Unofficial Comment Form
Project 2007-02 Operating Personnel Communications Protocols
COM-002-4 Operating Personnel Communications Protocols

Please DO NOT use this form. Please use the electronic comment form to submit comments on the proposed draft COM-002-4 Operating Personnel Communications Protocols standard. Comments must be submitted by November 4, 2013. If you have questions please contact Stephen Eldridge or by telephone at 404-446-9686.

Background Information:
Effective communication is critical for Bulk Electric System (BES) operations. Failure to successfully communicate clearly can create misunderstandings resulting in improper operations increasing the potential for failure of the BES. The seventh posting of Project 2007-02 combines COM-002-3 and COM-003-1 into one standard titled COM-002-4 that addresses communications protocols for operating personnel in Emergency, alert, and non-emergency situations.

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 Project 2007-02 Operating Personnel Communications Protocols (OPCP). 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 BES will efficiently convey information and ensure mutual understanding. The August 2003 Blackout Report, Recommendation Number 26, calls for a tightening of communications protocols. Federal Energy Regulatory Commission (FERC) Order 693 paragraph 532 reiterates this need. This proposed standard’s goal is to ensure that effective communication is practiced and delivered in clear and consistent language.

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 Operating Instructions.

The Purpose statement of COM-002-4 states: “To tighten communications for the issuance of Operating Instructions with predefined communications protocols to reduce the possibility of miscommunication that could lead to action or inaction harmful to the reliability of the Bulk Electric System.”

1) New NERC Glossary term: The OPCP Standards Drafting Team (SDT) revised the definition of Operating Instructions from its previous drafts. The definition states that a Reliability Directive
is a type of Operating Instruction. The proposed term differentiates the class of communications that deal with changing or altering the state of the BES from general discussions of options or alternatives. 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. This term is proposed for addition to the North American Electric Reliability Corporation (NERC) Glossary to establish meaning and usage within the electricity industry.

2) **Project 2007-02, Posting 7 combines COM-002-3 and COM-003-1 into COM-002-4.** The OPCP SDT combined COM-002-3 and COM-003-1 into one standard in order to simplify communications protocols for operating personnel. The OPCP SDT determined that one communications protocols standard that addresses Emergency, alert, and non-emergency situations will improve communications because system operators will not need to refer to a different set of protocols during an emergency situation. The OPCP SDT believed this will improve consistency of communications and mitigate confusion during stressful emergency situations. Similarly, the Independent Experts Review Panel and NERC management recommended a single standard that addresses emergency and non-emergency communications protocols. The OPCP SDT decided to combine the standards under the title COM-002-4 to further reduce confusion. The COM-002-4 title keeps the numbering of COM standards consecutive (e.g., COM-001, COM-002).

3) **Project 2007-02, Posting 7 features 5 requirements.** The OPCP SDT developed the requirement structure and language in posting 7 to incorporate Emergency, alert, and non-emergency communications protocols. The language in COM-002-4, Requirement R1 permits applicable entities flexibility to develop their communication protocols but requires a set of minimum elements in the communications protocols. Requirement R1 requires communications protocols to include the following elements:


   b. **English Language:** Requirement R1, Part 1.2 – Require the issuer and receiver of an oral or written Operating Instruction to use the English language, unless agreed to otherwise. An alternate language may be used for internal operations.

   c. **Three-part Communication for Oral Operating Instructions:** Requirement R1, Parts 1.3 and 1.4 – Require three-part communication for issuers and receivers of oral two-party, person-to-person Operating Instructions.

   d. **One-way Burst Message Receipt Confirmation and Clarification:** Requirement R1, Parts 1.5 and 1.6 – Require the issuer of an oral Operating Instruction to verbally or electronically confirm receipt by at least one receiver when issuing the Operating Instruction through a one-way burst messaging system used to communicate a common
message to multiple parties in a short time period (e.g., an all call system). Require receiver to request clarification if not understood.

e. **Time Identification:** Requirement R1, Part 1.7 – Specify the instances that require time identification when issuing an oral or written Operating Instruction and the format for that time identification.

f. **Transmission Interface Elements and Facilities Nomenclature:** Requirement R1, Part 1.8 – Specify the nomenclature for Transmission interface Elements and Transmission interface Facilities when issuing an oral or written Operating Instruction.

g. **Alpha-numeric Clarifiers:** Requirement R1, Part 1.9 – Specify the instances where alpha-numeric clarifiers are required when issuing an oral Operating Instruction and the format for those clarifiers.

Requirement R2 establishes minimum requirements in communications protocols for entities that typically only receive Operating Instructions. Requirement R2 requires Generator Operators and Distribution Providers to include the following elements in their communications protocols:

a. **English Language:** Requirement R2, Part 2.1 – Require the receiver of an oral or written Operating Instruction to respond using the English language, unless agreed to otherwise. An alternate language may be used for internal operations.

b. **Three-part Communication for Oral Operating Instructions:** Requirement R2, Part 2.2 – Require the receiver of an oral two-party, person-to-person Operating Instruction to either repeat the Operating Instruction and receive confirmation from the issuer or request the issuer to reissue the Operating Instruction.

c. **One-way Burst Message Receipt Clarification:** Requirement R2, Part 2.3 – Require the receiver of an oral Operating Instruction to request clarification from the issuer if the communication is not understood when receiving the Operating Instruction through a one-way burst messaging system used to communicate a common message to multiple parties in a short time period (e.g., an all call system).

Requirements R3 and R4 require entities to implement the communications protocols in Requirements R1 and R2. The OPCP SDT included these requirements to ensure that entities would include COM-002-4 in their training programs under PER-005-1. Finally, Requirement R5 requires each Balancing Authority, Reliability Coordinator, and Transmission Operator to assess personnel’s adherence to communications protocols to provide feedback to issuers and receivers of Operating Instructions and to assess the effectiveness of the communications protocols.
The OPCP SDT is posting the standard for industry comment for a **15-day** comment period. The OPCP SDT received a waiver of the 45-day comment period required in the NERC Standards Processes Manual from the NERC Standards Committee. Accordingly, we request that you include your comments on the electronic form by **November 4, 2013**.

Questions

1. The OPCP SDT combined COM-002-3 and COM-003-1 into the COM-002-4 standard. Do you agree that COM-002-4 addresses the August 2003 Blackout Report Recommendation number 26, FERC Order 693, and the COM-003-1 SAR? If not, please explain in the comment area of the last question.
   - [ ] Yes
   - [x] No

Comments: Neither Recommendation 26 in the *Final Report on the August 14, 2003 Blackout In The United States and Canada* or FERC Order 693 require 3-part communications protocol, or any established communication protocol for day to day operations. Both the Blackout Report Recommendation 26 and the Order 693 sections related to inter-Area communications identified one of the key factors in the Blackout being related to communications between and to RC entities as not being effective. It is not apparent if 3-part communications or the content of the other requirements in the proposed standard were in effect August 13, 2003 the problems would not have occurred.

From the North American Electric Reliability Council Status of August 2003 Blackout Recommendations July 14, 2005:

*Recommendation 26. Tighten communications protocols, especially for communications during alerts and emergencies. Upgrade communication system hardware where appropriate.*

Status: Ongoing initiative.

In response to this recommendation, NERC installed a new conference bridge and approved a new set of hotline procedures and protocols for reliability coordinator hotline calls. NERC is working on an upgrade of the Reliability Coordinator Information System (RCIS) — an on-line, real-time, messaging system that connects all Reliability Coordinators and many control areas, which permits Reliability Coordinators to share emergency alerts. RCIS also displays information related to Area Control Error (ACE), frequency, and selected outages. Work in this area will be an ongoing activity as technologies and techniques improve.

Note that NERC’s own report does not mention any operator-to-operator communications.
Also, from the Report to the U.S.-Canada Power System Outage Task Force The August 14, 2003 Blackout One Year Later: Actions Taken in the United States and Canada To Reduce Blackout Risk from the Natural Resources Canada, and the U.S. Department of Energy, the section Key Accomplishments—and Major Challenges Still Ahead section, there is no mention of communications issues.

In light of the above, some of NPCC’s participating members do not believe that the Standard is necessary and any perceived gap in communications has already been addressed through other means. We are not aware of any evidence that exists of a reliability issue existing for normal communications that needs to be addressed.

2. Do you agree with the VRFs and VSLs for Requirements R1, R2, R3, R4, and R5? If not, please explain.

☐ Yes
☒ No

Comments: Not following a communications protocol when the Operating Instruction is identified as a Reliability Directive is an instance of zero tolerance. So even if a Reliability Directive is addressed and action is taken but the protocol was “missed” and a BES situation is mitigated, it is still a Severe Violation. This is extreme, and the VSLs for R4 should be reduced to address this.

Regarding Requirement R4, more clarity needs to be provided on how a “consistent pattern” will be established and a set of uniform criteria needs to exist, without it there will be disparity in assessing compliance. Some of the applicable entities do not record phone conversations. The RSAW states that any instances of non-compliance will be turned over to Enforcement to determine a “consistent pattern.” Again this is zero-tolerance language as each instance will be considered a potential violation.

The standard implies that a zero defect assessment for Reliability Directives will be assessed in reviewing the VSL’s. This does not meet the tenets of a results based standards development or any intention of the RAI process. The requirement needs to stand on its own. Only requirements that are approved by FERC are therefore enforceable. Requirement language should be provided that clearly states the intent to have a zero defect requirement for
completing three part communication when Reliability Directives are issued. This is not an endorsement of this approach, simply a correct application of the SDT intent.

The VSL wording is incorrect. For example, in R1, the Low VSL states the following: “The responsible entity did not specify the instances that require time identification…” when it should read “The responsible entity’s protocol did not specify the instances that require time identification…” The Requirement is about specification in the protocol document explicitly. There are other places in the VSLs that similar errors occur.

Suggest adding for R4 VSL Lower - The Reliability Directive was performed correctly by the receiver, but the responsible entity did not use the documented communications protocols developed in Requirement R2 when receiving a Reliability Directive.

Suggest revising R4 VSL Severe - The Reliability Directive was performed incorrectly by the receiver, because the responsible entity did not use the documented communications protocols developed in Requirement R2 when receiving a Reliability Directive.

The VSL should not add an additional layer of compliance to the proposed requirement. The requirements are structured to include: 1) document, 2) implement and 3) evaluate. The VSL should be developed from these three components of the standard and not introduce a ‘zero defect’ enforcement approach.

NERC’s recent direction was to move away from ‘zero defect’ standards and approach compliance from an ‘identify, assess and correct’ approach for controls type standards that have high frequency activity that do not immediately pose a reliability risk. The proposed requirements follow that approach. The proposed VRFs incorrectly introduce a ‘zero defect’ approach through a ‘back door’. An entity may ‘implement’ a protocol, but one occurrence of not following that protocol does not warrant an entity to be non-compliant, as proposed in the standard. If the drafting team is looking for a ‘zero defect’ standard then the appropriate wording needs to be in the requirement. It is unnecessary as the ‘zero defect’ requirements for poor communication already exist in current IRO/TOP Standards.
3. Do you have any additional comments? Please provide them here.

☐ Yes
☐ No

Comments: The Requirements of COM-002-4 as written make it a zero tolerance standard. Non-emergency communications should not be zero tolerance. It can be argued that Reliability Directives be subject to zero tolerance, but even then there are realistic operational situations where having to identify a communication as a Reliability Directive, and having to repeat it back can further exacerbate a tenuous operating condition.

Burst messaging should not be considered in the standard. Part 1.5 requires confirmation by at least one receiver for burst messaging. A burst message can include the issuance of multiple Reliability Directives. Getting one receipt does not guarantee that all Reliability Directives were received. There is no value in getting one back. In an emergency situation waiting for all recipients of a burst message to respond can have catastrophic reliability consequences. When a burst message is sent, the initiator can see from the system response if the message was received.

FERC approved Standard TOP-001-1a Requirement R3 states that “Each Transmission Operator, Balancing Authority, and Generator Operator shall comply with reliability directives issued by the Reliability Coordinator, and each Balancing Authority and Generator Operator shall comply with reliability directives issued by the Transmission Operator, unless such actions would violate safety, equipment, regulatory or statutory requirements...” (This TOP-001 is deficient in itself as it doesn’t address Transmission Operator to Transmission Operator directives). The Requirement goes on to further state that a response is only required if there is an inability to perform the directive. This introduces a double jeopardy situation with COM-002-4. If an entity does not comply with a directive and has not repeated it back to the issuer there is a violation of TOP-001-1a, and COM-002-4. TOP-001-1a Requirement R4, IRO-001-1.1 Requirement R8, and IRO-004-2 Requirement R1 also address communications.

There is questionable value in having a documented communications protocol if the entity does not intend to implement it, make sure it is followed, maintained and personnel are trained in it. Suggest that requirements R3 and R4 either be added into the body of R1 and R2 respectively, or as Parts of R1 and R2 respectively. The VSLs should be modified accordingly. There was concern in the expressed in the Northeast that if no proper documented protocol is available, it also can’t be implemented thus resulting in double jeopardy concerns. Combining these and requiring the protocol and also implementing it in the same requirement is preferable. In addition a problem was expressed with the term “implement”. NPCC’s participating members believe that implement, in the context written, could result in an auditor taking a “zero” defect
approach. In this context, implement means to have a current in effect document that is part of the mandatory policy of the entity that employees must follow if applicable to their job function.

Part 1.4 reads: “Require the issuer of an oral Operating Instruction to verbally or electronically confirm receipt by at least one receiver when issuing the Operating Instruction through a one-way burst messaging system used to communicate a common message to multiple parties in a short time period (e.g., an all call system).” This removes the efficiency gains obtained through such communication. It is unrealistic and an impediment to reliability if, during an emergency situation for example, the issuer of an oral Operating Instruction has to take the time to confirm receipt, and have the receiver of the Operating Instruction interrupt the implementation of actions to mitigate the emergency to confirm receipt. In all cases the issuer of the instruction would observe changes to the system thus providing “confirmation” of receipt. Furthermore, there is no requirement for the receiver to confirm receipt. Suggest adding a bullet stating that the receiver has to acknowledge receipt of the initial message.

NPCC’s participating members maintain that a Reliability Directive is a communication requiring immediate or emergency action, it should not be included in the definition of Operating Instruction, and the definition of Operating Instruction revised accordingly.

R5 reads: “Each Balancing Authority, Reliability Coordinator, and Transmission Operator shall implement a method to evaluate the communications protocols developed in Requirement R1 that:...” This does not require any evaluation by the DP or GOP. We would like the Standard Drafting Team to explain why a similar requirement was not considered for the DP or GOP?

There is a disparity between the RSAW and VSLs as to what is considered noncompliant. The VSL states you are non-compliant for not using 3-way communications for Operating Instructions only if you show a “consistent pattern” of not following your protocols. The RSAW states that events should be sampled, and if instances of noncompliance with the protocols are found, the issue should be turned over to the Compliance Enforcement Authority who will then make a determination whether there was a pattern. First, the focus should not be on just sampling events. The entity should provide the samples that they tested internally to do their periodic reviews of the effectiveness and adherence to the protocols in place.

Is Requirement R1.1 necessary? As per NERC Management’s response in the document "NERC Management Response to the Questions of the NERC BOT on Reliability Standard COM-003-1" (page 4/5), it was suggested that distinguishing between "operating instructions" and "reliability directives" would not be practical during real-time situations and that it was as important, if not more important that common protocols be used for emergency communications. Any instruction given should be treated as a reliability directive and therefore
there is no need for R1.1. Furthermore, the proposed definition of Operating Instruction on page 2 of the draft standard states that a reliability directive is one type of operating instruction. This further demonstrates the redundancy of having R1.1 in the standard.

The applicability of the standard should be written to exclude DPs that do not own or operate BES equipment. As per the definition of Operating Instruction “A command ... to change or preserve the state, status, output, or input of an Element of the Bulk Electric System or Facility of the Bulk Electric System...” Entities that do not have real-time control of Elements or Facilities of the BES should be removed from the applicability of the standard. Suggest adding the following to Section 4:

4.1.2 Distribution Provider with control of Elements or Facilities of the Bulk Electric System.

M3 and M4 are difficult to understand and suggest edits to clarify:

Each Distribution Provider and Generator Operator shall provide evidence that it implemented the documented communication protocols such that the entity has reasonable assurance that protocols established in Requirement R2 are being followed by personnel responsible for the real-time generation control and operation of the interconnected Bulk Electric System. Evidence should show periodic, independent review of the operating personnel’s adherence to protocols established in R2. Evidence may include, but is not limited to

- Descriptions of the management practices in place,
- spreadsheets,
- memos, or
- logs,

R5.1 is redundant with R3 as both require assessment of adherence to protocols established in R1. If part of “Implementation” (covered in R3) includes an assessment of the communication protocols, R5 should be limited to only correcting deficiencies with the protocols and the implementation of those protocols.

If not removed as redundant, Requirement 5.1 should specify that the assessment will be limited to the operating personnel of the individual entity for both issuing and receiving Operating Instructions. As it is written now it would be the responsibility of the BA, RC and TOP to assess compliance with communication protocols to all entities involved in every communication, including the receiving GOPs and DPs, and other BAs, RCs and TOPs based on the Operating Instruction as “issuer and receiver” are not defined.
Suggested Rewording of R5.1: “Assesses adherence to the communications protocols to provide feedback to entity personnel”.

In several places, including the Implementation Plan, there is mention of retiring COM-002-3. This standard was never FERC approved, therefore suggest changing this from retiring COM-002-3 to withdrawing COM-002-3.

Implementation plan period – it is in the best interest of reliability for operating and other control room personnel to be thoroughly trained on the new communications protocols proposed in COM-002-4 before the standard goes into effect for compliance. To thoroughly train the more than 6000 certified operators in North America will likely take more than a year and an implementation plan period of one year is therefore inadequate. It is recommended that the SDT consider a two year period to assure successful implementation. If the SDT decides to retain the proposed one year implementation plan, we recommend that the SDT consider adding an option for the Registered Entity to elect an additional one year implementation period, to be vetted and pre-approved on a case by case basis upon mutual agreement between the Regional Entity and the Registered Entity.

Addressing preferred communication methods and procedures could be addressed in training programs that would be reviewed for universal consistency.

The requirements contained within COM-002-4 and its previous versions have concepts that more appropriately belong in a procedure or guideline. One example is COM-002-4, R1.3: "Require the issuer of an oral two-party, person-to-person Operating Instruction to wait for a response from the receiver ...”.

If the NERC Board of Trustees decides that a standard is needed:
1) Industry must accept that there needs to be a NERC Standard that addresses both Normal and Emergency communications.
2) The standard needs to be simplified.
3) Regulators acknowledge and understand that the "zero-defect" regulatory approach is already (appropriately) applied to the result (e.g. was a Reliability Directive implemented properly), and therefore does not need to be applied to the supporting means (communications).
4) Related to 3), there are already "zero-defect" requirements associated with Reliability Directive compliance as contained in IRO-001, R8, IRO-004-2, R1, TOP-001-1a, R3 and R4.
5) Acknowledge that each entity is going to have to ensure their communication protocols are appropriately coordinated w/ neighboring entities.
6. Burst messaging should not be included in this standard.
The preceding will require compromise between the Industry and Regulatory bodies.

RSAW Comments:

The “Note to Auditor” related to R3 and R4 is outside of the scope of the standard. Placing the examination of Internal Control within the RSAW effectively requires entities to have Internal Controls, which expands the scope of the standard significantly.