Project 2007-02 Operating Personnel Communications Protocols

Unofficial Comment Form for Standard COM-003-1 — Operating Personnel Communications Protocols

Please **DO NOT** use this form. Please use the electronic comment form located at the link below to submit comments on the proposed draft COM-003-1 Operating Personnel Communications Protocols standard. Comments must be submitted by **June 20, 2012**. If you have questions please contact Joseph Krisiak at Joseph.Krisiak@nerc.net or by telephone at 609-651-0903.


**Background Information:**
Effective communication is critical for Real-time operations. Failure to successfully communicate clearly can create misunderstandings resulting in improper operations increasing the potential for failure of the BES.

The Standard Authorization Request (SAR) for this project was initiated on March 1, 2007 and approved by the Standards Committee on June 8, 2007. It established the scope of work for the Project 2007-02 Operating Personnel Communications Protocols Standard Drafting Team (OPCP SDT). The scope described in the SAR is to establish essential elements of communications protocols and communications paths such that operators and users of the North American Bulk Electric System will efficiently convey information and ensure mutual understanding. The August 2003 Blackout Report, Recommendation Number 26, calls for a tightening of communications protocols. FERC Order 693 Paragraph 532 amplifies this need and applies it to all Operating Communications. This proposed standard’s goal is to ensure that effective communication is practiced and delivered in clear language and standardized format via pre-established communications paths among pre-identified operating entities.

The SAR indicated that references to communication protocols in other NERC Reliability Standards may be moved to this new standard. The SAR instructed the standard drafting team to consider incorporating the use of Alert Level Guidelines and three-part communications in developing this new standard to achieve high level consistency across regions. The SDT believes the Alert Level Guidelines, while valuable, belong in a separate standard and has petitioned the Standards Committee to approve the transfer to another standard or to start a separate project.

The standard will be applicable to Transmission Operators, Balancing Authorities, Reliability Coordinators, Generator Operators, and Distribution Providers. These requirements ensure that communications include essential elements such that information is efficiently conveyed and mutually understood for communicating changes to real-time operating conditions and responding to directives, notifications, directions, instructions, orders, or other reliability related operating information.
The Purpose statement of COM 003-1 states: “To specify clear, formal and universally applied communication protocols that reduce the possibility of miscommunication which could lead to action or inaction harmful to the reliability of BES.”

Based on stakeholder comments and observations from the Quality Review team, the OPCP SDT made the following changes to COM-003-1:

- **New NERC Glossary terms:**
  The SDT has eliminated the definitions; Communications Protocol, Three-part Communication and Interoperability Communication proposed in the first draft of the standard and added a definition for *Operating Communications*. Operating Communications more accurately defines the broad class of communications that deal with changing or altering the state of the BES. Changes to the BES operating state with unclear communications create increased opportunities for *events that could place* the BES at an unacceptable risk of instability, separation, or cascading failures.

- **Communication Protocol Operating Procedure (CPOP):**
  The SDT eliminated the CPOP from the standard based on stakeholder comments indicating this is administrative in nature.

- **English Language:**
  The SDT modified the standard (R3 in the first draft of COM-003-1, R1 Part 1.1.1 in the second draft of COM-003-1) to address comments which point out that in some regions, the use of another language other than English may be mandated by law.

- **Pre-defined System Condition Terminology:**
  The Alert Level Guide document was originally prepared by the Reliability Coordinator Working Group (RCWG) in accordance with a U.S./Canada Task Force Blackout Report Recommendation. Recommendation #20 called for the establishment of clear definitions of normal, alert, and emergency operational system conditions, and to clarify the roles, responsibilities, and authorities of Reliability Coordinators and other responsible entities under each condition.

  After many comments and much discussion the SDT believes the Alert Level Guide is better suited in its own standard or in a standard that deals with alert conditions and notification. The content was not related to communication protocols designed to clarify operating communication on the BES. The SDT has petitioned the Standards Committee to approve of a transfer to another standard or to a new standard as it deems appropriate.

- **Time Zone Reference:**
  The first draft of COM-003-1 included a requirement to use Central Standard Time for operating communications (R4) and stakeholders identified that unless people are communicating in different time zones, this requirement may be a distraction. The SDT modified the standard to require inclusion of time zone references only in those situations where communication is between entities in different time zones.
Three-part Communication:
The first draft of COM-003-1 included a single requirement for use of three-part communication (R5). Several stakeholders noted that three-part communication is being addressed in two standards. While the OPCP SDT originally planned on proposing retirement of COM-002-3, the team has been convinced that keeping three part communication in both COM-002-3 and COM-003-1 has value.

- The three-part communications in COM-002-3 are limited to Reliability Directives and have a “High” VRF.
- The three-part communications in COM-003-1 are focused on Operating Communication except for Reliability Directives which are a subset of Operating Communications. The requirements for three-part communications in COM-003 have a “Medium” VRF.

The OPCP SDT split the three-part communication requirement into two separate proposed requirements; R2 and R3 to address responsibilities of the issuer and of the receiver respectively during Operating Communications. The SDT also clarified that repeat-back does not have to be exactly verbatim; however the message must be accurately conveyed and understood.

NATO Alphabet or Correct alpha numeric clarifiers:
The first draft of COM-003-1 had a requirement for use of the NATO Alphabet during operating communications (R6). Many stakeholders indicated that the NATO Alphabet is only one way of providing clarity and proposed that other alpha-numeric clarifiers should be acceptable. In response, the modified standard to require use of the NATO Phonetic Alphabet or a correct alpha-numeric clarifier when issuing and replying to verbal Operating Communications that involve alpha-numeric information. The revised standard clarifies that the use of another correct alphanumeric clarifier is permitted as long as the content is fully and accurately conveyed. During spoken communications certain sounds become difficult to discern because they are audibly similar. The use of the NATO Phonetic Alphabet or proper phonetically correct clarifiers is not intended for all verbal communications but is required for Operating Communications involving alpha-numeric identifiers. (See Requirement R1, Part 1.2 in the second draft of COM-003-1.)

Line and Equipment Identifiers:
The first draft of COM-003-1 had a requirement (R7) for use of pre-determined, mutually agreed upon line and equipment identifiers for verbal and written operating communications. Stakeholders indicated that obtaining such agreements was not necessary and recommended narrowing the scope of this requirement. In response, the OPCP SDT modified the scope of the requirement so it only applies to oral and written operating communications involving a Transmission interface Element or Facility and replaced the need for an agreement with use of the name of the Facility/Element specified by the owner of that Transmission interface Element or Facility. (See Requirement R1, Part 1.1.4 in the second draft of COM-003-1.)

VSL and VRF Changes from version one:
The OPSDT reviewed the VRFs and VSLs associated with R1, R2 and R3 and made changes to more closely conform to NERC and FERC guidelines. Where the first draft of COM-003-1 proposed having a
“High” VRF for all real-time communications, the second draft of COM-003-1 proposes a “Medium” VRF for each of the three remaining requirements.

The choice of VRFs was made on the basis of the potential impact on the Bulk Electric System of a miscommunication during Operating Communications. Requirements R1, R2 and R3 are assigned a Medium Violation Risk Factor – a violation of one of these requirements, by itself, 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, but a violation by itself would not lead to Bulk Electric System instability, separation, or Cascading failures.

The VSLs in the second draft of COM-003-1 are all new.

The drafting team is posting the standard for industry comment for a 45-day comment period.

The Operating Personnel Communications Protocols Drafting Team would like to receive industry comments on this draft standard. Accordingly, we request that you include your comments on this form by June 20, 2012.
1. Do you agree with the addition of “Operating Communication” as a proposed new definition for the NERC Glossary and the elimination of “Communication Protocol,” “Interoperability Communication” and “Three part Communications” proposed in the first draft of COM-003-1?

   **Operating Communication:** Communication of instruction to change or maintain the state, status, output, or input of an Element or Facility of the Bulk Electric System.

   If not, please explain in the comment area.

   - [ ] Yes
   - [x] No

   **Comments:** The proposed Operating Communication term is not markedly different from the originally proposed term (Interoperability Communication). The proposal continues to expand the scope of the SAR from the concept of tightening the protocols associated with Emergencies by now applying to all communications.

   The text box in the draft standard indicates that Reliability Directives are a type of Operating Communications, to the extent they change or maintain the state, status, output, or input of an Element or Facility of theBulk Electric System. There is little difference between the two terms despite the SDT’s assessment that Reliability Directive is a type (or a subset) of Operating Communication.

   If the intent is to use the proposed new term to require three-part communication (as suggested in R2 and R3), then that intent can be accomplished by using the term Reliability Directive as it covers not only the emergency state but also instructions needed to address Adverse Reliability Impacts.

   Both the Blackout Report and the FERC directive deal with tightening protocols for Emergencies. The proposed requirements completely fail to address emergencies and focus solely on developing non-emergency protocols.
2. The SDT eliminated the requirement to have a Communications Protocol Operating Procedure from the proposed standard because it is administrative in nature. Do you agree with this modification? If not, please explain in the comment area.

☐ Yes
☒ No

Comments: An alternative approach would be to introduce communications protocols as a mandatory non-standard (e.g. as a requirement for certification) that would center on a corporate communications manual that encourages three-part communications; and that includes how monitoring would be audited internally. Such an alternative would change the requirement from monitoring personnel mistakes to a requirement monitoring corporate culture.

3. The SDT has proposed to transfer the requirement to use Alert Levels in Attachment 1 to another more closely aligned standard or to a separate new standard. Do you agree with this transfer? If not, please explain in the comment area.

☐ Yes
☐ No

Comments:

4. The SDT modified the standard to allow an exemption from the requirement to use English language where the use of another language is mandated by law or regulation. (See Requirement R1, Part 1.1.1) Do you agree with this modification? If not, please explain in the comment area.

☐ Yes
☒ No

Comments:

A general suggestion for all reliability standards that has been made is that standards’ requirements be eliminated that do not address reliability problems. No available information indicates that language is causing reliability problems. In the absence of such evidence that this is a reliability problem, consideration should be given to eliminating this requirement.
5. The SDT modified the standard to mandate utilization of a 24 hour clock for all times and to mandate the use of a time zone and indicate whether the time is daylight saving time or standard time reference when Operating Communications occur between different time zones. (See Requirement R1, Part 1.1.3) Do you agree with this modification? If not, please explain in the comment area.

☐ Yes
☒ No

Comments: This requirement is outside the scope of the approved SAR which proposes responding to the Blackout Recommendation to tighten communications protocols especially during emergencies. This proposed requirement is both procedural and does not address tightening communications of situational awareness.

As an alternative a standard could require the Functional Entities to have a communications protocol that could indeed include this, but it should not be a requirement on personnel. By adopting an alternative category (i.e. not making this a standard) a Reliability Entity could adopt a progressive best practice approach without concern for violating the strictest features of the proposed best practice.

6. The SDT modified the requirement for use of three-part communications for Operating Communications to clarify that this is not applicable for Reliability Directives and split the single requirement into two requirements: one for the issuer (R2) and another for the receiver (R3). Do you agree with this modification?

☐ Yes
☒ No

Comments: There are a number of references appearing that state “excluding Reliability Directives”. If Reliability Directive is going to be defined in a separate project (Project 2006-06), how will stakeholders understand what is really being excluded for the purposes of this Standard’s scope? It also needs to be made clear when an action is a Reliability Directive. Will each entity be required to define what is to be included as a Reliability Directive?

With the definition of Operating Communication, three-part communications is expanded to include communications beyond directives, communications that might not warrant governance by this Standard.

The proposed exception (specifically Reliability Directives used during emergencies) does not support the reason the SAR was proposed--to improve protocols during emergencies.
The term Operating Communications is not significantly different from the term Reliability Directives (see comments to Q1). Using the term Reliability Directives to support the requirements for 3-part communication can avoid (a) any confusion with the requirement in COM-002-3, (b) potential double jeopardy of violating both COM-002 and COM-003, and (c) the need to exercise 3-part communication for routine operating instructions.

Suggest consider removing the term Operating Communications. Are Requirements R2 and R3 needed if Reliability Directives already cover non-emergency conditions (instructions/actions that are needed to address potential Adverse Reliability Impact)? The requirement to exercise three-part communication to handle Reliability Directives is thus duly addressed in COM-002-3. It hasn’t been shown that three-part communication is necessary for routine operating instructions.

Realistically the definition of Operating Communications covers all communications. Only Reliability Directives should require three-part communications, and should be enforceable if a miscommunication results in an error on the BES.

7. **The SDT modified the requirement for use of the NATO phonetic alphabet to allow use of another correct alpha numeric clarifier.** (See Requirement R1, Part 1.2.) Do you agree with this modification?

☐ Yes
☒ No

Comments: What determines whether a clarifier used is an “accurate alpha-numeric clarifier”? What dictates non-compliance? This is a procedural issue. The Standard should require the Functional Entities to have a communications protocol that could include this, but it should not be a standard on personnel.

Complexity is being added to communications, not improvement. There are equipment designations that are commonly used and understood, and to force the use of clarifiers will disrupt operating communications.

8. **The SDT modified the requirement for use of identifiers to limit the applicability to operating communications involving Transmission interface Elements/Facilities and to require use of the name for that Element/Facilities specified by the Element/Facility’s owner(s).** Do you agree with this modification?
Comments: The applicability of this Standard is unclear in the case of Distribution Providers. The definition of Operating Communication includes “Elements” that could impact the BES. The NERC Glossary definition for Elements includes non-BES devices and equipment. Additionally, the Purpose section of the Standard states "harmful to the reliability of the BES." Since non-BES Elements could affect the BES this Standard could be deemed applicable to non-BES devices. If it is the intent of the SDT to apply this Standard to All Operating Communications concerning both BES and non-BES Facilities this should be explicitly stated in the applicability section for transparency. Otherwise clarifying language should be added to exclude non-BES Facilities.

This is a procedural issue. Suggest that the Standard should require the Functional Entities to have a communications protocol that could indeed include this suggestion, but it should not be a standard on personnel.

9. Do you agree with the VRFs and VSLs for Requirements R1, R2 and R3?

☐ Yes  ☒ No

Comments: The white paper discusses many non-utility industries use of the three-part communication. However, they are not out of compliance if they fail to use three-part communications. Only the Reliability Directives should require three-part communications (and dictate compliance). This should be enforceable only if the miscommunication results in an error on the BES.

We support the use of three-part communications with limitations. There is concern over the potential for being out of compliance when there is no BES impact. Failure to meet Requirement R2, part 2.2 bullets 1 or 3 is either a Moderate or High. Failure to meet bullet 2 is a Severe VSL. It is not clear why this differentiation was adopted. The White Paper reflects on Human Performance, and how miscommunications can cause a BES error resulting in an outage, or possible cascading effects. Then the Standard (and the associated out of compliance) should apply when, and to the extent that communications lapse (e.g., when there is an impactful violation of bullets 1, 2 and/or 3) results in an impactful error on the BES. Otherwise, an out of compliance is inappropriate. Non-impactful violations should be rated “Lower VSL.”
10. If you have any other comments or suggestions to improve the draft standard that you have not already provided in response to the previous questions please provide them here.

Comments: The three-part communications in COM-003-1 are expanded beyond reliability directives which unnecessarily forces the inclusion of conversations which may be impractical or unnecessary. Good practice dictates that three part communication be used as a tool, but it should not be a requirement.

The Standard is specifying how to accomplish, not just what is required.

“1.1.4 When referring to a Transmission interface Element or a Transmission interface Facility, use the name specified by the owner(s) for that Transmission interface Element or Transmission interface Facility” may create a detriment to reliability. Oftentimes, for switching, TOs have very detailed names for individual elements, devices, equipment which may not translate into the TOP/RC systems. However, it is known what equipment is being talked about. The requirement is unnecessary, unreasonable and burdensome.

The communications protocol to be followed in the event that there is a situation that requires the removal of BES (or any other power system equipment for that matter) from service on an immediate and emergency basis to protect the health and safety of the public and/or an employee/s needs to be addressed. The instructions issued to meet this condition fall under the definition of Operating Communication, but in an emergency situation the time taken for the required repetition could be catastrophic. This also applies to BES (or any other power system) equipment that is in imminent danger of failure, phase angle regulator or transformer tap changer runaway, or other emergency conditions.

This is also true of situations where the BES response to a disturbance results in a facility or facilities being overloaded real time over their STE and LTE ratings, and those facility loadings have to be reduced below their STE and LTE ratings within five and fifteen minutes respectively. The time spent for the necessary three part communication could mean the difference between maintaining continuity of service, or having to shed load.

Suggest that wording be added to address the emergency situations described by recognizing the possibility that an operator might have to respond to a situation by issuing a “one way” order, then have a requirement for after the fact communications which would be informational as to what emergency actions were taken, and then resume normal communications protocols for subsequent actions.

Regarding the wording for the issuer in R2 “...that issues an oral, two-party, person-to-person Operating Communication”, and the wording for the receiver in R3 “...that receives an oral two-party, person-to-person Operating Communication”, what is the significance of the use of the
comma after “oral” in R2? What is the difference between two-party and person-to-person communication?

Also regarding R2, the Generator Operator should be included as an authority to issue an Operating Communication.

It is not necessary to separate normal and emergency communications into two standards (COM-003, COM-002). One standard should encompass both. But having two Standards, the communication protocols in COM-003 R1 should be incorporated in COM-002.

The proposals expand the scope of the SAR by ignoring communications protocols used during emergencies and focusing on procedures imposed on personnel during normal situations. This standard overreaches into routine operations by requiring three-part communication for all instructions that change or maintain the state, status, output, or input of an Element or Facility of the Bulk Electric System. Because of the real-time frequency of use these instructions, requiring operating personnel to apply a three-part communication procedure for these instructions is unnecessary and can in fact adversely affect reliability. Any requirement for three-part communication for routine operating instructions should be removed.