
 California ISO	Reliability Coordinator Procedure	Procedure No.	RC0110
		Version No.	1.0
		Effective Date	7/01/2019
Communications Protocols		Distribution Restriction: None	

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Purpose

Provide protocols for issuing Operating Instructions to ensure accurate communication for the reliable operation of the Bulk Electric System (BES).

1. Responsibilities

- Reliability Coordinator (RC) Operator
- Operations Training Department
- Operations Compliance group
- Reliability Coordinator (RC) Director

2. Scope/Applicability

- Reliability Coordination
- Operations Training and Compliance

3. Procedure Detail

3.1. Professionalism


The RC operator will maintain professionalism during all communications (voice or electronic) with external entities. Being professional includes being polite, pleasant and helpful; however, as the situation warrants, the RC operator will adjust tone of voice to the situation (e.g. friendly, matter-of-fact, or authoritative) while still being professional.

3.2. Communication Protocol for Operating Instructions

When issuing verbal Operating Instructions during normal and Emergency situations, the RC operator will abide by the following communication protocol:

1. Use English language, unless agreed to otherwise¹.
2. All operators should identify themselves by last name and company at the beginning of the conversation, and ensure the other party does the same.
3. Use standard or most-commonly accepted terminology when referring to system components or actions. If a term used is unclear, request clarification to ensure common understanding.

¹ COM-002-4 R1.1.

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4. When referencing transmission lines, the identification should include the substation-to-substation designation, line number if applicable, and voltage level².
 - When referencing generating unit, the identification should include the generating station name and unit number.
 - When referencing equipment at a substation, the identification should include the substation name, equipment type and equipment number.
5. Complete any discussions on general information, details and potential options to ensure common understanding; and then inform the receiver that they are about to receive an Operating Instruction, before issuing.
6. Specify time the instruction is to be implemented in the 24-hour time format, in the time zone of the entity receiving instruction, or in the form of an expected time-frame (e.g. within 10 minutes, for the next 30 minutes, until further notice, etc.)³.
7. Use the “Three-Part Communication Protocol” (described below)⁴.


Reliability Coordinator Actions
<ul style="list-style-type: none"> • Three-Part Communication Protocol: <ol style="list-style-type: none"> 1. Issue Operating Instructions in a <i>clear</i> and <i>concise</i> manner. 2. Ask the <i>receiver to repeat</i> the instruction correctly (not necessarily verbatim). 3. Confirm with the receiver that the information is correct, if the instruction was repeated correctly, or <ul style="list-style-type: none"> ○ Reissue the instruction, if it was not repeated correctly, until the information repeated by the receiver is confirmed to be correct. • Take an <i>alternative action</i>, if a response is not received; if the Operating Instruction was not understood by the receiver; or if the receiving entity is unable to carry out the instruction due to physical limitations, safety, equipment, regulatory or statutory requirements⁵. • Evaluate <i>effectiveness</i> of actions being taken to determine if further instructions are necessary. • Notify the entity <i>once</i> the condition has been <i>alleviated</i>. • Log a summary of all <i>communications</i> and <i>actions</i>.

² COM-002-4 R1.6.

³ COM-002-4 R1.5.

⁴ COM-002-4 R1.2.

⁵ IRO-001-4 R2, R3 (applicable to BA and TOP)

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3.3. Multiple-Party Burst Operating Instructions

Although the preferred method of issuing RC Operating Instructions is verbally, in certain situations, such as an Emergency condition affecting several entities, it may be necessary for the RC operator to issue an Operating Instruction electronically to all the affected entities simultaneously, such as using the Grid Messaging System (GMS).

Reliability Coordinator Actions
<ul style="list-style-type: none"> • Issue a single-party to <i>multiple-party burst</i> Operating Instruction if necessary. • Verify that the instruction was received by <i>at least one receiver</i> by⁶: <ul style="list-style-type: none"> ○ Using the acknowledge feature of GMS, or ○ Calling one of the intended receivers by phone to verify receipt, if the acknowledge feature is non-functional. • Log a summary of all <i>communications</i> and <i>actions</i>.

3.4. Operating Instructions during Emergencies

During an Emergency condition, the RC operator will issue Operating Instructions⁷ without delay, as necessary, and in accordance with applicable procedures, to ensure that the Emergency is mitigated in a timely manner.

While time is of the essence during Emergencies, it is *critical* that Operating Instructions given follow the communications protocol described in Section 3.2, to ensure accurate communication for the reliable operation of the BES.


Reliability Coordinator Actions
<ul style="list-style-type: none"> • Abide by <i>communications protocol</i> described in Section 3.2 when issuing Operating Instructions <i>during Emergencies</i>⁸, such as: <ul style="list-style-type: none"> ○ SOL and IROL exceedances (see RC0310 - Mitigating SOL and IROL Exceedances), ○ Frequency Trigger Limit (FTL) exceedances (see RC0210 - Monitoring Frequency and BA Performance), ○ Capacity/energy Emergencies (see RC0410 - System Emergencies), ○ Resynchronizing islands (see RC0460 - System Restoration), and ○ Extreme weather/environmental Emergencies (see RC0410 - System Emergencies). • Ensure that the instruction was received by at least one receiver when issuing a single-party to <i>multiple-party burst</i> Operating Instruction during an Emergency, by⁹: <ul style="list-style-type: none"> ○ Using the acknowledge feature of GMS, or

⁶ COM-002-4 R1.4.

⁷ IRO-001-4 R1

⁸ COM-002-4 R5.

⁹ COM-002-4 R7.

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Reliability Coordinator Actions
<ul style="list-style-type: none"> ○ Calling one of the intended receivers by phone to verify receipt, if the acknowledge feature isn't working. • Log a summary of all <i>communications</i> and <i>actions</i>.

3.5. Training Requirements

The Operations Training department will ensure that all RC operators complete initial training on the communications protocol described in this procedure prior to the operator issuing Operating Instructions¹⁰.

3.6. Communications Protocols Assessment¹¹


The *Operations Compliance group* will ensure that an assessment of each RC operator is conducted at least once every twelve (12) calendar months to determine adherence to the communications protocol described in this procedure.

The *RC Director, or designee*, will provide feedback to each RC operator based on the results of the assessment, and specify corrective actions needed to address deviations from the protocol.

As part of the assessment, the *Operations Compliance group*, in collaboration with the *RC Director*, will also assess the effectiveness of the communications protocol in this procedure, and determine the need to modify the protocol as necessary.

¹⁰ COM-002-4 R2.

¹¹ COM-002-4 R4.1, R4.2

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4. Supporting Information

Operationally Affected Parties

Shared with Public.


References

NERC Requirements	COM-002-4 R1, R2, R4, R5, R7; IRO-001-4 R1.
BA/TOP Operating Procedure	CAISO 5110 Real-Time Communications Guidelines
Other References	RC0210 - Monitoring Frequency and BA Performance RC0310 - Mitigating SOL and IROL Exceedances RC0410 - System Emergencies

Definitions

The following terms capitalized in this Operating Procedure when used are defined below:

Term	Description
Operating Instructions	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. (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.)
Emergency	Any abnormal system condition that requires automatic or immediate manual action to prevent or limit the failure of transmission facilities or generation supply that could adversely affect the reliability of the Bulk Electric System.

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Term	Description
System Operator on mitigating System Operating Limit (SOL)	<p>The value (such as MW, MVA_r, amperes, frequency or volts) that satisfies the most limiting of the prescribed operating criteria for a specified system configuration to ensure operation within acceptable reliability criteria. System Operating Limits are based upon certain operating criteria. These include, but are not limited to:</p> <ul style="list-style-type: none"> • Facility Ratings (applicable pre- and post-Contingency Equipment Ratings or Facility Ratings) • Transient stability ratings (applicable pre- and post-Contingency stability limits) • Voltage stability ratings (applicable pre- and post-Contingency voltage stability) • System voltage limits (applicable pre- and post-Contingency voltage limits)
Interconnection Reliability Operating Limit (IROL)	A System Operating Limit that, if violated, could lead to instability, uncontrolled separation, or Cascading outages that adversely impact the reliability of the Bulk Electric System.

Version History

Version	Change	Date
1.0	Approved by Steering Committee.	9/26/18

5. Periodic Review Procedure

Appendix

No appendices at this time.