

Unofficial Comment Form for Project 2007-02 Operating Personnel Communications Protocols — 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 **January 15, 2010**. If you have questions please contact Harry Tom at harry.tom@nerc.net or by telephone at 609-452-8060.

http://www.nerc.com/filez/standards/Op_Comm_Protocol_Project_2007-02.html

Background Information:

Effective communication is critical for real time operations. Failure to successfully communicate can lead to negative consequences.

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 to be done for Project 2007-02 Operating Personnel Communications Protocols (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 Recommendation Number 26 calls for a tightening of communications protocols. This proposed standard is to ensure that effective communication is practiced and delivered in clear language 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 upgrade of communication system hardware where appropriate is not included in this project (it is included in NERC Project 2007-08 Emergency Operations).

The standard will be applicable to Transmission Operators, Transmission Owners, Balancing Authorities, Reliability Coordinators, Generator Operators, Transmission Service Providers, Load Serving Entities 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 this standard states: "To ensure that reliability-related information is conveyed effectively, accurately, consistently, and timely to ensure mutual understanding by all key parties, especially during alerts and emergencies."

The team developed a table to show each communications-related requirement identified in the SAR and the conclusion of the OPCS SDT with respect to whether each of these requirements should be modified or moved as part of this project. In summary, the OPCS SDT is recommending that three of the identified requirements be incorporated into the new

COM-003-1 Operating Personnel Communications Protocols standard and that the other requirements remain in their respective standards. Please review the table showing the disposition of related requirements identified in the SAR to see if you agree with the team. The OPCP SDT is seeking industry comment on a number a specific issues related to Project 2007-02 Operating Personnel Communications Protocols as identified in the questions below. The OPCP SDT is seeking industry input on:

- **New NERC Glossary terms:** Communications Protocol, Three-part Communication and Interoperability Communication. These terms are proposed for addition to the NERC Glossary to establish their meaning and usage within the electricity industry.
- **Addition of Transmission Service Provider and Load Serving Entity** as applicable under this new standard. The SDT believes incorporating Requirement R18 from TOP-002-2 as Requirement R7 of this draft COM-003-1 is appropriate. The applicability for R18 includes the Transmission Service Provider and Load Serving Entity; therefore the OPCP SDT proposes to add them to the Applicability section of COM-003-1.
- **Communication Protocol Operating Procedure (CPOP):** Each Reliability Coordinator, Balancing Authority, Transmission Owner, Transmission Operator, Generator Operator, Transmission Service Provider, Load Serving Entity and Distribution Provider shall develop a written CPOP in order to formally establish a set of Communication Protocols for use during real-time operations (R2 through R7). The SDT seeks feedback on whether this requirement is needed.
- **Pre-defined system condition terminology:** The Alert Level Guide document is work that was originally prepared by the Reliability Coordinator Working Group (RCWG) in accordance with a U.S./Canada Task Force 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.

The SDT recognizes the Alert Level Guide as an important tool for the clear and efficient communication of system condition levels regarding Physical Security, Cyber Security, Transmission Emergencies and Energy Emergencies. The SDT has incorporated the Alert Level Guide into Attachment 1-COM-003-1.

The SDT proposes four system condition alerts instead of the initial three in the RCWG version. The main criterion for splitting the Security Energy Alert (SEA) into two separate system condition alerts (Cyber and Physical) is based on feedback from Field Test participants that recommended separation.

Energy Emergency Alert requirements currently exist in NERC Standard EOP-002-2.1.

There is an ongoing Field Test of the Alert Level Guide among Reliability Coordinators, Balancing Authorities and Transmission Operators. The OPCP SDT is interested in receiving feedback from participants in the Field Test with respect to potential improvements to the Alert Level Guide.

- **Common time zone:** The SDT believes that Interoperability Communications would be enhanced with the use of a common time zone. Central Standard Time was chosen as it is already in use for NERC Time Error Corrections. The Blackout Report cited the need to tighten communication protocols and the SAR includes

consideration of a common time zone to minimize mis-matched time signature issues between control systems especially during an emergency.

- **Three-part Communication:** The SDT will move the existing Requirement R2 of COM-002-2 to this new standard when the RCSDT has completed their development and the industry has approved the revisions. The COM-003-1 Standard proposes to require the use of Three-part Communication whenever a directive is issued during verbal Interoperability Communications. The SDT seeks industry feedback on this proposal.
- **NATO Phonetic Alphabet:** The SDT proposes the standardized use of the NATO Phonetic Alphabet when issuing directives, notifications, directions, instructions, orders or other reliability related operating information that involves alpha-numeric information during verbal Interoperability Communications. During spoken communications certain sounds become difficult to discern because they are audibly similar. The use of the NATO Phonetic Alphabet is not intended for all verbal communications but is required for Interoperability Communications.
- **Pre-determined Line and Equipment Identifiers:** COM-003-1 requires the use of predetermined line and equipment identifiers in Requirement R7 however the Requirement does not stipulate a single/unique identifier as long as all parties mutually agree on the identifier for the line or equipment. The mutual agreement shall be reached in advance of the use of the identifiers as described in the functional entity's CPOP.

The SDT is proposing to retire Requirement R4 from COM-001 and incorporate it into Requirement R2 of this draft COM-003-1. The SDT is proposing to retire COM-002-3 (requiring the use of Three-part Communication) upon the completion of Project 2006-06 Reliability Coordination and incorporate it into Requirement R4 of this draft of COM-003-1. Since Requirement R4 from COM-001-1 carries over unchanged there is no specific question related to it in this Comment Form.

The choice of VRFs was made on the basis of the impact on the Bulk Electric System of a miscommunication especially during an emergency situation. Requirements R2 through R7 are assigned a High Violation Risk Factor due to their potential direct impact on BES reliability. Requirement R1 is assigned a Low VRF due to its administrative nature.

Time Horizons were selected to reflect the period within which the requirements applied. Requirements R2 through R7 must be implemented in real time operations and therefore were assigned a Time Horizon of Real time. A violation of Requirement R1 can be addressed before it has a direct effect on the BES over a longer period and as such the SDT assigned R1 a Time Horizon of Long Term Planning.

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 **January 15, 2010**.

***Please use the [electronic comment form](#) to submit your final comments to NERC.**

1. Do you agree with the adoption of the following new terms for inclusion in the NERC Glossary and their proposed definitions: Communications Protocol, Three-part Communication, and Interoperability Communication? If not, please explain in the comment area.

Yes

No

Comments: Concerning Three Part Communications: Please clarify by answering the following. Does the word "correctly" mean repeating back word for word or would paraphrasing the intent of the message received prove that the receiving party understands the intent and specific action of what they are required to accomplish?

Please verify that Three Part Communications will be required when issuing directives related to emergency situations, and not every time communications is required between two parties.

We believe the proposed definition for the term "Interoperability Communication" is too broad and ambiguous. We recommend the following instead:

"Communication between two or more Functional Entities (not within the same organization) to exchange reliability-related information to be used by the entities to change the state or status of Facilities of the Bulk Electric System."

The inclusion of the terms "Functional Entities" and "Facilities" removes the ambiguity which we believe is contained in the proposed definition. (Both of these terms are defined in NERC's Glossary) In addition, the inclusion of the phrase "not within the same organization" clarifies that the focus of definition is to address communication between different Functional Entities.

The way the definition of Three-part Communication is worded applies only when the communication is understood by the listener the first time. Because the definition requires the listener to repeat the information back correctly, failure of the listener to understand the information the first time could be construed as a violation or at least not fitting the definition. The definition should rather reflect that three-part communication is an iterative process that should be followed until the listener is confirmed by the speaker to get the information correct. We suggest the definition be revised as follows:

A Communications Protocol where information is verbally stated by a party initiating a communication, the information is repeated back ~~correctly~~ to the party that initiated the communication by the second party that received the communication, and the ~~same~~ information is verbally confirmed to be correct or corrected by the party who initiated the communication. The protocol should be followed until the party issuing the information is satisfied that a party receiving the information has understood the communication and confirmed it.

We believe there should be a definition added for "Directive" as orders given in an emergency situation. Directive, as currently used in the industry, is understood to mean an emergency situation and the party issuing the "Directive" states as such, so everyone knows it is an emergency situation.

In the "**Disposition of Requirements identified in the SAR for Operations Communications Protocols as Possibly Needing either Modification or Movement**" document included with the proposed standard, it is stated that COM-002-2, R2 is being modified in Project 2006-06 to include a new definition for "Reliability Directive" and that it is to be included in the NERC Glossary. It also states that when it is completed, it will be moved into COM-003-1 and COM-002-3 will be deleted. It is our opinion that the definition of Reliability Directive must be included in the review and approval of COM-003-1, as it is central to many of the actions to be taken. We understand that the SDT is working closely with the Drafting Team working on Project 2006-06 and believe that this team needs to use the term "Reliability Directive" as a replacement for the term "directive" which is in the current version of COM-003-1. The Drafting Team working on Project 2006-06 has defined Reliability Directive as:

"A communication initiated by a Reliability Coordinator, Transmission Operator or Balancing Authority where action by the recipient is necessary to address an actual or expected Emergency."

The NSRS recommends use of this definition and the term "Reliability Directive" as opposed to "directive".

2. **The SDT incorporated TOP-002-2 Requirement R18 into this new standard COM-003-1 as Requirement R7. In TOP-002-2, Requirement R18 applies to the Transmission Service Provider and Load Serving Entity. These entities are now added to COM-003-1. Do you agree with this proposal? If not, please explain in the comment area.**

Yes

No

Comments: TOP-002 R18 states that BA, TOP, GOP TSP and LSE shall use uniform line identifiers when referring to transmission facilities of an interconnected network. COM-003 R7 states that each RC, BA, TO, TOP, GOP, TSP, LSE and DP shall use pre-determined, mutually agreed upon line and equipment identifiers for verbal and written Interoperability Communications. TOP-002 allowed the TOP to communicate what the line identifiers were via a list and use during communications. The new requirement implies that the parties must agree upon the line identifiers and that agreement must be documented.

We believe the requirement should require the exchange of line identifies but not impose that they be mutually agreed upon.

This requirement represents a "how" and not a "what". In general, standards should be focused on "what" not how.

3. **Requirement R1 of the draft COM-003-1 states, "Each Reliability Coordinator, Balancing Authority, Transmission Owner, Transmission Operator, Generator Operator, Transmission Service Provider, Load Serving Entity and Distribution Provider shall develop a written Communications Protocol Operating Procedure (CPOP) for Interoperability Communications among personnel responsible for Real-time generation control and Real-time operation of the interconnected Bulk Electric System. The CPOP shall include but is not limited to all elements described in Requirements R2 through R7 to ensure effective Interoperability Communications." Do you agree with this proposal? If not, please explain in the comment area.**

Yes

No

Comments: We request that R1 be rewritten for real time operation of elements and facilities connected to the BES.

Based upon the concerns that we have with Requirements R2-R7 we would not support this requirement. We would support requirement R1 if it stopped after the first sentence and then merely listed the minimum requirements that should be included in the Procedure such as; (1) time zone, (2) language spoken, (3) when phonetic alphabet will be used, etc..

This will allow the Entities to draft their own CPOP per the intent of the requirement and avoid the concerns that we have documented for the remainder of the requirements.

Reliability Standards are supposed to describe "What" is required, not "How" compliance would be achieved. We believe this proposed Reliability Standard describes more the the "How", and is contrary to the Results Based Standards Initiative being implemented by NERC. The NERC BOT has approved pursuing the Performance-based Reliability Standard Task Force's recommendations to assess the existing standards, modify and develop standards that support reliability performance and risk management, and work on an overall plan to transition existing standards to a new set of standards. One goal of this effort is to eliminate administrative requirements. This proposal takes the opposite approach and incorporates a new administrative requirement. We – and the industry as a whole based on the response to the Task Force – do not support such an approach. We suggest deleting this Requirement from the Standard.

The CPOP should only apply to verbal communications. It could be implied that written communications (switching order affecting the BES) must have a CPOP, which would essentially be a writing guide procedure for how to write a procedure. The CPOP would need to be developed for each entity on how to write a CPOP and all the requirements contained in this draft standard. Every entity has unique switching instruction templates that have been developed over time in negotiations with unions, third-parties, etc, which have detailed procedures for their use. Requiring the use of a CPOP on top of that is adding additional complexity that adds nothing to the reliability of the BES.

4. **Requirement R2 of the draft COM-003-1 states, "Each Responsible Entity shall use pre-defined system condition terminology as defined in Attachment 1-COM-003-1 for all verbal and written Interoperability Communications." Do you agree with this proposal? If not, please explain in the comment area.**

Yes

No

Comments: The attachment only applies to the RC. We recommend R2 state that the RC shall use pre-determined system condition terminology and the BA, DP, GOP, TOP, and TO shall follow orders and directives unless such acts violate safety, etc. Either the attachment should be changed or the requirement should be changed for accurate accountabilities.

5. **Requirement R4 of the draft COM-003-1 states, "Each Responsible Entity shall use Central Standard Time (24 hour format) as the common time zone for all verbal and written Interoperability Communications." Do you agree with this proposal? If not, please explain in the comment area.**

Yes

No

Comments: We believe that requiring the use of Central Standard Time (CST) in the Operating Arena (Real-Time) would reduce the level of reliability on a real-time basis. We understand that one of the primary reasons for going to one time zone is to aid in Event Analysis. It is our belief that during the analysis of an event, there is adequate time to make the necessary adjustments for time zones. The Group performing the analysis could require all data being submitted be in one time zone as the basis. Requiring the use of CST is an added burden to the Operations Staff in real-time that does not help them.

6. Requirement R5 of the draft COM-003-1 states, "Each Responsible Entity shall use Three-part Communications when issuing a directive during verbal Interoperability Communications." Do you agree with this proposal? If not, please explain in the comment area.

Yes

No

Comments: Without defining "directive" the SDT is leaving the industry in the same situation we are currently in. As discussed in the response to Question #1 above, it is our opinion that the definition of Reliability Directive must be developed and included in the discussion of this standard (COM-003-1), and should be as defined in Project 2006-06:

"A communication initiated by a Reliability Coordinator, Transmission Operator or Balancing Authority where action by the recipient is necessary to address an actual or expected Emergency."

Based on the definition of Interoperability Communications, R5 could imply that three-part communications is required to communicate routine operating instructions. We believe this Requirement contradicts the work that has been done and substantially progressed through two other SDTs and creates confusion within the industry. We believe this Requirement would, in fact, be adverse to reliability instead of enhancing reliability by reducing the amount of pre-action communications that may occur prior to taking action because operators may be more concerned with not repeating back during such pre-action, strategic calls and/or discussion. We support the work being done by the RC SDT and RTO SDT which would define a directive based on the determination of the person giving such an order. We believe, it should be left to the entity that needs the action to be taken to establish the need for three-part communications by stating in the communication that they are issuing a directive. This would be a clear trigger and auditable and measureable.

7. Requirement R6 of the draft COM-003-1 states, "Each Responsible Entity shall use the North American Treaty Organization (NATO) phonetic alphabet as identified in Attachment 2-COM-003-1 when issuing directives, notifications, directions, instructions, orders or other reliability related operating information that involves alpha-numeric information during verbal Interoperability Communications." Do you agree with this proposal? If not, please explain in the comment area.

Yes

No

Comments: The required use of the phonetic alphabet should be documented in the Entities CPOP per our comments to question #3.

While this requirement may represent a good utility practice or even a best practice, it is not so necessary to be enforceable through enforceable requirements.

All information passed by a NERC Certified System operator falls under the scope of Requirement 6: "directives, notifications, directions, instructions, orders or other reliability related operating information". Based on that definition, all communication would fall under this Requirement.

The NATO phonetic alphabet does not allow for the use of numbers ten and beyond. An entity WOULD be found non compliant for saying "open switch fourteen bravo". We do not believe this is reasonable as it adds nothing to the reliability of the BES is too prescriptive and all encompassing and could potentially confuse or slow down the communication process.

We recommend that use of the NATO phonetic alphabet be included in the NERC operator certification training program and removed from this standard.

As we recommended above, the term "directive" should be replaced with "Reliability Directive".

8. Requirement R7 of the draft COM-003-1 states, "Each Responsible Entity shall use pre-determined, mutually agreed upon line and equipment identifiers during for all verbal and written Interoperability Communications." Do you agree with this proposal? If not, please explain in the comment area.

Yes

No

Comments: Field personnel may not have access to the predetermined agreed to line and equipment identifiers. Requiring universal use of these identifiers could lead to confusion with field personnel within and between companies. This could lead to a decrease in the reliability and safety of the BES.

As written R7 is expanding the requirement for agreed upon identifiers. We believe it is not necessary or required to have agreed upon equipment identifiers between companies as long as the line identifiers have been agreed upon.

TOP-002 R18 states that BA, TOP, GOP TSP and LSE shall use uniform line identifiers when referring to transmission facilities of an interconnected network. COM-003-1, R7 states that each RC, BA, TO, TOP, GOP, TSP, LSE and DP shall use pre-determined, mutually agreed upon line and equipment identifiers for verbal and written Interoperability Communications. TOP-002 allowed the TOP to communicate what the line identifiers were via a list and use during communications. The new requirement implies that the parties must agree upon the line identifiers and that agreement must be documented. We believe the requirement should require the exchange of line identifiers but not impose that they be mutually agreed upon.

9. Attachment 1-COM-003-1 is based upon work performed by the Reliability Coordinator Working Group (RCWG). Do you have any concerns or suggestions for improvement of the attachment? If yes, please provide in the comment area. (If you are involved in the field testing of the Alert Level Guide please share any comments regarding the use of the guideline as it relates to the field test.)

Yes

No

Comments: As Attachment 1 is written it only applies to the RC and is a one-way communications path. The BA, DP, GOP, TOP, and TO are to be notified by the RC but the attachment doesn't state what they are to do with the information. COM-003-1, R1 states that the RC, BA, TO, TOP, GOP, TSP, LSE and DP are to have a CPOP with the elements in R2 through R7, which refer to Attachment 1. If Attachment 1 is applicable only to the RC, as we recommend, there is no reason to have the other Functions listed for Attachment 1.

Requirement R2 and Measure M2 need to be revised to be applicable to the RC only.

Attachment 1 makes reference to "Distribution Service Providers". There is no definition of a Distribution Service Provider in the NERC Functional Model, and we believe this should either be revised to Distribution Provider, or deleted entirely from the list.

10. Are you aware of any regional variances that would be required as a result of this standard? If yes, please identify the regional variance.

Yes

No

Comments: If the Central Standard time zone is required as noted in R4, we believe there should be a regional variance to allow the WECC to select the time zone to use as a standard.

11. Are you aware of any conflicts between the proposed standard and any regulatory function, rule order, tariff, rate schedule, legislative requirement or agreement? If yes, please identify the conflict.

Yes

No

Comments: Attachment 1, Physical Security is a basis for the SAR for Project 2009-02, Disturbance and Sabotage reporting SDT.

12. Do you have any other comments to improve the draft standard? If yes, please elaborate in the comment area.

Yes

No

Comments: Without "Directive" being defined, this proposed standard still leaves a huge area that will cause problems and issues within the industry. We believe the SDT should

replace "directive" with "Reliability Directive" and use the definition developed in Project 20006-06: "A communication initiated by a Reliability Coordinator, Transmission Operator or Balancing Authority where action by the recipient is necessary to address an actual or expected Emergency."

We believe Reliability Standard COM-003-1 is entirely too prescriptive, and is in actuality a procedure and not a standard. The Standard needs to focus on the "What" and not the "How". If the industry is going to truly embrace the Results Based Standards Initiative, this standard must be significantly revised to reflect that philosophy.

We believe that the existing standard COM-002 is actually better than this standard. This standard actually causes more confusion and ambiguity and creates unnecessary or overly cumbersome requirements that add little or no value to reliability.