4.2.4 Three Part Communications

All operators should use their name and company name when answering a phone call. This will ensure that the caller has the correct party prior to communication beginning.

PJM system operators and member transmission and generation operators should always practice three-part communications to avoid errors and miscommunications.

Three-part communications consists of the sender delivering the message to the receiver. The receiver repeating back the information to the sender while questioning for clarification. The original sender will confirm if the receiver has the message correct.

Three-part communications is required when the operators are exchanging important operational information. A partial list of these situations is presented below. If there is a question about whether the situation warrants the use of three-part communication, it should be used.

Examples of generation operations utilizing three-part communications:
- Unit starts
- Unit trips or releases
- Requests from PJM for additional generation
- Outages (eDART ticket numbers and unit designations)
- Synchronized Reserve or Regulation assignments
- Manual dispatch of generation
- Emergency operations related information

Examples of transmission operations utilizing three-part communications:
- Transmission switching
- Capacitor switching
- Outages (eDART ticket number and line numbers, not every circuit breaker)
- PCLLRW issuance and cancellation
- TLR curtailments in transactions
- Market to Market redispatch
- Emergency operations related information

In addition, it would be expected that anytime information is exchanged that is not thoroughly understood (whether it be due to speech impediment, accent, or because information was not clearly articulated, etc.), a repeat back should be requested and followed up on, constituting three-part communications. The use of the term “directive” should be used if additional clarification is needed – either by the issuer or the receiver of the critical communication.

In order to facilitate the clear communication of Transmission Operations instructions to field personnel, there is also a requirement for Transmission Owner operators to use three-part communications to communicate switching instructions associated with BES facilities.

PJM All call messages do NOT require repeating as the receiver can repeat the message via telephone keypad selection. It is the responsibility of any party receiving information via an all call to follow up with the initiator of the information if there is not a clear understanding of the
message. PJM receives confirmation of member confirmation through electronic means and will follow-up with individual companies if appropriate.

PJM also performs communication audits of operator conversations to ensure that three-part communication is being consistently utilized.

In addition, it is possible for PJM to issue directives in each of its operational roles (as the RC, TOP, or BA). PJM Directives are defined as instructions from PJM to its members to take actions to control Inter Regional Operating Limits (IROL) or initiate load dump measures for capacity or transmission emergencies as described in PJM Manual 13, Section 2 and Section 5. These Directives could be issued through a PJM All Call or through direct voice communications to the applicable member companies. The following are examples of communications which could be considered Directives by PJM (PJM Directives require 3-part communication):

- **PJM as Reliability Coordinator:**
  - Direct actions to implement load dump plans to control IROLs
- **PJM as Transmission Operator:**
  - Directing Generation to manually lower or increase unit output outside of automated dispatch signals to control IROLs
  - Directing selected generation to trip off-line to control IROLs
  - Direct actions to implement load dump plans for the purposes of transmission control
- **PJM as Balancing Authority:**
  - Directing Generation to deploy synchronous reserves to restore DCS after a unit trip to control an IROL
  - Direct actions to implement load dump plans to rectify capacity deficiencies.

All operators must be cognizant of the time constraints associated with system operations such as limits over emergency ratings, load dumps, IROLs, DCS events, etc. It will often be necessary to quickly confirm status, ratings, output, options, etc. prior to initiating the directive or operational instruction. Once this is complete, the PJM operator will initiate the instruction by:

- Restating the desired action
- Receiving and or requesting the repeat back by the receiver
- Acknowledging the correct repeat back

From this point on, the receiving operator should be focused on implementing the directed actions.

**NOTE:** PJM members are obligated to follow all operational instructions or Directives as described in the PJM Operating Agreement, NERC Standards and PJM Manuals. If a PJM member is unable to comply with PJM instructions, the member should notify PJM of the restriction (based on safety, loss of life, or damage to equipment) so PJM is able to implement other actions to alleviate the operation problems.
Section 4.3  PJM Communication Protocol

4.3.1 Purpose

PJM has developed these Communication Protocols in accordance with NERC Standard COM-002-4. The purpose of these protocols is to improve communications for the issuance of Operating Instructions to reduce the possibility of miscommunication that could lead to action or inaction harmful to the reliability of the Bulk Electric System (BES).

4.3.2 Applicability

These protocols apply to all PJM operators, Transmission Owner operators, Generation Owner operators, Generation Operators, and Distribution Provider operators. The protocols apply to and operators at these entities member companies that issue and/or receive Operating Instructions.

4.3.3 Definitions

Operating Instruction – A command by operating personnel responsible for the Real-time operation of the interconnected Bulk Electric System 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.

Note: A discussion of general information and of potential options or alternatives to resolve Bulk Electric System operating concerns is not a command and is not considered an Operating Instruction.

Examples of Operating Instructions (not all-inclusive):

• Ordering transmission equipment in or out of service
• Load shed instructions
• Ordering generation MW/MVAR output changes
• Ordering generation online or offline (either in real time or scheduled in

Examples of communications not considered Operating Instructions (not all-inclusive):

• Confirmation of ratings or power flows
• Discussions of operational options
• Discussions of generator status or availability
**Three Part Communication** – Verbal communication process between an issuer and receiver whereby:

1. Issuer clearly delivers the message
2. Receiver repeats (not necessarily verbatim) the message OR
   - requests the issuer to reissue the message
3. Issuer confirms the receiver’s response if the repeated message was correct OR
   - reissues the message if the repeated information was incorrect or if requested by the receiver OR
   - takes an alternative action if a response is not received or if the message was not understood by the receiver.

Note: It is the issuer’s responsibility to ensure the key components of the message were repeated correctly.

**All-Call** – Verbal message delivered to PJM members via a one-way single party to multiple parties burst messaging system.

**4.3.4 Communication Protocols**

1. All operators should use their last name *(at a minimum)* and company name when answering a phone call and identify themselves using their last name *(at a minimum)* and company when initiating a phone call.
2. All operators shall issue and receive written and oral Operating Instructions using the English language.
3. All operators shall issue and receive Operating Instructions using Three Part Communication (as defined above) during both normal and emergency operations.
4. PJM shall confirm or verify that an Operating Instruction was received by at least one party when delivering the Operating Instruction via the All-Call system.

Note: PJM Members can acknowledge receipt and understanding of All-Call messages by pressing two on the telephone keypad.

Note: PJM operators can verify receipt of All-Call by recipients on the All-Call system and via an email report from the All-Call system.
5. For Operating Instructions that are issued with a time reference, the time identification shall be in 24 hour format, with the appropriate time zone included (i.e. 17:00 EDT). Time identification is not required for Operating Instructions that are expected to be implemented immediately.

6. For Operating Instructions that reference transmission lines (including Transmission interface Elements and Transmission interface Facilities), the line identification shall include Terminal to Terminal designation, voltage level and line number. When referencing other equipment at a substation in an Operating Instruction, the designation shall include substation name, equipment number and equipment type. Voltage level can be used as a clarifier if needed. When referencing a generating unit in an Operating Instruction, the designation shall include the generating station name and unit number.

   Examples:
   - Transmission Line: Bedington-Black Oak 500 kV 544 line
   - Substation Equipment: Limerick 325 CB (500 kV)
   - Generating Unit: Amos #2 Unit

7. For Operating Instructions that reference alphanumeric information, phonetically correct alphanumeric clarifiers can be used, if needed, to minimize misinterpretation.

   Note: PJM members are obligated to follow all Operating Instructions as described in the PJM Operating Agreement, NERC Standards and PJM Manuals. If a PJM member is unable to comply with a PJM Operating Instruction, the member should notify PJM of the restriction (based on safety, loss of life or damage to equipment) so PJM is able to implement other actions to alleviate the operational problems.

4.3.5 Communications Protocols Training Requirements

All operators listed in section 4.3.2 (Applicability) are required to complete initial training on these Communication Protocols and Definitions prior to issuing and/or receiving Operating Instructions. PJM will make this training available through the PJM LMS and track operator completion of this required training. Member company training liaisons will also ensure completion of this training by the required operators.

4.3.6 Communication Protocol Assessment
Each entity listed in section 4.3.2 (Applicability) shall assess adherence to these Communication Protocols following the process below.

This assessment of the individual operators will:

- Evaluate each of an entity’s operators adherence to the Communication Protocols outlined in section 4.3.4 at least once every 12 months.
- Provide feedback to each operator based on the results of this assessment.
- Take corrective actions, as deemed necessary by the entity, to address deviations from the documented protocols.
  - These corrective actions could include performance coaching, additional training or other methods determined by the entity as effective in correcting the identified deficiency.

Note: If the assessment reveals that these protocols were not used in an Emergency, it may constitute a violation of COM-002-4, R5, R6 or R7.

PJM will utilize the System Operations Subcommittee to assess the effectiveness of these Communication Protocols at least once every 12 calendar months.

The assessment of the Communication Protocols will:

- Evaluate any operating errors or events that involved communication errors or misunderstandings
- Evaluate the effectiveness and efficiency of operator communications utilizing the Communication Protocols.
- Evaluate whether or not any modifications to the Communication Protocols are required (while ensuring continued compliance with COM-002-4).
Implementation Plan for Manual Changes:

1) Obtain agreement from SOS and OC and MRC on proposed protocols – **July, August, September**, 2014

2) Publish in M-01 (in addition to current language in 4.2.4). Denote that operators should begin using protocols, but will become enforceable one year following FERC approval of COM-002-4.

3) Develop online training module on new protocols and deliver to PJM and Member TO and GO operators – Sept., 2014

4) Perform task verification for all PJM, TO and GO operators on new protocols – Fall 2014

5) Begin assessments of operator communications – Jan, 2015

6) Review communication protocols at PJM Seminar – Spring 2015

7) Remove existing language (current section 4.2.4) upon enforcement date of COM-002-4 (expected sometime in summer 2015)

   Enforcement date will be deadline for completion of all training and task verifications.