have the capability to communicate internally between or among those control centers.

Standard Development Timeline

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

Description of Current Draft

Completed Actions	Date
Standards Committee approved Standard Authorization Request (SAR) for posting	June 10, 2015
SAR posted for comment	June 11, 2015
30 45-day comment period with ballot	September 25, 2015
45-day comment period with ballot	<u>October 25, 2015</u>

Anticipated Actions	Date
45-day formal comment period with ballot	September 2015
45-day formal comment period with additional ballot	November 2015 <u>March 2016</u>
10-day final ballot	February <u>May</u> 2016
NERC Board (Board) adoption	May <u>August</u> 2016

New or Modified Term(s) Used in NERC Reliability Standards

This section includes all new or modified terms used in the proposed standard that will be included in the *Glossary of Terms Used in NERC Reliability Standards* upon applicable regulatory approval. Terms used in the proposed standard that are already defined and are not being modified can be found in the *Glossary of Terms Used in NERC Reliability Standards*. The new or revised terms listed below will be presented for approval with the proposed standard. Upon Board adoption, this section will be removed.

Term(s): None

When this standard receives Board adoption, the rationale boxes will be moved to the Supplemental Material Section of the standard.

A. Introduction

1. **Title:** **Communications**
2. **Number:** **COM-001-3**
3. **Purpose:** To establish Interpersonal Communication capabilities necessary to maintain reliability.
4. **Applicability:**
 - 4.1. **Functional Entities:**
 - 4.1.1. Transmission Operator
 - 4.1.2. Balancing Authority
 - 4.1.3. Reliability Coordinator
 - 4.1.4. Distribution Provider
 - 4.1.5. Generator Operator
5. **Effective Date:** See Implementation Plan

B. Requirements and Measures

- R1.** 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):
[Violation Risk Factor: High] [Time Horizon: Real-time Operations]
 - 1.1. All Transmission Operators and Balancing Authorities within its Reliability Coordinator Area.
 - 1.2. Each adjacent Reliability Coordinator within the same Interconnection.
- M1.** Each Reliability Coordinator shall have and provide upon request evidence that it has Interpersonal Communication capability with all Transmission Operators and Balancing Authorities within its Reliability Coordinator Area and with each adjacent Reliability Coordinator within the same Interconnection, which could include, but is not limited to:
 - physical assets, or
 - dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R1.)

- R2.** Each Reliability Coordinator shall designate an Alternative Interpersonal Communication capability with the following entities: *[Violation Risk Factor: High]*
[Time Horizon: Real-time Operations]
- 2.1.** All Transmission Operators and Balancing Authorities within its Reliability Coordinator Area.
 - 2.2.** Each adjacent Reliability Coordinator within the same Interconnection.
- M2.** Each Reliability Coordinator shall have and provide upon request evidence that it designated an Alternative Interpersonal Communication capability with all Transmission Operators and Balancing Authorities within its Reliability Coordinator Area and with each adjacent Reliability Coordinator within the same Interconnection, which could include, but is not limited to:
- physical assets, or
 - dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R2.)
- R3.** Each Transmission Operator shall have Interpersonal Communication capability with the following entities (unless the Transmission Operator detects a failure of its Interpersonal Communication capability in which case Requirement R10 shall apply):
[Violation Risk Factor: High] *[Time Horizon: Real-time Operations]*
- 3.1.** Its Reliability Coordinator.
 - 3.2.** Each Balancing Authority within its Transmission Operator Area.
 - 3.3.** Each Distribution Provider within its Transmission Operator Area.
 - 3.4.** Each Generator Operator within its Transmission Operator Area.
 - 3.5.** Each adjacent Transmission Operator synchronously connected.
 - 3.6.** Each adjacent Transmission Operator asynchronously connected.
- M3.** Each Transmission Operator shall have and provide upon request evidence that it has Interpersonal Communication capability with its Reliability Coordinator, each Balancing Authority, Distribution Provider, and Generator Operator within its Transmission Operator Area, and each adjacent Transmission Operator asynchronously or synchronously connected, which could include, but is not limited to:
- Physical assets, or
 - Dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communication. (R3.)

- R4.** Each Transmission Operator shall designate an Alternative Interpersonal Communication capability with the following entities: *[Violation Risk Factor: High]*
[Time Horizon: Real-time Operations]
- 4.1.** Its Reliability Coordinator.
 - 4.2.** Each Balancing Authority within its Transmission Operator Area.
 - 4.3.** Each adjacent Transmission Operator synchronously connected.
 - 4.4.** Each adjacent Transmission Operator asynchronously connected.
- M4.** Each Transmission Operator shall have and provide upon request evidence that it designated an Alternative Interpersonal Communication capability with its Reliability Coordinator, each Balancing Authority within its Transmission Operator Area, and each adjacent Transmission Operator asynchronously and synchronously connected, which could include, but is not limited to:
- Physical assets, or
 - Dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R4.)
- R5.** Each Balancing Authority shall have Interpersonal Communication capability with the following entities (unless the Balancing Authority detects a failure of its Interpersonal Communication capability in which case Requirement R10 shall apply): *[Violation Risk Factor: High]* *[Time Horizon: Real-time Operations]*
- 5.1.** Its Reliability Coordinator.
 - 5.2.** Each Transmission Operator that operates Facilities within its Balancing Authority Area.
 - 5.3.** Each Distribution Provider within its Balancing Authority Area.
 - 5.4.** Each Generator Operator that operates Facilities within its Balancing Authority Area.
 - 5.5.** Each Adjacent Balancing Authority.
- M5.** Each Balancing Authority shall have and provide upon request evidence that it has Interpersonal Communication capability with its Reliability Coordinator, each Transmission Operator and Generator Operator that operates Facilities within its Balancing Authority Area, each Distribution Provider within its Balancing Authority Area, and each adjacent Balancing Authority, which could include, but is not limited to:
- Physical assets, or

- Dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R5.)
- R6.** Each Balancing Authority shall designate an Alternative Interpersonal Communication capability with the following entities: *[Violation Risk Factor: High] [Time Horizon: Real-time Operations]*
- 6.1.** Its Reliability Coordinator.
 - 6.2.** Each Transmission Operator that operates Facilities within its Balancing Authority Area.
 - 6.3.** Each Adjacent Balancing Authority.
- M6.** Each Balancing Authority shall have and provide upon request evidence that it designated an Alternative Interpersonal Communication capability with its Reliability Coordinator, each Transmission Operator that operates Facilities within its Balancing Authority Area, and each adjacent Balancing Authority, which could include, but is not limited to:
- Physical assets, or
 - Dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R6.)
- R7.** Each Distribution Provider shall have Interpersonal Communication capability with the following entities (unless the Distribution Provider detects a failure of its Interpersonal Communication capability in which case Requirement R11 shall apply): *[Violation Risk Factor: Medium] [Time Horizon: Real-time Operations]*
- 7.1.** Its Balancing Authority.
 - 7.2.** Its Transmission Operator.
- M7.** Each Distribution Provider shall have and provide upon request evidence that it has Interpersonal Communication capability with its Transmission Operator and its Balancing Authority, which could include, but is not limited to:
- Physical assets, or
 - Dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R7.)
- R8.** Each Generator Operator shall have Interpersonal Communication capability with the following entities (unless the Generator Operator detects a failure of its Interpersonal Communication capability in which case Requirement R11 shall apply): *[Violation Risk Factor: High] [Time Horizon: Real-time Operations]*

8.1. Its Balancing Authority.

8.2. Its Transmission Operator.

M8. Each Generator Operator shall have and provide upon request evidence that it has Interpersonal Communication capability with its Balancing Authority and its Transmission Operator, which could include, but is not limited to:

- Physical assets, or
- Dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R8.)

R9. Each Reliability Coordinator, Transmission Operator, and Balancing Authority shall 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. *[Violation Risk Factor: Medium][Time Horizon: Real-time Operations, Same-day Operations]*

M9. Each Reliability Coordinator, Transmission Operator, and Balancing Authority shall have and provide upon request evidence that it tested, at least once each calendar month, its Alternative Interpersonal Communication capability designated in Requirements 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 Communication capability within 2 hours. Evidence could include, but is not limited to: dated and time-stamped test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R9.)

R10. 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 capability that lasts 30 minutes or longer. *[Violation Risk Factor: Medium] [Time Horizon: Real-time Operations]*

M10. Each Reliability Coordinator, Transmission Operator, and Balancing Authority shall have and provide upon request evidence that it notified entities as identified in Requirements R1, R3, and R5, respectively within 60 minutes of the detection of a failure of its Interpersonal Communication capability that lasted 30 minutes or longer. Evidence could include, but is not limited to: dated and time-stamped test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R10.)

- R11.** Each Distribution Provider and Generator Operator that detects a failure of its Interpersonal Communication capability shall consult each entity affected by the failure, as identified in Requirement R7 for a Distribution Provider or Requirement R8 for a Generator Operator, to determine a mutually agreeable action for the restoration of its Interpersonal Communication capability. *[Violation Risk Factor: Medium] [Time Horizon: Real-time Operations]*
- M11.** Each Distribution Provider and Generator Operator that detected a failure of its Interpersonal Communication capability shall have and provide upon request evidence that it consulted with each entity affected by the failure, as identified in Requirement R7 for a Distribution Provider or Requirement R8 for a Generator Operator, to determine mutually agreeable action to restore the Interpersonal Communication capability. Evidence could include, but is not limited to: dated operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R11.)
- R12.** Each Reliability Coordinator, Transmission Operator, Generator Operator, and Balancing Authority shall have internal Interpersonal Communication capabilities for the exchange of information ~~that is~~ necessary for the Reliable Operation of the BES. This includes communication capabilities between Control Centers within the same functional entity, or between a Control Center and field personnel. *[Violation Risk Factor: High] [Time Horizon: Real-time Operations]*
- M12.** Each Reliability Coordinator, Transmission Operator, Generator Operator, and Balancing Authority shall have and provide upon request evidence that it ~~has~~ internal Interpersonal Communication capability, which could include, but is not limited to:
- physical assets, or
 - dated evidence, such as, equipment specifications and installation documentation, operating procedures, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications.
 - ~~Examples include, but are not limited to, between geographically separate control centers within the same functional entity, or between a control center and field switching personnel.~~
- R13.** Each Distribution Provider shall have internal Interpersonal Communication capabilities for the exchange of information ~~that is~~ necessary for the Reliable Operation of the BES. This includes communication capabilities between control centers within the same functional entity, or between a control center and field personnel. *[Violation Risk Factor: Medium] [Time Horizon: Real-time Operations]*
- M13.** Each Distribution Provider shall have and provide upon request evidence that it has internal Interpersonal Communication capability, which could include, but is not limited to:
- physical assets, or

- dated evidence, such as, equipment specifications and installation documentation, operating procedures, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications.

~~Examples include, but are not limited to, between geographically separate control centers within the same functional entity, or between a control center and field switching personnel.~~

C. Compliance

1. Compliance Monitoring Process

1.1. Compliance Enforcement Authority:

-“Compliance Enforcement Authority” or -the Regional Entity, or any entity as otherwise designated by an Applicable Governmental Authority, in their respective roles of monitoring and/or enforcing compliance with mandatory and enforceable Reliability Standards in their respective jurisdictions.

1.2. Evidence Retention

The following evidence retention period(s) 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 applicable entity shall keep data or evidence to show compliance as identified below unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation:

- The Reliability Coordinator for Requirements R1, R2, R9, and R10, Measures M1, M2, M9, and M10 shall retain written documentation for the most recent twelve calendar months and voice recordings for the most recent 90 calendar days.
- The Transmission Operator for Requirements R3, R4, R9, and R10, Measures M3, M4, M9, and M10 shall retain written documentation for the most recent twelve calendar months and voice recordings for the most recent 90 calendar days.
- The Balancing Authority for Requirements R5, R6, R9, and R10, Measures M5, M6, M9, and M10 shall retain written documentation for the most recent twelve calendar months and voice recordings for the most recent 90 calendar days.
- The Distribution Provider for Requirements R7 and R11, Measures M7 and M11 shall retain written documentation for the most recent twelve calendar months and voice recordings for the most recent 90 calendar days.
- The Generator Operator for Requirements R8 and R11, Measures M8 and M11 shall retain written documentation for the most recent twelve calendar months and voice recordings for the most recent 90 calendar days.

- Responsible entities under Requirement R12, Measure M-12 shall retain written documentation for the most recent twelve calendar months and voice recordings for the most recent 90 calendar days.
- Responsible entities under Requirement R13, Measure M-13 shall retain written documentation for the most recent twelve calendar months and voice recordings for the most recent 90 calendar days.

1.3. Compliance Monitoring and Enforcement Program

As defined in the NERC Rules of Procedure, “Compliance Monitoring and Enforcement Program” refers to the identification of the processes that will be used to evaluate data or information for the purpose of assessing performance or outcomes with the associated Reliability Standard.

Violation Severity Levels

R #	Violation Severity Levels			
	Lower VSL	Moderate VSL	High VSL	Severe VSL
R1.	N/A	N/A	The Reliability Coordinator failed to have Interpersonal Communication capability with one of the entities listed in Requirement R1, Parts 1.1 or 1.2, except when the Reliability Coordinator detected a failure of its Interpersonal Communication capability in accordance with Requirement R10.	The Reliability Coordinator failed to have Interpersonal Communication capability with two or more of the entities listed in Requirement R1, Parts 1.1 or 1.2, except when the Reliability Coordinator detected a failure of its Interpersonal Communication capability in accordance with Requirement R10.
R2.	N/A	N/A	The Reliability Coordinator failed to designate Alternative Interpersonal Communication capability with one of the entities listed in Requirement R2, Parts 2.1 or 2.2.	The Reliability Coordinator failed to designate Alternative Interpersonal Communication capability with two or more of the entities listed in Requirement R2, Parts 2.1 or 2.2.

R3.	N/A	N/A	The Transmission Operator failed to have Interpersonal Communication capability with one of the entities listed in Requirement R3, Parts 3.1, 3.2, 3.3, 3.4, 3.5, or 3.6, except when the Transmission Operator detected a failure of its Interpersonal Communication capability in accordance with Requirement R10.	The Transmission Operator failed to have Interpersonal Communication capability with two or more of the entities listed in Requirement R3, Parts 3.1, 3.2, 3.3, 3.4, 3.5, or 3.6, except when the Transmission Operator detected a failure of its Interpersonal Communication capability in accordance with Requirement R10.
R4.	N/A	N/A	The Transmission Operator failed to designate Alternative Interpersonal Communication capability with one of the entities listed in Requirement R4, Parts 4.1, 4.2, 4.3, or 4.4.	The Transmission Operator failed to designate Alternative Interpersonal Communication capability with two or more of the entities listed in Requirement R4, Parts 4.1, 4.2, 4.3, or 4.4.
R5.	N/A	N/A	The Balancing Authority failed to have Interpersonal Communication capability with one of the entities listed in Requirement R5, Parts 5.1, 5.2, 5.3, 5.4, or 5.5, except when the	The Balancing Authority failed to have Interpersonal Communication capability with two or more of the entities listed in Requirement R5, Parts 5.1, 5.2, 5.3, 5.4, or 5.5, except

			Balancing Authority detected a failure of its Interpersonal Communication capability in accordance with Requirement R10.	when the Balancing Authority detected a failure of its Interpersonal Communication capability in accordance with Requirement R10.
R6.	N/A	N/A	The Balancing Authority failed to designate Alternative Interpersonal Communication capability with one of the entities listed in Requirement R6, Parts 6.1, 6.2, or 6.3.	The Balancing Authority failed to designate Alternative Interpersonal Communication capability with two or more of the entities listed in Requirement R6, Parts 6.1, 6.2, or 6.3.
R7.	N/A	N/A	The Distribution Provider failed to have Interpersonal Communication capability with one of the entities listed in Requirement R7, Parts 7.1 or 7.2, except when the Distribution Provider detected a failure of its Interpersonal Communication capability in accordance with Requirement R11.	The Distribution Provider failed to have Interpersonal Communication capability with two or more of the entities listed in Requirement R7, Parts 7.1 or 7.2, except when the Distribution Provider detected a failure of its Interpersonal Communication capability in accordance with Requirement R11.
R8.	N/A	N/A	The Generator Operator failed to have Interpersonal	The Generator Operator failed to have Interpersonal

			Communication capability with one of the entities listed in Requirement R8, Parts 8.1 or 8.2, except when a Generator Operator detected a failure of its Interpersonal Communication capability in accordance with Requirement R11.	Communication capability with two or more of the entities listed in Requirement R8, Parts 8.1 or 8.2, except when a Generator Operator detected a failure of its Interpersonal Communication capability in accordance with Requirement R11.
R9.	The Reliability Coordinator, Transmission Operator, or Balancing Authority tested the Alternative Interpersonal Communication capability but failed to initiate action to repair or designate a replacement Alternative Interpersonal Communication in more than 2 hours and less than or equal to 4 hours upon an unsuccessful test.	The Reliability Coordinator, Transmission Operator, or Balancing Authority tested the Alternative Interpersonal Communication capability but failed to initiate action to repair or designate a replacement Alternative Interpersonal Communication in more than 4 hours and less than or equal to 6 hours upon an unsuccessful test.	The Reliability Coordinator, Transmission Operator, or Balancing Authority tested the Alternative Interpersonal Communication capability but failed to initiate action to repair or designate a replacement Alternative Interpersonal Communication in more than 6 hours and less than or equal to 8 hours upon an unsuccessful test.	The Reliability Coordinator, Transmission Operator, or Balancing Authority failed to test the Alternative Interpersonal Communication capability once each calendar month. OR The Reliability Coordinator, Transmission Operator, or Balancing Authority tested the Alternative Interpersonal Communication capability but failed to initiate action to repair or designate a replacement Alternative Interpersonal Communication in more

				than 8 hours upon an unsuccessful test.
R10.	The Reliability Coordinator, Transmission Operator, or Balancing Authority failed to notify the entities identified in Requirements R1, R3, and R5, respectively upon the detection of a failure of its Interpersonal Communication capability in more than 60 minutes but less than or equal to 70 minutes.	The Reliability Coordinator, Transmission Operator, or Balancing Authority failed to notify the entities identified in Requirements R1, R3, and R5, respectively upon the detection of a failure of its Interpersonal Communication capability in more than 70 minutes but less than or equal to 80 minutes.	The Reliability Coordinator, Transmission Operator, or Balancing Authority failed to notify the entities identified in Requirements R1, R3, and R5, respectively upon the detection of a failure of its Interpersonal Communication capability in more than 80 minutes but less than or equal to 90 minutes.	The Reliability Coordinator, Transmission Operator, or Balancing Authority failed to notify the entities identified in Requirements R1, R3, and R5, respectively upon the detection of a failure of its Interpersonal Communication capability in more than 90 minutes.
R11.	N/A	N/A	N/A	The Distribution Provider or Generator Operator that detected a failure of its Interpersonal Communication capability failed to consult with each entity affected by the failure, as identified in Requirement R7 for a Distribution Provider or Requirement R8 for a Generator Operator, to determine a mutually agreeable action for the restoration of the

				Interpersonal Communication capability.
R12.	N/A	N/A	N/A	The Reliability Coordinator, Transmission Operator, Generator Operator, or Balancing Authority failed to have internal Interpersonal Communication capability for the exchange of operating information.
R13.	N/A	N/A	N/A	The Distribution Provider failed to have internal Interpersonal Communication capability for the exchange of operating information.

D. Regional Variances

None.

E. Associated Documents

None.

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
1.1	October 29, 2008	BOT adopted errata changes; updated version number to "1.1"	Errata
2	November 7, 2015	Adopted by Board of Trustees	Revised in accordance with SAR for Project 2006-06, Reliability Coordination (RC SDT). Replaced R1 with R1-R8; R2 replaced by R9; R3 included within new R1; R4 remains enforce pending Project 2007-02; R5 redundant with EOP-008-0, retiring R5 as redundant with EOP-008-0, R1; retiring R6, relates to ERO procedures; R10 & R11, new.
2	April 16, 2015	FERC Order issued approving COM-001-2	
2.1	November 13, 2015	FERC Order issued approving errata to COM-001-2.1	Errata to correct inadvertent numbering errors in the parts to Requirement R6.

Rationale

Rationale for Requirement R12:

The focus of the requirement is on the capabilities that an entity must have for the purpose of exchanging information necessary for the Reliable Operation of the BES. That is, the entity must have the capability to communicate internally by, “any medium that allows two or more individuals to interact, consult, or exchange information.” The standard does not prescribe the specific type of capability (i.e., hardware or software). The determination of the appropriate type of capability is left to the entity. Regardless, the entity must have the capability to exchange information whenever the internal Interpersonal Communications may directly impact operations of the BES. Therefore, the applicable entities must have the capability to exchange information between Control Centers of that functional entity. For example, a TOP with multiple control centers that are geographical separated must have the capability to communicate internally between or among those control centers. The communication capability may occur through any medium that supports Interpersonal Communication, such as land line telephone, cellular device, Voice Over Internet Protocol (VOIP), satellite telephone, radio, or electronic message. Also, applicable entities must have the capability to exchange information between a Control Center and field personnel within that functional entity. For example, a TOP system operator providing instruction to a field personnel to perform a reliability activity, such as switching Facilities.

In the course of normal control center operation, system operators within a single Control Center communicate as needed to ensure the reliability of the BES, including face-to-face communications. These internal communications are ongoing and occur throughout the day as part of day-to-day operations. However, these types of communications are not the focus of this requirement. The focus is on the capability of an entity to communicate internally with others of that same functional entity that are located at a geographically separate location, where face-to-face communications are not available.

Rationale for Requirement R13:

The NERC Glossary definition for “Control Center” was not used in this requirement because Distribution Provider is not listed as an entity within the definition. The Glossary definition for “Control Center” is, “[o]ne or more facilities hosting operating personnel that monitor and control the Bulk Electric System (BES) in real-time to perform the reliability tasks, including their associated data centers, of: 1) a Reliability Coordinator, 2) a Balancing Authority, 3) a Transmission Operator for transmission Facilities at two or more locations, or 4) a Generator Operator for generation Facilities at two or more locations.” Therefore in this requirement, control center is intended to mean the Distribution Provider facilities hosting operating personnel performing the operational functions of the Distribution Provider that are necessary for the reliable operation of the BES, often referred to as a distribution control center, or distribution center. Examples of Distribution Providers exchanging information necessary for the Reliable Operation of the BES include Distribution Providers included in restoration plans, load shed plans, load reconfiguration, and voltage control plans. The Distribution Provider must

have the capability to exchange information *whenever* the internal Interpersonal Communications may directly impact operations of the BES. Therefore, the Distribution Provider must have the capability to exchange information between control centers ~~of that functional entity~~ as necessary. For example, a Distribution Provider with multiple control centers that are geographical separated, where face-to-face communications are not available, must have the capability to communicate internally between or among those control centers.

~~During development of this standard, text boxes were embedded within the standard to explain the rationale for various parts of the standard. Upon BOT adoption, the text from the rationale text boxes was moved to this section.~~

Implementation Plan COM-001-3 Communications

Requested Approval

COM-001-3 – Communications

Requested Retirement

COM-001-2.1 – Communications

Prerequisite Approvals

None.

Defined Terms in the NERC Glossary

None.

Conforming Changes to Requirements in Already Approved Standards

None.

Revisions to Approved Standards and Definitions

The Standard Drafting Team (SDT) revised the COM-001-2.1 standard to propose additional Requirements R12 and R13, addressing FERC’s directive in Order No. 808, P41 “[t]o develop modifications to COM-001-2, or to develop a new standard, to address our concerns regarding ensuring the adequacy of internal communications capability...” The additions were made to address internal Interpersonal Communication capabilities for applicable entities.

Applicable Entities

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

Effective Date

New or Revised Standards

COM-001-3 Where approval by an applicable governmental authority is required, the standard shall become effective on the first day of the first calendar quarter that is 9 months after the effective date of the applicable governmental authority’s order

approving the standard, or as otherwise provided for by the applicable governmental authority.

Where approval by an applicable governmental authority is not required, the standard shall become effective on the first day of the first calendar quarter that is 9 months after the date the standard is adopted by the NERC Board of Trustees, or as otherwise provided for in that jurisdiction.

Standard for Retirement

Reliability Standard COM-001-2.1 shall be retired immediately prior to the Effective Date of COM-001-3 in the particular jurisdiction in which the COM-001-3 standard is becoming effective.

New or Revised Definitions

None.

Implementation Plan

COM-001-3 Communications

Requested Approval

COM-001-3 – Communications

Requested Retirement

COM-001-2.1 – Communications

Prerequisite Approvals

None.

Defined Terms in the NERC Glossary

None.

Conforming Changes to Requirements in Already Approved Standards

None.

Revisions to Approved Standards and Definitions

The Standard Drafting Team (SDT) revised the COM-001-2.1 standard to propose additional Requirements R12 and R13, addressing FERC’s directive in Order No. 808, P41 “[t]o develop modifications to COM-001-2, or to develop a new standard, to address our concerns regarding ensuring the adequacy of internal communications capability...” The additions were made to address internal Interpersonal Communication capabilities for applicable entities.

Applicable Entities

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

Effective Date**New or Revised Standards**

COM-001-3 Where approval by an applicable governmental authority is required, the standard shall become effective on the first day of the first calendar quarter that is 69 months after the effective date of the applicable governmental authority’s order

approving the standard, or as otherwise provided for by the applicable governmental authority.

Where approval by an applicable governmental authority is not required, the standard shall become effective on the first day of the first calendar quarter that is ~~6~~⁹ months after the date the standard is adopted by the NERC Board of Trustees, or as otherwise provided for in that jurisdiction.

Standard for Retirement

~~COM-001-2.1~~ ~~11:59:59 p.m.~~ Reliability Standard COM-001-2.1 shall be retired on the day immediately prior to the Effective Date of COM-001-3 in the particular jurisdiction in which the COM-001-3 standard is becoming effective.

New or Revised Definitions

None.

Unofficial Comment Form

Project 2015-07 Internal Communications Capabilities

COM-001-3

DO NOT use this form for submitting comments. Use the [electronic form](#) to submit comments on the proposed **COM-001-3 – Communications** standard. The electronic comment form must be completed and submitted by **8:00 p.m. Eastern, May 6, 2016**.

If you have questions, contact [Darrel Richardson](#) (via email) or at (609) 613-1848 or [Laura Anderson](#) (via email) or at (404) 446-9671.

The project page can be accessed by clicking [here](#).

Background Information

This posting is soliciting formal comment.

The project addresses the directive from FERC Order No. 808 to modify the COM-001-2 standard or develop a new standard to address “internal communications capabilities that could involve the issuance or receipt of Operating Instructions or other communications that could have an impact on reliability.” Order No. 808, at P 1.

In Order No. 808, FERC directed “NERC to develop modifications to COM-001-2, or to develop a new standard, to address our concerns regarding ensuring the adequacy of internal communications capability whenever internal communications could directly affect the reliable operation of the Bulk-Power System.” Order No. 808, at P 41. In the same paragraph, FERC clarified that this intended to include a directive that the modified or new standard would “address the adequacy of internal telecommunications (or other internal communication systems) that may have an adverse effect on reliability, even within a single functional entity, including: (1) communications between geographically separate control centers within the same functional entity; and (2) communications between a control center and field personnel.” *Id.*

The SDT reviewed the FERC directives and developed proposed Requirements R12 and R13 for a proposed COM-001-3. The proposed Requirements address internal Interpersonal Communication capabilities as directed by FERC for Reliability Coordinators, Balancing Authorities, and Transmission Operators in Requirement R12 and for Distribution Providers and Generator Operators in Requirement R13. Two separate Requirements were developed to maintain VRF consistency with the existing Requirements from COM-001-2.

The SDT carefully reviewed and considered the comments received during the initial posting period and, based on stakeholder comments, made revisions to the initial recommendations.

Questions

The scope of this project includes:

- Internal telecommunications or other internal communication systems “between geographically separate control centers within the same functional entity.” Order No. 808, at P 41.
- Internal telecommunications or other internal communication systems “between a control center and field personnel.” *Id.*
- “[T]he adequacy of internal communications capability whenever internal communications could directly affect the reliable operation of the Bulk-Power System.” *Id.*
- “[I]nternal communications capabilities that could involve the issuance or receipt of Operating Instructions or other communications that could have an impact on reliability.” Order No. 808, at P 1.

1. Do you agree that the proposed Requirements R12 and R13 in the proposed COM-001-3 address the directive in Order No. 808? If not, please explain why you do not agree and, if possible, provide specific language revisions that would make it acceptable to you.

Yes

No

Comments:

2. If you have any other comments on the proposed COM-001-3 that you haven’t already mentioned above, please provide them here:

Comments:

Mapping Document

COM-001-3 Communications

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 Additional Requirement(s)
COM-001-2.1	<p>New Requirement</p> <p>R12. Each Reliability Coordinator, Transmission Operator, Generator Operator, and Balancing Authority shall have internal Interpersonal Communication capabilities for the exchange of operating information.</p>
COM-001-2.1	<p>New Requirement</p> <p>R13. Each Distribution Provider shall have internal Interpersonal Communication capabilities for the exchange of operating information.</p>

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-001-3 Communications	X	X		X			X	X

Violation Risk Factor and Violation Severity Level Justifications

COM-001-3 – Communications

Violation Risk Factor and Violation Severity Level Justifications

This document provides the drafting team's justification for assignment of violation risk factors (VRFs) and violation severity levels (VSLs) for Requirements R12 and R13 in: COM-001-3 – Communications

Each primary requirement is assigned a VRF and a set of one or more VSLs. These elements support the determination of an initial value range for the Base Penalty Amount regarding violations of requirements in FERC-approved Reliability Standards, as defined in the ERO Sanction Guidelines.

The Reliability Coordination Standard Drafting Team (SDT) applied the following NERC criteria and FERC Guidelines when proposing VRFs and VSL for the requirements under this project.

NERC Criteria – Violation Risk Factors

High Risk Requirement

A requirement that, if violated, could directly cause or contribute to bulk electric system instability, separation, or a cascading sequence of failures, or could place the bulk electric system at an unacceptable risk of instability, separation, or cascading failures; or, a requirement in a planning time frame that, if violated, could, under emergency, abnormal, or restorative conditions anticipated by the preparations, directly cause or contribute to bulk electric system instability, separation, or a cascading sequence of failures, or could place the bulk electric system at an unacceptable risk of instability, separation, or cascading failures, or could hinder restoration to a normal condition.

Medium Risk Requirement

A requirement that, if violated, could directly affect the electrical state or the capability of the bulk electric system, or the ability to effectively monitor and control the bulk electric system. However, violation of a medium risk requirement is unlikely to lead to bulk electric system instability, separation, or cascading failures; or, a requirement in a planning time frame that, if violated, could, under emergency, abnormal, or restorative conditions anticipated by the preparations, directly and adversely affect the electrical state or capability of the bulk electric system, or the ability to effectively monitor, control, or restore the bulk electric system. However, violation of a medium risk requirement is unlikely, under emergency, abnormal, or

restoration conditions anticipated by the preparations, to lead to bulk electric system instability, separation, or cascading failures, nor to hinder restoration to a normal condition.

Lower Risk Requirement

A requirement that is administrative in nature and a requirement that, if violated, would not be expected to adversely affect the electrical state or capability of the bulk electric system, or the ability to effectively monitor and control the bulk electric system; or, a requirement that is administrative in nature and a requirement in a planning time frame that, if violated, would not, under the emergency, abnormal, or restorative conditions anticipated by the preparations, be expected to adversely affect the electrical state or capability of the bulk electric system, or the ability to effectively monitor, control, or restore the bulk electric system. A planning requirement that is administrative in nature.

FERC Violation Risk Factor Guidelines

The SDT also considered consistency with the FERC Violation Risk Factor Guidelines for setting VRFs:¹

Guideline 1 – Consistency with the Conclusions of the Final Blackout Report

The Commission seeks to ensure that Violation Risk Factors assigned to Requirements of Reliability Standards in these identified areas appropriately reflect their historical critical impact on the reliability of the Bulk-Power System.

In the VSL Order, FERC listed critical areas (from the Final Blackout Report) where violations could severely affect the reliability of the Bulk-Power System:²

- Emergency operations
- Vegetation management
- Operator personnel training
- Protection systems and their coordination
- Operating tools (capabilities)³ and backup facilities
- Reactive power and voltage control
- System modeling and data exchange
- Communication protocol and facilities
- Requirements to determine equipment ratings

¹ North American Electric Reliability Corp., 119 FERC ¶ 61,145, order on reh'g and compliance filing, 120 FERC ¶ 61,145 (2007) ("VRF Rehearing Order").

² Id. at footnote 15.

³ Mandatory Reliability Standards for the Bulk-Power System, 118 FERC ¶ 61,218, FERC Stats. & Regs. ¶ 31,242 at PP 906 and 1660. (Order No. 693), order on reh'g, Mandatory Reliability Standards for the Bulk-Power System, 120 FERC ¶ 61,053 (Order No. 693-A) (2007).

- Synchronized data recorders
- Clearer criteria for operationally critical facilities
- Appropriate use of transmission loading relief

Guideline 2 – Consistency within a Reliability Standard

The Commission expects a rational connection between the sub-Requirement Violation Risk Factor assignments and the main Requirement Violation Risk Factor assignment.

Guideline 3 – Consistency among Reliability Standards

The Commission expects the assignment of Violation Risk Factors corresponding to Requirements that address similar reliability goals in different Reliability Standards would be treated comparably.

Guideline 4 – Consistency with NERC's Definition of the Violation Risk Factor Level

Guideline (4) was developed to evaluate whether the assignment of a particular Violation Risk Factor level conforms to NERC's definition of that risk level.

Guideline 5 – Treatment of Requirements that Co-mingle More Than One Obligation

Where a single Requirement co-mingles a higher risk reliability objective and a lesser risk reliability objective, the VRF assignment for such Requirements must not be watered down to reflect the lower risk level associated with the less important objective of the Reliability Standard.

The following discussion addresses how the SDT considered FERC's VRF Guidelines 2 through 5. The team did not address Guideline 1 directly because of an apparent conflict between Guidelines 1 and 4. Whereas Guideline 1 identifies a list of topics that encompass nearly all topics within NERC's Reliability Standards and implies that these requirements should be assigned a "High" VRF, Guideline 4 directs assignment of VRFs based on the impact of a specific requirement to the reliability of the system. The SDT believes that Guideline 4 is reflective of the intent of VRFs in the first instance and therefore concentrated its approach on the reliability impact of the requirements.

There are two new requirements in the standard. Neither of the requirements were assigned a "Lower" VRF. Requirement R12 is assigned a "High" VRF while Requirement R13 is assigned a "Medium" VRF.

NERC Criteria – Violation Severity Levels

Violation Severity Levels (VSLs) define the degree to which compliance with a requirement was not achieved. Each requirement must have at least one VSL. While it is preferable to have four VSLs for each requirement, some requirements do not have multiple "degrees" of noncompliant performance, and may have only one, two, or three VSLs.

Violation severity levels should be based on the guidelines shown in the table below:

Lower	Moderate	High	Severe
<p>Missing a minor element (or a small percentage) of the required performance</p> <p>The performance or product measured has significant value as it almost meets the full intent of the requirement.</p>	<p>Missing at least one significant element (or a moderate percentage) of the required performance.</p> <p>The performance or product measured still has significant value in meeting the intent of the requirement.</p>	<p>Missing more than one significant element (or is missing a high percentage) of the required performance or is missing a single vital component.</p> <p>The performance or product has limited value in meeting the intent of the requirement.</p>	<p>Missing most or all of the significant elements (or a significant percentage) of the required performance.</p> <p>The performance measured does not meet the intent of the requirement or the product delivered cannot be used in meeting the intent of the requirement.</p>

FERC Order of Violation Severity Levels

FERC’s VSL guidelines are presented below, followed by an analysis of whether the VSLs proposed for Requirements R12 and R13 in the standard meet the FERC Guidelines for assessing VSLs:

Guideline 1 – Violation Severity Level Assignments Should Not Have the Unintended Consequence of Lowering the Current Level of Compliance

Compare the VSLs to any prior levels of non-compliance and avoid significant changes that may encourage a lower level of compliance than was required when levels of non-compliance were used.

Guideline 2 – Violation Severity Level Assignments Should Ensure Uniformity and Consistency in the Determination of Penalties

A violation of a “binary” type requirement must be a “Severe” VSL.

Do not use ambiguous terms such as “minor” and “significant” to describe noncompliant performance.

Guideline 3 – Violation Severity Level Assignment Should Be Consistent with the Corresponding Requirement

VSLs should not expand on what is required in the requirement.

Guideline 4 – Violation Severity Level Assignment Should Be Based on A Single Violation, Not on A Cumulative Number of Violations

. . . unless otherwise stated in the requirement, each instance of non-compliance with a requirement is a separate violation. Section 4 of the Sanction Guidelines states that assessing penalties on a per violation per day basis is the “default” for penalty calculations.

VRF and VSL Justifications

VRF Justifications – COM-001-3, R12	
Proposed VRF	High
NERC VRF Discussion	
FERC VRF G1 Discussion	Guideline 1- Consistency w/ Blackout Report: N/A
FERC VRF G2 Discussion	Guideline 2- Consistency within a Reliability Standard: The requirement has no sub-requirements; only one VRF is assigned, so there is no conflict.
FERC VRF G3 Discussion	Guideline 3- Consistency among Reliability Standards: This requirement is a facility requirement that provides for internal communications capability, including internal communications within the same functional entity. There are no similar facility requirements in the standards. The approved VRF for COM-001-2, R1-R6 is High and therefore the proposed VRF for R12 is consistent.
FERC VRF G4 Discussion	Guideline 4- Consistency with NERC Definitions of VRFs: Failure to have internal Interpersonal Communication capability could limit or prevent communication between entities and directly affect the electrical state or the capability of the Bulk Power System and could lead to Bulk Power System instability, separation, or cascading failures. Therefore, this requirement is assigned a High VRF.
FERC VRF G5 Discussion	Guideline 5- Treatment of Requirements that Co-mingle More than One Obligation: The requirement, R12, contains only one objective; therefore, only one VRF was assigned.

Proposed VSLs for COM-001-3, R12				
R#	Lower	Moderate	High	Severe
R12	N/A	N/A	N/A	The Reliability Coordinator, Balancing Authority, Generator Operator, or Transmission Operator failed to have internal Interpersonal Communication capability for the exchange of operating information.
VSL Justifications – COM-001-3, R12				
NERC VSL Guidelines			Meets NERC’s VSL guidelines. There is not an incremental aspect to the violation and the VSL follows the guidelines for violations.	
FERC VSL G1 Violation Severity Level Assignments Should Not Have the Unintended Consequence of Lowering the Current Level of Compliance			N/A	
FERC VSL G2 Violation Severity Level Assignments Should Ensure Uniformity and Consistency in the Determination of Penalties Guideline 2a: The Single Violation Severity Level Assignment Category for "Binary" Requirements Is Not Consistent Guideline 2b: Violation Severity Level Assignments that Contain Ambiguous Language			Guideline 2a: The proposed VSL is consistent with Requirements R7, R8, and R11. Guideline 2b: The proposed VSL does not use any ambiguous terminology, thereby supporting uniformity and consistency in the determination of similar penalties for similar violations.	
FERC VSL G3			The proposed VSL uses the same terminology as used in the associated requirement, and is, therefore, consistent with the requirement.	

Proposed VSLs for COM-001-3, R12	
Violation Severity Level Assignment Should Be Consistent with the Corresponding Requirement	
FERC VSL G4 Violation Severity Level Assignment Should Be Based on A Single Violation, Not on A Cumulative Number of Violations	The VSL is based on a single violation and not cumulative violations.

VRF Justifications – COM-001-3, R13	
Proposed VRF	Medium
NERC VRF Discussion	
FERC VRF G1 Discussion	Guideline 1- Consistency w/ Blackout Report: N/A
FERC VRF G2 Discussion	Guideline 2- Consistency within a Reliability Standard: The requirement has no sub-requirements; only one VRF is assigned, so there is no conflict.
FERC VRF G3 Discussion	Guideline 3- Consistency among Reliability Standards: In COM-001-3, the Distribution Provider VRF is Medium because the Interpersonal Communications capabilities are potentially less impactful than similar Interpersonal Communication capabilities of Reliability Coordinators, Balancing Authorities, Generator Operators, or Transmission Operators.
FERC VRF G4 Discussion	Guideline 4- Consistency with NERC Definitions of VRFs: Failure to have internal Interpersonal Communication capability could limit or prevent communication within an entity; however, Bulk Power System instability, separation, or cascading failures are not likely to occur due to a failure to have internal Interpersonal Communication capabilities. Therefore, this requirement is assigned a Medium VRF.

VRF Justifications – COM-001-3, R13	
Proposed VRF	Medium
FERC VRF G5 Discussion	<p>Guideline 5- Treatment of Requirements that Co-mingle More than One Obligation:</p> <p>The requirement contains only one objective; therefore, only one VRF was assigned.</p>

Proposed VSLs for COM-001-3, R13				
R#	Lower	Moderate	High	Severe
R13	N/A	N/A	N/A	The Distribution Provider failed to have internal Interpersonal Communication capability for the exchange of operating information...

VSL Justifications – COM-001-3, R13	
NERC VSL Guidelines	Meets NERC’s VSL guidelines. There is not an incremental aspect to the violation and the VSL follows the guidelines for violations.
FERC VSL G1 Violation Severity Level Assignments Should Not Have the Unintended Consequence of Lowering the Current Level of Compliance	The proposed requirement is a revision to COM-001-2.1. The proposed VSL is binary.
FERC VSL G2 Violation Severity Level Assignments Should Ensure Uniformity and Consistency in the Determination of Penalties Guideline 2a: The Single Violation Severity Level Assignment	<p>Guideline 2a: N/A</p> <p>Guideline 2b: The proposed VSL does not use any ambiguous terminology, thereby supporting uniformity and</p>

Proposed VSLs for COM-001-3, R13	
<p>Category for "Binary" Requirements Is Not Consistent</p> <p>Guideline 2b: Violation Severity Level Assignments that Contain Ambiguous Language</p>	<p>consistency in the determination of similar penalties for similar violations.</p>
<p>FERC VSL G3</p> <p>Violation Severity Level Assignment Should Be Consistent with the Corresponding Requirement</p>	<p>The proposed VSL uses the same terminology as used in the associated requirement, and is, therefore, consistent with the requirement.</p>
<p>FERC VSL G4</p> <p>Violation Severity Level Assignment Should Be Based on A Single Violation, Not on A Cumulative Number of Violations</p>	<p>The VSL is based on a single violation and not cumulative violations.</p>

Standards Announcement

Reminder

Project 2015-07 Internal Communications Capabilities COM-001-3

Additional Ballot and Non-binding Poll Open through May 6, 2016

Now Available

An additional ballot for **COM-001-3 Communications** and non-binding poll of the associated Violation Risk Factors and Violation Severity Levels are open through **8 p.m. Eastern, Friday, May 6, 2016**.

The standard drafting team's considerations of the responses received from the last comment period are reflected in this draft of the standard.

Balloting

Members of the ballot pools associated with this project may log in and submit their vote for the standard and non-binding poll by clicking [here](#). If you experience any difficulties in using the electronic form, contact [Nasheema Santos](#).

Note: If a member cast a vote in the previous ballot, that vote will not carry over to this additional ballot. It is the responsibility of the registered voter in the ballot pool to cast a vote again in this ballot. To ensure a quorum is reached, if you do not want to vote affirmative or negative, cast an abstention.>

If you are having difficulty accessing the SBS due to a forgotten password, incorrect credential error messages, or system lock-out, contact NERC IT support directly at <https://support.nerc.net/> (Monday – Friday, 8 a.m. - 8 p.m. Eastern).

Next Steps

The ballot results will be announced and posted on the project page. The drafting team will consider all comments received during the formal comment period and determine the next steps of the project.

For more information on the Standards Development Process, refer to the [Standard Processes Manual](#).

For more information or assistance, contact [Darrel Richardson](#) (via email) or at (609) 613-1848 or [Laura Anderson](#) (via email) or at (404) 446-9671.

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Standards Announcement

Project 2015-07 Internal Communications Capabilities COM-001-3

Formal Comment Period Open through May 6, 2016

[Now Available](#)

A 45-day formal comment period for **COM-001-3 Communications**, is open through **8 p.m. Eastern, Friday, May 6, 2016**.

The standard drafting team's considerations of the responses received from the last comment period are reflected in this draft of the standard.

Commenting

Use the [electronic form](#) to submit comments on the standard. If you experience any difficulties in using the electronic form, contact [Nasheema Santos](#). An unofficial Word version of the comment form is posted on the [project page](#).

If you are having difficulty accessing the SBS due to a forgotten password, incorrect credential error messages, or system lock-out, contact NERC IT support directly at <https://support.nerc.net/> (Monday – Friday, 8 a.m. - 8 p.m. Eastern).

Next Steps

An additional ballot for the standard and non-binding poll of the associated Violation Risk Factors and Violation Severity Levels will be conducted **April 27 – May 6, 2016**.

For more information on the Standards Development Process, refer to the [Standard Processes Manual](#).

For more information or assistance, contact [Darrel Richardson](#) (via email) or at (609) 613-1848 or [Laura Anderson](#) (via email) or at (404) 446-9671.

North American Electric Reliability Corporation
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Standards Announcement

Project 2015-07 Internal Communications Capabilities COM-001-3

Formal Comment Period Open through May 6, 2016

Now Available

A 45-day formal comment period for **COM-001-3 Communications**, is open through **8 p.m. Eastern, Friday, May 6, 2016**.

The standard drafting team's considerations of the responses received from the last comment period are reflected in this draft of the standard.

Commenting

Use the [electronic form](#) to submit comments on the standard. If you experience any difficulties in using the electronic form, contact [Nasheema Santos](#). An unofficial Word version of the comment form is posted on the [project page](#).

If you are having difficulty accessing the SBS due to a forgotten password, incorrect credential error messages, or system lock-out, contact NERC IT support directly at <https://support.nerc.net/> (Monday – Friday, 8 a.m. - 8 p.m. Eastern).

Next Steps

An additional ballot for the standard and non-binding poll of the associated Violation Risk Factors and Violation Severity Levels will be conducted **April 27 – May 6, 2016**.

For more information on the Standards Development Process, refer to the [Standard Processes Manual](#).

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Standards Announcement

Project 2015-07 Internal Communications Capabilities COM-001-3

Additional Ballot and Non-binding Poll Results

[Now Available](#)

An additional ballot for **COM-001-3 Communications** and a non-binding poll of the Associated Violation Risk Factors and Violation Severity Levels **were extended an additional day to reach quorum and concluded 8 p.m. Eastern, May 9, 2016.**

The standard received sufficient affirmative votes for approval. Voting statistics are listed below, and the [Ballot Results](#) page provides the detailed results.

Ballot	Non-binding Poll
Quorum / Approval	Quorum / Supportive Opinions
81.03% / 82.64%	79.57% / 84.85%

Next Steps

The drafting team will consider all comments received during the formal comment period and determine the next steps of the project.

For information on the Standards Development Process, refer to the [Standard Processes Manual](#)

For more information or assistance, contact [Darrel Richardson](#) (via email) or at (609) 613-1848 or [Laura Anderson](#) (via email) or at (404) 446-9671.

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BALLOT RESULTS

Survey: [View Survey Results \(/SurveyResults/Index/48\)](#)

Ballot Name: 2015-07 Internal Communications Capabilities COM-001-3 AB 2 ST

Voting Start Date: 4/27/2016 12:01:00 AM

Voting End Date: 5/9/2016 8:00:00 PM

Ballot Type: ST

Ballot Activity: AB

Ballot Series: 2

Total # Votes: 252

Total Ballot Pool: 311

Quorum: 81.03

Weighted Segment Value: 82.64

Segment	Ballot Pool	Segment Weight	Affirmative Votes	Affirmative Fraction	Negative Votes w/ Comment	Negative Fraction w/ Comment	Negative Votes w/o Comment	Abstain	No Vote
Segment: 1	78	1	53	0.855	9	0.145	0	2	14
Segment: 2	10	0.9	8	0.8	1	0.1	0	0	1
Segment: 3	71	1	43	0.843	8	0.157	0	4	16
Segment: 4	25	1	12	0.667	6	0.333	0	1	6
Segment: 5	67	1	43	0.843	8	0.157	2	4	10
Segment: 6	48	1	27	0.794	7	0.206	1	3	10
Segment: 7	2	0.1	0	0	1	0.1	0	0	1
Segment: 8	2	0.2	2	0.2	0	0	0	0	0
Segment:	2	0.1	1	0.1	0	0	0	0	1

Segment: 10	6	0.6	6	0.6	0	0	0	0	0
Totals:	311	6.9	195	5.702	40	1.198	3	14	59

BALLOT POOL MEMBERS

Show entries

Search:

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	Ameren - Ameren Services	Eric Scott		Abstain	N/A
1	American Transmission Company, LLC	Andrew Pusztai		Affirmative	N/A
1	APS - Arizona Public Service Co.	Michelle Amarantos		Affirmative	N/A
1	Arizona Electric Power Cooperative, Inc.	John Shaver		Negative	Third-Party Comments
1	Associated Electric Cooperative, Inc.	Mark Riley		Affirmative	N/A
1	Austin Energy	Thomas Standifur		Affirmative	N/A
1	Avista - Avista Corporation	Bryan Cox		None	N/A
1	Balancing Authority of Northern California	Kevin Smith	Joe Tarantino	Affirmative	N/A
1	BC Hydro and Power Authority	Patricia Robertson		Affirmative	N/A
1	Beaches Energy Services	Don Cuevas		Negative	Third-Party Comments

1	Berkshire Hathaway Energy - MidAmerican Energy Co.	Terry Harbour		Negative	Third-Party Comments
1	Black Hills Corporation	Wes Wingen		Affirmative	N/A
1	Bonneville Power Administration	Donald Watkins		Affirmative	N/A
1	Bryan Texas Utilities	John Fontenot		None	N/A
1	CenterPoint Energy Houston Electric, LLC	John Brockhan		Affirmative	N/A
1	Central Hudson Gas & Electric Corp.	Frank Pace		None	N/A
1	Cleco Corporation	John Lindsey	Louis Guidry	None	N/A
1	CMS Energy - Consumers Energy Company	Bruce Bugbee		Affirmative	N/A
1	Colorado Springs Utilities	Shawna Speer		Negative	Comments Submitted
1	Con Ed - Consolidated Edison Co. of New York	Chris de Graffenried		Affirmative	N/A
1	CPS Energy	Glenn Pressler		Affirmative	N/A
1	Dairyland Power Cooperative	Robert Roddy		Affirmative	N/A
1	Dominion - Dominion Virginia Power	Larry Nash		Affirmative	N/A
1	Duke Energy	Doug Hils		Affirmative	N/A
1	Edison International - Southern California Edison Company	Steven Mavis		Affirmative	N/A
1	Entergy - Entergy Services, Inc.	Oliver Burke		Affirmative	N/A
1	Exelon	Chris Scanlon		Affirmative	N/A
1	FirstEnergy	Chris Scanlon		Affirmative	N/A

	Corporation				
1	Georgia Transmission Corporation	Jason Snodgrass		None	N/A
1	Great Plains Energy - Kansas City Power and Light Co.	James McBee	Douglas Webb	Affirmative	N/A
1	Hydro One Networks, Inc.	Payam Farahbakhsh	Oshani Pathirane	Negative	Comments Submitted
1	Hydro-Québec TransEnergie	Nicolas Turcotte		Affirmative	N/A
1	Iberdrola - Central Maine Power Company	Joe Turano		None	N/A
1	International Transmission Company Holdings Corporation	Michael Moltane	Allie Gavin	Negative	Comments Submitted
1	KAMO Electric Cooperative	Walter Kenyon		None	N/A
1	Lakeland Electric	Larry Watt		Affirmative	N/A
1	Long Island Power Authority	Robert Ganley		Affirmative	N/A
1	Los Angeles Department of Water and Power	faranak sarbaz		Affirmative	N/A
1	Lower Colorado River Authority	Teresa Cantwell		None	N/A
1	M and A Electric Power Cooperative	William Price		Affirmative	N/A
1	Manitoba Hydro	Mike Smith		Affirmative	N/A
1	MEAG Power	David Weekley		None	N/A
1	Muscatine Power and Water	Andy Kurriger		Affirmative	N/A
1	N.W. Electric Power Cooperative, Inc.	Mark Ramsey		Affirmative	N/A
1	National Grid USA	Michael Jones		Affirmative	N/A

1	NB Power Corporation	Alan MacNaughton		None	N/A
1	Nebraska Public Power District	Jamison Cawley		Affirmative	N/A
1	New York Power Authority	Salvatore Spagnolo		Affirmative	N/A
1	NextEra Energy - Florida Power and Light Co.	Mike O'Neil		None	N/A
1	NiSource - Northern Indiana Public Service Co.	Justin Wilderness		Affirmative	N/A
1	Northeast Missouri Electric Power Cooperative	Kevin White		Affirmative	N/A
1	OGE Energy - Oklahoma Gas and Electric Co.	Terri Pyle		Affirmative	N/A
1	Oncor Electric Delivery	Rod Kinard		Affirmative	N/A
1	OTP - Otter Tail Power Company	Charles Wicklund		Affirmative	N/A
1	Peak Reliability	Jared Shakespeare		Affirmative	N/A
1	Platte River Power Authority	John Collins		Affirmative	N/A
1	PNM Resources - Public Service Company of New Mexico	Laurie Williams		None	N/A
1	Portland General Electric Co.	Scott Smith		Affirmative	N/A
1	PPL Electric Utilities Corporation	Brenda Truhe		Affirmative	N/A
1	PSEG - Public Service Electric and Gas Co.	Joseph Smith		Affirmative	N/A
1	Public Utility District No. 1 of Snohomish	Long Duong		Affirmative	N/A

	County				
1	Public Utility District No. 2 of Grant County, Washington	Michiko Sell		Affirmative	N/A
1	Puget Sound Energy, Inc.	Theresa Rakowsky		Affirmative	N/A
1	Sacramento Municipal Utility District	Tim Kelley	Joe Tarantino	Affirmative	N/A
1	Salt River Project	Steven Cobb		None	N/A
1	Santee Cooper	Shawn Abrams		Affirmative	N/A
1	SCANA - South Carolina Electric and Gas Co.	Tom Hanzlik		Affirmative	N/A
1	Seattle City Light	Pawel Krupa		None	N/A
1	Southern Company - Southern Company Services, Inc.	Katherine Prewitt		Affirmative	N/A
1	Sunflower Electric Power Corporation	Bertha Ellen Watkins		Negative	Third-Party Comments
1	Tacoma Public Utilities (Tacoma, WA)	John Merrell		Affirmative	N/A
1	Tallahassee Electric (City of Tallahassee, FL)	Scott Langston		Affirmative	N/A
1	Tennessee Valley Authority	Howell Scott		Negative	Comments Submitted
1	Tri-State G and T Association, Inc.	Tracy Sliman		Affirmative	N/A
1	U.S. Bureau of Reclamation	Richard Jackson		Negative	Comments Submitted
1	United Illuminating Co.	Jonathan Appelbaum		Affirmative	N/A
1	Westar Energy	Kevin Giles		Abstain	N/A
1	Xcel Energy Inc	Dean Schiro		Affirmative	N/A

2	BC Hydro and Power Authority	Venkataramakrishnan Vinnakota		Affirmative	N/A
2	California ISO	Richard Vine		Affirmative	N/A
2	Electric Reliability Council of Texas, Inc.	Elizabeth Axson		Affirmative	N/A
2	Herb Schrayshuen	Herb Schrayshuen		Affirmative	N/A
2	Independent Electricity System Operator	Leonard Kula		Affirmative	N/A
2	ISO New England, Inc.	Michael Puscas	Robert Coughlin	Affirmative	N/A
2	Midcontinent ISO, Inc.	Terry Bilke		Affirmative	N/A
2	New York Independent System Operator	Gregory Campoli		None	N/A
2	PJM Interconnection, L.L.C.	Mark Holman		Affirmative	N/A
2	Southwest Power Pool, Inc. (RTO)	Charles Yeung		Negative	Comments Submitted
3	Ameren - Ameren Services	David Jendras		Abstain	N/A
3	APS - Arizona Public Service Co.	Jeri Freimuth		Affirmative	N/A
3	Associated Electric Cooperative, Inc.	Todd Bennett		Affirmative	N/A
3	Austin Energy	Julie Ross		None	N/A
3	Avista - Avista Corporation	Scott Kinney		Affirmative	N/A
3	Basin Electric Power Cooperative	Jeremy Voll		None	N/A
3	BC Hydro and Power Authority	Faramarz Amjadi		Affirmative	N/A
3	Beaches Energy Services	Steven Lancaster		None	N/A

3	Berkshire Hathaway Energy - MidAmerican Energy Co.	Thomas Mielnik		Negative	Third-Party Comments
3	Bonneville Power Administration	Rebecca Berdahl		Affirmative	N/A
3	Central Electric Power Cooperative (Missouri)	Adam Weber		Affirmative	N/A
3	City of Farmington	Linda Jacobson-Quinn		None	N/A
3	City of Green Cove Springs	Mark Schultz		None	N/A
3	City of Leesburg	Chris Adkins		None	N/A
3	City of Redding	Elizabeth Hadley		None	N/A
3	City Utilities of Springfield, Missouri	Scott Williams		Affirmative	N/A
3	Clark Public Utilities	Jack Stamper		None	N/A
3	Cleco Corporation	Michelle Corley	Louis Guidry	Abstain	N/A
3	CMS Energy - Consumers Energy Company	Karl Blaszkowski		Affirmative	N/A
3	Colorado Springs Utilities	Hillary Dobson		None	N/A
3	Con Ed - Consolidated Edison Co. of New York	Peter Yost		Affirmative	N/A
3	Dominion - Dominion Resources, Inc.	Connie Lowe		Affirmative	N/A
3	DTE Energy - Detroit Edison Company	Karie Barczak		Affirmative	N/A
3	Duke Energy	Lee Schuster		Affirmative	N/A
3	Edison International - Southern California Edison Company	Romel Aquino		Affirmative	N/A
3	Eversource Energy	Mark Kenny		Affirmative	N/A
3	Exelon	John Bee		Affirmative	N/A

3	FirstEnergy - FirstEnergy Corporation	Theresa Ciancio	John Reed	Affirmative	N/A
3	Florida Municipal Power Agency	Joe McKinney		Negative	Third-Party Comments
3	Georgia System Operations Corporation	Scott McGough		Abstain	N/A
3	Great Plains Energy - Kansas City Power and Light Co.	Jessica Tucker	Douglas Webb	Affirmative	N/A
3	Great River Energy	Brian Glover		Affirmative	N/A
3	Hydro One Networks, Inc.	Paul Malozewski		None	N/A
3	JEA	Garry Baker		None	N/A
3	Lakeland Electric	David Hadzima		Affirmative	N/A
3	Lincoln Electric System	Jason Fortik		Negative	Third-Party Comments
3	Los Angeles Department of Water and Power	Mike Anctil		Affirmative	N/A
3	M and A Electric Power Cooperative	Stephen Pogue		None	N/A
3	Manitoba Hydro	Karim Abdel-Hadi		Affirmative	N/A
3	MEAG Power	Roger Brand		None	N/A
3	Muscatine Power and Water	Seth Shoemaker		Affirmative	N/A
3	National Grid USA	Brian Shanahan		Affirmative	N/A
3	Nebraska Public Power District	Tony Eddleman		Affirmative	N/A
3	New York Power Authority	David Rivera		Affirmative	N/A
3	NiSource - Northern Indiana Public Service Co.	Ramon Barany		Affirmative	N/A
3	North Carolina	doug white	Scott Brame	Negative	Third-Party

	Electric Membership Corporation				Comments
3	Northeast Missouri Electric Power Cooperative	Skyler Wiegmann		Affirmative	N/A
3	NW Electric Power Cooperative, Inc.	John Stickley		Affirmative	N/A
3	Ocala Utility Services	Randy Hahn		Negative	Third-Party Comments
3	OGE Energy - Oklahoma Gas and Electric Co.	Donald Hargrove		Affirmative	N/A
3	Owensboro Municipal Utilities	Thomas Lyons		None	N/A
3	Platte River Power Authority	Jeff Landis		Affirmative	N/A
3	PNM Resources	Michael Mertz		None	N/A
3	Portland General Electric Co.	Angela Gaines		Affirmative	N/A
3	PPL - Louisville Gas and Electric Co.	Charles Freibert		Affirmative	N/A
3	PSEG - Public Service Electric and Gas Co.	Jeffrey Mueller		Affirmative	N/A
3	Puget Sound Energy, Inc.	Andrea Basinski	Tim Womack	Affirmative	N/A
3	Rutherford EMC	Tom Haire		Negative	Comments Submitted
3	Sacramento Municipal Utility District	Rachel Moore	Joe Tarantino	Affirmative	N/A
3	Santee Cooper	James Poston		Affirmative	N/A
3	Seattle City Light	Dana Wheelock		Affirmative	N/A
3	Snohomish County PUD No. 1	Mark Oens		Affirmative	N/A
3	Southern Company Alabama Power	B. Scott Moore		Affirmative	N/A

	Company				
3	Tacoma Public Utilities (Tacoma, WA)	Marc Donaldson		Affirmative	N/A
3	Tallahassee Electric (City of Tallahassee, FL)	John Williams		Affirmative	N/A
3	Tennessee Valley Authority	Ian Grant		Negative	Comments Submitted
3	Tri-State G and T Association, Inc.	Janelle Marriott Gill		Affirmative	N/A
3	Turlock Irrigation District	James Ramos		None	N/A
3	WEC Energy Group, Inc.	Thomas Breene		Negative	Comments Submitted
3	Westar Energy	Bo Jones		Abstain	N/A
3	Xcel Energy, Inc.	Michael Ibold		Affirmative	N/A
4	Alliant Energy Corporation Services, Inc.	Kenneth Goldsmith		Affirmative	N/A
4	Austin Energy	Tina Garvey		Affirmative	N/A
4	Blue Ridge Power Agency	Duane Dahlquist		Negative	Third-Party Comments
4	City of Clewiston	Lynne Mila		None	N/A
4	City of New Smyrna Beach Utilities Commission	Tim Beyrle		None	N/A
4	City of Redding	Nick Zettel		None	N/A
4	City Utilities of Springfield, Missouri	John Allen		Affirmative	N/A
4	CMS Energy - Consumers Energy Company	Julie Hegedus		Affirmative	N/A
4	DTE Energy - Detroit Edison Company	Daniel Herring		None	N/A
4	FirstEnergy Ohio	Doug Rombaugh		Affirmative	N/A

	Edison Company				
4	Flathead Electric Cooperative	Russ Schneider		None	N/A
4	Florida Municipal Power Agency	Carol Chinn		Negative	Third-Party Comments
4	Georgia System Operations Corporation	Guy Andrews		Abstain	N/A
4	Illinois Municipal Electric Agency	Bob Thomas		Negative	Comments Submitted
4	Indiana Municipal Power Agency	Jack Alvey	Scott Berry	Negative	Comments Submitted
4	Keys Energy Services	Stanley Rzad		None	N/A
4	MGE Energy - Madison Gas and Electric Co.	Joseph DePoorter		Affirmative	N/A
4	North Carolina Electric Membership Corporation	John Lemire	Scott Brame	Negative	Third-Party Comments
4	Public Utility District No. 1 of Snohomish County	John Martinsen		Affirmative	N/A
4	Sacramento Municipal Utility District	Michael Ramirez	Joe Tarantino	Affirmative	N/A
4	Seattle City Light	Hao Li		Affirmative	N/A
4	Seminole Electric Cooperative, Inc.	Michael Ward		Affirmative	N/A
4	Tacoma Public Utilities (Tacoma, WA)	Hien Ho		Affirmative	N/A
4	Utility Services, Inc.	Brian Evans-Mongeon		Affirmative	N/A
4	WEC Energy Group, Inc.	Anthony Jankowski		Negative	Comments Submitted
5	AEP	Thomas Foltz		Affirmative	N/A
5	Ameren - Ameren	Sam Dwyer		Abstain	N/A

	Missouri				
5	APS - Arizona Public Service Co.	Stephanie Little		Affirmative	N/A
5	Associated Electric Cooperative, Inc.	Matthew Pacobit		None	N/A
5	Austin Energy	Jeanie Doty		Affirmative	N/A
5	Avista - Avista Corporation	Glen Farmer		None	N/A
5	Basin Electric Power Cooperative	Mike Kraft		None	N/A
5	BC Hydro and Power Authority	Helen Hamilton Harding		Affirmative	N/A
5	Berkshire Hathaway - NV Energy	Eric Schwarzrock	Jeffrey Watkins	Affirmative	N/A
5	Bonneville Power Administration	Francis Halpin		Affirmative	N/A
5	Brazos Electric Power Cooperative, Inc.	Shari Heino		Negative	Third-Party Comments
5	Choctaw Generation Limited Partnership, LLLP	Rob Watson		Affirmative	N/A
5	City of Independence, Power and Light Department	Jim Nail		Affirmative	N/A
5	Cleco Corporation	Stephanie Huffman	Louis Guidry	Abstain	N/A
5	CMS Energy - Consumers Energy Company	David Greyerbiehl		Affirmative	N/A
5	Cogentrix Energy Power Management, LLC	Mike Hirst		None	N/A
5	Colorado Springs Utilities	Jeff Icke		Negative	Comments Submitted
5	Con Ed -	Brian O'Boyle		Affirmative	N/A

	Co. of New York				
5	Dairyland Power Cooperative	Tommy Drea		Affirmative	N/A
5	Dominion - Dominion Resources, Inc.	Randi Heise		Affirmative	N/A
5	DTE Energy - Detroit Edison Company	Jeffrey DePriest		Affirmative	N/A
5	Duke Energy	Dale Goodwine		Affirmative	N/A
5	Dynegy Inc.	Dan Roethemeyer		Affirmative	N/A
5	Edison International - Southern California Edison Company	Thomas Rafferty		None	N/A
5	Entergy - Entergy Services, Inc.	Tracey Stubbs		Affirmative	N/A
5	Essential Power, LLC	Gerry Adamski		Affirmative	N/A
5	Exelon	Vince Catania		Affirmative	N/A
5	FirstEnergy - FirstEnergy Solutions	Robert Loy		Affirmative	N/A
5	Florida Municipal Power Agency	David Schumann		Negative	Third-Party Comments
5	Great Plains Energy - Kansas City Power and Light Co.	Harold Wyble		None	N/A
5	Great River Energy	Preston Walsh		Affirmative	N/A
5	Hydro-Quebec Production	Roger Dufresne		Affirmative	N/A
5	JEA	John Babik		Affirmative	N/A
5	Kissimmee Utility Authority	Mike Blough		Negative	Third-Party Comments
5	Lincoln Electric System	Kayleigh Wilkerson		Negative	Third-Party Comments
5	Los Angeles Department of Water and Power	Kenneth Silver		Affirmative	N/A
5	Lower Colorado River Authority	Wesley Moore		Abstain	N/A

	River Authority				
5	Massachusetts Municipal Wholesale Electric Company	David Gordon		Abstain	N/A
5	MEAG Power	Steven Grego		None	N/A
5	Muscatine Power and Water	Mike Avesing		Affirmative	N/A
5	NB Power Corporation	Rob Vance		Affirmative	N/A
5	Nebraska Public Power District	Don Schmit		Affirmative	N/A
5	New York Power Authority	Wayne Sipperly		Affirmative	N/A
5	NextEra Energy	Allen Schriver		Affirmative	N/A
5	North Carolina Electric Membership Corporation	Robert Beadle	Scott Brame	Negative	No Comment Submitted
5	OGE Energy - Oklahoma Gas and Electric Co.	Leo Staples		Affirmative	N/A
5	Omaha Public Power District	Mahmood Safi		Affirmative	N/A
5	OTP - Otter Tail Power Company	Cathy Fogale		Affirmative	N/A
5	Pacific Gas and Electric Company	Alex Chua		None	N/A
5	Platte River Power Authority	Tyson Archie		Affirmative	N/A
5	PSEG - PSEG Fossil LLC	Tim Kucey		Affirmative	N/A
5	Public Utility District No. 1 of Snohomish County	Sam Nietfeld		Affirmative	N/A
5	Public Utility District No. 2 of Grant County, Washington	Alex Ybarra		Affirmative	N/A
5	Puget Sound Energy	Lynne Roper		Affirmative	N/A

	Inc.				
5	Sacramento Municipal Utility District	Susan Gill-Zobitz	Joe Tarantino	Affirmative	N/A
5	Seattle City Light	Mike Haynes		Affirmative	N/A
5	Seminole Electric Cooperative, Inc.	Brenda Atkins		Affirmative	N/A
5	Southern Company - Southern Company Generation	William D. Shultz		Affirmative	N/A
5	Southern Indiana Gas and Electric Co.	Scotty Brown		None	N/A
5	Tacoma Public Utilities (Tacoma, WA)	Chris Mattson		Affirmative	N/A
5	Talen Generation, LLC	Donald Lock		Negative	No Comment Submitted
5	Tallahassee Electric (City of Tallahassee, FL)	Karen Webb		Affirmative	N/A
5	Tennessee Valley Authority	M Lee Thomas		Negative	Comments Submitted
5	Tri-State G and T Association, Inc.	Mark Stein		Affirmative	N/A
5	U.S. Bureau of Reclamation	Erika Doot		Negative	Comments Submitted
5	WEC Energy Group, Inc.	Linda Horn		Negative	Comments Submitted
5	Westar Energy	stephanie johnson		None	N/A
6	AEP - AEP Marketing	Dan Ewing		Affirmative	N/A
6	Ameren - Ameren Services	Robert Quinlivan		None	N/A
6	APS - Arizona Public Service Co.	Bobbi Welch		Affirmative	N/A
6	Associated Electric Cooperative, Inc.	Brian Askewman		Affirmative	N/A

6	Luminant - Luminant Energy	Brenda Hampton		Affirmative	N/A
6	Manitoba Hydro	Blair Mukanik		Affirmative	N/A
6	Muscatine Power and Water	Ryan Streck		Affirmative	N/A
6	New York Power Authority	Shivaz Chopra		Affirmative	N/A
6	NextEra Energy - Florida Power and Light Co.	Silvia Mitchell		None	N/A
6	NiSource - Northern Indiana Public Service Co.	Joe O'Brien		Affirmative	N/A
6	OGE Energy - Oklahoma Gas and Electric Co.	Jerry Nottnagel		Affirmative	N/A
6	Oglethorpe Power Corporation	Donna Johnson		Abstain	N/A
6	Omaha Public Power District	Mark Trumble		None	N/A
6	Platte River Power Authority	Carol Ballantine		Affirmative	N/A
6	Portland General Electric Co.	Adam Menendez		Affirmative	N/A
6	PPL - Louisville Gas and Electric Co.	Linn Oelker		None	N/A
6	PSEG - PSEG Energy Resources and Trade LLC	Karla Jara		Affirmative	N/A
6	Sacramento Municipal Utility District	Diane Clark	Joe Tarantino	Affirmative	N/A
6	Santee Cooper	Michael Brown		Affirmative	N/A
6	Seattle City Light	Charles Freeman		None	N/A
6	Seminole Electric Cooperative, Inc.	Trudy Novak		Affirmative	N/A
6	Snohomish County	Franklin Lu		Affirmative	N/A

	PUD No. 1				
6	Southern Company - Southern Company Generation and Energy Marketing	Jennifer Sykes		Affirmative	N/A
6	Tacoma Public Utilities (Tacoma, WA)	Rick Applegate		Affirmative	N/A
6	Talen Energy Marketing, LLC	Elizabeth Davis		Negative	No Comment Submitted
6	Tennessee Valley Authority	Marjorie Parsons		Negative	Comments Submitted
6	WEC Energy Group, Inc.	Scott Hoggatt		Negative	Comments Submitted
6	Westar Energy	Megan Wagner		Abstain	N/A
6	Xcel Energy, Inc.	Peter Colussy	Amy Casuscelli	Affirmative	N/A
7	Exxon Mobil	Jay Barnett		Negative	Comments Submitted
7	Luminant Mining Company LLC	Stewart Rake		None	N/A
8	David Kiguel	David Kiguel		Affirmative	N/A
8	Massachusetts Attorney General	Frederick Plett		Affirmative	N/A
9	City of Vero Beach	Ginny Beigel		None	N/A
9	Commonwealth of Massachusetts Department of Public Utilities	Donald Nelson		Affirmative	N/A
10	Midwest Reliability Organization	Russel Mountjoy		Affirmative	N/A
10	Northeast Power Coordinating Council	Guy V. Zito		Affirmative	N/A
10	ReliabilityFirst	Anthony Jablonski		Affirmative	N/A
10	SERC Reliability	David Greene		Affirmative	N/A

10	Southwest Power Pool Regional Entity	Bob Reynolds		Affirmative	N/A
10	Texas Reliability Entity, Inc.	Rachel Coyne		Affirmative	N/A

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BALLOT RESULTS

Survey: [View Survey Results \(/SurveyResults/Index/48\)](#)

Ballot Name: 2015-07 Internal Communications Capabilities COM-001-3 Non-binding Poll AB 2 NB

Voting Start Date: 4/27/2016 12:01:00 AM

Voting End Date: 5/9/2016 8:00:00 PM

Ballot Type: NB

Ballot Activity: AB

Ballot Series: 2

Total # Votes: 222

Total Ballot Pool: 279

Quorum: 79.57

Weighted Segment Value: 84.85

Segment	Ballot Pool	Segment Weight	Affirmative Votes	Affirmative Fraction	Negative Votes w/ Comment	Negative Fraction w/ Comment	Negative Votes w/o Comment	Abstain	No Vote
Segment: 1	69	1	37	0.822	8	0.178	0	12	12
Segment: 2	10	0.6	6	0.6	0	0	0	3	1
Segment: 3	65	1	34	0.971	1	0.029	0	14	16
Segment: 4	23	1	8	0.615	5	0.385	0	4	6
Segment: 5	57	1	27	0.844	5	0.156	0	14	11
Segment: 6	43	1	20	0.8	5	0.2	0	9	9
Segment: 7	2	0.1	0	0	1	0.1	0	0	1
Segment: 8	2	0.2	2	0.2	0	0	0	0	0
Segment:	2	0.1	1	0.1	0	0	0	0	1

Segment: 10	6	0.5	5	0.5	0	0	0	1	0
Totals:	279	6.5	140	5.453	25	1.047	0	57	57

BALLOT POOL MEMBERS

Show entries

Search:

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	Ameren - Ameren Services	Eric Scott		Abstain	N/A
1	APS - Arizona Public Service Co.	Michelle Amarantos		Affirmative	N/A
1	Arizona Electric Power Cooperative, Inc.	John Shaver		Negative	Third-Party Comments
1	Associated Electric Cooperative, Inc.	Mark Riley		Affirmative	N/A
1	Austin Energy	Thomas Standifur		Affirmative	N/A
1	Avista - Avista Corporation	Bryan Cox		None	N/A
1	Balancing Authority of Northern California	Kevin Smith	Joe Tarantino	Affirmative	N/A
1	BC Hydro and Power Authority	Patricia Robertson		Affirmative	N/A
1	Beaches Energy Services	Don Cuevas		Negative	Third-Party Comments
1	Berkshire Hathaway Energy - MidAmerican Energy	Terry Harbour		Negative	Third-Party Comments

1	Bonneville Power Administration	Donald Watkins		Affirmative	N/A
1	Bryan Texas Utilities	John Fontenot		None	N/A
1	CenterPoint Energy Houston Electric, LLC	John Brockhan		Abstain	N/A
1	Central Hudson Gas & Electric Corp.	Frank Pace		None	N/A
1	Cleco Corporation	John Lindsey	Louis Guidry	None	N/A
1	Colorado Springs Utilities	Shawna Speer		Negative	Comments Submitted
1	Con Ed - Consolidated Edison Co. of New York	Chris de Graffenried		Affirmative	N/A
1	CPS Energy	Glenn Pressler		Affirmative	N/A
1	Dairyland Power Cooperative	Robert Roddy		Abstain	N/A
1	Dominion - Dominion Virginia Power	Larry Nash		Abstain	N/A
1	Duke Energy	Doug Hils		Affirmative	N/A
1	Edison International - Southern California Edison Company	Steven Mavis		Affirmative	N/A
1	Entergy - Entergy Services, Inc.	Oliver Burke		Affirmative	N/A
1	FirstEnergy - FirstEnergy Corporation	William Smith		Affirmative	N/A
1	Georgia Transmission Corporation	Jason Snodgrass		None	N/A
1	Great Plains Energy - Kansas City Power and Light Co.	James McBee	Douglas Webb	Affirmative	N/A
1	Hydro One Networks, Inc.	Payam Farahbakhsh	Oshani Pathirane	Negative	Comments Submitted

1	Hydro-Québec TransEnergie	Nicolas Turcotte		Affirmative	N/A
1	International Transmission Company Holdings Corporation	Michael Moltane	Allie Gavin	Negative	Comments Submitted
1	KAMO Electric Cooperative	Walter Kenyon		None	N/A
1	Lakeland Electric	Larry Watt		Affirmative	N/A
1	Long Island Power Authority	Robert Ganley		Affirmative	N/A
1	Los Angeles Department of Water and Power	faranak sarbaz		Abstain	N/A
1	Lower Colorado River Authority	Teresa Cantwell		None	N/A
1	M and A Electric Power Cooperative	William Price		Affirmative	N/A
1	Manitoba Hydro	Mike Smith		Affirmative	N/A
1	MEAG Power	David Weekley		None	N/A
1	Muscatine Power and Water	Andy Kurriger		Affirmative	N/A
1	N.W. Electric Power Cooperative, Inc.	Mark Ramsey		Affirmative	N/A
1	National Grid USA	Michael Jones		Affirmative	N/A
1	Nebraska Public Power District	Jamison Cawley		Abstain	N/A
1	New York Power Authority	Salvatore Spagnolo		Affirmative	N/A
1	NextEra Energy - Florida Power and Light Co.	Mike O'Neil		None	N/A
1	NiSource - Northern Indiana Public Service Co.	Justin Wilderness		Affirmative	N/A
1	Northeast Missouri Electric Power	Kevin White		Affirmative	N/A

	Cooperative				
1	OGE Energy - Oklahoma Gas and Electric Co.	Terri Pyle		Affirmative	N/A
1	Oncor Electric Delivery	Rod Kinard		Affirmative	N/A
1	Peak Reliability	Jared Shakespeare		Affirmative	N/A
1	Platte River Power Authority	John Collins		Abstain	N/A
1	PNM Resources - Public Service Company of New Mexico	Laurie Williams		None	N/A
1	Portland General Electric Co.	Scott Smith		Affirmative	N/A
1	PPL Electric Utilities Corporation	Brenda Truhe		Abstain	N/A
1	PSEG - Public Service Electric and Gas Co.	Joseph Smith		Abstain	N/A
1	Public Utility District No. 1 of Snohomish County	Long Duong		Abstain	N/A
1	Public Utility District No. 2 of Grant County, Washington	Michiko Sell		Affirmative	N/A
1	Puget Sound Energy, Inc.	Theresa Rakowsky		Abstain	N/A
1	Sacramento Municipal Utility District	Tim Kelley	Joe Tarantino	Affirmative	N/A
1	Salt River Project	Steven Cobb		None	N/A
1	Santee Cooper	Shawn Abrams		Affirmative	N/A
1	SCANA - South Carolina Electric and Gas Co.	Tom Hanzlik		Affirmative	N/A
1	Seattle City Light	Pawel Krupa		None	N/A

1	Southern Company - Southern Company Services, Inc.	Katherine Prewitt		Affirmative	N/A
1	Tacoma Public Utilities (Tacoma, WA)	John Merrell		Affirmative	N/A
1	Tallahassee Electric (City of Tallahassee, FL)	Scott Langston		Affirmative	N/A
1	Tennessee Valley Authority	Howell Scott		Negative	Comments Submitted
1	Tri-State G and T Association, Inc.	Tracy Sliman		Affirmative	N/A
1	U.S. Bureau of Reclamation	Richard Jackson		Negative	Comments Submitted
1	United Illuminating Co.	Jonathan Appelbaum		Affirmative	N/A
1	Westar Energy	Kevin Giles		Abstain	N/A
2	BC Hydro and Power Authority	Venkataramakrishnan Vinnakota		Affirmative	N/A
2	California ISO	Richard Vine		Abstain	N/A
2	Electric Reliability Council of Texas, Inc.	Elizabeth Axson		Affirmative	N/A
2	Herb Schrayshuen	Herb Schrayshuen		Affirmative	N/A
2	Independent Electricity System Operator	Leonard Kula		Affirmative	N/A
2	ISO New England, Inc.	Michael Puscas		Affirmative	N/A
2	Midcontinent ISO, Inc.	Terry Bilke		Abstain	N/A
2	New York Independent System Operator	Gregory Campoli		None	N/A
2	PJM Interconnection, L.L.C.	Mark Holman		Affirmative	N/A
2	Southwest Power	Charles Yeung		Abstain	N/A

	Pool, Inc. (RTO)				
3	Ameren - Ameren Services	David Jendras		Abstain	N/A
3	APS - Arizona Public Service Co.	Jeri Freimuth		Affirmative	N/A
3	Associated Electric Cooperative, Inc.	Todd Bennett		Affirmative	N/A
3	Austin Energy	Julie Ross		None	N/A
3	Avista - Avista Corporation	Scott Kinney		Affirmative	N/A
3	Basin Electric Power Cooperative	Jeremy Voll		None	N/A
3	BC Hydro and Power Authority	Faramarz Amjadi		Affirmative	N/A
3	Beaches Energy Services	Steven Lancaster		None	N/A
3	Berkshire Hathaway Energy - MidAmerican Energy Co.	Thomas Mielnik		Abstain	N/A
3	Bonneville Power Administration	Rebecca Berdahl		Affirmative	N/A
3	Central Electric Power Cooperative (Missouri)	Adam Weber		Affirmative	N/A
3	City of Farmington	Linda Jacobson-Quinn		None	N/A
3	City of Green Cove Springs	Mark Schultz		None	N/A
3	City of Leesburg	Chris Adkins		None	N/A
3	City of Redding	Elizabeth Hadley		None	N/A
3	City Utilities of Springfield, Missouri	Scott Williams		Affirmative	N/A
3	Clark Public Utilities	Jack Stamper		None	N/A
3	Cleco Corporation	Michelle Corley	Louis Guidry	Abstain	N/A
3	City of Leesburg Utilities	Eric S. Brown		None	N/A

3	Con Ed - Consolidated Edison Co. of New York	Peter Yost		Affirmative	N/A
3	Dominion - Dominion Resources, Inc.	Connie Lowe		Abstain	N/A
3	DTE Energy - Detroit Edison Company	Karie Barczak		Affirmative	N/A
3	Duke Energy	Lee Schuster		Affirmative	N/A
3	Edison International - Southern California Edison Company	Romel Aquino		Affirmative	N/A
3	Eversource Energy	Mark Kenny		Affirmative	N/A
3	FirstEnergy - FirstEnergy Corporation	Theresa Ciancio	John Reed	Affirmative	N/A
3	Florida Municipal Power Agency	Joe McKinney		Negative	Third-Party Comments
3	Georgia System Operations Corporation	Scott McGough		Abstain	N/A
3	Great Plains Energy - Kansas City Power and Light Co.	Jessica Tucker		Affirmative	N/A
3	Great River Energy	Brian Glover		Affirmative	N/A
3	Hydro One Networks, Inc.	Paul Malozewski		None	N/A
3	JEA	Garry Baker		None	N/A
3	Lakeland Electric	David Hadzima		Affirmative	N/A
3	Lincoln Electric System	Jason Fortik		Abstain	N/A
3	Los Angeles Department of Water and Power	Mike Anctil		Affirmative	N/A
3	M and A Electric Power Cooperative	Stephen Pogue		None	N/A
3	Manitoba Hydro	Karim Abdel-Hadi		Affirmative	N/A

3	MEAG Power	Roger Brand		None	N/A
3	Muscatine Power and Water	Seth Shoemaker		Affirmative	N/A
3	National Grid USA	Brian Shanahan		Affirmative	N/A
3	Nebraska Public Power District	Tony Eddleman		Abstain	N/A
3	New York Power Authority	David Rivera		Affirmative	N/A
3	NiSource - Northern Indiana Public Service Co.	Ramon Barany		Affirmative	N/A
3	Northeast Missouri Electric Power Cooperative	Skyler Wiegmann		Affirmative	N/A
3	NW Electric Power Cooperative, Inc.	John Stickley		Affirmative	N/A
3	OGE Energy - Oklahoma Gas and Electric Co.	Donald Hargrove		Affirmative	N/A
3	Owensboro Municipal Utilities	Thomas Lyons		None	N/A
3	Platte River Power Authority	Jeff Landis		Abstain	N/A
3	PNM Resources	Michael Mertz		None	N/A
3	Portland General Electric Co.	Angela Gaines		Affirmative	N/A
3	PPL - Louisville Gas and Electric Co.	Charles Freibert		None	N/A
3	PSEG - Public Service Electric and Gas Co.	Jeffrey Mueller		Abstain	N/A
3	Puget Sound Energy, Inc.	Andrea Basinski	Tim Womack	Affirmative	N/A
3	Rutherford EMC	Tom Haire		Affirmative	N/A
3	Sacramento Municipal Utility District	Rachel Moore	Joe Tarantino	Affirmative	N/A

3	Santee Cooper	James Poston		Affirmative	N/A
3	Seattle City Light	Dana Wheelock		Affirmative	N/A
3	Snohomish County PUD No. 1	Mark Oens		Abstain	N/A
3	Southern Company - Alabama Power Company	R. Scott Moore		Affirmative	N/A
3	Tacoma Public Utilities (Tacoma, WA)	Marc Donaldson		Affirmative	N/A
3	Tallahassee Electric (City of Tallahassee, FL)	John Williams		Abstain	N/A
3	Tennessee Valley Authority	Ian Grant		Abstain	N/A
3	Tri-State G and T Association, Inc.	Janelle Marriott Gill		Affirmative	N/A
3	Westar Energy	Bo Jones		Abstain	N/A
3	Xcel Energy, Inc.	Michael Ibold		Abstain	N/A
4	Alliant Energy Corporation Services, Inc.	Kenneth Goldsmith		Affirmative	N/A
4	Austin Energy	Tina Garvey		Affirmative	N/A
4	Blue Ridge Power Agency	Duane Dahlquist		Negative	Third-Party Comments
4	City of Clewiston	Lynne Mila		None	N/A
4	City of New Smyrna Beach Utilities Commission	Tim Beyrle		None	N/A
4	City of Redding	Nick Zettel		None	N/A
4	City Utilities of Springfield, Missouri	John Allen		Affirmative	N/A
4	DTE Energy - Detroit Edison Company	Daniel Herring		None	N/A
4	FirstEnergy - Ohio Edison Company	Devs Hehlbaugh		Affirmative	N/A

4	Flathead Electric Cooperative	Russ Schneider		None	N/A
4	Florida Municipal Power Agency	Carol Chinn		Negative	Third-Party Comments
4	Georgia System Operations Corporation	Guy Andrews		Abstain	N/A
4	Illinois Municipal Electric Agency	Bob Thomas		Abstain	N/A
4	Indiana Municipal Power Agency	Jack Alvey	Scott Berry	Negative	Comments Submitted
4	Keys Energy Services	Stanley Rzad		None	N/A
4	North Carolina Electric Membership Corporation	John Lemire	Scott Brame	Negative	Third-Party Comments
4	Public Utility District No. 1 of Snohomish County	John Martinsen		Abstain	N/A
4	Sacramento Municipal Utility District	Michael Ramirez	Joe Tarantino	Affirmative	N/A
4	Seattle City Light	Hao Li		Affirmative	N/A
4	Seminole Electric Cooperative, Inc.	Michael Ward		Affirmative	N/A
4	Tacoma Public Utilities (Tacoma, WA)	Hien Ho		Affirmative	N/A
4	Utility Services, Inc.	Brian Evans-Mongeon		Abstain	N/A
4	WEC Energy Group, Inc.	Anthony Jankowski		Negative	Comments Submitted
5	AEP	Thomas Foltz		Abstain	N/A
5	Ameren - Ameren Missouri	Sam Dwyer		Abstain	N/A
5	Associated Electric Cooperative, Inc.	Matthew Pacobit		None	N/A

5	Austin Energy	Jeanie Doty		Affirmative	N/A
5	Avista - Avista Corporation	Glen Farmer		None	N/A
5	Basin Electric Power Cooperative	Mike Kraft		None	N/A
5	BC Hydro and Power Authority	Helen Hamilton Harding		Affirmative	N/A
5	Bonneville Power Administration	Francis Halpin		Affirmative	N/A
5	Brazos Electric Power Cooperative, Inc.	Shari Heino		Negative	Third-Party Comments
5	Choctaw Generation Limited Partnership, LLLP	Rob Watson		Affirmative	N/A
5	City of Independence, Power and Light Department	Jim Nail		Affirmative	N/A
5	Cleco Corporation	Stephanie Huffman	Louis Guidry	Abstain	N/A
5	CMS Energy - Consumers Energy Company	David Greyerbiehl		Abstain	N/A
5	Cogentrix Energy Power Management, LLC	Mike Hirst		None	N/A
5	Colorado Springs Utilities	Jeff Icke		Negative	Comments Submitted
5	Con Ed - Consolidated Edison Co. of New York	Brian O'Boyle		Affirmative	N/A
5	Dairyland Power Cooperative	Tommy Drea		Affirmative	N/A
5	Dominion - Dominion Resources, Inc.	Randi Heise		Affirmative	N/A
5	DTE Energy - Detroit Edison Company	Jeffrey DePriest		Affirmative	N/A
5	Duke Energy	Dale Goodwine		None	N/A

5	Dynergy Inc.	Dan Roethemeyer		Affirmative	N/A
5	Edison International - Southern California Edison Company	Thomas Rafferty		None	N/A
5	Entergy - Entergy Services, Inc.	Tracey Stubbs		Abstain	N/A
5	FirstEnergy - FirstEnergy Solutions	Robert Loy		Affirmative	N/A
5	Florida Municipal Power Agency	David Schumann		Negative	Third-Party Comments
5	Great Plains Energy - Kansas City Power and Light Co.	Harold Wyble		None	N/A
5	Great River Energy	Preston Walsh		Affirmative	N/A
5	Hydro-Quebec Production	Roger Dufresne		Affirmative	N/A
5	JEA	John Babik		Affirmative	N/A
5	Kissimmee Utility Authority	Mike Blough		Negative	Third-Party Comments
5	Lincoln Electric System	Kayleigh Wilkerson		Abstain	N/A
5	Los Angeles Department of Water and Power	Kenneth Silver		Abstain	N/A
5	Lower Colorado River Authority	Wesley Maurer		Abstain	N/A
5	Massachusetts Municipal Wholesale Electric Company	David Gordon		Abstain	N/A
5	MEAG Power	Steven Grego		None	N/A
5	Muscatine Power and Water	Mike Avesing		Affirmative	N/A
5	Nebraska Public Power District	Don Schmit		Abstain	N/A
5	New York Power Authority	Wayne Sipperly		Affirmative	N/A

5	NextEra Energy	Allen Schriver		Affirmative	N/A
5	OGE Energy - Oklahoma Gas and Electric Co.	Leo Staples		Affirmative	N/A
5	Omaha Public Power District	Mahmood Safi		Affirmative	N/A
5	Pacific Gas and Electric Company	Alex Chua		None	N/A
5	PSEG - PSEG Fossil LLC	Tim Kucey		Abstain	N/A
5	Public Utility District No. 1 of Snohomish County	Sam Nietfeld		Abstain	N/A
5	Public Utility District No. 2 of Grant County, Washington	Alex Ybarra		Affirmative	N/A
5	Puget Sound Energy, Inc.	Lynda Kupfer		Affirmative	N/A
5	Sacramento Municipal Utility District	Susan Gill-Zobitz	Joe Tarantino	Affirmative	N/A
5	Seattle City Light	Mike Haynes		Affirmative	N/A
5	Seminole Electric Cooperative, Inc.	Brenda Atkins		Affirmative	N/A
5	Southern Company - Southern Company Generation	William D. Shultz		Affirmative	N/A
5	Southern Indiana Gas and Electric Co.	Scotty Brown		None	N/A
5	Tacoma Public Utilities (Tacoma, WA)	Chris Mattson		Affirmative	N/A
5	Tallahassee Electric (City of Tallahassee, FL)	Karen Webb		Affirmative	N/A
5	Tennessee Valley Authority	M Lee Thomas		Abstain	N/A
5	TN-State G and I	Mark Stein		Abstain	N/A

	Association, Inc.				
5	U.S. Bureau of Reclamation	Erika Doot		Negative	Comments Submitted
5	Westar Energy	stephanie johnson		None	N/A
6	AEP - AEP Marketing	Dan Ewing		Abstain	N/A
6	Ameren - Ameren Services	Robert Quinlivan		None	N/A
6	APS - Arizona Public Service Co.	Bobbi Welch		Affirmative	N/A
6	Associated Electric Cooperative, Inc.	Brian Ackermann		Affirmative	N/A
6	Austin Energy	Andrew Gallo		Affirmative	N/A
6	Berkshire Hathaway - PacifiCorp	Sandra Shaffer		Negative	Third-Party Comments
6	Bonneville Power Administration	Alex Spain		Affirmative	N/A
6	City of Redding	Marvin Briggs		None	N/A
6	Cleco Corporation	Robert Hirschak	Louis Guidry	Abstain	N/A
6	Colorado Springs Utilities	Shannon Fair		Negative	Comments Submitted
6	Con Ed - Consolidated Edison Co. of New York	Robert Winston		Affirmative	N/A
6	Duke Energy	Greg Cecil		Affirmative	N/A
6	Edison International - Southern California Edison Company	Earle Saunders		None	N/A
6	Entergy	Julie Hall		None	N/A
6	FirstEnergy - FirstEnergy Solutions	Ann Ivanc		Affirmative	N/A
6	Florida Municipal Power Agency	Richard Montgomery		Negative	Third-Party Comments
6	Florida Municipal Power Pool	Tom Reedy	Chris Gowder	Negative	Comments Submitted
6	Great Plains Energy -	Chris Bridges		Affirmative	N/A

	Kansas City Power and Light Co.				
6	Lincoln Electric System	Eric Ruskamp		Abstain	N/A
6	Lower Colorado River Authority	Michael Shaw		None	N/A
6	Luminant - Luminant Energy	Brenda Hampton		Affirmative	N/A
6	Manitoba Hydro	Blair Mukanik		Affirmative	N/A
6	Muscatine Power and Water	Ryan Streck		Affirmative	N/A
6	New York Power Authority	Shivaz Chopra		Affirmative	N/A
6	NextEra Energy - Florida Power and Light Co.	Silvia Mitchell		None	N/A
6	NiSource - Northern Indiana Public Service Co.	Joe O'Brien		Affirmative	N/A
6	OGE Energy - Oklahoma Gas and Electric Co.	Jerry Nottnagel		Affirmative	N/A
6	Oglethorpe Power Corporation	Donna Johnson		Abstain	N/A
6	Omaha Public Power District	Mark Trumble		None	N/A
6	Platte River Power Authority	Carol Ballantine		Abstain	N/A
6	Portland General Electric Co.	Adam Menendez		Affirmative	N/A
6	PPL - Louisville Gas and Electric Co.	Linn Oelker		None	N/A
6	PSEG - PSEG Energy Resources and Trade LLC	Karla Jara		Abstain	N/A
6	Sacramento Municipal Utility District	Diane Clark	Joe Tarantino	Affirmative	N/A

6	Santee Cooper	Michael Brown		Affirmative	N/A
6	Seattle City Light	Charles Freeman		None	N/A
6	Seminole Electric Cooperative, Inc.	Trudy Novak		Affirmative	N/A
6	Snohomish County PUD No. 1	Franklin Lu		Abstain	N/A
6	Southern Company - Southern Company Generation and Energy Marketing	Jennifer Sykes		Affirmative	N/A
6	Tacoma Public Utilities (Tacoma, WA)	Rick Applegate		Affirmative	N/A
6	Talen Energy Marketing, LLC	Elizabeth Davis		Negative	Comments Submitted
6	Tennessee Valley Authority	Marjorie Parsons		Abstain	N/A
6	Westar Energy	Megan Wagner		Abstain	N/A
7	Exxon Mobil	Jay Barnett		Negative	Comments Submitted
7	Luminant Mining Company LLC	Stewart Rake		None	N/A
8	David Kiguel	David Kiguel		Affirmative	N/A
8	Massachusetts Attorney General	Frederick Plett		Affirmative	N/A
9	City of Vero Beach	Ginny Beigel		None	N/A
9	Commonwealth of Massachusetts Department of Public Utilities	Donald Nelson		Affirmative	N/A
10	Midwest Reliability Organization	Russel Mountjoy		Affirmative	N/A
10	Northeast Power Coordinating Council	Guy V. Zito		Affirmative	N/A
10	ReliabilityFirst	Anthony Jablonski		Affirmative	N/A
10	NERC Reliability	David Greene		Affirmative	N/A

	Corporation				
10	Southwest Power Pool Regional Entity	Bob Reynolds		Abstain	N/A
10	Texas Reliability Entity, Inc.	Rachel Coyne		Affirmative	N/A

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Comment Report

Project Name: 2015-07 Internal Communications Capabilities
Comment Period Start Date: 3/23/2016
Comment Period End Date: 5/9/2016
Associated Ballots: 2015-07 Internal Communications Capabilities COM-001-3 AB 2 ST
2015-07 Internal Communications Capabilities COM-001-3 Non-binding Poll AB 2 NB

There were 42 sets of responses, including comments from approximately 37 different people from approximately 34 companies representing 9 of the Industry Segments as shown in the table on the following pages.

Questions

1. Do you agree that the proposed Requirements R12 and R13 in the proposed COM-001-3 address the directive in Order No. 808? If not, please explain why you do not agree and, if possible, provide specific language revisions that would make it acceptable to you.
2. If you have any other comments on the proposed COM-001-3 that you haven't already mentioned above, please provide them here:

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
ACES Power Marketing	Ben Engelby	6		ACES Standards Collaborators - COM-001 Project	Ellen Watkins	ACES Power Marketing	1	SPP RE
					Bob Solomon	ACES Power Marketing	1	RF
					Bill Hutchison	ACES Power Marketing	1	SERC
					John Shaver	ACES Power Marketing	1,4,5	WECC
					Shari Heino	ACES Power Marketing	1,5	Texas RE
					Doug White	ACES Power Marketing	3,4,5	SERC
					Mike Brytowski	ACES Power Marketing	1,3,5,6	MRO
					Ginger Mercier	ACES Power Marketing	1,3	SERC
					Kevin Lyons	ACES Power Marketing	1	MRO
					Amber Skillern	ACES Power Marketing	1,3	SERC
					Greg Froehling	ACES Power Marketing	3	SPP RE
Chris Gowder	Chris Gowder		FRCC	FMPA	Tim Beyrle	Chris Gowder	4	FRCC
					Jim Howard	Chris Gowder	5	FRCC
					Lynne Mila	Chris Gowder	4	FRCC
					Javier Cisneros	Chris Gowder	3	FRCC
					Randy Hahn	Chris Gowder	3	FRCC
					Don Cuevas	Chris Gowder	1	FRCC
					Stan Rzad	Chris Gowder	4	FRCC
					Matt Culverhouse	Chris Gowder	3	FRCC
					Tom Reedy	Chris Gowder	6	FRCC
					Steve Lancaster	Chris Gowder	3	FRCC
					Mike Blough	Chris Gowder	5	FRCC
					Mark Brown	Chris Gowder	4	FRCC
					Chris Adkins	Chris Gowder	3	FRCC
Ginny Beigel	Chris Gowder	9	FRCC					

Duke Energy	Colby Bellville	1,3,5,6	FRCC,RF,SERC	Duke Energy	Doug Hils	Duke Energy	1	RF
					Lee Schuster	Duke Energy	3	FRCC
					Dale Goodwine	Duke Energy	5	SERC
					Greg Cecil	Duke Energy	6	RF
Dominion - Dominion Resources, Inc.	Randi Heise	5		Dominion - RCS	Larry Nash	Dominion - Dominion Resources, Inc.	1	SERC
					Louis Slade	Dominion - Dominion Resources, Inc.	6	SERC
					Connie Lowe	Dominion - Dominion Resources, Inc.	3	RF
					Randi Heise	Dominion - Dominion Resources, Inc.	5	NPCC
Northeast Power Coordinating Council	Ruida Shu	1,2,3,4,5,6,7	NPCC	RSC No IESO Con-Ed and National Grid	Paul Malozewski	Northeast Power Coordinating Council	1	NPCC
					Guy Zito	Northeast Power Coordinating Council	NA - Not Applicable	NPCC
					Rob Vance	Northeast Power Coordinating Council	1	NPCC
					Mark J. Kenny	Northeast Power Coordinating Council	1	NPCC
					Gregory A. Campoli	Northeast Power Coordinating Council	2	NPCC
					Randy MacDonald	Northeast Power Coordinating Council	2	NPCC
					Wayne Sipperly	Northeast Power Coordinating Council	4	NPCC

Northeast Power Coordinating Council	Ruida Shu	1,2,3,4,5,6,7	NPCC	RSC No IESO Con-Ed and National Grid	David Ramkalawan	Northeast Power Coordinating Council	4	NPCC
					Glen Smith	Northeast Power Coordinating Council	4	NPCC
					Brian Robinson	Northeast Power Coordinating Council	5	NPCC
					Bruce Metruck	Northeast Power Coordinating Council	6	NPCC
					Alan Adamson	Northeast Power Coordinating Council	7	NPCC
					Edward Bedder	Northeast Power Coordinating Council	1	NPCC
					David Burke	Northeast Power Coordinating Council	3	NPCC
					Michele Tondalo	Northeast Power Coordinating Council	1	NPCC
					Kathleen Goodman	Northeast Power Coordinating Council	2	NPCC
					Sylvain Clermont	Northeast Power Coordinating Council	1	NPCC
					Si Truc Phan	Northeast Power Coordinating Council	2	NPCC
					Sean Bodkin	Northeast Power Coordinating Council	4	NPCC

Northeast Power Coordinating Council	Ruida Shu	1,2,3,4,5,6,7	NPCC	RSC No IESO Con-Ed and National Grid	Silvia Parada Mitchell	Northeast Power Coordinating Council	4	NPCC
Southwest Power Pool, Inc. (RTO)	Shannon Mickens	2	SPP RE	SPP Standards Review Group	Shannon Mickens	Southwest Power Pool, Inc. (RTO)	2	SPP RE
					Jason Smith	Southwest Power Pool, Inc. (RTO)	2	SPP RE
					James Nail	Southwest Power Pool, Inc. (RTO)	3,5	SPP RE
					Ron Losh	Southwest Power Pool, Inc. (RTO)	2	SPP RE
					Sean Simpson	Southwest Power Pool, Inc. (RTO)	NA - Not Applicable	NA - Not Applicable
					kevin Giles	Southwest Power Pool, Inc. (RTO)	1,3,5,6	SPP RE
					Carl Stelly	Southwest Power Pool, Inc. (RTO)	2	SPP RE
					John Allen	Southwest Power Pool, Inc. (RTO)	1,4	SPP RE
					J. Scott Williams	Southwest Power Pool, Inc. (RTO)	1,4	SPP RE
Colorado Springs Utilities	Shawna Speer	1		Colorado Springs Utilities	Shawna Speer	Colorado Springs Utilities	1	WECC
					Shannon Fair	Colorado Springs Utilities	6	WECC
					Charles Morgan	Colorado Springs Utilities	3	WECC
					Kaleb Brimhall	Colorado Springs Utilities	5	WECC
Oxy - Occidental Chemical	Venona Greaff	7		Oxy	Venona Greaff	Oxy - Occidental Chemical	7	SERC
					Michelle D'Antuono	Oxy - Occidental Chemical	5	Texas RE

1. Do you agree that the proposed Requirements R12 and R13 in the proposed COM-001-3 address the directive in Order No. 808? If not, please explain why you do not agree and, if possible, provide specific language revisions that would make it acceptable to you.

Bob Thomas - Illinois Municipal Electric Agency - 4

Answer No

Document Name

Comment

The proposed R12 & R13 address the directive in Order No. 808, but are not necessary. Illinois Municipal Electric Agency (IMEA) does not believe proposed R12 and R13 are consistent with NERC's risk-/results-based Reliability Standards or the Paragraph 81 initiative. R12 and R13 would increase demands on Compliance resources (e.g., procedure development/revision, internal controls identification/development, compliance monitoring/demonstration, RSAW development, etc.) with no improvement to the reliability of (no reduced risk to) the BES/BPS. During the most recent COM-001-3 WebEx Q&A session, it was indicated there is no awareness of a system event being caused or exacerbated by a DP or GOP lacking internal Interpersonal Communication capability. The point here is not that DP and GOP internal communication capability is not important; the point is that with current technology such communication capability is already in place. R12 and R13 address a risk (are trying to fix a problem) that doesn't exist. For R12, IMEA defers to entities impacted by the proposed language. For R13, IMEA recommends deletion of this proposed requirement.

Likes 0

Dislikes 0

Response

Jay Barnett - Exxon Mobil - 7

Answer No

Document Name

Comment

FERC comments at P. 41 in Order No. 808 mention geographically separate control centers and the standard rationale acknowledges that certain communications in single Control Centers that are ongoing and occur throughout the day as part of day-to-day control center operation are not the focus of COM-001-3. This same rationale should be used as well for personnel at single facilities that are not geographically separated (i.e. personnel within a single generating unit). Information necessary for the Reliable Operation of the BES might be communicated between field operators at a single generating unit; however, this capability is inherent and necessary for the safe and reliable operation of that unit. Requiring an entity to retain, for instance, evidence of having radio communications between field operators is an unnecessary administrative burden. Requirement R12 should be modified as:

"R12. Each RC, TOP, GOP, and BA shall have internal Interpersonal Communication capabilities for the exchange of information necessary for the Reliable Operation of the BES. This includes communication capabilities between Control Centers within the same functional entity, or between a Control Center and field personnel, **and excludes communication capabilities between personnel within an individual Facility.**"

Likes 0

Dislikes 0

Response

Scott Berry - Indiana Municipal Power Agency - 4 - RF

Answer No

Document Name

Comment

The proposed Requirements R12 and R13 meet the Paragraph 81 initiative criteria and are purely administrative in nature. IMPA is not aware of an electrical industry entity that does not operate or conduct business with some form of Interpersonal Communication capability. Generally, entities operate with many redundant forms of communication that will prevent them from having a scenario where they have a complete loss of Interpersonal Communication capability.

Likes 0

Dislikes 0

Response

Emily Rousseau - MRO - 1,2,3,4,5,6 - MRO

Answer No

Document Name

Comment

R12 and R13:

(A) Within FERC Order 808, P. 41, (1), FERC directs the adequacy of internal communications that have an adverse effect on reliability, within a single functional entity that is geographically separated. The currently proposed R12 does not address FERC’s directive (1). Recommend R12 to read as: *“This includes communication capabilities between geographically separated Control Centers ...”* be incorporated into this portion of R12. Without this qualifier, CEAs may believe that this is applicable between Primary and Backup Control Centers for BA, TOP, and RC per EOP-008-1. As written in EOP-008-1, R1 and R1.2.3, the BA, TOP and RC have to have an Operating Plan describing voice communications in order to meet their functional obligations and not communications between Primary and Backup Control Centers.

(B) To ensure consistency, recommend R13 also be revised as follows: *“This includes communication capabilities between geographically separated control centers ...”*

(C) Within FERC Order 808, P. 41, (1) and (2) FERC uses the word “and” where the SDT uses the word “or”. These two words have drastically different meanings within the context of a Reliability Standard. Recommend that “or” be changed to “and” in order to fulfill the FERC directive.

Likes 0

Dislikes 0

Response

Scott Hoggatt - WEC Energy Group, Inc. - 6

Answer No

Document Name

Comment

I support the comments provided by Matthew Beilfuss of the WEC Energy Group.

Likes 0

Dislikes 0

Response

Ben Engelby - ACES Power Marketing - 6, Group Name ACES Standards Collaborators - COM-001 Project

Answer

No

Document Name

Comment

1. The SDT has introduced significant ambiguity to Requirement R13 by categorizing Distribution Provider centers as lowercase “control centers.” This is the opposite approach from most SDTs that provide clarity by referencing a NERC defined term. Including a lowercase glossary term and expecting industry to know the meaning will only create confusion and uncertainty. The requirements for DPs should not be identical to communication requirements imposed RCs, BAs, TOPs, and GOPs because DPs do not have the same impacts and the grid and do not necessarily have control centers. Distribution entities could be second-guessed by auditors, even though their facilities are for the operation of the distribution system, which poses a minimal risk to the Bulk Electric System. Requirement R13 creates unnecessary compliance burdens that are not outweighed by reliability benefits. We strongly suggest that the SDT strike R13.
2. If the SDT chooses not to take our suggestion above to strike R13, we offer an alternative approach for consideration. We recommend the SDT add an exemption to DPs that pose a low risk to the BES. To achieve this, the SDT could revise the applicability section to apply only to DPs that have a role in a TOP’s restoration plan or DPs that are part of a UFLS scheme. This modification would focus on the subset of DPs that pose a risk to reliability of the BES.
3. For requirements R12 and R13, there could be a wide range of auditor interpretations, including treating any failure of a communication system as a violation. We suggest the SDT adopt language similar to what is in place for external communication capabilities requirements to notify affected entities and develop plan to remedy the situation. A failure of external communication capabilities is not a violation in and of itself. The SDT needs to be clear that a simple failure of an internal communication capabilities is not a violation either.
4. While we appreciate the SDT providing additional time to implement the standard, we feel the proposed implementation plan of nine months should be increased to 18 months.
5. The VSLs for R12 and R13 should be revised to be on a graduated scale that includes the amount of time communications were unavailable. The binary nature of the current VSLs result in a severe violation level for any communication failure.

Likes 0

Dislikes 0

Response

Anthony Jankowski - WEC Energy Group, Inc. - 4**Answer** No**Document Name****Comment**Matthew Beilfuss, **On Behalf of:** WEC Energy Group, Inc.

Likes 0

Dislikes 0

Response**Amy Casuscelli - Amy Casuscelli****Answer** No**Document Name****Comment**

Xcel Energy supports the comments provided by the MRO NERC Standards Review Forum.

Likes 0

Dislikes 0

Response**M Lee Thomas - Tennessee Valley Authority - 5****Answer** No**Document Name****Comment**

While the Requirements R12 and R13 in the proposed COM-001-3 address the directive in Order No. 808 sufficiently, TVA believes the standard is inadequate in that additional clarification is needed. The Rationale for R12 states

“Therefore, the applicable entities must have the capability to exchange information between Control Centers of that functional entity . . . Also, applicable entities must have the capability to exchange information between a Control Center and field personnel.”

This clearly establishes that the required internal Interpersonal Communication Capability consists of, and is sufficiently demonstrated by, communication capability between Control Centers within the same functional entity and between Control Centers and field personnel.

However, Requirement R12 as written uses the phrase

“This includes communication capabilities between Control Centers within the same functional entity, or between a Control Center and field personnel.”

Saying only that the required capabilities “includes” the two aspects listed leaves the possibility that other capabilities, such as between a single generating unit’s control room and its field personnel, should be considered, thus rendering the scope of Requirement R12 indefinite.

The required communication capabilities between the Control Center and field personnel also needs clarification. It is possible that field personnel would be operating in an area where radio and cellular coverage does not exist. When this is the case, the field personnel would normally travel or locate themselves to a point where communication is possible while receiving or reporting the completion of Operating Instructions.

Accordingly, TVA suggests the following rewording for R12 as follows:

“This *consists of* communication capabilities between Control Centers within the same functional entity, or between a Control Center and field personnel. *Interpersonal Communications Capability with field personnel is required only during issuance of Operating Instructions or receipt of condition reports following performance of Operating Instructions, but is not required while Operating Instructions are actually being performed.*”

Although the Rationale for R13 is varies slightly from that of R12, the same argument applies.

Likes	0
Dislikes	0
Response	
Andrew Pusztai - American Transmission Company, LLC - 1	
Answer	No
Document Name	
Comment	

ATC supports the comments that were submitted by the MRO NSRF(see below)

R12 and R13:

1. Within FERC Order 808, P. 41, (1), FERC directs the adequacy of internal communications that have an adverse effect on reliability, within a single functional entity that is geographically separated. The currently proposed R12 does not address FERC's directive (1). Recommend R12 to read as: *"This includes communication capabilities between geographically separated Control Centers ..."* be incorporated into this portion of R12. Without this qualifier, CEAs may believe that this is applicable between Primary and Backup Control Centers for BA, TOP, and RC per EOP-008-1. As written in EOP-008-1, R1 and R1.2.3, the BA, TOP and RC have to have an Operating Plan describing voice communications in order to meet their functional obligations and not communications between Primary and Backup Control Centers.
2. To ensure consistency, recommend R13 also be revised as follows: *"This includes communication capabilities between geographically separated control centers ..."*
3. *Within FERC Order 808, P. 41, (1) and (2) FERC uses the word "and" where the SDT uses the word "or". These two words have drastically different meanings within the context of a Reliability Standard. Recommend that "or" be changed to "and" in order to fulfill the FERC directive.*

Likes 0

Dislikes 0

Response

Diana McMahon - Salt River Project - 1,3,5,6 - WECC

Answer

No

Document Name

Comment

Thank you for the effort of drafting and addressing Order 808. As drafted the requirements do not account for the intention to address issues "whenever internal communications could directly affect the reliable operation of the Bulk-Power System". Co-located operational teams would need to provide evidence of compliance when they are within the same room. While the rationale for 12 appears to address this issue, the language of the standard does not exempt these situations. Additionally, the requirement of Interpersonal communication to field personnel and the documentation of such communication is overly burdensome. To ensure that all field personnel have Interpersonal Communications entities will be required to maintain records demonstrating that all personnel have adequate coverage areas and have communication devices at all times. An employee leaving his cell at a remote site could result in an inadvertent violation.

Likes 0

Dislikes 0

Response

Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7 - NPCC, Group Name RSC No IESO Con-Ed and National Grid

Answer

No

Document Name

Comment

The second sentence of R12 should encompass all Control Centers, and all personnel that affect the Real-time operation of the Bulk Electric System. Even though Order No. 808 refers specifically to the Bulk-Power System, the assumption is that FERC is referring to the Bulk Electric System. Suggest revising Requirement R12 to read:

Each Reliability Coordinator, Transmission Operator, Generator Operator, and Balancing Authority shall have internal Interpersonal Communication capabilities for the exchange of information that is necessary for the Reliable Operation of the BES. This includes communication capabilities between Control Centers within the same functional entity, and between Control Centers and all personnel whose responsibilities can impact the Real-time operation of the BES.

Similarly, suggest revising Requirement R13 to read:

Each Distribution Provider shall have internal Interpersonal Communication capabilities for the exchange of information that is necessary for the Reliable Operation of the BES. This includes communication capabilities between Control Centers within the same functional entity, and between Control Centers and all personnel whose responsibilities can impact the Real-time operation of the BES.

Likes 0

Dislikes 0

Response

Oshani Pathirane - Hydro One Networks, Inc. - 1,3 - NPCC

Answer

No

Document Name

Comment

Hydro One Networks Inc. believes that the term “*field personnel*” is subject to interpretation and is an undefined term. For example, site maintenance staff, site security personnel, or site cleaning staff who typically would not have direct contact with BES assets may be subject to the requirement and such an interpretation would be unnecessarily onerous on entities, with no significant improvement to BES reliability. We suggest adding more specificity by adding, “*field personnel authorized to directly control BES assets*”.

We also support the IESO (Ontario) in suggesting that the words “*geographically separate Control Centers*” be added to explicitly state that “*between Control Centers within the same functional entity*” implies geographically separate locations.

While Hydro One Networks Inc. agrees that the intent of the directive in FERC Order 808 is adequately addressed, the requirement verbiage could be more specific by including the term “*Operating Instruction*”.

Therefore, we suggest the following wording which incorporates all our suggestions above:

“Each Reliability Coordinator, Transmission Operator, Generator Operator, and Balancing Authority shall have internal Interpersonal Communication capabilities for the exchange of information involving Operating Instructions that are necessary for the Reliable Operation of the BES. This includes communication capabilities between geographically separate Control Centers within the same functional entity, or between a Control Center and field personnel authorized to directly control BES assets”.

Likes 0

Dislikes 0

Response

Shawna Speer - Colorado Springs Utilities - 1, Group Name Colorado Springs Utilities

Answer No

Document Name

Comment

Colorado Springs Utilities does not see a reliability gap requiring the addition of Requirements R12. and R13. Communication with field personnel is a requirement of conducting business.

Likes 0

Dislikes 0

Response

Leonard Kula - Independent Electricity System Operator - 2

Answer Yes

Document Name

Comment

We agree that the proposed Requirements R12 and R13 address the directive in Order 808, although their clarity can be further improved to leave no doubts on the requirement to have the required communication capability between geographically separate control centers within the same functional entity. We suggest the SDT to insert the words “geographically separate” into R12 and R13 as we previously suggested.

Likes 0

Dislikes 0

Response

Matthew Beilfuss - WEC Energy Group, Inc. - 3,4,5,6 - RF

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Chris Gowder - Chris Gowder, Group Name FMPA

Answer	Yes
Document Name	
Comment	
See response to question 2.	
Likes 0	
Dislikes 0	
Response	
Jared Shakespeare - Peak Reliability - 1	
Answer	Yes
Document Name	
Comment	
Peak Reliability supports this Standard.	
Likes 0	
Dislikes 0	
Response	
Shannon Mickens - Southwest Power Pool, Inc. (RTO) - 2 - SPP RE, Group Name SPP Standards Review Group	
Answer	Yes
Document Name	
Comment	
<p>We commend the drafting team on their efforts in reference to the proposed changes pertaining to Requirement R12 and Requirement R13. Especially in Requirement R13, the way they captured the Distribution Provider (DP) facilities supporting the reliability of the Bulk Electric System (BES) by using the lower-case form of 'control center'. However, we have a concern that the team didn't capitalize the term 'reliable operation' (third sentence of page 18 of the Supplemental Material-Rationale Section). In the following sentence in that paragraph, the term is capitalized there as well as in Requirement R13. We would ask the drafting team to provide some clarity on why the term was not capitalized in the Rationale Section.</p>	
Likes 0	
Dislikes 0	
Response	
Venona Greaff - Oxy - Occidental Chemical - 7, Group Name Oxy	
Answer	Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Michelle D'Antuono - Oxy - Ingleside Cogeneration LP - 5

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Robert Coughlin - ISO New England, Inc. - 2 - NPCC

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Robert Coughlin - ISO New England, Inc. - 2 - NPCC

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Robert Coughlin - ISO New England, Inc. - 2 - NPCC**Answer** Yes**Document Name****Comment**

Likes 0

Dislikes 0

Response**Randi Heise - Dominion - Dominion Resources, Inc. - 5, Group Name Dominion - RCS****Answer** Yes**Document Name****Comment**

Likes 0

Dislikes 0

Response**Michael Puscas - ISO New England, Inc. - 2****Answer** Yes**Document Name****Comment**

Likes 0

Dislikes 0

Response**Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC****Answer** Yes**Document Name****Comment**

Likes 0

Dislikes 0

Response

Thomas Foltz - AEP - 5

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Colby Bellville - Duke Energy - 1,3,5,6 - FRCC,SERC,RF, Group Name Duke Energy

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Rachel Coyne - Texas Reliability Entity, Inc. - 10

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Laura Nelson - IDACORP - Idaho Power Company - 1

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Elizabeth Axson - Electric Reliability Council of Texas, Inc. - 2

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Tom Haire - Rutherford EMC - 3

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

John Fontenot - Bryan Texas Utilities - 1

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

John Fontenot - Bryan Texas Utilities - 1

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response**Julie Hall - Entergy - 6****Answer**

Yes

Document Name**Comment**

Likes 0

Dislikes 0

Response**Karie Barczak - DTE Energy - Detroit Edison Company - 3****Answer**

Yes

Document Name**Comment**

Likes 0

Dislikes 0

Response**Karie Barczak - DTE Energy - Detroit Edison Company - 3****Answer**

Yes

Document Name**Comment**

Likes 0

Dislikes 0

Response**Karie Barczak - DTE Energy - Detroit Edison Company - 3**

Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Yvonne McMackin - Public Utility District No. 2 of Grant County, Washington - 1,4,5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Gerry Adamski - Essential Power, LLC - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Erika Doot - U.S. Bureau of Reclamation - 5	
Answer	
Document Name	
Comment	

The Bureau of Reclamation appreciates the drafting team's efforts to address the reliability gap discussed in FERC Order No. 808 P 41 (Apr. 16, 2015) that was created when internal communications addressed in Requirement R1.1 of COM-001-1 were not included in COM-001-2. Reclamation believes that the proposed requirements are appropriate for the Reliability Coordinator, Transmission Operator, and Balancing Authority functions.

Reclamation reiterates that the proposed changes in COM-001-3 go beyond the scope of FERC Order No. 808 by adding requirements for internal communications for Generator Operators and Distribution Providers. Reclamation notes that P 41 of Order No. 808 addressed Requirement R1.1, which only applied to Reliability Coordinators, Transmission Operators and Balancing Authorities. Therefore, Reclamation suggests that the Generator Operator and Distribution Provider functions should be removed from requirements R12 and R13.

Reclamation believes that requiring internal communication capabilities between geographically separate Generator Operator control centers that direct the operations of different facilities, under the supervisor of separate Transmission Operators or Balancing Authorities, will not improve BES reliability. Instead, it may have an adverse impact on BES reliability (especially during system disturbances) by introducing communications capability between additional, unnecessary parties who do not have familiarity with local configurations, operations or area-wide system impacts. For example, requiring internal communication capabilities between generation control centers in the Pacific Northwest, Desert Southwest, and/or Rocky Mountain states that coordinate with different Transmission Operators and do not direct operations of any overlapping facilities will not improve BES reliability. However, as proposed, the standard would impose unnecessary additional communication and compliance costs for these Generator Operators. Reclamation does not believe that the R12 caveat regarding "information necessary for the Reliable Operation of the BES" adequately addresses this concern, and opens the door for a wide range of audit interpretations on the issue.

Likes	0
Dislikes	0
Response	

2. If you have any other comments on the proposed COM-001-3 that you haven't already mentioned above, please provide them here:

Gerry Adamski - Essential Power, LLC - 5

Answer

Document Name

Comment

We vote in the affirmative with the understanding that we can demonstrate we have the internal communication systems established between our control room personnel and personnel within the plant as a means to satisfy R12. If this is not the drafting team's intent, then further clarifications are necessary to the language in the standard. Furthermore, we do not believe these requirements are necessary at all but understand that NERC is required to respond to the FERC directive.

Likes 0

Dislikes 0

Response

Shawna Speer - Colorado Springs Utilities - 1, Group Name Colorado Springs Utilities

Answer

Document Name

Comment

Internal Interpersonal Communications used solely to communicate within a Facility (i.e. radio communication between operators) are inherent and necessary for the safe and reliable operation of that Facility and should be excluded from COM-001-3 due to the lack of reliability benefit.

Likes 0

Dislikes 0

Response

Karie Barczak - DTE Energy - Detroit Edison Company - 3

Answer

Document Name

Comment

N/A

Likes 0

Dislikes 0

Response

John Fontenot - Bryan Texas Utilities - 1

Answer

Document Name

Comment

na

Likes 0

Dislikes 0

Response

John Fontenot - Bryan Texas Utilities - 1

Answer

Document Name

Comment

na

Likes 0

Dislikes 0

Response

Tom Haire - Rutherford EMC - 3

Answer

Document Name

Comment

This standard should be clearly restricted to only BES elements.

Likes 0

Dislikes 0

Response

Shannon Mickens - Southwest Power Pool, Inc. (RTO) - 2 - SPP RE, Group Name SPP Standards Review Group

Answer

Document Name

Comment

We suggest to the drafting team/review panel to include all the Rationale information from the Standard into the RSAW. We feel including this information will help improve the communication efforts in the auditing process amongst the auditor and the industry.

Likes 0

Dislikes 0

Response**Jared Shakespeare - Peak Reliability - 1**

Answer

Document Name

Comment

Peak Reliability supports this Standard.

Likes 0

Dislikes 0

Response**Chris Gowder - Chris Gowder, Group Name FMIPA**

Answer

Document Name

Comment

The proposed requirements undoubtedly address FERC's directive in Order No. 808, but they also go beyond "ensuring the adequacy of internal communications capability". As currently drafted, the added requirements are very broad and difficult to measure. There were several concerns from industry stakeholders in the last comment period that the drafting team has not answered.

The drafting team states several times in its response to comments that FERC did not limit its directive to specific functional entities or state any limitation for internal Interpersonal Communications, but has not provided any justification for including entities that do not operate control centers (capitalized or otherwise). Simply addressing a FERC directive should not be the drafting team's goal. It should be to write a quality, results-based standard with input from industry.

The examples contained in the requirements do not affect the scope of who, under what conditions, shall perform what action, to achieve the desired outcome of the requirement. Who determines what information is "necessary for the Reliable Operation of the BES"? Does the plant operator sitting in front of an HMI need communication capability with the instrument and control technician walking around the plant site? Stated differently, does the GOP need to prove such a capability exists to be found compliant? Does a DP that does not have any BES equipment need to do anything, or can they show through studies that they cannot cause "instability, uncontrolled, separation or cascading failures" (from definition of Reliable Operation)?

Industry agreed with the inclusion of DPs and GOPs as applicable entities for the other requirements in COM-001, but there are many who do not agree with them being included in these requirements. All applicable entities of a standard do not necessarily need to be a part of every requirement of that standard, so the drafting team's reasoning for including the DP and GOP is not convincing.

We appreciate the time and efforts of the drafting team but it is our position that the standard as currently written leaves too many questions unanswered and is too ambiguous to be effective and achieve the goal of increased reliability. We look forward to the drafting team's response to our concerns.

Likes 0

Dislikes 0

Response

Elizabeth Axson - Electric Reliability Council of Texas, Inc. - 2

Answer

Document Name

Comment

ERCOT recommends that the SDT modify the second sentence in Requirements R12 and R13 to read as follows: "This includes communication capabilities between Control Centers within the same functional entity, or between a functional entity's Control Center and its field personnel." Adding these words ensures clarity that the field personnel identified are those associated with the same functional entity that operates the Control Center.

Likes 0

Dislikes 0

Response

M Lee Thomas - Tennessee Valley Authority - 5

Answer

Document Name

Comment

While Measures M8, M11, and M12 all imply that the Generator Operator has some discretion regarding what evidence to retain, the language of C.1.2 Evidence Retention could be construed to mean that voice recordings are mandatory evidence:

“ . . . shall retain written documentation for the most recent twelve calendar months and voice recordings for the most recent 90 calendar days.”

While written documentation as described in the respective Measures is a normal expectation for almost every Reliability Standard, the implication that GOP “shall retain” voice recordings could require installation of new equipment, systems, and programs that represent an otherwise unnecessary and significant expenditure. Accordingly, TVA suggests the following rewording of C.1.2 Evidence Retention:

“ . . . shall retain written documentation for the most recent twelve calendar months and, *where the capability exists*, voice recordings for the most recent 90 calendar days.”

Likes 0

Dislikes 0

Response

Colby Bellville - Duke Energy - 1,3,5,6 - FRCC,SERC,RF, Group Name Duke Energy

Answer

Document Name

Comment

Duke Energy requests more clarification from the drafting team regarding the level of detail required for demonstration of compliance with R12 and R13. For example, is it the drafting team’s intent that producing detailed telecommunications diagrams displaying the interpersonal communications capabilities, or would it be satisfactory to demonstrate the actual phone used to perform said communications? Is it the intent of the drafting team to only require an entity to produce or identify the actual medium used to communicate?

Likes 0

Dislikes 0

Response

Ben Engelby - ACES Power Marketing - 6, Group Name ACES Standards Collaborators - COM-001 Project

Answer

Document Name

Comment

Thank you for the opportunity to comment.

Likes 0

Dislikes 0

Response

Scott Berry - Indiana Municipal Power Agency - 4 - RF**Answer****Document Name****Comment**

Requirement R11 (and similar requirements) needs clarification. If an entity does have a failure of its Interpersonal Communication capability (loss of all communications), how is it supposed to consult each entity affected by the failure? Therefore, an entity has to use some back up form of communication, so does it really have a failure of Interpersonal Communication capability if it is consulting with entities that are affected by the loss of communication(s)?

Likes 0

Dislikes 0

Response**Matthew Beilfuss - WEC Energy Group, Inc. - 3,4,5,6 - RF****Answer****Document Name****Comment**

It is difficult to contemplate a scenario where a functional entity would be meeting existing reliability standards and not have an internal Interpersonal Communication capability between control centers or to field personnel necessary for the Reliable Operation of the BES. The measures for Reliable Operation of the BES are the existing standards, not the existence of an internal communications capability.

The Violation Severity Levels (VSLs) associated with R12 / R13 identify a scenario of non-compliance that is not practical. How could a Reliability Coordinator, Transmission Operator, Generator Operator, or Balancing Authority, or Distribution Provider fail to have an internal Interpersonal Communication capability for the exchange of operating information and meet operational obligations under other reliability standards?

R12 and R13 as written do not meet the tenants of a results based standard. Specifically they do not focus on required actions or results (the "what"), but rather focus on the methods by which to accomplish actions or results (the "how"). Results based standards require "each requirement to identify a clear and measurable expected outcome, such as: a) a stated level of reliability performance, b) a reduction in a specified reliability risk (prevention), or c) a necessary competency."

R12:

- As a matter of practice RCs and BAs do not have field personnel.
- Is there an example in North American of a Control Center (NERC Glossary term) that does not have some type of Interpersonal Communication capability?
 - If the answer is "yes," then they likely are in violation of COM-001-2.
 - If the answer is "no," then a Requirement to have communication capability between Control Centers has no practical impact.
- It is not clear who would be considered "field personnel" related to the GOP functional role?
 - Are field personnel plant site operators or others doing tasks at the facility considered "field personnel?"
- The NERC Glossary "Control Center" definition, includes "4) a Generator Operator for generation Facilities at two or more locations."
 - A single location with a 1,500 MW Facility may present more risk to the BES than two facilities at multiple locations with a total of 200 MW. However, R12 requires internal communication capability at the less risky location?
- Is it intended that the "or" be an "and?"

*This includes communication capabilities between Control Centers within the same functional entity, **or** between a Control Center and field personnel.*

R13:

- Is there an example in North American of a Distribution Provider control center (NERC Glossary term) that does not have some type of Interpersonal Communication capability?
 - If the answer is "yes," then they likely are in violation of COM-001-2.
 - If the answer is "no," then a Requirement to have communication capability between control centers has no practical impact.
- Is it intended that the "or" be an "and?"

*This includes communication capabilities between Control Centers within the same functional entity, **or** between a Control Center and field personnel.*

Dislikes 0

Response

Consideration of Comments

Project Name:	2015-07 Internal Communications Capabilities
Comment Period Start Date:	3/23/2016
Comment Period End Date:	5/9/2016
Associated Ballots:	2015-07 Internal Communications Capabilities COM-001-3 AB 2 ST 2015-07 Internal Communications Capabilities COM-001-3 Non-binding Poll AB 2 NB

There were 42 sets of responses, including comments from approximately 101 different people from approximately 77 companies representing 9 of the Industry Segments as shown in the table on the following pages.

All comments submitted can be reviewed in their original format on the [project page](#).

If you feel that your comment has been overlooked, please let us know immediately. Our goal is to give every comment serious consideration in this process. If you feel there has been an error or omission, you can contact the Director of Standards, [Howard Gugel](#) (via email) or at (404) 446-9693.

Questions

1. Do you agree that the proposed Requirements R12 and R13 in the proposed COM-001-3 address the directive in Order No. 808? If not, please explain why you do not agree and, if possible, provide specific language revisions that would make it acceptable to you.
2. If you have any other comments on the proposed COM-001-3 that you haven't already mentioned above, please provide them here:

The Industry Segments are:

- 1 — Transmission Owners
- 2 — RTOs, ISOs
- 3 — Load-serving Entities
- 4 — Transmission-dependent Utilities
- 5 — Electric Generators
- 6 — Electricity Brokers, Aggregators, and Marketers
- 7 — Large Electricity End Users
- 8 — Small Electricity End Users
- 9 — Federal, State, Provincial Regulatory or other Government Entities
- 10 — Regional Reliability Organizations, Regional Entities

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
ACES Power Marketing	Ben Engelby	6		ACES Standards Collaborators - COM-001 Project	Ellen Watkins	Sunflower Electric Power Corporation	1	SPP RE
					Bob Solomon	Hoosier Energy Rural Electric Cooperative, Inc.	1	RF
					Bill Hutchison	Southern Illinois Power Cooperative	1	SERC
					John Shaver	Arizona Electric Power Cooperative, Inc. Southwest Transmission Cooperative, Inc.	1,4,5	WECC
					Shari Heino	Brazos Electric Power Cooperative, Inc.	1,5	Texas RE
					Doug White	North Carolina Electric Membership Corporation	3,4,5	SERC
					Mike Brytowski	Great River Energy	1,3,5,6	MRO
					Ginger Mercier	Prairie Power, Inc.	1,3	SERC
					Kevin Lyons	Central Iowa Power Cooperative	1	MRO
					Amber Skillern	East Kentucky Power Cooperative	1,3	SERC

					Greg Froehling	Rayburn Country Electric Cooperative, Inc.	3	SPP RE
Chris Gowder	Chris Gowder		FRCC	FMMPA	Tim Beyrle	City of New Smyrna Beach	4	FRCC
					Jim Howard	Lakeland Electric	5	FRCC
					Lynne Mila	City of Clewiston	4	FRCC
					Javier Cisneros	Fort Pierce Utility Authority	3	FRCC
					Randy Hahn	Ocala Utility Services	3	FRCC
					Don Cuevas	Beaches Energy Services	1	FRCC
					Stan Rząd	Keys Energy Services	4	FRCC
					Matt Culverhouse	City of Bartow	3	FRCC
					Tom Reedy	Florida Municipal Power Pool	6	FRCC
					Steve Lancaster	Beaches Energy Services	3	FRCC
					Mike Blough	Kissimmee Utility Authority	5	FRCC
					Mark Brown	City of Winter Park	4	FRCC
					Chris Adkins	City of Leesburg	3	FRCC
Ginny Beigel	City of Vero Beach	9	FRCC					
Duke Energy	Colby Bellville	1,3,5,6	FRCC,RF,SERC	Duke Energy	Doug Hils	Duke Energy	1	RF
					Lee Schuster	Duke Energy	3	FRCC
					Dale Goodwine	Duke Energy	5	SERC
					Greg Cecil	Duke Energy	6	RF

Dominion - Dominion Resources, Inc.	Randi Heise	5		Dominion - RCS	Larry Nash	Dominion Virginia Power	1	SERC
					Louis Slade	Dominion Resources, Inc.	6	SERC
					Connie Lowe	Dominion Resources, Inc.	3	RF
					Randi Heise	Dominion Resources, Inc,	5	NPCC
Northeast Power Coordinating Council	Ruida Shu	1,2,3,4,5,6,7	NPCC	RSC No IESO Con-Ed and National Grid	Paul Malozewski	Hydro One.	1	NPCC
					Guy Zito	Northeast Power Coordinating Council	NA - Not Applicable	NPCC
					Rob Vance	New Brunswick Power	1	NPCC
					Mark J. Kenny	Eversource Energy	1	NPCC
					Gregory A. Campoli	NY-ISO	2	NPCC
					Randy MacDonald	New Brunswick Power	2	NPCC
					Wayne Sipperly	New York Power Authority	4	NPCC
					David Ramkalawan	Ontario Power Generation	4	NPCC
					Glen Smith	Entergy Services	4	NPCC
					Brian Robinson	Utility Services	5	NPCC
					Bruce Metruck	New York Power Authority	6	NPCC
					Alan Adamson	New York State Reliability Council	7	NPCC

					Edward Bedder	Orange & Rockland Utilities	1	NPCC
					David Burke	UI	3	NPCC
					Michele Tondalo	UI	1	NPCC
					Kathleen Goodman	ISO-NE	2	NPCC
					Sylvain Clermont	Hydro Quebec	1	NPCC
					Si Truc Phan	Hydro Quebec	2	NPCC
					Sean Bodkin	Dominion Resources Services, Inc	4	NPCC
					Silvia Parada Mitchell	NextEra Energy, LLC	4	NPCC
Southwest Power Pool, Inc. (RTO)	Shannon Mickens	2	SPP RE	SPP Standards Review Group	Shannon Mickens	Southwest Power Pool Inc.	2	SPP RE
					Jason Smith	Southwest Power Pool Inc	2	SPP RE
					James Nail	Independence Power and Light	3,5	SPP RE
					Ron Losh	Southwest Power Pool Inc	2	SPP RE
					Sean Simpson	Board of Public Utilities (City of McPherson)	NA - Not Applicable	NA - Not Applicable
					Kevin Giles	Westar Energy	1,3,5,6	SPP RE
					Carl Stelly	Southwest Power Pool Inc	2	SPP RE

					John Allen	City Utilities of Springfield	1,4	SPP RE
					J. Scott Williams	City Utilities of Springfield	1,4	SPP RE
Colorado Springs Utilities	Shawna Speer	1		Colorado Springs Utilities	Shawna Speer	Colorado Springs Utilities	1	WECC
					Shannon Fair	Colorado Springs Utilities	6	WECC
					Charles Morgan	Colorado Springs Utilities	3	WECC
					Kaleb Brimhall	Colorado Springs Utilities	5	WECC
Oxy - Occidental Chemical	Venona Greaff	7		Oxy	Venona Greaff	Occidental Chemical Corporation	7	SERC
					Michelle D'Antuono	Ingleside Cogeneration LP.	5	Texas RE

1. Do you agree that the proposed Requirements R12 and R13 in the proposed COM-001-3 address the directive in Order No. 808? If not, please explain why you do not agree and, if possible, provide specific language revisions that would make it acceptable to you.

Bob Thomas - Illinois Municipal Electric Agency - 4

Answer	No
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Comment

The proposed R12 & R13 address the directive in Order No. 808, but are not necessary. Illinois Municipal Electric Agency (IMEA) does not believe proposed R12 and R13 are consistent with NERC's risk-/results-based Reliability Standards or the Paragraph 81 initiative. R12 and R13 would increase demands on Compliance resources (e.g., procedure development/revision, internal controls identification/development, compliance monitoring/demonstration, RSAW development, etc.) with no improvement to the reliability of (no reduced risk to) the BES/BPS. During the most recent COM-001-3 WebEx Q&A session, it was indicated there is no awareness of a system event being caused or exacerbated by a DP or GOP lacking internal Interpersonal Communication capability. The point here is not that DP and GOP internal communication capability is not important; the point is that with current technology such communication capability is already in place. R12 and R13 address a risk (are trying to fix a problem) that doesn't exist. For R12, IMEA defers to entities impacted by the proposed language. For R13, IMEA recommends deletion of this proposed requirement.

Response

The proposed R12 and R13 explicitly address the reliability objective of internal communications which previously existed in COM-001-1 but was not explicitly included in COM-001-2. The FERC Order directed NERC to address specifically internal communications that are necessary for Reliable Operation of the BES. See FERC Order No. 808 para 37 and 41. Interpersonal Communications was created as a defined term in Order No. 808. The existing approved language for Interpersonal Communication was used to ensure consistency within the COM-001 standard and succinctly address the FERC directive. The language used allows for differences among individual entities to be addressed at the entity level.

Jay Barnett - Exxon Mobil - 7

Answer	No
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Comment

FERC comments at P. 41 in Order No. 808 mention geographically separate control centers and the standard rationale acknowledges that certain communications in single Control Centers that are ongoing and occur throughout the day as part of day-to-day control center operation are not the focus of COM-001-3. This same rationale should be used as well for personnel at single facilities that are not geographically separated (i.e. personnel within a single generating unit). Information necessary for the Reliable Operation of the BES might be communicated between field operators at a single generating unit; however, this capability is inherent and necessary for the safe and reliable operation of that unit. Requiring an entity to retain, for instance, evidence of having radio communications between field operators is an unnecessary administrative burden. Requirement R12 should be modified as:

"R12. Each RC, TOP, GOP, and BA shall have internal Interpersonal Communication capabilities for the exchange of information necessary for the Reliable Operation of the BES. This includes communication capabilities between Control Centers within the same functional entity, or between a Control Center and field personnel, **and excludes communication capabilities between personnel within an individual Facility.**"

Response

The SDT agrees that evidence should not be an unnecessary burden. The SDT feels that this point is echoed in para. 53 of FERC Order No. 808 which states "...that setting performance criteria for e-mail and telephonic communication at issue here is both impractical and unnecessary." The focus of Requirement R12 is on the requirement to have communication capability rather than performance criteria for that capability. In your example, evidence of having radio communications should not be a burden since demonstrating that the physical asset exists could be enough to show compliance with the requirement.

Scott Berry - Indiana Municipal Power Agency - 4 - RF

Answer

No

Comment

The proposed Requirements R12 and R13 meet the Paragraph 81 initiative criteria and are purely administrative in nature. IMPA is not aware of an electrical industry entity that does not operate or conduct business with some form of Interpersonal Communication

capability. Generally, entities operate with many redundant forms of communication that will prevent them from having a scenario where they have a complete loss of Interpersonal Communication capability.

Response

The proposed R12 and R13 explicitly address the reliability objective of internal communications which previously existed in COM-001-1 but was not explicitly included in COM-001-2. The FERC Order directed NERC to address specifically internal communications that are necessary for Reliable Operation of the BES. See FERC Order No. 808 para 37 and 41. Interpersonal Communications was created as a defined term in Order No. 808. The existing approved language for Interpersonal Communication was used to ensure consistency within the COM-001 standard and succinctly address the FERC directive. The language used allows for differences among individual entities to be addressed at the entity level.

Emily Rousseau - MRO - 1,2,3,4,5,6 - MRO

Answer

No

Comment

R12 and R13:

(A) Within FERC Order 808, P. 41, (1), FERC directs the adequacy of internal communications that have an adverse effect on reliability, within a single functional entity that is geographically separated. The currently proposed R12 does not address FERC’s directive (1). Recommend R12 to read as: *“This includes communication capabilities between geographically separated Control Centers ...”* be incorporated into this portion of R12. Without this qualifier, CEAs may believe that this is applicable between Primary and Backup Control Centers for BA, TOP, and RC per EOP-008-1. As written in EOP-008-1, R1 and R1.2.3, the BA, TOP and RC have to have an Operating Plan describing voice communications in order to meet their functional obligations and not communications between Primary and Backup Control Centers.

(B) To ensure consistency, recommend R13 also be revised as follows: *“This includes communication capabilities between geographically separated control centers ...”*

(C) Within FERC Order 808, P. 41, (1) and (2) FERC uses the word “and” where the SDT uses the word “or”. These two words have drastically different meanings within the context of a Reliability Standard. Recommend that “or” be changed to “and” in order to fulfill the FERC directive.

Response

The SDT disagrees and believes that Requirement R12 and R13 do address the FERC directive. If internal Interpersonal Communication capabilities are necessary for Reliable Operation of the BES, then they would fall within the scope of Requirement R12 and R13. However, neither the proposed Requirements nor the Standard Drafting Team dictate what qualifies as a necessary internal Interpersonal Communication, in light of unique Registered Entity needs and circumstances. The SDT believes the language in R12 and R13 that states “...this includes communication capability between the same functional entity” captures geographically separate Control Centers which would include primary and backup Control Centers communicating internally.

The SDT has modified Requirements R12 and R13 to replace “or” with “and/or” for clarity (although this is not intended as a substantive change). The rationale for this change is that field personnel may not apply to the RC or BA.

Scott Hoggatt - WEC Energy Group, Inc. - 6

Answer No

Comment

I support the comments provided by Matthew Beilfuss of the WEC Energy Group.

Response

Ben Engelby - ACES Power Marketing - 6, Group Name ACES Standards Collaborators - COM-001 Project

Answer No

Comment

1. The SDT has introduced significant ambiguity to Requirement R13 by categorizing Distribution Provider centers as lowercase “control centers.” This is the opposite approach from most SDTs that provide clarity by referencing a NERC defined term. Including a lowercase glossary term and expecting industry to know the meaning will only create confusion and uncertainty. The requirements for DPs should not be identical to communication requirements imposed RCs, BAs, TOPs, and GOPs because DPs do not have the same impacts and the grid and do not necessarily have control centers. Distribution entities could be second-guessed by auditors, even though their facilities are for the operation of the distribution system, which poses a minimal risk to the Bulk Electric System. Requirement R13 creates unnecessary compliance burdens that are not outweighed by reliability benefits. We strongly suggest that the SDT strike R13.
2. If the SDT chooses not to take our suggestion above to strike R13, we offer an alternative approach for consideration. We recommend the SDT add an exemption to DPs that pose a low risk to the BES. To achieve this, the SDT could revise the applicability section to apply only to DPs that have a role in a TOP’s restoration plan or DPs that are part of a UFLS scheme. This modification would focus on the subset of DPs that pose a risk to reliability of the BES.
3. For requirements R12 and R13, there could be a wide range of auditor interpretations, including treating any failure of a communication system as a violation. We suggest the SDT adopt language similar to what is in place for external communication capabilities requirements to notify affected entities and develop plan to remedy the situation. A failure of external communication capabilities is not a violation in and of itself. The SDT needs to be clear that a simple failure of an internal communication capabilities is not a violation either.
4. While we appreciate the SDT providing additional time to implement the standard, we feel the proposed implementation plan of nine months should be increased to 18 months.
5. The VSLs for R12 and R13 should be revised to be on a graduated scale that includes the amount of time communications were unavailable. The binary nature of the current VSLs result in a severe violation level for any communication failure.

Response

1 & 2 – The SDT believes it is appropriate to include DPs in accordance with FERC Order No. 693 para 475. The SDT has worked to provide clarification on the use of lowercase control center and provide examples of DPs supporting the reliability of the BES in the rationale for Requirement R13.

3 - The SDT feels that this point is echoed in para. 53 of FERC Order No. 808 which states “...that setting performance criteria for e-mail and telephonic communication at issue here is both impractical and unnecessary.” The focus of Requirement R12 is on the requirement to having communication capability and not performance criteria for that capability.

4 – The SDT appreciates your concern regarding 9 months versus 18 months. However, based on industry feedback, the SDT believes that 9 months is sufficient time for an entity to become compliant with this standard.

5 – The SDT believes a graduated scale is not proper for these requirements since they are binary.

Anthony Jankowski - WEC Energy Group, Inc. - 4

Answer	No
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Document Name	
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Comment

Matthew Beilfuss, **On Behalf of:** WEC Energy Group, Inc.

Response

Amy Casuscelli - Amy Casuscelli

Answer	No
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Comment

Xcel Energy supports the comments provided by the MRO NERC Standards Review Forum.

Response

M Lee Thomas - Tennessee Valley Authority - 5

Answer	No
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Comment

While the Requirements R12 and R13 in the proposed COM-001-3 address the directive in Order No. 808 sufficiently, TVA believes the standard is inadequate in that additional clarification is needed. The Rationale for R12 states

“Therefore, the applicable entities must have the capability to exchange information between Control Centers of that functional entity . . . Also, applicable entities must have the capability to exchange information between a Control Center and field personnel.”

This clearly establishes that the required internal Interpersonal Communication Capability consists of, and is sufficiently demonstrated by, communication capability between Control Centers within the same functional entity and between Control Centers and field personnel.

However, Requirement R12 as written uses the phrase

“This includes communication capabilities between Control Centers within the same functional entity, or between a Control Center and field personnel.”

Saying only that the required capabilities “includes” the two aspects listed leaves the possibility that other capabilities, such as between a single generating unit’s control room and its field personnel, should be considered, thus rendering the scope of Requirement R12 indefinite.

The required communication capabilities between the Control Center and field personnel also needs clarification. It is possible that field personnel would be operating in an area where radio and cellular coverage does not exist. When this is the case, the field personnel would normally travel or locate themselves to a point where communication is possible while receiving or reporting the completion of Operating Instructions.

Accordingly, TVA suggests the following rewording for R12 as follows:

“This *consists of* communication capabilities between Control Centers within the same functional entity, or between a Control Center and field personnel. *Interpersonal Communications Capability with field personnel is required only during issuance of Operating Instructions or receipt of condition reports following performance of Operating Instructions, but is not required while Operating Instructions are actually being performed.*”

Although the Rationale for R13 is varies slightly from that of R12, the same argument applies.

Response

The SDT disagrees and believes that Requirement R12 and R13 do address the FERC directive. If internal Interpersonal Communication capabilities are necessary for Reliable Operation of the BES, then they would fall within the scope of Requirement R12 and R13. However, neither the proposed Requirements nor the Standard Drafting Team dictate what qualifies as a necessary internal Interpersonal Communication, in light of unique Registered Entity needs and circumstances.

The focus of Requirement R12 is on the requirement to have communication capability and not performance criteria for that capability, consistent with para. 53 of FERC Order No. 808. In your example, evidence of having radio or cellular communications should not be a burden since demonstrating that the physical asset exists could be enough to show compliance with the requirement.

Andrew Puztai - American Transmission Company, LLC - 1

Answer

No

Comment

ATC supports the comments that were submitted by the MRO NSRF(see below)

R12 and R13:

1. Within FERC Order 808, P. 41, (1), FERC directs the adequacy of internal communications that have an adverse effect on reliability, within a single functional entity that is geographically separated. The currently proposed R12 does not address FERC's directive (1). Recommend R12 to read as: *"This includes communication capabilities between geographically separated Control Centers ..."* be incorporated into this portion of R12. Without this qualifier, CEAs may believe that this is applicable between Primary and Backup Control Centers for BA, TOP, and RC per EOP-008-1. As written in EOP-008-1, R1 and R1.2.3, the BA, TOP and RC have to have an Operating Plan describing voice communications in order to meet their functional obligations and not communications between Primary and Backup Control Centers.

2. To ensure consistency, recommend R13 also be revised as follows: *“This includes communication capabilities between geographically separated control centers ...”*

3. *Within FERC Order 808, P. 41, (1) and (2) FERC uses the word “and” where the SDT uses the word “or”. These two words have drastically different meanings within the context of a Reliability Standard. Recommend that “or” be changed to “and” in order to fulfill the FERC directive.*

Response

The SDT disagrees and believes that Requirement R12 and R13 do address the FERC directive. If internal Interpersonal Communication capabilities are necessary for Reliable Operation of the BES, then they would fall within the scope of Requirement R12 and R13. However, neither the proposed Requirements nor the Standard Drafting Team dictate what qualifies as a necessary internal Interpersonal Communication, in light of unique Registered Entity needs and circumstances. The SDT believes the language in R12 and R13 that states “...this includes communication capability between the same functional entity” captures geographically separate Control Centers which would include primary and backup Control Centers communicating internally.

The SDT has modified Requirements R12 and R13 to replace “or” with “and/or” for clarity (although this is not intended as a substantive change). The rationale for this change is that field personnel may not apply to the RC or BA.

Diana McMahon - Salt River Project - 1,3,5,6 - WECC

Answer	No
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Comment

Thank you for the effort of drafting and addressing Order 808. As drafted the requirements do not account for the intention to address issues “whenever internal communications could directly affect the reliable operation of the Bulk-Power System”. Co-located operational teams would need to provide evidence of compliance when they are within the same room. While the rationale for 12 appears to address this issue, the language of the standard does not exempt these situations. Additionally, the requirement of Interpersonal communication to field personnel and the documentation of such communication is overly burdensome. To ensure that all field personnel have Interpersonal Communications entities will be required to maintain records demonstrating that all personnel have adequate coverage areas and have communication devices at all times. An employee leaving his cell at a remote site could result in an inadvertent violation.

Response

The SDT agrees that evidence should not be an unnecessary burden. The SDT feels that this point is echoed in para. 53 of FERC Order No. 808 which states "...that setting performance criteria for e-mail and telephonic communication at issue here is both impractical and unnecessary." The focus of Requirement R12 is on the requirement to having communication capability rather than performance criteria for that capability. In your example, evidence of having radio communications should not be a burden since demonstrating that the physical asset exists could be enough to show compliance with the requirement.

Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7 - NPCC, Group Name RSC No IESO Con-Ed and National Grid

Answer

No

Comment

The second sentence of R12 should encompass all Control Centers, and all personnel that affect the Real-time operation of the Bulk Electric System. Even though Order No. 808 refers specifically to the Bulk-Power System, the assumption is that FERC is referring to the Bulk Electric System. Suggest revising Requirement R12 to read:

Each Reliability Coordinator, Transmission Operator, Generator Operator, and Balancing Authority shall have internal Interpersonal Communication capabilities for the exchange of information that is necessary for the Reliable Operation of the BES. This includes communication capabilities between Control Centers within the same functional entity, and between Control Centers and all personnel whose responsibilities can impact the Real-time operation of the BES.

Similarly, suggest revising Requirement R13 to read:

Each Distribution Provider shall have internal Interpersonal Communication capabilities for the exchange of information that is necessary for the Reliable Operation of the BES. This includes communication capabilities between Control Centers within the same functional entity, and between Control Centers and all personnel whose responsibilities can impact the Real-time operation of the BES.

Response

The SDT thanks you for your comment. Communication necessary for the Reliable Operation of the BES helps an entity qualify which field personnel require internal Interpersonal Communication capability.

Oshani Pathirane - Hydro One Networks, Inc. - 1,3 - NPCC

Answer

No

Comment

Hydro One Networks Inc. believes that the term “*field personnel*” is subject to interpretation and is an undefined term. For example, site maintenance staff, site security personnel, or site cleaning staff who typically would not have direct contact with BES assets may be subject to the requirement and such an interpretation would be unnecessarily onerous on entities, with no significant improvement to BES reliability. We suggest adding more specificity by adding, “*field personnel authorized to directly control BES assets*”.

We also support the IESO (Ontario) in suggesting that the words “*geographically separate Control Centers*” be added to explicitly state that “*between Control Centers within the same functional entity*” implies geographically separate locations.

While Hydro One Networks Inc. agrees that the intent of the directive in FERC Order 808 is adequately addressed, the requirement verbiage could be more specific by including the term “*Operating Instruction*”.

Therefore, we suggest the following wording which incorporates all our suggestions above:

“Each Reliability Coordinator, Transmission Operator, Generator Operator, and Balancing Authority shall have internal Interpersonal Communication capabilities for the exchange of information involving Operating Instructions that are necessary for the Reliable Operation of the BES. This includes communication capabilities between geographically separate Control Centers within the same functional entity, or between a Control Center and field personnel authorized to directly control BES assets”.

Response

The SDT believes that personnel that do not have “direct contact with BES assets” would not be subject to this requirement. Communication necessary for the Reliable Operation of the BES helps an entity qualify which field personnel require internal Interpersonal Communication capability.

The SDT believes the language in R12 and R13 that states “...this includes communication capability between the same functional entity” captures geographically separate Control Centers which would include primary and backup Control Centers communicating internally.

The focus of Requirement R12 is on the requirement to have communication capability rather than performance criteria for that capability, consistent with para. 53 of FERC Order No. 808..

Shawna Speer - Colorado Springs Utilities - 1, Group Name Colorado Springs Utilities

Answer No

Comment

Colorado Springs Utilities does not see a reliability gap requiring the addition of Requirements R12. and R13. Communication with field personnel is a requirement of conducting business.

Response

The proposed R12 and R13 explicitly address the reliability objective of internal communications which previously existed in COM-001-1 but was not explicitly included from COM-001-2. The FERC Order directed NERC to address specifically internal communications that are necessary for Reliable Operation of the BES. See FERC Order No. 808 para 37 and 41.

Leonard Kula - Independent Electricity System Operator - 2

Answer Yes

Comment

We agree that the proposed Requirements R12 and R13 address the directive in Order 808, although their clarity can be further improved to leave no doubts on the requirement to have the required communication capability between geographically separate control centers within the same functional entity. We suggest the SDT to insert the words “geographically separate” into R12 and R13 as we previously suggested.

Response

Neither the proposed Requirements nor the Standard Drafting Team dictate what qualifies as a necessary internal Interpersonal Communication, in light of unique Registered Entity needs and circumstances. The SDT believes the language in R12 and R13 that states “...this includes communication capability between the same functional entity” captures geographically separate Control Centers.

Matthew Beilfuss - WEC Energy Group, Inc. - 3,4,5,6 - RF

Answer Yes

Response

Chris Gowder - Chris Gowder, Group Name FMPPA	
Answer	Yes
Comment	
See response to question 2.	
Response	
Jared Shakespeare - Peak Reliability - 1	
Answer	Yes
Comment	
Peak Reliability supports this Standard.	
Response	
Shannon Mickens - Southwest Power Pool, Inc. (RTO) - 2 - SPP RE, Group Name SPP Standards Review Group	
Answer	Yes
Comment	
We commend the drafting team on their efforts in reference to the proposed changes pertaining to Requirement R12 and Requirement R13. Especially in Requirement R13, the way they captured the Distribution Provider (DP) facilities supporting the reliability of the Bulk Electric System (BES) by using the lower-case form of 'control center'. However, we have a concern that the team didn't capitalize the term 'reliable operation' (third sentence of page 18 of the Supplemental Material-Rationale Section). In the following sentence in that	

paragraph, the term is capitalized there as well as in Requirement R13. We would ask the drafting team to provide some clarity on why the term was not capitalized in the Rationale Section.

Response

The SDT thanks you for your comment and has made the necessary modification to the rationale.

Venona Greaff - Oxy - Occidental Chemical - 7, Group Name Oxy

Answer	Yes
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Michelle D'Antuono - Oxy - Ingleside Cogeneration LP - 5

Answer	Yes
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Robert Coughlin - ISO New England, Inc. - 2 - NPCC

Answer	Yes
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Robert Coughlin - ISO New England, Inc. - 2 - NPCC

Answer	Yes
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Robert Coughlin - ISO New England, Inc. - 2 - NPCC

Answer	Yes
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Randi Heise - Dominion - Dominion Resources, Inc. - 5, Group Name Dominion - RCS

Answer	Yes
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Michael Puscas - ISO New England, Inc. - 2

Answer	Yes
Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC	
Answer	Yes
Thomas Foltz - AEP - 5	
Answer	Yes
Colby Bellville - Duke Energy - 1,3,5,6 - FRCC,SERC,RF, Group Name Duke Energy	
Answer	Yes
Rachel Coyne - Texas Reliability Entity, Inc. - 10	
Answer	Yes
Laura Nelson - IDACORP - Idaho Power Company - 1	
Answer	Yes
Elizabeth Axson - Electric Reliability Council of Texas, Inc. - 2	
Answer	Yes
Tom Haire - Rutherford EMC - 3	
Answer	Yes

John Fontenot - Bryan Texas Utilities - 1

Answer Yes

John Fontenot - Bryan Texas Utilities - 1

Answer Yes

Julie Hall - Entergy - 6

Answer Yes

Karie Barczak - DTE Energy - Detroit Edison Company - 3

Answer Yes

Karie Barczak - DTE Energy - Detroit Edison Company - 3

Answer Yes

Karie Barczak - DTE Energy - Detroit Edison Company - 3

Answer Yes

Yvonne McMackin - Public Utility District No. 2 of Grant County, Washington - 1,4,5

Answer Yes

Gerry Adamski - Essential Power, LLC - 5

Answer Yes

Erika Doot - U.S. Bureau of Reclamation - 5**Answer****Comment**

The Bureau of Reclamation appreciates the drafting team's efforts to address the reliability gap discussed in FERC Order No. 808 P 41 (Apr. 16, 2015) that was created when internal communications addressed in Requirement R1.1 of COM-001-1 were not included in COM-001-2. Reclamation believes that the proposed requirements are appropriate for the Reliability Coordinator, Transmission Operator, and Balancing Authority functions.

Reclamation reiterates that the proposed changes in COM-001-3 go beyond the scope of FERC Order No. 808 by adding requirements for internal communications for Generator Operators and Distribution Providers. Reclamation notes that P 41 of Order No. 808 addressed Requirement R1.1, which only applied to Reliability Coordinators, Transmission Operators and Balancing Authorities. Therefore, Reclamation suggests that the Generator Operator and Distribution Provider functions should be removed from requirements R12 and R13.

Reclamation believes that requiring internal communication capabilities between geographically separate Generator Operator control centers that direct the operations of different facilities, under the supervisor of separate Transmission Operators or Balancing Authorities, will not improve BES reliability. Instead, it may have an adverse impact on BES reliability (especially during system disturbances) by introducing communications capability between additional, unnecessary parties who do not have familiarity with local configurations, operations or area-wide system impacts. For example, requiring internal communication capabilities between generation control centers in the Pacific Northwest, Desert Southwest, and/or Rocky Mountain states that coordinate with different Transmission Operators and do not direct operations of any overlapping facilities will not improve BES reliability. However, as proposed, the standard would impose unnecessary additional communication and compliance costs for these Generator Operators. Reclamation does not believe that the R12 caveat regarding "information necessary for the Reliable Operation of the BES" adequately addresses this concern, and opens the door for a wide range of audit interpretations on the issue.

Response

The SDT thanks you for your comment.

The SDT believes it is appropriate to include DPs and GOPs in accordance with FERC Order No. 693 para 475.

Communication necessary for the Reliable Operation of the BES helps an entity qualify which Control Centers require internal Interpersonal Communication capability.

Allie Gavin on Behalf of Michael Montane – International Transmission Company Holdings Corporation - 1

Answer

Comment

Reliable operation of the BES requires that generation, transmission, and load operate in synchronism. Communication between and within entities involved in generation, transmission, and distribution is an important element in ensuring reliability. We agree with the inclusion of the GOP and DP entities in the standard. However, we disagree that the VRF associated with the DP is somehow different than for the GOP or the TOP. Load shed is an integral aspect of maintaining reliability and is preferred to be implemented at the distribution level rather than the transmission level to ensure the maximum level of reliability.

Response

This requirement is assigned a Medium VRF since BES instability, separation, or cascading failures are not likely to occur due to a DP not having internal Interpersonal Communication capability. In addition, this requirement VRF is consistent with Requirement R7 and R11 VRFs.

Albert DiCaprio – PJM Interconnection, L.L.C., - 2 -, NPCC, Group Name ISO/RTO Standards Review Committee

Answer

Yes

2. If you have any other comments on the proposed COM-001-3 that you haven't already mentioned above, please provide them here:

Gerry Adamski - Essential Power, LLC - 5

Answer

Comment

We vote in the affirmative with the understanding that we can demonstrate we have the internal communication systems established between our control room personnel and personnel within the plant as a means to satisfy R12. If this is not the drafting team's intent, then further clarifications are necessary to the language in the standard. Furthermore, we do not believe these requirements are necessary at all but understand that NERC is required to respond to the FERC directive.

Response

Thank you for your affirmative response and clarifying comment. The SDT agrees with your understanding.

Shawna Speer - Colorado Springs Utilities - 1, Group Name Colorado Springs Utilities

Answer

Comment

Internal Interpersonal Communications used solely to communicate within a Facility (i.e. radio communication between operators) are inherent and necessary for the safe and reliable operation of that Facility and should be excluded from COM-001-3 due to the lack of reliability benefit.

Response

The proposed R12 and R13 explicitly address the reliability objective of internal communications which previously existed in COM-001-1 but was not explicitly included from COM-001-2. The FERC Order directed NERC to address specifically internal communications that are necessary for Reliable Operation of the BES. Interpersonal Communications was created as a defined term in Order No. 808. See FERC Order No. 808 para 37 and 41. The existing approved language for Interpersonal Communication was used to ensure consistency within

the COM-001 standard and succinctly address the FERC directive. The language used allows for differences among individual entities to be addressed at the entity level.

Karie Barczak - DTE Energy - Detroit Edison Company - 3

Answer

Comment

N/A

Response

John Fontenot - Bryan Texas Utilities - 1

Answer

Comment

na

Tom Haire - Rutherford EMC - 3

Answer

Comment

This standard should be clearly restricted to only BES elements.

Response

Both Requirement R12 and R13 refer to the “Reliable Operation of the BES”.

Shannon Mickens - Southwest Power Pool, Inc. (RTO) - 2 - SPP RE, Group Name SPP Standards Review Group

Answer

Comment

We suggest to the drafting team/review panel to include all the Rationale information from the Standard into the RSAW. We feel including this information will help improve the communication efforts in the auditing process amongst the auditor and the industry.

Response

The SDT will provide your suggestion regarding the RSAW to the Compliance Group. The rationale does stay with the standard in the Supplemental Material Section.

Jared Shakespeare - Peak Reliability - 1

Answer

Comment

Peak Reliability supports this Standard.

Response

Chris Gowder - Chris Gowder, Group Name FMPA

Answer

Comment

The proposed requirements undoubtedly address FERC’s directive in Order No. 808, but they also go beyond “**ensuring the adequacy of internal communications capability**”. As currently drafted, the added requirements are very broad and difficult to measure. There were several concerns from industry stakeholders in the last comment period that the drafting team has not answered.

The drafting team states several times in its response to comments that FERC did not limit its directive to specific functional entities or state any limitation for internal Interpersonal Communications, but has not provided any justification for including entities that do not

operate control centers (capitalized or otherwise). Simply addressing a FERC directive should not be the drafting team's goal. It should be to write a quality, results-based standard with input from industry.

The examples contained in the requirements do not affect the scope of who, under what conditions, shall perform what action, to achieve the desired outcome of the requirement. Who determines what information is "necessary for the Reliable Operation of the BES"? Does the plant operator sitting in front of an HMI need communication capability with the instrument and control technician walking around the plant site? Stated differently, does the GOP need to prove such a capability exists to be found compliant? Does a DP that does not have any BES equipment need to do anything, or can they show through studies that they cannot cause "instability, uncontrolled, separation or cascading failures" (from definition of Reliable Operation)?

Industry agreed with the inclusion of DPs and GOPs as applicable entities for the other requirements in COM-001, but there are many who do not agree with them being included in these requirements. All applicable entities of a standard do not necessarily need to be a part of every requirement of that standard, so the drafting team's reasoning for including the DP and GOP is not convincing.

We appreciate the time and efforts of the drafting team but it is our position that the standard as currently written leaves too many questions unanswered and is too ambiguous to be effective and achieve the goal of increased reliability. We look forward to the drafting team's response to our concerns.

Response

The proposed R12 and R13 explicitly address the reliability objective of internal communications which previously existed in COM-001-1 but was not explicitly included from COM-001-2. The FERC Order directed NERC to address specifically internal communications that are necessary for Reliable Operation of the BES. Interpersonal Communications was created as a defined term in Order No. 808. See FERC Order No. 808 para 37 and 41. The existing approved language for Interpersonal Communication was used to ensure consistency within the COM-001 standard and succinctly address the FERC directive. The language used allows for differences among individual entities to be addressed at the entity level.

The focus of Requirement R12 is on the requirement to have communication capability rather than performance criteria for that capability. Communication necessary for the Reliable Operation of the BES helps an entity qualify which Control Centers require internal Interpersonal Communication capability.

The SDT believes it is appropriate to include DPs and GOPs in accordance with FERC Order No. 693 para 475.

Elizabeth Axson - Electric Reliability Council of Texas, Inc. - 2

Answer

Comment

ERCOT recommends that the SDT modify the second sentence in Requirements R12 and R13 to read as follows: “This includes communication capabilities between Control Centers within the same functional entity, or between a functional entity’s Control Center and its field personnel.” Adding these words ensures clarity that the field personnel identified are those associated with the same functional entity that operates the Control Center.

Response

The SDT thanks you for your comment. However, during the course of our discussions we have identified instances where control center personnel and field personnel do not reside under the same functional entity.

M Lee Thomas - Tennessee Valley Authority - 5

Answer

Comment

While Measures M8, M11, and M12 all imply that the Generator Operator has some discretion regarding what evidence to retain, the language of C.1.2 Evidence Retention could be construed to mean that voice recordings are mandatory evidence:

“ . . . shall retain written documentation for the most recent twelve calendar months and voice recordings for the most recent 90 calendar days.”

While written documentation as described in the respective Measures is a normal expectation for almost every Reliability Standard, the implication that GOp “shall retain” voice recordings could require installation of new equipment, systems, and programs that represent an otherwise unnecessary and significant expenditure. Accordingly, TVA suggests the following rewording of C.1.2 Evidence Retention:

“ . . . shall retain written documentation for the most recent twelve calendar months and, *where the capability exists*, voice recordings for the most recent 90 calendar days.”

Response

The comment concerning Measures M8 and M11 is outside the scope of the approved SAR.

The evidence retention for Measures M12 and M13 were developed consistent with the evidence retention periods for the other 11 requirements. The SDT does not believe that this adds any undue burden to an entity.

Colby Bellville - Duke Energy - 1,3,5,6 - FRCC,SERC,RF, Group Name Duke Energy

Answer

Comment

Duke Energy requests more clarification from the drafting team regarding the level of detail required for demonstration of compliance with R12 and R13. For example, is it the drafting team’s intent that producing detailed telecommunications diagrams displaying the interpersonal communications capabilities, or would it be satisfactory to demonstrate the actual phone used to perform said communications? Is it the intent of the drafting team to only require an entity to produce or identify the actual medium used to communicate?

Response

Although the SDT is not intending to say that the methods you have identified are the only way to demonstrate compliance with the requirement, we do agree that any of the methods you have stated in your comment could demonstrate compliance with the requirements.

Ben Engelby - ACES Power Marketing - 6, Group Name ACES Standards Collaborators - COM-001 Project

Answer

Comment

Thank you for the opportunity to comment.

Response

Scott Berry - Indiana Municipal Power Agency - 4 - RF**Answer****Comment**

Requirement R11 (and similar requirements) needs clarification. If an entity does have a failure of its Interpersonal Communication capability (loss of all communications), how is it supposed to consult each entity affected by the failure? Therefore, an entity has to use some back up form of communication, so does it really have a failure of Interpersonal Communication capability if it is consulting with entities that are affected by the loss of communication(s)?

Response

The SDT thanks you for your comment but it is outside the scope of the approved SAR.

Matthew Beilfuss - WEC Energy Group, Inc. - 3,4,5,6 - RF**Answer****Comment**

It is difficult to contemplate a scenario where a functional entity would be meeting existing reliability standards and not have an internal Interpersonal Communication capability between control centers or to field personnel necessary for the Reliable Operation of the BES. The measures for Reliable Operation of the BES are the existing standards, not the existence of an internal communications capability.

The Violation Severity Levels (VSLs) associated with R12 / R13 identify a scenario of non-compliance that is not practical. How could a Reliability Coordinator, Transmission Operator, Generator Operator, or Balancing Authority, or Distribution Provider fail to have an internal Interpersonal Communication capability for the exchange of operating information and meet operational obligations under other reliability standards?

R12 and R13 as written do not meet the tenants of a results based standard. Specifically they do not focus on required actions or results (the "what"), but rather focus on the methods by which to accomplish actions or results (the "how"). Results based standards require

“each requirement to identify a clear and measurable expected outcome, such as: a) a stated level of reliability performance, b) a reduction in a specified reliability risk (prevention), or c) a necessary competency.”

R12:

- As a matter of practice RCs and BAs do not have field personnel.
- Is there an example in North American of a Control Center (NERC Glossary term) that does not have some type of Interpersonal Communication capability?
 - If the answer is “yes,” then they likely are in violation of COM-001-2.
 - If the answer is “no,” then a Requirement to have communication capability between Control Centers has no practical impact.
- It is not clear who would be considered “field personnel” related to the GOP functional role?
 - Are field personnel plant site operators or others doing tasks at the facility considered “field personnel?”
- The NERC Glossary “Control Center” definition, includes “4) a Generator Operator for generation Facilities at two or more locations.”
 - A single location with a 1,500 MW Facility may present more risk to the BES than two facilities at multiple locations with a total of 200 MW. However, R12 requires internal communication capability at the less risky location?
- Is it intended that the “or” be an “and?”

This includes communication capabilities between Control Centers within the same functional entity, or between a Control Center and field personnel.

R13:

- Is there an example in North American of a Distribution Provider control center (NERC Glossary term) that does not have some type of Interpersonal Communication capability?
 - If the answer is “yes,” then they likely are in violation of COM-001-2.
 - If the answer is “no,” then a Requirement to have communication capability between control centers has no practical impact.
- Is it intended that the “or” be an “and?”

*This includes communication capabilities between Control Centers within the same functional entity, **or** between a Control Center and field personnel.*

Response

The proposed R12 and R13 explicitly address the reliability objective of internal communications which previously existed in COM-001-1 but was not explicitly included in COM-001-2. The FERC Order directed NERC to address specifically internal communications that are necessary for Reliable Operation of the BES. See FERC Order No. 808 para 37 and 41. Interpersonal Communications was created as a defined term in Order No. 808. The existing approved language for Interpersonal Communication was used to ensure consistency within the COM-001 standard and succinctly address the FERC directive. The language used allows for differences among individual entities to be addressed at the entity level.

The SDT believes that Requirements R12 and R13 do meet the requirement of b) reduction in a specified reliability risk (prevention), by ensuring clarity that internal communications are addressed by Reliability Standards.

Communication necessary for the Reliable Operation of the BES helps an entity qualify which field personnel require internal Interpersonal Communication capability.

The SDT has modified Requirements R12 and R13 to replace “or” with “and/or” for clarity (although this is not intended as a substantive change). The rationale for this change is that field personnel may not apply to the RC or BA.

Standard Development Timeline

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

Description of Current Draft

Completed Actions	Date
Standards Committee approved Standard Authorization Request (SAR) for posting	June 10, 2015
SAR posted for comment	June 11, 2015
45-day comment period with ballot	September 25, 2015
45-day formal comment period with additional ballot	March 23, 2016

Anticipated Actions	Date
10-day final ballot	June 2016
NERC Board (Board) adoption	August 2016

New or Modified Term(s) Used in NERC Reliability Standards

This section includes all new or modified terms used in the proposed standard that will be included in the *Glossary of Terms Used in NERC Reliability Standards* upon applicable regulatory approval. Terms used in the proposed standard that are already defined and are not being modified can be found in the *Glossary of Terms Used in NERC Reliability Standards*. The new or revised terms listed below will be presented for approval with the proposed standard. Upon Board adoption, this section will be removed.

Term(s):

None

When this standard receives Board adoption, the rationale boxes will be moved to the Supplemental Material Section of the standard.

A. Introduction

1. **Title:** **Communications**
2. **Number:** **COM-001-3**
3. **Purpose:** To establish Interpersonal Communication capabilities necessary to maintain reliability.
4. **Applicability:**
 - 4.1. **Functional Entities:**
 - 4.1.1. Transmission Operator
 - 4.1.2. Balancing Authority
 - 4.1.3. Reliability Coordinator
 - 4.1.4. Distribution Provider
 - 4.1.5. Generator Operator
5. **Effective Date:** See Implementation Plan

B. Requirements and Measures

- R1.** 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):
[Violation Risk Factor: High] [Time Horizon: Real-time Operations]
 - 1.1. All Transmission Operators and Balancing Authorities within its Reliability Coordinator Area.
 - 1.2. Each adjacent Reliability Coordinator within the same Interconnection.
- M1.** Each Reliability Coordinator shall have and provide upon request evidence that it has Interpersonal Communication capability with all Transmission Operators and Balancing Authorities within its Reliability Coordinator Area and with each adjacent Reliability Coordinator within the same Interconnection, which could include, but is not limited to:
 - physical assets, or
 - dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R1.)

- R2.** Each Reliability Coordinator shall designate an Alternative Interpersonal Communication capability with the following entities: *[Violation Risk Factor: High]*
[Time Horizon: Real-time Operations]
- 2.1.** All Transmission Operators and Balancing Authorities within its Reliability Coordinator Area.
 - 2.2.** Each adjacent Reliability Coordinator within the same Interconnection.
- M2.** Each Reliability Coordinator shall have and provide upon request evidence that it designated an Alternative Interpersonal Communication capability with all Transmission Operators and Balancing Authorities within its Reliability Coordinator Area and with each adjacent Reliability Coordinator within the same Interconnection, which could include, but is not limited to:
- physical assets, or
 - dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R2.)
- R3.** Each Transmission Operator shall have Interpersonal Communication capability with the following entities (unless the Transmission Operator detects a failure of its Interpersonal Communication capability in which case Requirement R10 shall apply): *[Violation Risk Factor: High]* *[Time Horizon: Real-time Operations]*
- 3.1.** Its Reliability Coordinator.
 - 3.2.** Each Balancing Authority within its Transmission Operator Area.
 - 3.3.** Each Distribution Provider within its Transmission Operator Area.
 - 3.4.** Each Generator Operator within its Transmission Operator Area.
 - 3.5.** Each adjacent Transmission Operator synchronously connected.
 - 3.6.** Each adjacent Transmission Operator asynchronously connected.
- M3.** Each Transmission Operator shall have and provide upon request evidence that it has Interpersonal Communication capability with its Reliability Coordinator, each Balancing Authority, Distribution Provider, and Generator Operator within its Transmission Operator Area, and each adjacent Transmission Operator asynchronously or synchronously connected, which could include, but is not limited to:
- Physical assets, or
 - Dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communication. (R3.)

- R4.** Each Transmission Operator shall designate an Alternative Interpersonal Communication capability with the following entities: *[Violation Risk Factor: High]*
[Time Horizon: Real-time Operations]
- 4.1.** Its Reliability Coordinator.
 - 4.2.** Each Balancing Authority within its Transmission Operator Area.
 - 4.3.** Each adjacent Transmission Operator synchronously connected.
 - 4.4.** Each adjacent Transmission Operator asynchronously connected.
- M4.** Each Transmission Operator shall have and provide upon request evidence that it designated an Alternative Interpersonal Communication capability with its Reliability Coordinator, each Balancing Authority within its Transmission Operator Area, and each adjacent Transmission Operator asynchronously and synchronously connected, which could include, but is not limited to:
- Physical assets, or
 - Dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R4.)
- R5.** Each Balancing Authority shall have Interpersonal Communication capability with the following entities (unless the Balancing Authority detects a failure of its Interpersonal Communication capability in which case Requirement R10 shall apply): *[Violation Risk Factor: High]* *[Time Horizon: Real-time Operations]*
- 5.1.** Its Reliability Coordinator.
 - 5.2.** Each Transmission Operator that operates Facilities within its Balancing Authority Area.
 - 5.3.** Each Distribution Provider within its Balancing Authority Area.
 - 5.4.** Each Generator Operator that operates Facilities within its Balancing Authority Area.
 - 5.5.** Each Adjacent Balancing Authority.
- M5.** Each Balancing Authority shall have and provide upon request evidence that it has Interpersonal Communication capability with its Reliability Coordinator, each Transmission Operator and Generator Operator that operates Facilities within its Balancing Authority Area, each Distribution Provider within its Balancing Authority Area, and each adjacent Balancing Authority, which could include, but is not limited to:
- Physical assets, or

- Dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R5.)
- R6.** Each Balancing Authority shall designate an Alternative Interpersonal Communication capability with the following entities: *[Violation Risk Factor: High] [Time Horizon: Real-time Operations]*
- 6.1.** Its Reliability Coordinator.
 - 6.2.** Each Transmission Operator that operates Facilities within its Balancing Authority Area.
 - 6.3.** Each Adjacent Balancing Authority.
- M6.** Each Balancing Authority shall have and provide upon request evidence that it designated an Alternative Interpersonal Communication capability with its Reliability Coordinator, each Transmission Operator that operates Facilities within its Balancing Authority Area, and each adjacent Balancing Authority, which could include, but is not limited to:
- Physical assets, or
 - Dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R6.)
- R7.** Each Distribution Provider shall have Interpersonal Communication capability with the following entities (unless the Distribution Provider detects a failure of its Interpersonal Communication capability in which case Requirement R11 shall apply): *[Violation Risk Factor: Medium] [Time Horizon: Real-time Operations]*
- 7.1.** Its Balancing Authority.
 - 7.2.** Its Transmission Operator.
- M7.** Each Distribution Provider shall have and provide upon request evidence that it has Interpersonal Communication capability with its Transmission Operator and its Balancing Authority, which could include, but is not limited to:
- Physical assets, or
 - Dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R7.)
- R8.** Each Generator Operator shall have Interpersonal Communication capability with the following entities (unless the Generator Operator detects a failure of its Interpersonal

Communication capability in which case Requirement R11 shall apply): *[Violation Risk Factor: High] [Time Horizon: Real-time Operations]*

8.1. Its Balancing Authority.

8.2. Its Transmission Operator.

M8. Each Generator Operator shall have and provide upon request evidence that it has Interpersonal Communication capability with its Balancing Authority and its Transmission Operator, which could include, but is not limited to:

- Physical assets, or
- Dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R8.)

R9. Each Reliability Coordinator, Transmission Operator, and Balancing Authority shall 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. *[Violation Risk Factor: Medium][Time Horizon: Real-time Operations, Same-day Operations]*

M9. Each Reliability Coordinator, Transmission Operator, and Balancing Authority shall have and provide upon request evidence that it tested, at least once each calendar month, its Alternative Interpersonal Communication capability designated in Requirements 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 Communication capability within 2 hours. Evidence could include, but is not limited to: dated and time-stamped test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R9.)

R10. 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 capability that lasts 30 minutes or longer. *[Violation Risk Factor: Medium] [Time Horizon: Real-time Operations]*

M10. Each Reliability Coordinator, Transmission Operator, and Balancing Authority shall have and provide upon request evidence that it notified entities as identified in Requirements R1, R3, and R5, respectively within 60 minutes of the detection of a failure of its Interpersonal Communication capability that lasted 30 minutes or longer. Evidence could include, but is not limited to: dated and time-stamped test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R10.)

- R11.** Each Distribution Provider and Generator Operator that detects a failure of its Interpersonal Communication capability shall consult each entity affected by the failure, as identified in Requirement R7 for a Distribution Provider or Requirement R8 for a Generator Operator, to determine a mutually agreeable action for the restoration of its Interpersonal Communication capability. *[Violation Risk Factor: Medium] [Time Horizon: Real-time Operations]*
- M11.** Each Distribution Provider and Generator Operator that detected a failure of its Interpersonal Communication capability shall have and provide upon request evidence that it consulted with each entity affected by the failure, as identified in Requirement R7 for a Distribution Provider or Requirement R8 for a Generator Operator, to determine mutually agreeable action to restore the Interpersonal Communication capability. Evidence could include, but is not limited to: dated operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R11.)
- R12.** Each Reliability Coordinator, Transmission Operator, Generator Operator, and Balancing Authority shall have internal Interpersonal Communication capabilities for the exchange of information necessary for the Reliable Operation of the BES. This includes communication capabilities between Control Centers within the same functional entity, and/or between a Control Center and field personnel. *[Violation Risk Factor: High] [Time Horizon: Real-time Operations]*
- M12.** Each Reliability Coordinator, Transmission Operator, Generator Operator, and Balancing Authority shall have and provide upon request evidence that it has internal Interpersonal Communication capability, which could include, but is not limited to:
- physical assets, or
 - dated evidence, such as, equipment specifications and installation documentation, operating procedures, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications.
- R13.** Each Distribution Provider shall have internal Interpersonal Communication capabilities for the exchange of information necessary for the Reliable Operation of the BES. This includes communication capabilities between control centers within the same functional entity, and/or between a control center and field personnel. *[Violation Risk Factor: Medium] [Time Horizon: Real-time Operations]*
- M13.** Each Distribution Provider shall have and provide upon request evidence that it has internal Interpersonal Communication capability, which could include, but is not limited to:
- physical assets, or

- dated evidence, such as, equipment specifications and installation documentation, operating procedures, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications.

Compliance

1. Compliance Monitoring Process

1.1. Compliance Enforcement Authority:

“Compliance Enforcement Authority” or the Regional Entity, or any entity as otherwise designated by an Applicable Governmental Authority, in their respective roles of monitoring and/or enforcing compliance with mandatory and enforceable Reliability Standards in their respective jurisdictions.

1.2. Evidence Retention

The following evidence retention period(s) 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 applicable entity shall keep data or evidence to show compliance as identified below unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation:

- The Reliability Coordinator for Requirements R1, R2, R9, and R10, Measures M1, M2, M9, and M10 shall retain written documentation for the most recent twelve calendar months and voice recordings for the most recent 90 calendar days.
- The Transmission Operator for Requirements R3, R4, R9, and R10, Measures M3, M4, M9, and M10 shall retain written documentation for the most recent twelve calendar months and voice recordings for the most recent 90 calendar days.
- The Balancing Authority for Requirements R5, R6, R9, and R10, Measures M5, M6, M9, and M10 shall retain written documentation for the most recent twelve calendar months and voice recordings for the most recent 90 calendar days.
- The Distribution Provider for Requirements R7 and R11, Measures M7 and M11 shall retain written documentation for the most recent twelve calendar months and voice recordings for the most recent 90 calendar days.
- The Generator Operator for Requirements R8 and R11, Measures M8 and M11 shall retain written documentation for the most recent twelve calendar months and voice recordings for the most recent 90 calendar days.

- Responsible entities under Requirement R12, Measure M12 shall retain written documentation for the most recent twelve calendar months and voice recordings for the most recent 90 calendar days.
- Responsible entities under Requirement R13, Measure M13 shall retain written documentation for the most recent twelve calendar months and voice recordings for the most recent 90 calendar days.

1.3. Compliance Monitoring and Enforcement Program

As defined in the NERC Rules of Procedure, “Compliance Monitoring and Enforcement Program” refers to the identification of the processes that will be used to evaluate data or information for the purpose of assessing performance or outcomes with the associated Reliability Standard.

Violation Severity Levels

R #	Violation Severity Levels			
	Lower VSL	Moderate VSL	High VSL	Severe VSL
R1.	N/A	N/A	The Reliability Coordinator failed to have Interpersonal Communication capability with one of the entities listed in Requirement R1, Parts 1.1 or 1.2, except when the Reliability Coordinator detected a failure of its Interpersonal Communication capability in accordance with Requirement R10.	The Reliability Coordinator failed to have Interpersonal Communication capability with two or more of the entities listed in Requirement R1, Parts 1.1 or 1.2, except when the Reliability Coordinator detected a failure of its Interpersonal Communication capability in accordance with Requirement R10.
R2.	N/A	N/A	The Reliability Coordinator failed to designate Alternative Interpersonal Communication capability with one of the entities listed in Requirement R2, Parts 2.1 or 2.2.	The Reliability Coordinator failed to designate Alternative Interpersonal Communication capability with two or more of the entities listed in Requirement R2, Parts 2.1 or 2.2.
R3.	N/A	N/A	The Transmission Operator failed to have Interpersonal Communication capability	The Transmission Operator failed to have Interpersonal Communication capability

			with one of the entities listed in Requirement R3, Parts 3.1, 3.2, 3.3, 3.4, 3.5, or 3.6, except when the Transmission Operator detected a failure of its Interpersonal Communication capability in accordance with Requirement R10.	with two or more of the entities listed in Requirement R3, Parts 3.1, 3.2, 3.3, 3.4, 3.5, or 3.6, except when the Transmission Operator detected a failure of its Interpersonal Communication capability in accordance with Requirement R10.
R4.	N/A	N/A	The Transmission Operator failed to designate Alternative Interpersonal Communication capability with one of the entities listed in Requirement R4, Parts 4.1, 4.2, 4.3, or 4.4.	The Transmission Operator failed to designate Alternative Interpersonal Communication capability with two or more of the entities listed in Requirement R4, Parts 4.1, 4.2, 4.3, or 4.4.
R5.	N/A	N/A	The Balancing Authority failed to have Interpersonal Communication capability with one of the entities listed in Requirement R5, Parts 5.1, 5.2, 5.3, 5.4, or 5.5, except when the Balancing Authority detected a failure of its Interpersonal Communication capability in	The Balancing Authority failed to have Interpersonal Communication capability with two or more of the entities listed in Requirement R5, Parts 5.1, 5.2, 5.3, 5.4, or 5.5, except when the Balancing Authority detected a failure of its Interpersonal Communication capability in

			accordance with Requirement R10.	accordance with Requirement R10.
R6.	N/A	N/A	The Balancing Authority failed to designate Alternative Interpersonal Communication capability with one of the entities listed in Requirement R6, Parts 6.1, 6.2, or 6.3.	The Balancing Authority failed to designate Alternative Interpersonal Communication capability with two or more of the entities listed in Requirement R6, Parts 6.1, 6.2, or 6.3.
R7.	N/A	N/A	The Distribution Provider failed to have Interpersonal Communication capability with one of the entities listed in Requirement R7, Parts 7.1 or 7.2, except when the Distribution Provider detected a failure of its Interpersonal Communication capability in accordance with Requirement R11.	The Distribution Provider failed to have Interpersonal Communication capability with two or more of the entities listed in Requirement R7, Parts 7.1 or 7.2, except when the Distribution Provider detected a failure of its Interpersonal Communication capability in accordance with Requirement R11.
R8.	N/A	N/A	The Generator Operator failed to have Interpersonal Communication capability with one of the entities listed in Requirement R8, Parts 8.1 or 8.2, except when	The Generator Operator failed to have Interpersonal Communication capability with two or more of the entities listed in Requirement R8, Parts 8.1 or

			a Generator Operator detected a failure of its Interpersonal Communication capability in accordance with Requirement R11.	8.2, except when a Generator Operator detected a failure of its Interpersonal Communication capability in accordance with Requirement R11.
R9.	The Reliability Coordinator, Transmission Operator, or Balancing Authority tested the Alternative Interpersonal Communication capability but failed to initiate action to repair or designate a replacement Alternative Interpersonal Communication in more than 2 hours and less than or equal to 4 hours upon an unsuccessful test.	The Reliability Coordinator, Transmission Operator, or Balancing Authority tested the Alternative Interpersonal Communication capability but failed to initiate action to repair or designate a replacement Alternative Interpersonal Communication in more than 4 hours and less than or equal to 6 hours upon an unsuccessful test.	The Reliability Coordinator, Transmission Operator, or Balancing Authority tested the Alternative Interpersonal Communication capability but failed to initiate action to repair or designate a replacement Alternative Interpersonal Communication in more than 6 hours and less than or equal to 8 hours upon an unsuccessful test.	The Reliability Coordinator, Transmission Operator, or Balancing Authority failed to test the Alternative Interpersonal Communication capability once each calendar month. OR The Reliability Coordinator, Transmission Operator, or Balancing Authority tested the Alternative Interpersonal Communication capability but failed to initiate action to repair or designate a replacement Alternative Interpersonal Communication in more than 8 hours upon an unsuccessful test.
R10.	The Reliability Coordinator, Transmission Operator, or	The Reliability Coordinator, Transmission Operator, or	The Reliability Coordinator, Transmission Operator, or	The Reliability Coordinator, Transmission Operator, or

	Balancing Authority failed to notify the entities identified in Requirements R1, R3, and R5, respectively upon the detection of a failure of its Interpersonal Communication capability in more than 60 minutes but less than or equal to 70 minutes.	Balancing Authority failed to notify the entities identified in Requirements R1, R3, and R5, respectively upon the detection of a failure of its Interpersonal Communication capability in more than 70 minutes but less than or equal to 80 minutes.	Balancing Authority failed to notify the entities identified in Requirements R1, R3, and R5, respectively upon the detection of a failure of its Interpersonal Communication capability in more than 80 minutes but less than or equal to 90 minutes.	Balancing Authority failed to notify the entities identified in Requirements R1, R3, and R5, respectively upon the detection of a failure of its Interpersonal Communication capability in more than 90 minutes.
R11.	N/A	N/A	N/A	The Distribution Provider or Generator Operator that detected a failure of its Interpersonal Communication capability failed to consult with each entity affected by the failure, as identified in Requirement R7 for a Distribution Provider or Requirement R8 for a Generator Operator, to determine a mutually agreeable action for the restoration of the Interpersonal Communication capability.
R12.	N/A	N/A	N/A	The Reliability Coordinator, Transmission Operator, Generator Operator, or Balancing Authority failed to

				have internal Interpersonal Communication capability for the exchange of operating information.
R13.	N/A	N/A	N/A	The Distribution Provider failed to have internal Interpersonal Communication capability for the exchange of operating information.

Regional Variances

None.

Associated Documents

None.

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
1.1	October 29, 2008	BOT adopted errata changes; updated version number to "1.1"	Errata
2	November 7, 2015	Adopted by Board of Trustees	Revised in accordance with SAR for Project 2006-06, Reliability Coordination (RC SDT). Replaced R1 with R1-R8; R2 replaced by R9; R3 included within new R1; R4 remains enforce pending Project 2007-02; R5 redundant with EOP-008-0, retiring R5 as redundant with EOP-008-0, R1; retiring R6, relates to ERO procedures; R10 & R11, new.
2	April 16, 2015	FERC Order issued approving COM-001-2	
2.1	November 13, 2015	FERC Order issued approving errata to COM-001-2.1	Errata to correct inadvertent numbering errors in the parts to Requirement R6.

Rationale

Rationale for Requirement R12:

The focus of the requirement is on the *capabilities* that an entity must have for the purpose of exchanging information necessary for the Reliable Operation of the BES. That is, the entity must have the capability to communicate internally by, “any medium that allows two or more individuals to interact, consult, or exchange information.” The standard does not prescribe the specific type of capability (*i.e.*, hardware or software). The determination of the appropriate type of capability is left to the entity. Regardless, the entity must have the capability to exchange information *whenever* the internal Interpersonal Communications may directly impact operations of the BES. Therefore, the applicable entities must have the capability to exchange information between Control Centers of that functional entity. For example, a TOP with multiple control centers that are geographical separated must have the capability to communicate internally between or among those control centers. The communication capability may occur through any medium that supports Interpersonal Communication, such as land line telephone, cellular device, Voice Over Internet Protocol (VOIP), satellite telephone, radio, or electronic message. Also, applicable entities must have the capability to exchange information between a Control Center and field personnel. For example, a TOP system operator providing instruction to a field personnel to perform a reliability activity, such as switching Facilities.

In the course of normal control center operation, system operators within a single Control Center communicate as needed to ensure the reliability of the BES, including face-to-face communications. These internal communications are ongoing and occur throughout the day as part of day-to-day operations. However, these types of communications are not the focus of this requirement. The focus is on the capability of an entity to communicate internally where face-to-face communications are not available.

Rationale for Requirement R13:

The NERC Glossary definition for “Control Center” was not used in this requirement because Distribution Provider is not listed as an entity within the definition. The Glossary definition for “Control Center” is, “[o]ne or more facilities hosting operating personnel that monitor and control the Bulk Electric System (BES) in real-time to perform the reliability tasks, including their associated data centers, of: 1) a Reliability Coordinator, 2) a Balancing Authority, 3) a Transmission Operator for transmission Facilities at two or more locations, or 4) a Generator Operator for generation Facilities at two or more locations.” Therefore in this requirement, control center is intended to mean the Distribution Provider facilities hosting operating personnel performing the operational functions of the Distribution Provider that are necessary for the Reliable Operation of the BES, often referred to as a distribution control center, or distribution center. Examples of Distribution Providers exchanging information necessary for the Reliable Operation of the BES include Distribution Providers included in restoration plans, load shed plans, load reconfiguration, and voltage control plans. The Distribution Provider must have the capability to exchange information *whenever* the internal Interpersonal Communications may directly impact operations of the BES. Therefore, the Distribution

Supplemental Material

Provider must have the capability to exchange information between control centers as necessary. For example, a Distribution Provider with multiple control centers that are geographical separated, where face-to-face communications are not available, must have the capability to communicate internally between or among those control centers.

Standard Development Timeline

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

Description of Current Draft

Completed Actions	Date
Standards Committee approved Standard Authorization Request (SAR) for posting	June 10, 2015
SAR posted for comment	June 11, 2015
45-day comment period with ballot	September 25, 2015
<u>45-day formal comment period with additional ballot</u>	<u>March 23, 2016</u>

Anticipated Actions	Date
45-day formal comment period with additional ballot	March 2016
10-day final ballot	May <u>June</u> 2016
NERC Board (Board) adoption	August 2016

New or Modified Term(s) Used in NERC Reliability Standards

This section includes all new or modified terms used in the proposed standard that will be included in the *Glossary of Terms Used in NERC Reliability Standards* upon applicable regulatory approval. Terms used in the proposed standard that are already defined and are not being modified can be found in the *Glossary of Terms Used in NERC Reliability Standards*. The new or revised terms listed below will be presented for approval with the proposed standard. Upon Board adoption, this section will be removed.

Term(s):

None

When this standard receives Board adoption, the rationale boxes will be moved to the Supplemental Material Section of the standard.

A. Introduction

1. **Title:** **Communications**
2. **Number:** **COM-001-3**
3. **Purpose:** To establish Interpersonal Communication capabilities necessary to maintain reliability.
4. **Applicability:**
 - 4.1. **Functional Entities:**
 - 4.1.1. Transmission Operator
 - 4.1.2. Balancing Authority
 - 4.1.3. Reliability Coordinator
 - 4.1.4. Distribution Provider
 - 4.1.5. Generator Operator
5. **Effective Date:** See Implementation Plan

B. Requirements and Measures

- R1.** 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): *[Violation Risk Factor: High] [Time Horizon: Real-time Operations]*
 - 1.1.** All Transmission Operators and Balancing Authorities within its Reliability Coordinator Area.
 - 1.2.** Each adjacent Reliability Coordinator within the same Interconnection.
- M1.** Each Reliability Coordinator shall have and provide upon request evidence that it has Interpersonal Communication capability with all Transmission Operators and Balancing Authorities within its Reliability Coordinator Area and with each adjacent Reliability Coordinator within the same Interconnection, which could include, but is not limited to:
 - physical assets, or
 - dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R1.)

- R2.** Each Reliability Coordinator shall designate an Alternative Interpersonal Communication capability with the following entities: *[Violation Risk Factor: High]*
[Time Horizon: Real-time Operations]
- 2.1.** All Transmission Operators and Balancing Authorities within its Reliability Coordinator Area.
 - 2.2.** Each adjacent Reliability Coordinator within the same Interconnection.
- M2.** Each Reliability Coordinator shall have and provide upon request evidence that it designated an Alternative Interpersonal Communication capability with all Transmission Operators and Balancing Authorities within its Reliability Coordinator Area and with each adjacent Reliability Coordinator within the same Interconnection, which could include, but is not limited to:
- physical assets, or
 - dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R2.)
- R3.** Each Transmission Operator shall have Interpersonal Communication capability with the following entities (unless the Transmission Operator detects a failure of its Interpersonal Communication capability in which case Requirement R10 shall apply): *[Violation Risk Factor: High]* *[Time Horizon: Real-time Operations]*
- 3.1.** Its Reliability Coordinator.
 - 3.2.** Each Balancing Authority within its Transmission Operator Area.
 - 3.3.** Each Distribution Provider within its Transmission Operator Area.
 - 3.4.** Each Generator Operator within its Transmission Operator Area.
 - 3.5.** Each adjacent Transmission Operator synchronously connected.
 - 3.6.** Each adjacent Transmission Operator asynchronously connected.
- M3.** Each Transmission Operator shall have and provide upon request evidence that it has Interpersonal Communication capability with its Reliability Coordinator, each Balancing Authority, Distribution Provider, and Generator Operator within its Transmission Operator Area, and each adjacent Transmission Operator asynchronously or synchronously connected, which could include, but is not limited to:
- Physical assets, or
 - Dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communication. (R3.)

- R4.** Each Transmission Operator shall designate an Alternative Interpersonal Communication capability with the following entities: *[Violation Risk Factor: High]*
[Time Horizon: Real-time Operations]
- 4.1.** Its Reliability Coordinator.
 - 4.2.** Each Balancing Authority within its Transmission Operator Area.
 - 4.3.** Each adjacent Transmission Operator synchronously connected.
 - 4.4.** Each adjacent Transmission Operator asynchronously connected.
- M4.** Each Transmission Operator shall have and provide upon request evidence that it designated an Alternative Interpersonal Communication capability with its Reliability Coordinator, each Balancing Authority within its Transmission Operator Area, and each adjacent Transmission Operator asynchronously and synchronously connected, which could include, but is not limited to:
- Physical assets, or
 - Dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R4.)
- R5.** Each Balancing Authority shall have Interpersonal Communication capability with the following entities (unless the Balancing Authority detects a failure of its Interpersonal Communication capability in which case Requirement R10 shall apply): *[Violation Risk Factor: High]* *[Time Horizon: Real-time Operations]*
- 5.1.** Its Reliability Coordinator.
 - 5.2.** Each Transmission Operator that operates Facilities within its Balancing Authority Area.
 - 5.3.** Each Distribution Provider within its Balancing Authority Area.
 - 5.4.** Each Generator Operator that operates Facilities within its Balancing Authority Area.
 - 5.5.** Each Adjacent Balancing Authority.
- M5.** Each Balancing Authority shall have and provide upon request evidence that it has Interpersonal Communication capability with its Reliability Coordinator, each Transmission Operator and Generator Operator that operates Facilities within its Balancing Authority Area, each Distribution Provider within its Balancing Authority Area, and each adjacent Balancing Authority, which could include, but is not limited to:
- Physical assets, or

- Dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R5.)
- R6.** Each Balancing Authority shall designate an Alternative Interpersonal Communication capability with the following entities: *[Violation Risk Factor: High] [Time Horizon: Real-time Operations]*
- 6.1.** Its Reliability Coordinator.
 - 6.2.** Each Transmission Operator that operates Facilities within its Balancing Authority Area.
 - 6.3.** Each Adjacent Balancing Authority.
- M6.** Each Balancing Authority shall have and provide upon request evidence that it designated an Alternative Interpersonal Communication capability with its Reliability Coordinator, each Transmission Operator that operates Facilities within its Balancing Authority Area, and each adjacent Balancing Authority, which could include, but is not limited to:
- Physical assets, or
 - Dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R6.)
- R7.** Each Distribution Provider shall have Interpersonal Communication capability with the following entities (unless the Distribution Provider detects a failure of its Interpersonal Communication capability in which case Requirement R11 shall apply): *[Violation Risk Factor: Medium] [Time Horizon: Real-time Operations]*
- 7.1.** Its Balancing Authority.
 - 7.2.** Its Transmission Operator.
- M7.** Each Distribution Provider shall have and provide upon request evidence that it has Interpersonal Communication capability with its Transmission Operator and its Balancing Authority, which could include, but is not limited to:
- Physical assets, or
 - Dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R7.)
- R8.** Each Generator Operator shall have Interpersonal Communication capability with the following entities (unless the Generator Operator detects a failure of its Interpersonal

Communication capability in which case Requirement R11 shall apply): *[Violation Risk Factor: High] [Time Horizon: Real-time Operations]*

8.1. Its Balancing Authority.

8.2. Its Transmission Operator.

M8. Each Generator Operator shall have and provide upon request evidence that it has Interpersonal Communication capability with its Balancing Authority and its Transmission Operator, which could include, but is not limited to:

- Physical assets, or
- Dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R8.)

R9. Each Reliability Coordinator, Transmission Operator, and Balancing Authority shall 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. *[Violation Risk Factor: Medium][Time Horizon: Real-time Operations, Same-day Operations]*

M9. Each Reliability Coordinator, Transmission Operator, and Balancing Authority shall have and provide upon request evidence that it tested, at least once each calendar month, its Alternative Interpersonal Communication capability designated in Requirements 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 Communication capability within 2 hours. Evidence could include, but is not limited to: dated and time-stamped test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R9.)

R10. 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 capability that lasts 30 minutes or longer. *[Violation Risk Factor: Medium] [Time Horizon: Real-time Operations]*

M10. Each Reliability Coordinator, Transmission Operator, and Balancing Authority shall have and provide upon request evidence that it notified entities as identified in Requirements R1, R3, and R5, respectively within 60 minutes of the detection of a failure of its Interpersonal Communication capability that lasted 30 minutes or longer. Evidence could include, but is not limited to: dated and time-stamped test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R10.)

- R11.** Each Distribution Provider and Generator Operator that detects a failure of its Interpersonal Communication capability shall consult each entity affected by the failure, as identified in Requirement R7 for a Distribution Provider or Requirement R8 for a Generator Operator, to determine a mutually agreeable action for the restoration of its Interpersonal Communication capability. *[Violation Risk Factor: Medium] [Time Horizon: Real-time Operations]*
- M11.** Each Distribution Provider and Generator Operator that detected a failure of its Interpersonal Communication capability shall have and provide upon request evidence that it consulted with each entity affected by the failure, as identified in Requirement R7 for a Distribution Provider or Requirement R8 for a Generator Operator, to determine mutually agreeable action to restore the Interpersonal Communication capability. Evidence could include, but is not limited to: dated operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R11.)
- R12.** Each Reliability Coordinator, Transmission Operator, Generator Operator, and Balancing Authority shall have internal Interpersonal Communication capabilities for the exchange of information necessary for the Reliable Operation of the BES. This includes communication capabilities between Control Centers within the same functional entity, and/or between a Control Center and field personnel. *[Violation Risk Factor: High] [Time Horizon: Real-time Operations]*
- M12.** Each Reliability Coordinator, Transmission Operator, Generator Operator, and Balancing Authority shall have and provide upon request evidence that it has internal Interpersonal Communication capability, which could include, but is not limited to:
- physical assets, or
 - dated evidence, such as, equipment specifications and installation documentation, operating procedures, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications.
- R13.** Each Distribution Provider shall have internal Interpersonal Communication capabilities for the exchange of information necessary for the Reliable Operation of the BES. This includes communication capabilities between control centers within the same functional entity, and/or between a control center and field personnel. *[Violation Risk Factor: Medium] [Time Horizon: Real-time Operations]*
- M13.** Each Distribution Provider shall have and provide upon request evidence that it has internal Interpersonal Communication capability, which could include, but is not limited to:
- physical assets, or

- dated evidence, such as, equipment specifications and installation documentation, operating procedures, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications.

Compliance

1. Compliance Monitoring Process

1.1. Compliance Enforcement Authority:

“Compliance Enforcement Authority” or the Regional Entity, or any entity as otherwise designated by an Applicable Governmental Authority, in their respective roles of monitoring and/or enforcing compliance with mandatory and enforceable Reliability Standards in their respective jurisdictions.

1.2. Evidence Retention

The following evidence retention period(s) 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 applicable entity shall keep data or evidence to show compliance as identified below unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation:

- The Reliability Coordinator for Requirements R1, R2, R9, and R10, Measures M1, M2, M9, and M10 shall retain written documentation for the most recent twelve calendar months and voice recordings for the most recent 90 calendar days.
- The Transmission Operator for Requirements R3, R4, R9, and R10, Measures M3, M4, M9, and M10 shall retain written documentation for the most recent twelve calendar months and voice recordings for the most recent 90 calendar days.
- The Balancing Authority for Requirements R5, R6, R9, and R10, Measures M5, M6, M9, and M10 shall retain written documentation for the most recent twelve calendar months and voice recordings for the most recent 90 calendar days.
- The Distribution Provider for Requirements R7 and R11, Measures M7 and M11 shall retain written documentation for the most recent twelve calendar months and voice recordings for the most recent 90 calendar days.
- The Generator Operator for Requirements R8 and R11, Measures M8 and M11 shall retain written documentation for the most recent twelve calendar months and voice recordings for the most recent 90 calendar days.

- Responsible entities under Requirement R12, Measure M12 shall retain written documentation for the most recent twelve calendar months and voice recordings for the most recent 90 calendar days.
- Responsible entities under Requirement R13, Measure M13 shall retain written documentation for the most recent twelve calendar months and voice recordings for the most recent 90 calendar days.

1.3. Compliance Monitoring and Enforcement Program

As defined in the NERC Rules of Procedure, “Compliance Monitoring and Enforcement Program” refers to the identification of the processes that will be used to evaluate data or information for the purpose of assessing performance or outcomes with the associated Reliability Standard.

Violation Severity Levels

R #	Violation Severity Levels			
	Lower VSL	Moderate VSL	High VSL	Severe VSL
R1.	N/A	N/A	The Reliability Coordinator failed to have Interpersonal Communication capability with one of the entities listed in Requirement R1, Parts 1.1 or 1.2, except when the Reliability Coordinator detected a failure of its Interpersonal Communication capability in accordance with Requirement R10.	The Reliability Coordinator failed to have Interpersonal Communication capability with two or more of the entities listed in Requirement R1, Parts 1.1 or 1.2, except when the Reliability Coordinator detected a failure of its Interpersonal Communication capability in accordance with Requirement R10.
R2.	N/A	N/A	The Reliability Coordinator failed to designate Alternative Interpersonal Communication capability with one of the entities listed in Requirement R2, Parts 2.1 or 2.2.	The Reliability Coordinator failed to designate Alternative Interpersonal Communication capability with two or more of the entities listed in Requirement R2, Parts 2.1 or 2.2.
R3.	N/A	N/A	The Transmission Operator failed to have Interpersonal Communication capability	The Transmission Operator failed to have Interpersonal Communication capability

			with one of the entities listed in Requirement R3, Parts 3.1, 3.2, 3.3, 3.4, 3.5, or 3.6, except when the Transmission Operator detected a failure of its Interpersonal Communication capability in accordance with Requirement R10.	with two or more of the entities listed in Requirement R3, Parts 3.1, 3.2, 3.3, 3.4, 3.5, or 3.6, except when the Transmission Operator detected a failure of its Interpersonal Communication capability in accordance with Requirement R10.
R4.	N/A	N/A	The Transmission Operator failed to designate Alternative Interpersonal Communication capability with one of the entities listed in Requirement R4, Parts 4.1, 4.2, 4.3, or 4.4.	The Transmission Operator failed to designate Alternative Interpersonal Communication capability with two or more of the entities listed in Requirement R4, Parts 4.1, 4.2, 4.3, or 4.4.
R5.	N/A	N/A	The Balancing Authority failed to have Interpersonal Communication capability with one of the entities listed in Requirement R5, Parts 5.1, 5.2, 5.3, 5.4, or 5.5, except when the Balancing Authority detected a failure of its Interpersonal Communication capability in	The Balancing Authority failed to have Interpersonal Communication capability with two or more of the entities listed in Requirement R5, Parts 5.1, 5.2, 5.3, 5.4, or 5.5, except when the Balancing Authority detected a failure of its Interpersonal Communication capability in

			accordance with Requirement R10.	accordance with Requirement R10.
R6.	N/A	N/A	The Balancing Authority failed to designate Alternative Interpersonal Communication capability with one of the entities listed in Requirement R6, Parts 6.1, 6.2, or 6.3.	The Balancing Authority failed to designate Alternative Interpersonal Communication capability with two or more of the entities listed in Requirement R6, Parts 6.1, 6.2, or 6.3.
R7.	N/A	N/A	The Distribution Provider failed to have Interpersonal Communication capability with one of the entities listed in Requirement R7, Parts 7.1 or 7.2, except when the Distribution Provider detected a failure of its Interpersonal Communication capability in accordance with Requirement R11.	The Distribution Provider failed to have Interpersonal Communication capability with two or more of the entities listed in Requirement R7, Parts 7.1 or 7.2, except when the Distribution Provider detected a failure of its Interpersonal Communication capability in accordance with Requirement R11.
R8.	N/A	N/A	The Generator Operator failed to have Interpersonal Communication capability with one of the entities listed in Requirement R8, Parts 8.1 or 8.2, except when	The Generator Operator failed to have Interpersonal Communication capability with two or more of the entities listed in Requirement R8, Parts 8.1 or

			a Generator Operator detected a failure of its Interpersonal Communication capability in accordance with Requirement R11.	8.2, except when a Generator Operator detected a failure of its Interpersonal Communication capability in accordance with Requirement R11.
R9.	The Reliability Coordinator, Transmission Operator, or Balancing Authority tested the Alternative Interpersonal Communication capability but failed to initiate action to repair or designate a replacement Alternative Interpersonal Communication in more than 2 hours and less than or equal to 4 hours upon an unsuccessful test.	The Reliability Coordinator, Transmission Operator, or Balancing Authority tested the Alternative Interpersonal Communication capability but failed to initiate action to repair or designate a replacement Alternative Interpersonal Communication in more than 4 hours and less than or equal to 6 hours upon an unsuccessful test.	The Reliability Coordinator, Transmission Operator, or Balancing Authority tested the Alternative Interpersonal Communication capability but failed to initiate action to repair or designate a replacement Alternative Interpersonal Communication in more than 6 hours and less than or equal to 8 hours upon an unsuccessful test.	The Reliability Coordinator, Transmission Operator, or Balancing Authority failed to test the Alternative Interpersonal Communication capability once each calendar month. OR The Reliability Coordinator, Transmission Operator, or Balancing Authority tested the Alternative Interpersonal Communication capability but failed to initiate action to repair or designate a replacement Alternative Interpersonal Communication in more than 8 hours upon an unsuccessful test.
R10.	The Reliability Coordinator, Transmission Operator, or	The Reliability Coordinator, Transmission Operator, or	The Reliability Coordinator, Transmission Operator, or	The Reliability Coordinator, Transmission Operator, or

	Balancing Authority failed to notify the entities identified in Requirements R1, R3, and R5, respectively upon the detection of a failure of its Interpersonal Communication capability in more than 60 minutes but less than or equal to 70 minutes.	Balancing Authority failed to notify the entities identified in Requirements R1, R3, and R5, respectively upon the detection of a failure of its Interpersonal Communication capability in more than 70 minutes but less than or equal to 80 minutes.	Balancing Authority failed to notify the entities identified in Requirements R1, R3, and R5, respectively upon the detection of a failure of its Interpersonal Communication capability in more than 80 minutes but less than or equal to 90 minutes.	Balancing Authority failed to notify the entities identified in Requirements R1, R3, and R5, respectively upon the detection of a failure of its Interpersonal Communication capability in more than 90 minutes.
R11.	N/A	N/A	N/A	The Distribution Provider or Generator Operator that detected a failure of its Interpersonal Communication capability failed to consult with each entity affected by the failure, as identified in Requirement R7 for a Distribution Provider or Requirement R8 for a Generator Operator, to determine a mutually agreeable action for the restoration of the Interpersonal Communication capability.
R12.	N/A	N/A	N/A	The Reliability Coordinator, Transmission Operator, Generator Operator, or Balancing Authority failed to

				have internal Interpersonal Communication capability for the exchange of operating information.
R13.	N/A	N/A	N/A	The Distribution Provider failed to have internal Interpersonal Communication capability for the exchange of operating information.

Regional Variances

None.

Associated Documents

None.

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
1.1	October 29, 2008	BOT adopted errata changes; updated version number to "1.1"	Errata
2	November 7, 2015	Adopted by Board of Trustees	Revised in accordance with SAR for Project 2006-06, Reliability Coordination (RC SDT). Replaced R1 with R1-R8; R2 replaced by R9; R3 included within new R1; R4 remains enforce pending Project 2007-02; R5 redundant with EOP-008-0, retiring R5 as redundant with EOP-008-0, R1; retiring R6, relates to ERO procedures; R10 & R11, new.
2	April 16, 2015	FERC Order issued approving COM-001-2	
2.1	November 13, 2015	FERC Order issued approving errata to COM-001-2.1	Errata to correct inadvertent numbering errors in the parts to Requirement R6.

Rationale

Rationale for Requirement R12:

The focus of the requirement is on the *capabilities* that an entity must have for the purpose of exchanging information necessary for the Reliable Operation of the BES. That is, the entity must have the capability to communicate internally by, “any medium that allows two or more individuals to interact, consult, or exchange information.” The standard does not prescribe the specific type of capability (*i.e.*, hardware or software). The determination of the appropriate type of capability is left to the entity. Regardless, the entity must have the capability to exchange information *whenever* the internal Interpersonal Communications may directly impact operations of the BES. Therefore, the applicable entities must have the capability to exchange information between Control Centers of that functional entity. For example, a TOP with multiple control centers that are geographical separated must have the capability to communicate internally between or among those control centers. The communication capability may occur through any medium that supports Interpersonal Communication, such as land line telephone, cellular device, Voice Over Internet Protocol (VOIP), satellite telephone, radio, or electronic message. Also, applicable entities must have the capability to exchange information between a Control Center and field personnel. For example, a TOP system operator providing instruction to a field personnel to perform a reliability activity, such as switching Facilities.

In the course of normal control center operation, system operators within a single Control Center communicate as needed to ensure the reliability of the BES, including face-to-face communications. These internal communications are ongoing and occur throughout the day as part of day-to-day operations. However, these types of communications are not the focus of this requirement. The focus is on the capability of an entity to communicate internally where face-to-face communications are not available.

Rationale for Requirement R13:

The NERC Glossary definition for “Control Center” was not used in this requirement because Distribution Provider is not listed as an entity within the definition. The Glossary definition for “Control Center” is, “[o]ne or more facilities hosting operating personnel that monitor and control the Bulk Electric System (BES) in real-time to perform the reliability tasks, including their associated data centers, of: 1) a Reliability Coordinator, 2) a Balancing Authority, 3) a Transmission Operator for transmission Facilities at two or more locations, or 4) a Generator Operator for generation Facilities at two or more locations.” Therefore in this requirement, control center is intended to mean the Distribution Provider facilities hosting operating personnel performing the operational functions of the Distribution Provider that are necessary for the ~~reliable operation~~ Reliable Operation of the BES, often referred to as a distribution control center, or distribution center. Examples of Distribution Providers exchanging information necessary for the Reliable Operation of the BES include Distribution Providers included in restoration plans, load shed plans, load reconfiguration, and voltage control plans. The Distribution Provider must have the capability to exchange information *whenever* the internal Interpersonal Communications may directly impact operations of the BES. Therefore,

Supplemental Material

the Distribution Provider must have the capability to exchange information between control centers as necessary. For example, a Distribution Provider with multiple control centers that are geographical separated, where face-to-face communications are not available, must have the capability to communicate internally between or among those control centers.

Implementation Plan COM-001-3 Communications

Requested Approval

COM-001-3 – Communications

Requested Retirement

COM-001-2.1 – Communications

Prerequisite Approvals

None.

Defined Terms in the NERC Glossary

None.

Conforming Changes to Requirements in Already Approved Standards

None.

Revisions to Approved Standards and Definitions

The Standard Drafting Team (SDT) revised the COM-001-2.1 standard to propose additional Requirements R12 and R13, addressing FERC’s directive in Order No. 808, P41 “[t]o develop modifications to COM-001-2, or to develop a new standard, to address our concerns regarding ensuring the adequacy of internal communications capability...” The additions were made to address internal Interpersonal Communication capabilities for applicable entities.

Applicable Entities

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

Effective Date

New or Revised Standards

COM-001-3 Where approval by an applicable governmental authority is required, the standard shall become effective on the first day of the first calendar quarter that is 9 months after the effective date of the applicable governmental authority’s order

approving the standard, or as otherwise provided for by the applicable governmental authority.

Where approval by an applicable governmental authority is not required, the standard shall become effective on the first day of the first calendar quarter that is 9 months after the date the standard is adopted by the NERC Board of Trustees, or as otherwise provided for in that jurisdiction.

Standard for Retirement

Reliability Standard COM-001-2.1 shall be retired immediately prior to the Effective Date of COM-001-3 in the particular jurisdiction in which the COM-001-3 standard is becoming effective.

New or Revised Definitions

None.

Mapping Document

COM-001-3 Communications

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 Additional Requirement(s)
COM-001-2.1	<p>New Requirement</p> <p>R12. Each Reliability Coordinator, Transmission Operator, Generator Operator, and Balancing Authority shall have internal Interpersonal Communication capabilities for the exchange of operating information.</p>
COM-001-2.1	<p>New Requirement</p> <p>R13. Each Distribution Provider shall have internal Interpersonal Communication capabilities for the exchange of operating information.</p>

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-001-3 Communications	X	X		X			X	X

Violation Risk Factor and Violation Severity Level Justifications

COM-001-3 – Communications

Violation Risk Factor and Violation Severity Level Justifications

This document provides the drafting team's justification for assignment of violation risk factors (VRFs) and violation severity levels (VSLs) for Requirements R12 and R13 in: COM-001-3 – Communications

Each primary requirement is assigned a VRF and a set of one or more VSLs. These elements support the determination of an initial value range for the Base Penalty Amount regarding violations of requirements in FERC-approved Reliability Standards, as defined in the ERO Sanction Guidelines.

The Reliability Coordination Standard Drafting Team (SDT) applied the following NERC criteria and FERC Guidelines when proposing VRFs and VSL for the requirements under this project.

NERC Criteria – Violation Risk Factors

High Risk Requirement

A requirement that, if violated, could directly cause or contribute to bulk electric system instability, separation, or a cascading sequence of failures, or could place the bulk electric system at an unacceptable risk of instability, separation, or cascading failures; or, a requirement in a planning time frame that, if violated, could, under emergency, abnormal, or restorative conditions anticipated by the preparations, directly cause or contribute to bulk electric system instability, separation, or a cascading sequence of failures, or could place the bulk electric system at an unacceptable risk of instability, separation, or cascading failures, or could hinder restoration to a normal condition.

Medium Risk Requirement

A requirement that, if violated, could directly affect the electrical state or the capability of the bulk electric system, or the ability to effectively monitor and control the bulk electric system. However, violation of a medium risk requirement is unlikely to lead to bulk electric system instability, separation, or cascading failures; or, a requirement in a planning time frame that, if violated, could, under emergency, abnormal, or restorative conditions anticipated by the preparations, directly and adversely affect the electrical state or capability of the bulk electric system, or the ability to effectively monitor, control, or restore the bulk electric system. However, violation of a medium risk requirement is unlikely, under emergency, abnormal, or

restoration conditions anticipated by the preparations, to lead to bulk electric system instability, separation, or cascading failures, nor to hinder restoration to a normal condition.

Lower Risk Requirement

A requirement that is administrative in nature and a requirement that, if violated, would not be expected to adversely affect the electrical state or capability of the bulk electric system, or the ability to effectively monitor and control the bulk electric system; or, a requirement that is administrative in nature and a requirement in a planning time frame that, if violated, would not, under the emergency, abnormal, or restorative conditions anticipated by the preparations, be expected to adversely affect the electrical state or capability of the bulk electric system, or the ability to effectively monitor, control, or restore the bulk electric system. A planning requirement that is administrative in nature.

FERC Violation Risk Factor Guidelines

The SDT also considered consistency with the FERC Violation Risk Factor Guidelines for setting VRFs:¹

Guideline 1 – Consistency with the Conclusions of the Final Blackout Report

The Commission seeks to ensure that Violation Risk Factors assigned to Requirements of Reliability Standards in these identified areas appropriately reflect their historical critical impact on the reliability of the Bulk-Power System.

In the VSL Order, FERC listed critical areas (from the Final Blackout Report) where violations could severely affect the reliability of the Bulk-Power System:²

- Emergency operations
- Vegetation management
- Operator personnel training
- Protection systems and their coordination
- Operating tools (capabilities)³ and backup facilities
- Reactive power and voltage control
- System modeling and data exchange
- Communication protocol and facilities
- Requirements to determine equipment ratings

¹ North American Electric Reliability Corp., 119 FERC ¶ 61,145, order on reh'g and compliance filing, 120 FERC ¶ 61,145 (2007) ("VRF Rehearing Order").

² Id. at footnote 15.

³ Mandatory Reliability Standards for the Bulk-Power System, 118 FERC ¶ 61,218, FERC Stats. & Regs. ¶ 31,242 at PP 906 and 1660. (Order No. 693), order on reh'g, Mandatory Reliability Standards for the Bulk-Power System, 120 FERC ¶ 61,053 (Order No. 693-A) (2007).

- Synchronized data recorders
- Clearer criteria for operationally critical facilities
- Appropriate use of transmission loading relief

Guideline 2 – Consistency within a Reliability Standard

The Commission expects a rational connection between the sub-Requirement Violation Risk Factor assignments and the main Requirement Violation Risk Factor assignment.

Guideline 3 – Consistency among Reliability Standards

The Commission expects the assignment of Violation Risk Factors corresponding to Requirements that address similar reliability goals in different Reliability Standards would be treated comparably.

Guideline 4 – Consistency with NERC's Definition of the Violation Risk Factor Level

Guideline (4) was developed to evaluate whether the assignment of a particular Violation Risk Factor level conforms to NERC's definition of that risk level.

Guideline 5 – Treatment of Requirements that Co-mingle More Than One Obligation

Where a single Requirement co-mingles a higher risk reliability objective and a lesser risk reliability objective, the VRF assignment for such Requirements must not be watered down to reflect the lower risk level associated with the less important objective of the Reliability Standard.

The following discussion addresses how the SDT considered FERC's VRF Guidelines 2 through 5. The team did not address Guideline 1 directly because of an apparent conflict between Guidelines 1 and 4. Whereas Guideline 1 identifies a list of topics that encompass nearly all topics within NERC's Reliability Standards and implies that these requirements should be assigned a "High" VRF, Guideline 4 directs assignment of VRFs based on the impact of a specific requirement to the reliability of the system. The SDT believes that Guideline 4 is reflective of the intent of VRFs in the first instance and therefore concentrated its approach on the reliability impact of the requirements.

There are two new requirements in the standard. Neither of the requirements were assigned a "Lower" VRF. Requirement R12 is assigned a "High" VRF while Requirement R13 is assigned a "Medium" VRF.

NERC Criteria – Violation Severity Levels

Violation Severity Levels (VSLs) define the degree to which compliance with a requirement was not achieved. Each requirement must have at least one VSL. While it is preferable to have four VSLs for each requirement, some requirements do not have multiple "degrees" of noncompliant performance, and may have only one, two, or three VSLs.

Violation severity levels should be based on the guidelines shown in the table below:

Lower	Moderate	High	Severe
<p>Missing a minor element (or a small percentage) of the required performance</p> <p>The performance or product measured has significant value as it almost meets the full intent of the requirement.</p>	<p>Missing at least one significant element (or a moderate percentage) of the required performance.</p> <p>The performance or product measured still has significant value in meeting the intent of the requirement.</p>	<p>Missing more than one significant element (or is missing a high percentage) of the required performance or is missing a single vital component.</p> <p>The performance or product has limited value in meeting the intent of the requirement.</p>	<p>Missing most or all of the significant elements (or a significant percentage) of the required performance.</p> <p>The performance measured does not meet the intent of the requirement or the product delivered cannot be used in meeting the intent of the requirement.</p>

FERC Order of Violation Severity Levels

FERC’s VSL guidelines are presented below, followed by an analysis of whether the VSLs proposed for Requirements R12 and R13 in the standard meet the FERC Guidelines for assessing VSLs:

Guideline 1 – Violation Severity Level Assignments Should Not Have the Unintended Consequence of Lowering the Current Level of Compliance

Compare the VSLs to any prior levels of non-compliance and avoid significant changes that may encourage a lower level of compliance than was required when levels of non-compliance were used.

Guideline 2 – Violation Severity Level Assignments Should Ensure Uniformity and Consistency in the Determination of Penalties

A violation of a “binary” type requirement must be a “Severe” VSL.

Do not use ambiguous terms such as “minor” and “significant” to describe noncompliant performance.

Guideline 3 – Violation Severity Level Assignment Should Be Consistent with the Corresponding Requirement

VSLs should not expand on what is required in the requirement.

Guideline 4 – Violation Severity Level Assignment Should Be Based on A Single Violation, Not on A Cumulative Number of Violations

... unless otherwise stated in the requirement, each instance of non-compliance with a requirement is a separate violation. Section 4 of the Sanction Guidelines states that assessing penalties on a per violation per day basis is the “default” for penalty calculations.

VRF and VSL Justifications

VRF Justifications – COM-001-3, R12	
Proposed VRF	High
NERC VRF Discussion	
FERC VRF G1 Discussion	Guideline 1- Consistency w/ Blackout Report: N/A
FERC VRF G2 Discussion	Guideline 2- Consistency within a Reliability Standard: The requirement has no sub-requirements; only one VRF is assigned, so there is no conflict.
FERC VRF G3 Discussion	Guideline 3- Consistency among Reliability Standards: This requirement is a facility requirement that provides for internal communications capability, including internal communications within the same functional entity. There are no similar facility requirements in the standards. The approved VRF for COM-001-2, R1-R6 is High and therefore the proposed VRF for R12 is consistent.
FERC VRF G4 Discussion	Guideline 4- Consistency with NERC Definitions of VRFs: Failure to have internal Interpersonal Communication capability could limit or prevent communication between entities and directly affect the electrical state or the capability of the Bulk Power System and could lead to Bulk Power System instability, separation, or cascading failures. Therefore, this requirement is assigned a High VRF.
FERC VRF G5 Discussion	Guideline 5- Treatment of Requirements that Co-mingle More than One Obligation: The requirement, R12, contains only one objective; therefore, only one VRF was assigned.

Proposed VSLs for COM-001-3, R12				
R#	Lower	Moderate	High	Severe
R12	N/A	N/A	N/A	The Reliability Coordinator, Balancing Authority, Generator Operator, or Transmission Operator failed to have internal Interpersonal Communication capability for the exchange of operating information.
VSL Justifications – COM-001-3, R12				
NERC VSL Guidelines			Meets NERC’s VSL guidelines. There is not an incremental aspect to the violation and the VSL follows the guidelines for violations.	
FERC VSL G1 Violation Severity Level Assignments Should Not Have the Unintended Consequence of Lowering the Current Level of Compliance			N/A	
FERC VSL G2 Violation Severity Level Assignments Should Ensure Uniformity and Consistency in the Determination of Penalties Guideline 2a: The Single Violation Severity Level Assignment Category for "Binary" Requirements Is Not Consistent Guideline 2b: Violation Severity Level Assignments that Contain Ambiguous Language			Guideline 2a: The proposed VSL is consistent with Requirements R7, R8, and R11. Guideline 2b: The proposed VSL does not use any ambiguous terminology, thereby supporting uniformity and consistency in the determination of similar penalties for similar violations.	
FERC VSL G3			The proposed VSL uses the same terminology as used in the associated requirement, and is, therefore, consistent with the requirement.	

Proposed VSLs for COM-001-3, R12	
Violation Severity Level Assignment Should Be Consistent with the Corresponding Requirement	
FERC VSL G4 Violation Severity Level Assignment Should Be Based on A Single Violation, Not on A Cumulative Number of Violations	The VSL is based on a single violation and not cumulative violations.

VRF Justifications – COM-001-3, R13	
Proposed VRF	Medium
NERC VRF Discussion	
FERC VRF G1 Discussion	Guideline 1- Consistency w/ Blackout Report: N/A
FERC VRF G2 Discussion	Guideline 2- Consistency within a Reliability Standard: The requirement has no sub-requirements; only one VRF is assigned, so there is no conflict.
FERC VRF G3 Discussion	Guideline 3- Consistency among Reliability Standards: In COM-001-3, the Distribution Provider VRF is Medium because the Interpersonal Communications capabilities are potentially less impactful than similar Interpersonal Communication capabilities of Reliability Coordinators, Balancing Authorities, Generator Operators, or Transmission Operators.
FERC VRF G4 Discussion	Guideline 4- Consistency with NERC Definitions of VRFs: Failure to have internal Interpersonal Communication capability could limit or prevent communication within an entity; however, Bulk Power System instability, separation, or cascading failures are not likely to occur due to a failure to have internal Interpersonal Communication capabilities. Therefore, this requirement is assigned a Medium VRF.

VRF Justifications – COM-001-3, R13	
Proposed VRF	Medium
FERC VRF G5 Discussion	<p>Guideline 5- Treatment of Requirements that Co-mingle More than One Obligation:</p> <p>The requirement contains only one objective; therefore, only one VRF was assigned.</p>

Proposed VSLs for COM-001-3, R13				
R#	Lower	Moderate	High	Severe
R13	N/A	N/A	N/A	The Distribution Provider failed to have internal Interpersonal Communication capability for the exchange of operating information...

VSL Justifications – COM-001-3, R13	
NERC VSL Guidelines	Meets NERC’s VSL guidelines. There is not an incremental aspect to the violation and the VSL follows the guidelines for violations.
FERC VSL G1 Violation Severity Level Assignments Should Not Have the Unintended Consequence of Lowering the Current Level of Compliance	The proposed requirement is a revision to COM-001-2.1. The proposed VSL is binary.
FERC VSL G2 Violation Severity Level Assignments Should Ensure Uniformity and Consistency in the Determination of Penalties Guideline 2a: The Single Violation Severity Level Assignment	<p>Guideline 2a: N/A</p> <p>Guideline 2b: The proposed VSL does not use any ambiguous terminology, thereby supporting uniformity and</p>

Proposed VSLs for COM-001-3, R13	
<p>Category for "Binary" Requirements Is Not Consistent</p> <p>Guideline 2b: Violation Severity Level Assignments that Contain Ambiguous Language</p>	<p>consistency in the determination of similar penalties for similar violations.</p>
<p>FERC VSL G3</p> <p>Violation Severity Level Assignment Should Be Consistent with the Corresponding Requirement</p>	<p>The proposed VSL uses the same terminology as used in the associated requirement, and is, therefore, consistent with the requirement.</p>
<p>FERC VSL G4</p> <p>Violation Severity Level Assignment Should Be Based on A Single Violation, Not on A Cumulative Number of Violations</p>	<p>The VSL is based on a single violation and not cumulative violations.</p>

NERC

NORTH AMERICAN ELECTRIC
RELIABILITY CORPORATION

Standards Announcement

Project 2015-07 Internal Communications Capabilities COM-001-3

Final Ballot Open through June 24, 2016

[Now Available](#)

A 10-day final ballot for **COM-001-3 Communications** is open through **8 p.m. Eastern, Friday, June 24, 2016**.

Balloting

In the final ballot, votes are counted by exception. Only members of the ballot pool may cast a vote. All ballot pool members may change their previously cast vote. A ballot pool member who failed to vote during the previous ballot period may vote in the final ballot period. If a ballot pool member does not participate in the final ballot, the member's vote from the previous ballot will be carried over as their vote in the final ballot.

Members of the ballot pool associated with this project may log in and submit their vote for the standard [here](#). If you experience any difficulties using the Standards Balloting & Commenting System (SBS), contact [Nasheema Santos](#).

If you are having difficulty accessing the SBS due to a forgotten password, incorrect credential error messages, or system lock-out, contact NERC IT support directly at <https://support.nerc.net/> (Monday – Friday, 8 a.m. - 8 p.m. Eastern).

Next Steps

The voting results for the standard will be posted and announced after the ballot closes. If approved, the standard will be submitted to the Board of Trustees for adoption and then filed with the appropriate regulatory authorities.

Standards Development Process

For more information on the Standards Development Process, refer to the [Standard Processes Manual](#).

For more information or assistance, contact [Darrel Richardson](#) at (609) 613-1848 or [Laura Anderson](#) at (404) 446-9671.

Suite 600, North Tower
Atlanta, GA 30326
404-446-2560 | www.nerc.com

RELIABILITY | ACCOUNTABILITY

Standards Announcement

Project 2015-07 Internal Communications Capabilities COM-001-3

Final Ballot Results

[Now Available](#)

A 10-day final ballot for **COM-001-3 – Communications** concluded **8 p.m. Eastern, Friday, June 24, 2016.**

Voting statistics are listed below, and the [Ballot Results](#) page provides the detailed results.

Quorum / Approval
84.52% / 83.25%

Next Steps

The standard will be submitted to the Board of Trustees for adoption and then filed with the appropriate regulatory authorities.

For information on the Standards Development Process, refer to the [Standard Processes Manual](#)

For more information or assistance, contact Senior Standards Developer, [Darrel Richardson](#) at (609) 613-1848 or [Laura Anderson](#) at (404) 446-9671.

North American Electric Reliability Corporation

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BALLOT RESULTS

Ballot Name: 2015-07 Internal Communications Capabilities COM-001-3 FN 3 ST

Voting Start Date: 6/15/2016 10:52:07 AM

Voting End Date: 6/24/2016 8:00:00 PM

Ballot Type: ST

Ballot Activity: FN

Ballot Series: 3

Total # Votes: 262

Total Ballot Pool: 310

Quorum: 84.52

Weighted Segment Value: 83.25

Segment	Ballot Pool	Segment Weight	Affirmative Votes	Affirmative Fraction	Negative Votes w/ Comment	Negative Fraction w/ Comment	Negative Votes w/o Comment	Abstain	No Vote
Segment: 1	78	1	56	0.848	10	0.152	0	3	9
Segment: 2	10	0.9	9	0.9	0	0	0	0	1
Segment: 3	71	1	44	0.83	9	0.17	0	4	14
Segment: 4	25	1	12	0.667	6	0.333	0	1	6
Segment: 5	67	1	44	0.815	10	0.185	0	5	8
Segment: 6	47	1	29	0.784	8	0.216	0	2	8
Segment: 7	2	0.1	0	0	1	0.1	0	0	1
Segment: 8	2	0.2	2	0.2	0	0	0	0	0
Segment: 9	2	0.1	1	0.1	0	0	0	0	1
Segment: 6	6	0.6	6	0.6	0	0	0	0	0

10									
Totals:	310	6.9	203	5.744	44	1.156	0	15	48

BALLOT POOL MEMBERS

Show entries

Search:

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	Ameren - Ameren Services	Eric Scott		Abstain	N/A
1	American Transmission Company, LLC	Andrew Pusztai		Affirmative	N/A
1	APS - Arizona Public Service Co.	Michelle Amarantos		Affirmative	N/A
1	Arizona Electric Power Cooperative, Inc.	John Shaver		Negative	N/A
1	Associated Electric Cooperative, Inc.	Mark Riley		Affirmative	N/A
1	Austin Energy	Thomas Standifur		Affirmative	N/A
1	Avista - Avista Corporation	Bryan Cox		None	N/A
1	Balancing Authority of Northern California	Kevin Smith		Affirmative	N/A
1	BC Hydro and Power Authority	Patricia Robertson		Affirmative	N/A
1	Beaches Energy Services	Don Cuevas		Negative	N/A
1	Berkshire Hathaway Energy, MidAmerican Energy Co.	Terry Harbour		Negative	N/A

1	Black Hills Corporation	Wes Wingen		Affirmative	N/A
1	Bonneville Power Administration	Donald Watkins		Affirmative	N/A
1	Bryan Texas Utilities	John Fontenot		Affirmative	N/A
1	CenterPoint Energy Houston Electric, LLC	John Brockhan		Affirmative	N/A
1	Central Hudson Gas & Electric Corp.	Frank Pace		None	N/A
1	Cleco Corporation	John Lindsey		None	N/A
1	CMS Energy - Consumers Energy Company	Bruce Bugbee		Affirmative	N/A
1	Colorado Springs Utilities	Shawna Speer		Negative	N/A
1	Con Ed - Consolidated Edison Co. of New York	Kelly Silver		Affirmative	N/A
1	CPS Energy	Glenn Pressler		Affirmative	N/A
1	Dairyland Power Cooperative	Robert Roddy		Affirmative	N/A
1	Dominion - Dominion Virginia Power	Larry Nash		Affirmative	N/A
1	Duke Energy	Doug Hils		Affirmative	N/A
1	Edison International - Southern California Edison Company	Steven Mavis		Affirmative	N/A
1	Entergy - Entergy Services, Inc.	Oliver Burke		Affirmative	N/A
1	Exelon	Chris Scanlon		Affirmative	N/A
1	FirstEnergy - FirstEnergy Corporation	William Smith		Affirmative	N/A
1	Georgia Transmission Corporation	Jason Snodgrass		None	N/A
1	Great Plains Energy -	James McBee		Affirmative	N/A

	Kansas City Power and Light Co.				
1	Hydro One Networks, Inc.	Payam Farahbakhsh		Negative	N/A
1	Hydro-Quebec Production	Aviance Freeman		Affirmative	N/A
1	Iberdrola - Central Maine Power Company	Joe Turano		None	N/A
1	International Transmission Company Holdings Corporation	Michael Moltane		Negative	N/A
1	KAMO Electric Cooperative	Walter Kenyon		None	N/A
1	Lakeland Electric	Larry Watt		Affirmative	N/A
1	Long Island Power Authority	Robert Ganley		Affirmative	N/A
1	Los Angeles Department of Water and Power	faranak sarbaz		Affirmative	N/A
1	Lower Colorado River Authority	Teresa Cantwell		None	N/A
1	M and A Electric Power Cooperative	William Price		Affirmative	N/A
1	Manitoba Hydro	Mike Smith		Affirmative	N/A
1	MEAG Power	David Weekley		None	N/A
1	Muscatine Power and Water	Andy Kurriger		Affirmative	N/A
1	N.W. Electric Power Cooperative, Inc.	Mark Ramsey		Affirmative	N/A
1	National Grid USA	Michael Jones		Affirmative	N/A
1	NB Power Corporation	Alan MacNaughton		None	N/A
1	Nebraska Public Power District	Jamison Cawley		Affirmative	N/A
1	New York State Electric and Gas Corporation	Erica S. Spang		Affirmative	N/A

1	NextEra Energy - Florida Power and Light Co.	Mike O'Neil		Affirmative	N/A
1	NiSource - Northern Indiana Public Service Co.	Justin Wilderness		Affirmative	N/A
1	Northeast Missouri Electric Power Cooperative	Kevin White		Affirmative	N/A
1	OGE Energy - Oklahoma Gas and Electric Co.	Terri Pyle		Affirmative	N/A
1	Oncor Electric Delivery	Lee Maurer		Affirmative	N/A
1	OTP - Otter Tail Power Company	Charles Wicklund		Affirmative	N/A
1	Peak Reliability	Jared Shakespeare		Affirmative	N/A
1	Platte River Power Authority	Matt Thompson		Affirmative	N/A
1	PNM Resources - Public Service Company of New Mexico	Laurie Williams		Abstain	N/A
1	Portland General Electric Co.	Scott Smith		Affirmative	N/A
1	PPL Electric Utilities Corporation	Brenda Truhe		Affirmative	N/A
1	PSEG - Public Service Electric and Gas Co.	Joseph Smith		Affirmative	N/A
1	Public Utility District No. 1 of Snohomish County	Long Duong		Affirmative	N/A
1	Public Utility District No. 2 of Grant County, Washington	Michiko Sell		Affirmative	N/A
1	Puget Sound Energy, Inc.	Theresa Rakowsky		Affirmative	N/A
1	Sacramento Municipal Utility District	Arthur Starkovich		Affirmative	N/A

1	Salt River Project	Steven Cobb		Negative	N/A
1	Santee Cooper	Shawn Abrams		Affirmative	N/A
1	SCANA - South Carolina Electric and Gas Co.	Tom Hanzlik		Affirmative	N/A
1	Seattle City Light	Pawel Krupa		Affirmative	N/A
1	Southern Company - Southern Company Services, Inc.	Katherine Prewitt		Affirmative	N/A
1	Sunflower Electric Power Corporation	Bertha Ellen Watkins		Negative	N/A
1	Tacoma Public Utilities (Tacoma, WA)	John Merrell		Affirmative	N/A
1	Tallahassee Electric (City of Tallahassee, FL)	Scott Langston		Affirmative	N/A
1	Tennessee Valley Authority	Howell Scott		Negative	N/A
1	Tri-State G and T Association, Inc.	Tracy Sliman		Affirmative	N/A
1	U.S. Bureau of Reclamation	Richard Jackson		Negative	N/A
1	United Illuminating Co.	Jonathan Appelbaum		Affirmative	N/A
1	Westar Energy	Kevin Giles		Abstain	N/A
1	Xcel Energy, Inc.	Dean Schiro		Affirmative	N/A
2	BC Hydro and Power Authority	Venkataramakrishnan Vinnakota		Affirmative	N/A
2	California ISO	Richard Vine		Affirmative	N/A
2	Electric Reliability Council of Texas, Inc.	Elizabeth Axson		Affirmative	N/A
2	Herb Schrayshuen	Herb Schrayshuen		Affirmative	N/A
2	Independent Electricity System Operator	Leonard Kula		Affirmative	N/A
2	ISO New England, Inc.	Michael Puzos		Affirmative	N/A

2	Midcontinent ISO, Inc.	Terry Bilke		Affirmative	N/A
2	New York Independent System Operator	Gregory Campoli		None	N/A
2	PJM Interconnection, L.L.C.	Mark Holman		Affirmative	N/A
2	Southwest Power Pool, Inc. (RTO)	Charles Yeung		Affirmative	N/A
3	Ameren - Ameren Services	David Jendras		Abstain	N/A
3	APS - Arizona Public Service Co.	Jeri Freimuth		Affirmative	N/A
3	Associated Electric Cooperative, Inc.	Todd Bennett		Affirmative	N/A
3	Austin Energy	Julie Ross		Affirmative	N/A
3	Avista - Avista Corporation	Scott Kinney		Affirmative	N/A
3	Basin Electric Power Cooperative	Jeremy Voll		None	N/A
3	BC Hydro and Power Authority	Faramarz Amjadi		Abstain	N/A
3	Beaches Energy Services	Steven Lancaster		None	N/A
3	Berkshire Hathaway Energy - MidAmerican Energy Co.	Thomas Mielnik		Negative	N/A
3	Bonneville Power Administration	Rebecca Berdahl		Affirmative	N/A
3	Central Electric Power Cooperative (Missouri)	Adam Weber		Affirmative	N/A
3	City of Farmington	Linda Jacobson-Quinn		None	N/A
3	City of Green Cove Springs	Mark Schultz		None	N/A
3	City of Leesburg	Chris Adkins		None	N/A
3	City of Redding	Elizabeth Hadley		None	N/A
3	City Utilities of	Scott Williams		Affirmative	N/A

	Springfield, Missouri				
3	Clark Public Utilities	Jack Stamper		None	N/A
3	Cleco Corporation	Michelle Corley		Abstain	N/A
3	CMS Energy - Consumers Energy Company	Karl Blaszkowski		Affirmative	N/A
3	Colorado Springs Utilities	Hillary Dobson		None	N/A
3	Con Ed - Consolidated Edison Co. of New York	Peter Yost		Affirmative	N/A
3	Dominion - Dominion Resources, Inc.	Connie Lowe		Affirmative	N/A
3	DTE Energy - Detroit Edison Company	Karie Barczak		Affirmative	N/A
3	Duke Energy	Lee Schuster		Affirmative	N/A
3	Edison International - Southern California Edison Company	Romel Aquino		Affirmative	N/A
3	Eversource Energy	Mark Kenny		Affirmative	N/A
3	Exelon	John Bee		Affirmative	N/A
3	FirstEnergy - FirstEnergy Corporation	Theresa Ciancio		Affirmative	N/A
3	Florida Municipal Power Agency	Joe McKinney		Negative	N/A
3	Georgia System Operations Corporation	Scott McGough		Negative	N/A
3	Great Plains Energy - Kansas City Power and Light Co.	Jessica Tucker		Affirmative	N/A
3	Great River Energy	Brian Glover		Affirmative	N/A
3	Hydro One Networks, Inc.	Paul Malozewski		None	N/A
3	JEA	Garry Baker		None	N/A

3	Lakeland Electric	David Hadzima		Affirmative	N/A
3	Lincoln Electric System	Jason Fortik		Negative	N/A
3	Los Angeles Department of Water and Power	Mike Ancil		Affirmative	N/A
3	M and A Electric Power Cooperative	Stephen Pogue		None	N/A
3	Manitoba Hydro	Karim Abdel-Hadi		Affirmative	N/A
3	MEAG Power	Roger Brand		None	N/A
3	Muscatine Power and Water	Seth Shoemaker		Affirmative	N/A
3	National Grid USA	Brian Shanahan		Affirmative	N/A
3	Nebraska Public Power District	Tony Eddleman		Affirmative	N/A
3	New York Power Authority	David Rivera		Affirmative	N/A
3	NiSource - Northern Indiana Public Service Co.	Aimee Harris		Affirmative	N/A
3	North Carolina Electric Membership Corporation	doug white		Negative	N/A
3	Northeast Missouri Electric Power Cooperative	Skyler Wiegmann		Affirmative	N/A
3	NW Electric Power Cooperative, Inc.	John Stickley		Affirmative	N/A
3	Ocala Utility Services	Randy Hahn		Negative	N/A
3	OGE Energy - Oklahoma Gas and Electric Co.	Donald Hargrove		Affirmative	N/A
3	Owensboro Municipal Utilities	Thomas Lyons		Affirmative	N/A
3	Platte River Power	Jeff Landis		Affirmative	N/A

3	PNM Resources	Michael Mertz		None	N/A
3	Portland General Electric Co.	Angela Gaines		Affirmative	N/A
3	PPL - Louisville Gas and Electric Co.	Charles Freibert		Affirmative	N/A
3	PSEG - Public Service Electric and Gas Co.	Jeffrey Mueller		Affirmative	N/A
3	Puget Sound Energy, Inc.	Andrea Basinski		Affirmative	N/A
3	Rutherford EMC	Tom Haire		Negative	N/A
3	Sacramento Municipal Utility District	Kimberly Neely		Affirmative	N/A
3	Santee Cooper	James Poston		Affirmative	N/A
3	Seattle City Light	Dana Wheelock		Affirmative	N/A
3	Snohomish County PUD No. 1	Mark Oens		Affirmative	N/A
3	Southern Company - Alabama Power Company	R. Scott Moore		Affirmative	N/A
3	Tacoma Public Utilities (Tacoma, WA)	Marc Donaldson		Affirmative	N/A
3	Tallahassee Electric (City of Tallahassee, FL)	John Williams		Affirmative	N/A
3	Tennessee Valley Authority	Ian Grant		Negative	N/A
3	Tri-State G and T Association, Inc.	Janelle Marriott Gill		Affirmative	N/A
3	Turlock Irrigation District	James Ramos		None	N/A
3	WEC Energy Group, Inc.	Thomas Breene		Negative	N/A
3	Westar Energy	Bo Jones		Abstain	N/A
3	Xcel Energy, Inc.	Michael Ibold		Affirmative	N/A
3	Alliant Energy Corporation Services,	Keneth Goldsmith		Affirmative	N/A

	Inc.				
4	Austin Energy	Tina Garvey		Affirmative	N/A
4	Blue Ridge Power Agency	Duane Dahlquist		Negative	N/A
4	City of Clewiston	Lynne Mila		None	N/A
4	City of New Smyrna Beach Utilities Commission	Tim Beyrle		None	N/A
4	City of Redding	Nick Zettel		None	N/A
4	City Utilities of Springfield, Missouri	John Allen		Affirmative	N/A
4	CMS Energy - Consumers Energy Company	Julie Hegedus		Affirmative	N/A
4	DTE Energy - Detroit Edison Company	Daniel Herring		None	N/A
4	FirstEnergy - Ohio Edison Company	Doug Hohlbaugh		Affirmative	N/A
4	Flathead Electric Cooperative	Russ Schneider		None	N/A
4	Florida Municipal Power Agency	Carol Chinn		Negative	N/A
4	Georgia System Operations Corporation	Guy Andrews		Abstain	N/A
4	Illinois Municipal Electric Agency	Bob Thomas		Negative	N/A
4	Indiana Municipal Power Agency	Jack Alvey		Negative	N/A
4	Keys Energy Services	Stanley Rzad		None	N/A
4	MGE Energy - Madison Gas and Electric Co.	Joseph DePoorter		Affirmative	N/A
4	North Carolina Electric Membership Corporation	John Lemire		Negative	N/A
4	Public Utility District	John Martinsen		Affirmative	N/A

	No. 1 of Snohomish County				
4	Sacramento Municipal Utility District	Beth Tincher		Affirmative	N/A
4	Seattle City Light	Hao Li		Affirmative	N/A
4	Seminole Electric Cooperative, Inc.	Michael Ward		Affirmative	N/A
4	Tacoma Public Utilities (Tacoma, WA)	Hien Ho		Affirmative	N/A
4	Utility Services, Inc.	Brian Evans-Mongeon		Affirmative	N/A
4	WEC Energy Group, Inc.	Anthony Jankowski		Negative	N/A
5	AEP	Thomas Foltz		Affirmative	N/A
5	Ameren - Ameren Missouri	Sam Dwyer		Abstain	N/A
5	APS - Arizona Public Service Co.	Stephanie Little		Affirmative	N/A
5	Associated Electric Cooperative, Inc.	Matthew Pacobit		None	N/A
5	Austin Energy	Jeanie Doty		Affirmative	N/A
5	Avista - Avista Corporation	Glen Farmer		None	N/A
5	Basin Electric Power Cooperative	Mike Kraft		None	N/A
5	BC Hydro and Power Authority	Helen Hamilton Harding		Affirmative	N/A
5	Berkshire Hathaway - NV Energy	Eric Schwarzrock		Affirmative	N/A
5	Bonneville Power Administration	Francis Halpin		Affirmative	N/A
5	Brazos Electric Power Cooperative, Inc.	Shari Heino		Negative	N/A
5	Choctaw Generation Limited Partnership,	Rob Watson		Affirmative	N/A

5	City of Independence, Power and Light Department	Jim Nail		Affirmative	N/A
5	Cleco Corporation	Stephanie Huffman		Abstain	N/A
5	CMS Energy - Consumers Energy Company	David Greyerbiehl		Affirmative	N/A
5	Cogentrix Energy Power Management, LLC	Mike Hirst		None	N/A
5	Colorado Springs Utilities	Jeff Icke		Negative	N/A
5	Con Ed - Consolidated Edison Co. of New York	Brian O'Boyle		Affirmative	N/A
5	Dairyland Power Cooperative	Tommy Drea		Affirmative	N/A
5	Dominion - Dominion Resources, Inc.	Randi Heise		Affirmative	N/A
5	DTE Energy - Detroit Edison Company	Jeffrey DePriest		Affirmative	N/A
5	Duke Energy	Dale Goodwine		Affirmative	N/A
5	Dynegy Inc.	Dan Roethemeyer		Affirmative	N/A
5	Edison International - Southern California Edison Company	Thomas Rafferty		None	N/A
5	Entergy - Entergy Services, Inc.	Jaclyn Massey		Affirmative	N/A
5	Essential Power, LLC	Gerry Adamski		Affirmative	N/A
5	Exelon	Ruth Miller		Affirmative	N/A
5	FirstEnergy - FirstEnergy Solutions	Robert Loy		Affirmative	N/A
5	Florida Municipal Power Agency	David Schumann		Negative	N/A
5	Great Plains Energy - Kansas City Power and Light Co.	Harold Wyble	Douglas Webb	Affirmative	N/A

5	Great River Energy	Preston Walsh		Affirmative	N/A
5	Hydro-Quebec Production	Roger Dufresne		Affirmative	N/A
5	JEA	John Babik		Affirmative	N/A
5	Kissimmee Utility Authority	Mike Blough		Negative	N/A
5	Lincoln Electric System	Kayleigh Wilkerson		Negative	N/A
5	Los Angeles Department of Water and Power	Kenneth Silver		Affirmative	N/A
5	Lower Colorado River Authority	Wesley Maurer		Abstain	N/A
5	Massachusetts Municipal Wholesale Electric Company	David Gordon		Abstain	N/A
5	MEAG Power	Steven Grego		None	N/A
5	Muscatine Power and Water	Mike Avesing		Affirmative	N/A
5	NB Power Corporation	Laura McLeod		Affirmative	N/A
5	Nebraska Public Power District	Don Schmit		Affirmative	N/A
5	New York Power Authority	Wayne Sipperly		Affirmative	N/A
5	NextEra Energy	Allen Schriver		Affirmative	N/A
5	North Carolina Electric Membership Corporation	Robert Beadle		Negative	N/A
5	OGE Energy - Oklahoma Gas and Electric Co.	Leo Staples		Affirmative	N/A
5	Omaha Public Power District	Mahmood Safi		Affirmative	N/A
5	OTP - Otter Tail Power Company	Cathy Fogale		Affirmative	N/A
5	Pacific Gas and	Alex Chua		None	N/A

	Electric Company				
5	Platte River Power Authority	Tyson Archie		Affirmative	N/A
5	PSEG - PSEG Fossil LLC	Tim Kucey		Affirmative	N/A
5	Public Utility District No. 1 of Snohomish County	Sam Nietfeld		Affirmative	N/A
5	Public Utility District No. 2 of Grant County, Washington	Alex Ybarra		Affirmative	N/A
5	Puget Sound Energy, Inc.	Lynda Kupfer		Affirmative	N/A
5	Sacramento Municipal Utility District	Susan Oto		Affirmative	N/A
5	Seattle City Light	Mike Haynes		Affirmative	N/A
5	Seminole Electric Cooperative, Inc.	Brenda Atkins		Affirmative	N/A
5	Southern Company - Southern Company Generation	William D. Shultz		Affirmative	N/A
5	Southern Indiana Gas and Electric Co.	Scotty Brown		None	N/A
5	Tacoma Public Utilities (Tacoma, WA)	Chris Mattson		Affirmative	N/A
5	Talen Generation, LLC	Donald Lock		Negative	N/A
5	Tallahassee Electric (City of Tallahassee, FL)	Karen Webb		Affirmative	N/A
5	Tennessee Valley Authority	M Lee Thomas		Negative	N/A
5	Tri-State G and T Association, Inc.	Mark Stein		Affirmative	N/A
5	U.S. Bureau of Reclamation	Erika Doot		Negative	N/A
5	WEC Energy Group Inc.	Linda Horn		Negative	N/A

5	Westar Energy	stephanie johnson		Abstain	N/A
6	AEP - AEP Marketing	Dan Ewing		Affirmative	N/A
6	Ameren - Ameren Services	Robert Quinlivan		None	N/A
6	APS - Arizona Public Service Co.	Bobbi Welch		Affirmative	N/A
6	Associated Electric Cooperative, Inc.	Brian Ackermann		Affirmative	N/A
6	Austin Energy	Andrew Gallo		Affirmative	N/A
6	Berkshire Hathaway - PacifiCorp	Sandra Shaffer		Negative	N/A
6	Bonneville Power Administration	Alex Spain		Affirmative	N/A
6	City of Redding	Marvin Briggs		None	N/A
6	Cleco Corporation	Robert Hirschak		Abstain	N/A
6	Colorado Springs Utilities	Shannon Fair		Negative	N/A
6	Con Ed - Consolidated Edison Co. of New York	Robert Winston		Affirmative	N/A
6	Dominion - Dominion Resources, Inc.	Sean Bodkin		Affirmative	N/A
6	Duke Energy	Greg Cecil		Affirmative	N/A
6	Edison International - Southern California Edison Company	Earle Saunders		None	N/A
6	Entergy	Julie Hall		None	N/A
6	Exelon	Maggy Powell		Affirmative	N/A
6	FirstEnergy - FirstEnergy Solutions	Ann Ivanc		Affirmative	N/A
6	Florida Municipal Power Agency	Richard Montgomery		Negative	N/A
6	Florida Municipal Power Pool	Tom Reedy		Negative	N/A

6	Great Plains Energy - Kansas City Power and Light Co.	Chris Bridges		Affirmative	N/A
6	Iberdrola - New York State Electric and Gas Corporation	Julie King		None	N/A
6	Lincoln Electric System	Eric Ruskamp		Negative	N/A
6	Lower Colorado River Authority	Michael Shaw		Affirmative	N/A
6	Luminant - Luminant Energy	Brenda Hampton		Affirmative	N/A
6	Manitoba Hydro	Blair Mukanik		Affirmative	N/A
6	Muscatine Power and Water	Ryan Streck		Affirmative	N/A
6	New York Power Authority	Shivaz Chopra		Affirmative	N/A
6	NextEra Energy - Florida Power and Light Co.	Silvia Mitchell		None	N/A
6	NiSource - Northern Indiana Public Service Co.	Joe O'Brien		Affirmative	N/A
6	OGE Energy - Oklahoma Gas and Electric Co.	Jerry Nottnagel		Affirmative	N/A
6	Omaha Public Power District	Mark Trumble		None	N/A
6	Platte River Power Authority	Carol Ballantine		Affirmative	N/A
6	Portland General Electric Co.	Adam Menendez		Affirmative	N/A
6	PPL - Louisville Gas and Electric Co.	Linn Oelker		None	N/A
6	PSEG - PSEG Energy Resources and Trade LLC	Karla Jara		Affirmative	N/A
6	Sacramento Municipal Utility Corporation	Jamie Culp		Affirmative	N/A

	Utility District				
6	Santee Cooper	Michael Brown		Affirmative	N/A
6	Seattle City Light	Charles Freeman		Affirmative	N/A
6	Seminole Electric Cooperative, Inc.	Trudy Novak		Affirmative	N/A
6	Snohomish County PUD No. 1	Franklin Lu		Affirmative	N/A
6	Southern Company - Southern Company Generation and Energy Marketing	Jennifer Sykes		Affirmative	N/A
6	Tacoma Public Utilities (Tacoma, WA)	Rick Applegate		Affirmative	N/A
6	Talen Energy Marketing, LLC	Elizabeth Davis		Negative	N/A
6	Tennessee Valley Authority	Marjorie Parsons		Negative	N/A
6	WEC Energy Group, Inc.	Scott Hoggatt		Negative	N/A
6	Westar Energy	Megan Wagner		Abstain	N/A
6	Xcel Energy, Inc.	Carrie Dixon		Affirmative	N/A
7	Exxon Mobil	Jay Barnett		Negative	N/A
7	Luminant Mining Company LLC	Stewart Rake		None	N/A
8	David Kiguel	David Kiguel		Affirmative	N/A
8	Massachusetts Attorney General	Frederick Plett		Affirmative	N/A
9	City of Vero Beach	Ginny Beigel		None	N/A
9	Commonwealth of Massachusetts Department of Public Utilities	Donald Nelson		Affirmative	N/A
10	Midwest Reliability Organization	Russel Mountjoy		Affirmative	N/A
10	North American Electric Reliability Corporation Coordinating Council	Gregory S. Bost		Affirmative	N/A

10	ReliabilityFirst	Anthony Jablonski		Affirmative	N/A
10	SERC Reliability Corporation	David Greene		Affirmative	N/A
10	Southwest Power Pool Regional Entity	Bob Reynolds		Affirmative	N/A
10	Texas Reliability Entity, Inc.	Rachel Coyne		Affirmative	N/A

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A. Introduction

1. Title: Communications
2. Number: COM-001-~~2.13~~
3. Purpose: To establish Interpersonal Communication capabilities necessary to maintain reliability.
4. Applicability:

4.1. Functional Entities

- 4.1.1 Transmission Operator
 - 4.1.2 Balancing Authority
 - 4.1.3 Reliability Coordinator
 - 4.1.4 Distribution Provider
 - 4.1.5 Generator Operator
5. Effective Date: ~~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. See Implementation Plan.~~

B. Requirements and Measures

- R1.** 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): [*Violation Risk Factor: High*] [*Time Horizon: Real-time Operations*]

- 1.1. All Transmission Operators and Balancing Authorities within its Reliability Coordinator Area.
- 1.2. Each adjacent Reliability Coordinator within the same Interconnection.

- M1.** Each Reliability Coordinator shall have and provide upon request evidence that it has Interpersonal Communication capability with all Transmission Operators and Balancing Authorities within its Reliability Coordinator Area and with each adjacent Reliability Coordinator within the same Interconnection, which could include, but is not limited to:

- physical assets, or
- dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R1.)

- R2.** Each Reliability Coordinator shall designate an Alternative Interpersonal Communication capability with the following entities: [*Violation Risk Factor: High*] [*Time Horizon: Real-time Operations*]
- 2.1. All Transmission Operators and Balancing Authorities within its Reliability Coordinator Area.
 - 2.2. Each adjacent Reliability Coordinator within the same Interconnection.
- M2.** Each Reliability Coordinator shall have and provide upon request evidence that it designated an Alternative Interpersonal Communication capability with all Transmission Operators and Balancing Authorities within its Reliability Coordinator Area and with each adjacent Reliability Coordinator within the same Interconnection, which could include, but is not limited to:
- physical assets, or
 - dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R2.)
- R3.** Each Transmission Operator shall have Interpersonal Communication capability with the following entities (unless the Transmission Operator detects a failure of its Interpersonal Communication capability in which case Requirement R10 shall apply): [*Violation Risk Factor: High*] [*Time Horizon: Real-time Operations*]
- 3.1. Its Reliability Coordinator.
 - 3.2. Each Balancing Authority within its Transmission Operator Area.
 - 3.3. Each Distribution Provider within its Transmission Operator Area.
 - 3.4. Each Generator Operator within its Transmission Operator Area.
 - 3.5. Each adjacent Transmission Operator synchronously connected.
 - 3.6. Each adjacent Transmission Operator asynchronously connected.
- M3.** Each Transmission Operator shall have and provide upon request evidence that it has Interpersonal Communication capability with its Reliability Coordinator, each Balancing Authority, Distribution Provider, and Generator Operator within its Transmission Operator Area, and each adjacent Transmission Operator asynchronously or synchronously connected, which could include, but is not limited to:
- physical assets, or
 - dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communication. (R3.)
- R4.** Each Transmission Operator shall designate an Alternative Interpersonal Communication capability with the following entities: [*Violation Risk Factor: High*] [*Time Horizon: Real-time Operations*]
- 4.1. Its Reliability Coordinator.

- 4.2. Each Balancing Authority within its Transmission Operator Area.
- 4.3. Each adjacent Transmission Operator synchronously connected.
- 4.4. Each adjacent Transmission Operator asynchronously connected.

M4. Each Transmission Operator shall have and provide upon request evidence that it designated an Alternative Interpersonal Communication capability with its Reliability Coordinator, each Balancing Authority within its Transmission Operator Area, and each adjacent Transmission Operator asynchronously and synchronously connected, which could include, but is not limited to:

- physical assets, or
- dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R4.)

R5. Each Balancing Authority shall have Interpersonal Communication capability with the following entities (unless the Balancing Authority detects a failure of its Interpersonal Communication capability in which case Requirement R10 shall apply): *[Violation Risk Factor: High] [Time Horizon: Real-time Operations]*

- 5.1. Its Reliability Coordinator.
- 5.2. Each Transmission Operator that operates Facilities within its Balancing Authority Area.
- 5.3. Each Distribution Provider within its Balancing Authority Area.
- 5.4. Each Generator Operator that operates Facilities within its Balancing Authority Area.
- 5.5. Each Adjacent Balancing Authority.

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

- physical assets, or
- dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R5.)

R6. Each Balancing Authority shall designate an Alternative Interpersonal Communication capability with the following entities: *[Violation Risk Factor: High] [Time Horizon: Real-time Operations]*

- 6.1. Its Reliability Coordinator.
- 6.2. Each Transmission Operator that operates Facilities within its Balancing Authority Area.

6.3. Each Adjacent Balancing Authority.

M6. Each Balancing Authority shall have and provide upon request evidence that it designated an Alternative Interpersonal Communication capability with its Reliability Coordinator, each Transmission Operator that operates Facilities within its Balancing Authority Area, and each adjacent Balancing Authority, which could include, but is not limited to:

- physical assets, or
- dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R6.)

R7. Each Distribution Provider shall have Interpersonal Communication capability with the following entities (unless the Distribution Provider detects a failure of its Interpersonal Communication capability in which case Requirement R11 shall apply): *[Violation Risk Factor: Medium] [Time Horizon: Real-time Operations]*

7.1. Its Balancing Authority.

7.2. Its Transmission Operator.

M7. Each Distribution Provider shall have and provide upon request evidence that it has Interpersonal Communication capability with its Transmission Operator and its Balancing Authority, which could include, but is not limited to:

- physical assets, or
- dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R7.)

R8. Each Generator Operator shall have Interpersonal Communication capability with the following entities (unless the Generator Operator detects a failure of its Interpersonal Communication capability in which case Requirement R11 shall apply): *[Violation Risk Factor: High] [Time Horizon: Real-time Operations]*

8.1. Its Balancing Authority.

8.2. Its Transmission Operator.

M8. Each Generator Operator shall have and provide upon request evidence that it has Interpersonal Communication capability with its Balancing Authority and its Transmission Operator, which could include, but is not limited to:

- physical assets, or
- dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R8.)

R9. Each Reliability Coordinator, Transmission Operator, and Balancing Authority shall 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. *[Violation Risk Factor: Medium][Time Horizon: Real-time Operations, Same-day Operations]*

M9. Each Reliability Coordinator, Transmission Operator, and Balancing Authority shall have and provide upon request evidence that it tested, at least once each calendar month, its Alternative Interpersonal Communication capability designated in Requirements 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 Communication capability within 2 hours. Evidence could include, but is not limited to: dated and time-stamped test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R9.)

R10. 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 capability that lasts 30 minutes or longer. *[Violation Risk Factor: Medium] [Time Horizon: Real-time Operations]*

M10. Each Reliability Coordinator, Transmission Operator, and Balancing Authority shall have and provide upon request evidence that it notified entities as identified in Requirements R1, R3, and R5, respectively within 60 minutes of the detection of a failure of its Interpersonal Communication capability that lasted 30 minutes or longer. Evidence could include, but is not limited to: dated and time-stamped test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R10.)

R11. Each Distribution Provider and Generator Operator that detects a failure of its Interpersonal Communication capability shall consult each entity affected by the failure, as identified in Requirement R7 for a Distribution Provider or Requirement R8 for a Generator Operator, to determine a mutually agreeable action for the restoration of its Interpersonal Communication capability. *[Violation Risk Factor: Medium] [Time Horizon: Real-time Operations]*

M11. Each Distribution Provider and Generator Operator that detected a failure of its Interpersonal Communication capability shall have and provide upon request evidence that it consulted with each entity affected by the failure, as identified in Requirement R7 for a Distribution Provider or Requirement R8 for a Generator Operator, to determine mutually agreeable action to restore the Interpersonal Communication capability. Evidence could include, but is not limited to: dated operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R11.)

R12. Each Reliability Coordinator, Transmission Operator, Generator Operator, and Balancing Authority shall have internal Interpersonal Communication capabilities for the exchange of information that is necessary for the Reliable Operation of the BES. [Violation Risk Factor: High] [Time Horizon: Real-time Operations]

M12. Each Reliability Coordinator, Transmission Operator, Generator Operator, and Balancing Authority shall have and provide upon request evidence that it has internal Interpersonal Communication capability, which could include, but is not limited to:

- physical assets, or
- dated evidence, such as, equipment specifications and installation documentation, operating procedures, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications.
- Examples include, but are not limited to, between geographically separate control centers within the same functional entity, or between a control center and field switching personnel. (R12.)

R13. Each Distribution Provider shall have internal Interpersonal Communication capabilities for the exchange of information that is necessary for the Reliable Operation of the BES. [Violation Risk Factor: Medium] [Time Horizon: Real-time Operations]

M13. Each Distribution Provider shall have and provide upon request evidence that it has internal Interpersonal Communication capability, which could include, but is not limited to:

- physical assets, or
- dated evidence, such as, equipment specifications and installation documentation, operating procedures, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications.
- Examples include, but are not limited to, between geographically separate control centers within the same functional entity, or between a control center and field switching personnel. (R13.)

C. Measures

~~M1. Each Reliability Coordinator shall have and provide upon request evidence that it has Interpersonal Communication capability with all Transmission Operators and Balancing Authorities within its Reliability Coordinator Area and with each adjacent Reliability Coordinator within the same Interconnection, which could include, but is not limited to:~~

- ~~physical assets, or~~
- ~~dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R1.)~~

~~M2. Each Reliability Coordinator shall have and provide upon request evidence that it designated an Alternative Interpersonal Communication capability with all Transmission Operators and Balancing Authorities within its Reliability Coordinator Area and with each adjacent Reliability Coordinator within the same Interconnection, which could include, but is not limited to:~~

- ~~• physical assets, or~~
- ~~• dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R2.)~~

~~M3. Each Transmission Operator shall have and provide upon request evidence that it has Interpersonal Communication capability with its Reliability Coordinator, each Balancing Authority, Distribution Provider, and Generator Operator within its Transmission Operator Area, and each adjacent Transmission Operator asynchronously or synchronously connected, which could include, but is not limited to:~~

- ~~• physical assets, or~~
- ~~• dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communication. (R3.)~~

~~M4. Each Transmission Operator shall have and provide upon request evidence that it designated an Alternative Interpersonal Communication capability with its Reliability Coordinator, each Balancing Authority within its Transmission Operator Area, and each adjacent Transmission Operator asynchronously and synchronously connected, which could include, but is not limited to:~~

- ~~• physical assets, or~~
- ~~• dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R4.)~~

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

- ~~• physical assets, or~~
- ~~• dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R5.)~~

~~M6.M1. Each Balancing Authority shall have and provide upon request evidence that it designated an Alternative Interpersonal Communication capability with its Reliability Coordinator, each Transmission Operator that operates Facilities within its Balancing Authority Area, and each adjacent Balancing Authority, which could include, but is not limited to:~~

- ~~• physical assets, or~~

- ~~dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R6.)~~

~~**M7.M1.** Each Distribution Provider shall have and provide upon request evidence that it has Interpersonal Communication capability with its Transmission Operator and its Balancing Authority, which could include, but is not limited to:~~

- ~~physical assets, or~~
- ~~dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R7.)~~

~~**M8.M1.** Each Generator Operator shall have and provide upon request evidence that it has Interpersonal Communication capability with its Balancing Authority and its Transmission Operator, which could include, but is not limited to:~~

- ~~physical assets, or~~
- ~~dated evidence, such as, equipment specifications and installation documentation, test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R8.)~~

~~**M9.M1.** Each Reliability Coordinator, Transmission Operator, and Balancing Authority shall have and provide upon request evidence that it tested, at least once each calendar month, its Alternative Interpersonal Communication capability designated in Requirements 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 Communication capability within 2 hours. Evidence could include, but is not limited to: dated and time stamped test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R9.)~~

~~**M10.M1.** Each Reliability Coordinator, Transmission Operator, and Balancing Authority shall have and provide upon request evidence that it notified entities as identified in Requirements R1, R3, and R5, respectively within 60 minutes of the detection of a failure of its Interpersonal Communication capability that lasted 30 minutes or longer. Evidence could include, but is not limited to: dated and time stamped test records, operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R10.)~~

~~**M11.M1.** Each Distribution Provider and Generator Operator that detected a failure of its Interpersonal Communication capability shall have and provide upon request evidence that it consulted with each entity affected by the failure, as identified in Requirement R7 for a Distribution Provider or Requirement R8 for a Generator Operator, to determine mutually agreeable action to restore the Interpersonal Communication capability. Evidence could include, but is not limited to: dated operator logs, voice recordings, transcripts of voice recordings, or electronic communications. (R11.)~~

D.C. Compliance

1. Compliance Monitoring Process

1.1. Compliance Enforcement Authority

~~“Compliance Enforcement Authority” or the Regional Entity, or any entity as otherwise designated by an Applicable Governmental Authority, in their respective roles of monitoring and/or enforcing compliance with mandatory and enforceable Reliability Standards in their respective jurisdictions. The Regional Entity shall serve as the Compliance Enforcement Authority (CEA) unless the applicable entity is owned, operated, or controlled by the Regional Entity. In such cases, the ERO or a Regional Entity approved by FERC or other applicable governmental authority shall serve as the CEA.~~

~~Compliance Monitoring and Enforcement Processes~~

~~Compliance Audit~~

~~Self-Certification~~

~~Spot-Checking~~

~~Compliance Investigation~~

~~Self-Reporting~~

~~Complaint~~

1.2. ~~Data-Evidence~~ Retention

~~The following evidence retention period(s) 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 applicable entity shall keep data or evidence to show compliance as identified below unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation:~~

- ~~• The Reliability Coordinator for Requirements R1, R2, R9, and R10, Measures M1, M2, M9, and M10 shall retain written documentation for the most recent twelve calendar months and voice recordings for the most recent 90 calendar days.~~
- ~~• The Transmission Operator for Requirements R3, R4, R9, and R10, Measures M3, M4, M9, and M10 shall retain written documentation for the most recent twelve calendar months and voice recordings for the most recent 90 calendar days.~~

- The Balancing Authority for Requirements R5, R6, R9, and R10, Measures M5, M6, M9, and M10 shall retain written documentation for the most recent twelve calendar months and voice recordings for the most recent 90 calendar days.
- The Distribution Provider for Requirements R7 and R11, Measures M7 and M11 shall retain written documentation for the most recent twelve calendar months and voice recordings for the most recent 90 calendar days.
- The Generator Operator for Requirements R8 and R11, Measures M8 and M11 shall retain written documentation for the most recent twelve calendar months and voice recordings for the most recent 90 calendar days.
- Responsible entities under Requirement R12, Measure M 12 shall retain written documentation for the most recent twelve calendar months and voice recordings for the most recent 90 calendar days.
- Responsible entities under Requirement R13, Measure M 13 shall retain written documentation for the most recent twelve calendar months and voice recordings for the most recent 90 calendar days.

~~If a Reliability Coordinator, Transmission Operator, Balancing Authority, Distribution Provider, or Generator Operator is found non-compliant, it shall keep information related to the non-compliance until mitigation is complete and approved or for the time specified above, whichever is longer.~~

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

1.3. Compliance Monitoring and Enforcement Program~~Additional Compliance Information~~

As defined in the NERC Rules of Procedure, “Compliance Monitoring and Enforcement Program” refers to the identification of the processes that will be used to evaluate data or information for the purpose of assessing performance or outcomes with the associated Reliability Standard.

Standard COM-001-~~2.13~~ — Communications

None.

D. Violation Severity Levels

~~Violation Severity Levels~~

R#	Lower VSL	Moderate VSL	High VSL	Severe VSL
R1	N/A	N/A	The Reliability Coordinator failed to have Interpersonal Communication capability with one of the entities listed in Requirement R1, Parts 1.1 or 1.2, except when the Reliability Coordinator detected a failure of its Interpersonal Communication capability in accordance with Requirement R10.	The Reliability Coordinator failed to have Interpersonal Communication capability with two or more of the entities listed in Requirement R1, Parts 1.1 or 1.2, except when the Reliability Coordinator detected a failure of its Interpersonal Communication capability in accordance with Requirement R10.
R2	N/A	N/A	The Reliability Coordinator failed to designate Alternative Interpersonal Communication capability with one of the entities listed in Requirement R2, Parts 2.1 or 2.2.	The Reliability Coordinator failed to designate Alternative Interpersonal Communication capability with two or more of the entities listed in Requirement R2, Parts 2.1 or 2.2.
R3	N/A	N/A	The Transmission Operator failed to have Interpersonal Communication capability with one of the entities listed in Requirement R3, Parts 3.1, 3.2, 3.3, 3.4, 3.5, or 3.6, except when the Transmission Operator detected a failure of its Interpersonal Communication capability in accordance with Requirement R10.	The Transmission Operator failed to have Interpersonal Communication capability with two or more of the entities listed in Requirement R3, Parts 3.1, 3.2, 3.3, 3.4, 3.5, or 3.6, except when the Transmission Operator detected a failure of its Interpersonal Communication capability in accordance with Requirement R10.

Standard COM-001-2.13 — Communications

R#	Lower VSL	Moderate VSL	High VSL	Severe VSL
R4	N/A	N/A	The Transmission Operator failed to designate Alternative Interpersonal Communication capability with one of the entities listed in Requirement R4, Parts 4.1, 4.2, 4.3, or 4.4.	The Transmission Operator failed to designate Alternative Interpersonal Communication capability with two or more of the entities listed in Requirement R4, Parts 4.1, 4.2, 4.3, or 4.4.
R5	N/A	N/A	The Balancing Authority failed to have Interpersonal Communication capability with one of the entities listed in Requirement R5, Parts 5.1, 5.2, 5.3, 5.4, or 5.5, except when the Balancing Authority detected a failure of its Interpersonal Communication capability in accordance with Requirement R10.	The Balancing Authority failed to have Interpersonal Communication capability with two or more of the entities listed in Requirement R5, Parts 5.1, 5.2, 5.3, 5.4, or 5.5, except when the Balancing Authority detected a failure of its Interpersonal Communication capability in accordance with Requirement R10.
R6	N/A	N/A	The Balancing Authority failed to designate Alternative Interpersonal Communication capability with one of the entities listed in Requirement R6, Parts 6.1, 6.2, or 6.3.	The Balancing Authority failed to designate Alternative Interpersonal Communication capability with two or more of the entities listed in Requirement R6, Parts 6.1, 6.2, or 6.3.
R7	N/A	N/A	The Distribution Provider failed to have Interpersonal Communication capability with one of the entities listed in Requirement R7, Parts 7.1 or 7.2, except when the Distribution Provider detected a failure of its Interpersonal Communication capability in accordance with Requirement R11.	The Distribution Provider failed to have Interpersonal Communication capability with two or more of the entities listed in Requirement R7, Parts 7.1 or 7.2, except when the Distribution Provider detected a failure of its Interpersonal Communication capability in accordance with Requirement R11.

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R#	Lower VSL	Moderate VSL	High VSL	Severe VSL
R8	N/A	N/A	The Generator Operator failed to have Interpersonal Communication capability with one of the entities listed in Requirement R8, Parts 8.1 or 8.2, except when a Generator Operator detected a failure of its Interpersonal Communication capability in accordance with Requirement R11.	The Generator Operator failed to have Interpersonal Communication capability with two or more of the entities listed in Requirement R8, Parts 8.1 or 8.2, except when a Generator Operator detected a failure of its Interpersonal Communication capability in accordance with Requirement R11.
R9	The Reliability Coordinator, Transmission Operator, or Balancing Authority tested the Alternative Interpersonal Communication capability but failed to initiate action to repair or designate a replacement Alternative Interpersonal Communication in more than 2 hours and less than or equal to 4 hours upon an unsuccessful test.	The Reliability Coordinator, Transmission Operator, or Balancing Authority tested the Alternative Interpersonal Communication capability but failed to initiate action to repair or designate a replacement Alternative Interpersonal Communication in more than 4 hours and less than or equal to 6 hours upon an unsuccessful test.	The Reliability Coordinator, Transmission Operator, or Balancing Authority tested the Alternative Interpersonal Communication capability but failed to initiate action to repair or designate a replacement Alternative Interpersonal Communication in more than 6 hours and less than or equal to 8 hours upon an unsuccessful test.	The Reliability Coordinator, Transmission Operator, or Balancing Authority failed to test the Alternative Interpersonal Communication capability once each calendar month. OR The Reliability Coordinator, Transmission Operator, or Balancing Authority tested the Alternative Interpersonal Communication capability but failed to initiate action to repair or designate a replacement Alternative Interpersonal Communication in more than 8 hours upon an unsuccessful test.
R10	The Reliability Coordinator, Transmission Operator, or Balancing Authority failed to notify the entities identified in Requirements R1, R3, and R5, respectively upon the detection of a failure of its Interpersonal Communication capability in more than 60 minutes but less than or equal to 70 minutes.	The Reliability Coordinator, Transmission Operator, or Balancing Authority failed to notify the entities identified in Requirements R1, R3, and R5, respectively upon the detection of a failure of its Interpersonal Communication capability in more than 70 minutes but less than or equal to 80 minutes.	The Reliability Coordinator, Transmission Operator, or Balancing Authority failed to notify the entities identified in Requirements R1, R3, and R5, respectively upon the detection of a failure of its Interpersonal Communication capability in more than 80 minutes but less than or equal to 90 minutes.	The Reliability Coordinator, Transmission Operator, or Balancing Authority failed to notify the entities identified in Requirements R1, R3, and R5, respectively upon the detection of a failure of its Interpersonal Communication capability in more than 90 minutes.

Standard COM-001-~~2.13~~ — Communications

R#	Lower VSL	Moderate VSL	High VSL	Severe VSL
R11	N/A	N/A	N/A	The Distribution Provider or Generator Operator that detected a failure of its Interpersonal Communication capability failed to consult with each entity affected by the failure, as identified in Requirement R7 for a Distribution Provider or Requirement R8 for a Generator Operator, to determine a mutually agreeable action for the restoration of the Interpersonal Communication capability.
<u>R12</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>The Reliability Coordinator, Transmission Operator, Generator Operator, or Balancing Authority failed to have internal Interpersonal Communication capability for the exchange of operating information.</u>
<u>R13</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>The Distribution Provider failed to have internal Interpersonal Communication capability for the exchange of operating information.</u>

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
1.1	October 29, 2008	BOT adopted errata changes; updated version number to “1.1”	Errata
2	November 7, 2012	Adopted by Board of Trustees	Revised in accordance with SAR for Project 2006-06, Reliability Coordination (RC SDT). Replaced R1 with R1-R8; R2 replaced by R9; R3 included within new R1; R4 remains enforce pending Project 2007-02; R5 redundant with EOP-008-0, retiring R5 as redundant with EOP-008-0, R1; retiring R6, relates to ERO procedures; R10 & R11, new.
2	April 16, 2015	FERC Order issued approving COM-001-2	
2.1	August 25, 2015	Changed numbered parts under Requirement R6 to line up with the appropriate requirement.	Errata
2.1	November 13, 2015	FERC Letter Order approved errata to COM-001-2.1. Docket RD15-6-000	Errata

Exhibit G

Standard Drafting Team Roster

Standard Drafting Team Roster

Project 2015-07 Internal Communications Capabilities (COM-001)

	Participant	Entity
Chair	John Gunter	Southwest Power Pool
Vice Chair	Mario Kiresich	Southern California Edison
Members	Roland Beard, Jr.	Entergy
	Tim Kucey	PSEG Fossil LLC
	Gregory Gandarillas	Florida Power & Light Company
	Sergio Banuelos	Tri-State Generation and Transmission Association, Inc.
	Mark Eastwood	City Utilities of Springfield Mo
	Ruben Robles	Salt River Project Agricultural Improvement and Power District
	Michael Cruz-Montes	CenterPoint Energy
NERC Staff	Darrel Richardson – Senior Standards Developer	North American Electric Reliability Corporation
	Laura Anderson – Standards Developer (Support)	North American Electric Reliability Corporation
	Candice Castaneda – Counsel	North American Electric Reliability Corporation