
 California ISO   RC West	<b>Reliability Coordinator Procedure</b>	<b>Procedure No.</b>	RC0130
		<b>Version No.</b>	1.8
		<b>Effective Date</b>	4/01/24
<b>Notification Requirements for Real-Time Events</b>		<b>Distribution Restriction: None</b>	

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## Purpose

Provide the notification requirements for events that occur in Real-time to ensure the Reliability Coordinator (RC) has accurate data and timely information necessary for Real-time monitoring and assessment of the Bulk Electric System (BES).


## 1. Responsibilities

- Balancing Authorities (BA)
- Transmission Operators (TOP)
- Reliability Coordinator

## 2. Scope/Applicability

NERC IRO-010-3 requires the RC to maintain a documented specification of the data necessary for the RC to perform Operational Planning Analyses, Real-time monitoring and Real-time Assessments; and provide these to applicable entities. The TOP and BA are responsible for ensuring they meet any applicable NERC/WECC Standards requiring notification to the RC. The RC West data specifications are addressed within two documents:

1. *IRO-010 Data Specifications:*
  - Addresses specifications for forecast data, resource commitment data, power system modelling data, scheduled outage data, Real-time telemetry data, procedures and documentation.
2. *RC0130 Notification Requirements for Real-time Events:*
  - Addresses Real-time transmission and balancing area *events* that require immediate notification to the RC operator by phone, the Grid Messaging System (GMS) and/or CAISO Outage Management System (OMS).

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### 3. Procedure Detail


#### 3.1. Real-time Transmission Events

TOP shall report any Real-time transmission events that affect the status or reliability of the BES, including but not limited to the following:

Item #	Event	Responsible Party	Medium	Time Requirement
3.1.1	Forced Outages of BES transmission facilities/equipment and non-BES facilities/equipment that impact the BES <sup>1</sup>	TOP	Phone notification or GMS (OMS required if 30 minutes or more in duration; even if submitted after the fact).	As soon as practicable
3.1.2	Urgent Outages of BES transmission facilities/equipment and non-BES facilities/equipment that impact the BES	TOP	OMS and Phone notification	As soon as practicable; with as much advanced notice as possible
3.1.3	Any unplanned <b>telemetering and control equipment</b> outages of 30 minutes or more in duration with potential impacts to SE results, SOLs, IROLs, RAS visibility, could lead to loss of visibility for an area; or communication channels impacting system protection that may result in EMS alarms <sup>2</sup>	BA or TOP	Phone notification or GMS (OMS required if 30 minutes or more in duration; even if submitted after the fact).	As soon as practicable
3.1.4	Protective relay or equipment failure that reduces system reliability	TOP	Phone notification or GMS	As soon as practicable


<sup>1</sup> Momentary outages of equipment less than 300 kV lasting for less than 5 minutes do not require a phone call or GMS notification as long as they do not cause SOL or IROL exceedances, or other reliability issues.

<sup>2</sup> TOP-001-6 R9 (applicable to BA and TOP)

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Item #	Event	Responsible Party	Medium	Time Requirement
3.1.5	Forced Outage of BES Remedial Action Scheme (RAS), non-RAS automatic schemes, or protection systems when functionality is affected (i.e., when normal fault clearing zones are impacted) or Contingency definitions are impacted	TOP	Phone notification or GMS (OMS required if 30 minutes or more in duration; even if submitted after the fact).	As soon as practicable
3.1.6	Planned outage of BES Remedial Action Scheme (RAS) at the commencement and conclusion of the outage when RAS definition or settings are impacted and ICCP is not available	TOP	Phone notification or GMS	As soon as practicable
3.1.7	Any unplanned Facility Ratings changes <sup>3</sup>	TOP	Phone notification or GMS (OMS required if 30 minutes or more in duration; even if submitted after the fact).	As soon as practicable


<sup>3</sup> FAC-014-3 R2 (applicable to TOP)

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### 3.2. Real-time Balancing Events


BAs shall report any Real-time balancing and generation events that affect the status or reliability of the BES, including but not limited to the following:

Item #	Event	Responsible Party	Medium	Time Requirement
3.2.1	Any Forced Outage <b>generating unit derate</b> of 50 – 299 MW reduction of available capacity (30 minutes or more in duration)	BA	OMS notification	As soon as practicable
3.2.2	Any Forced Outage <b>generating unit derate</b> of $\geq$ 300 MW reduction of available capacity (30 minutes or more in duration)	BA	Phone notification or GMS (OMS required if 30 minutes or more in duration; even if submitted after the fact).	As soon as practicable
3.2.3	Any Urgent Outages <b>generating unit derate</b> of 50 – 299 MW reduction of available capacity (30 minutes or more in duration)	BA	OMS notification	As soon as practicable; with as much advanced notice as possible
3.2.4	Any Urgent Outages <b>generating unit derate</b> of $\geq$ 300 MW reduction of available capacity (30 minutes or more in duration)	BA	OMS and Phone notification	As soon as practicable; with as much advanced notice as possible
3.2.5	Any Forced Outage of a generation unit connected to BES $\geq$ 20 MVA gross nameplate rating or $\geq$ 75 MVA facility aggregate rating (30 minutes or more in duration)	BA	OMS notification	As soon as practicable
3.2.6	Any Urgent Outage of a generation unit connected to BES $\geq$ 20 MVA gross nameplate rating or $\geq$ 75 MVA facility aggregate rating (30 minutes or more in duration)	BA	OMS notification	As soon as practicable; with as much advanced notice as possible

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Item #	Event	Responsible Party	Medium	Time Requirement
3.2.7	Any forced <b>Automatic Voltage Regulator (AVR) or Power System Stabilizer (PSS)</b> outage (30 minutes or more in duration) on a BES facility	BA or TOP (if operating synchronous condenser)	OMS and phone call if no ICCP data available	As soon as practicable
3.2.8	Any Forced Outage of a <b>Black Start certified unit</b> (30 minutes or more in duration)	BA	OMS notification	As soon as practicable
3.2.9	Inability to <b>calculate ACE</b> for more than 30 minutes <sup>4</sup>	BA	Phone notification to the RC & GMS	Within 45 minutes of beginning inability to calculate ACE
3.2.10	Loss of online generation $\geq 150$ MW <ul style="list-style-type: none"> <li>OR <math>&lt; 150</math> MW if Frequency Trigger Limit exceedance or a reserve deficiency is triggered. (see RC0210 for details)</li> </ul>	BA	Phone notification or GMS	As soon as practicable
3.2.11	Actual or expected generation outages or derates with the potential to create an energy or capacity emergency	BA	Phone notification or GMS (OMS required if 30 minutes or more in duration; even if submitted after the fact).	As soon as practicable

<sup>4</sup> BAL-005-1 R2 (applicable to BA)

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### 3.3. Other Events

Other events that affect, or potentially affect, the reliability of the BES as listed below shall be reported by the affected BA and/or TOP:


Item #	Event	Responsible Party	Medium	Time Requirement
3.3.1	Actual or expected operations that result in, or could result in, an <b>Emergency or BES Emergency</b> (as defined in the NERC Glossary) <sup>5</sup>	BA or TOP	Phone notification or GMS	As soon as practicable
3.3.2	<b>SOL or IROL exceedance</b> , and actions taken to return system within limits <sup>6</sup>	BA or TOP	Phone notification or GMS	Refer to <a href="#">RC0310</a> Section 3.3 for Category 1 and 2 events
3.3.3	Viable <b>post-Contingency mitigation plan</b> <sup>7</sup>	BA or TOP	Phone notification or GMS	Within 30 minutes, if the pre-contingent exceedance cannot be mitigated by implementing the primary Operating Plan
3.3.4	<b>Inability to perform an Operating Instruction</b> because the instruction cannot be physically implemented or would violate safety, equipment, regulatory, or statutory requirements <sup>8</sup>	BA or TOP	Phone notification or GMS	As soon as practicable
3.3.5	<b>Inability to perform a Real-time Assessment (RTA)</b> within 30 minutes of the last RTA	BA or TOP	Phone notification to the RC or GMS message	As soon as practicable

<sup>5</sup> TOP-001-6 R8 (applicable to TOP)

<sup>6</sup> TOP-001-6 R15 (applicable to TOP)


<sup>7</sup> See [RC0310-Mitigating SOL and IROL Exceedances](#), Sections 3.7 and 3.8

<sup>8</sup> IRO-001-4 R2, R3 (applicable to BA and TOP)

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Item #	Event	Responsible Party	Medium	Time Requirement
3.3.6	NERC or DOE reportable event per CAISO procedure RC0420-Event Reporting	BA or TOP	Phone notification to the RC  <b>Note:</b> Refer to <a href="#">RC0420 Event Reporting</a> , for report submission instructions.	As soon as practicable
3.3.7	Any Forced Outage that affects a WECC Path Total Transfer Capability (TTC) used as part of SOL or IROL mitigation plan; or affects a neighboring RC	BA or TOP	Phone notification or GMS  (OMS required if 30 minutes or more in duration; even if submitted after the fact).	As soon as practicable
3.3.8	Any Urgent Outage that affects a WECC Path TTC used as part of SOL or IROL mitigation plan; or affects a neighboring RC	BA or TOP	Phone notification or GMS  (OMS required if 30 minutes or more in duration; even if submitted after the fact).	As soon as practicable
3.3.9	Any Forced Outage that reduces Reserve Sharing Group (RSG) deliverability	BA or TOP	Phone notification or GMS  <b>Note:</b> If deliverability issues due to forced outages are reflected as real-time changes to the BA's Contingency Reserve Obligation, then ICCP data is sufficient.	As soon as practicable




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Item #	Event	Responsible Party	Medium	Time Requirement
3.3.10	If not subject to compliance with BAL-002-3 R.1.1 by meeting all of the following criteria: is experiencing an RC declared EEA; is utilizing its Contingency Reserve to mitigate an operating emergency in accordance with its emergency Operating Plan; has depleted its Contingency Reserve to a level below its Most Severe Single Contingency; has provided RC with an ACE recovery plan, including target recovery time. <sup>9</sup>	BA	Phone notification to the RC	As soon as practicable
3.3.11	If denying a Reliability Adjustment Arranged Interchange, (typically called a "Curtailement") <sup>10</sup>	BA	Phone notification or GMS	Within 10 minutes
3.3.12	A Conditionally Credible Multiple Contingency is declared a Credible Multiple Contingency by the TOP due to the Observable System Conditions	TOP	Phone notification or GMS	As soon as practicable
3.3.13	First time energization of a new RAS or BES equipment that is expected to change power flow, such as a transmission line, transformer, phase shifter or other series device.	TOP	Phone notification to the RC	Prior to energization

<sup>9</sup> See BAL-002-3 R1.3.1.

<sup>10</sup> INT-006-5 R3.

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## 4. Supporting Information

### Operationally Affected Parties

Shared with the Public; additionally BAs, TOPs and Neighboring RCs.


### References

NERC Requirements	BAL-005-1 R2; TOP-001-6 R8, R9, R15; INT-006-5 R3; IRO-001-4 R3; IRO-010-4; FAC-011-04
BA/TOP Operating Procedure	
RC West Operating Procedures	<a href="#">RC0120A RC West IRO-010 RC Data Specification</a> <a href="#">RC0310 Mitigating SOL and IROL Exceedances</a> <a href="#">RC0420 Event Reporting</a> <a href="#">RC0610 System Operating limits Methodology for the Operations Horizon</a>


### Definitions

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

Term	Description
Forced Outage	Facility/equipment that is removed from service real-time with limited or no notice.
Urgent Outage	Facility/equipment that is known to be operable, yet carries an increased risk of a Forced outage occurring. Facility/equipment remains in service until personnel, equipment and/or system conditions allow the outage to occur.

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Term	Description
Remedial Action Schemes (RAS)	<p>A scheme designed to detect predetermined System conditions and automatically take corrective actions that may include, but are not limited to, adjusting or tripping generation (MW and Mvar), tripping load, or reconfiguring a System(s). RAS accomplish objectives such as:</p> <ul style="list-style-type: none"> <li>• Meet requirements identified in the NERC Reliability Standards,</li> <li>• Maintain Bulk Electric System (BES) stability,</li> <li>• Maintain acceptable BES voltages,</li> <li>• Maintain acceptable BES power flows, and</li> <li>• Limit the impact of Cascading or extreme events.</li> </ul> <p>The following do not individually constitute a RAS:</p> <ul style="list-style-type: none"> <li>• Protection Systems installed for the purpose of detecting Faults on BES Elements and isolating the faulted Elements,</li> <li>• Schemes for automatic underfrequency load shedding (UFLS) and automatic undervoltage load shedding (UVLS) comprised of only distributed relays,</li> <li>• Out-of-step tripping and power swing blocking,</li> <li>• Automatic reclosing schemes, or</li> <li>• Schemes applied on an Element for non-Fault conditions, such as, but not limited to, generator loss-of-field, transformer top-oil temperature, overvoltage, or overload to protect the Element against damage by removing it from service.</li> </ul> <p>(See NERC Glossary for continued definition)</p>
System Operator on mitigating System Operating Limit (SOL)	<p>The value (such as MW, Mvar, 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"> <li>• Facility Ratings (applicable pre- and post-Contingency Equipment Ratings or Facility Ratings),</li> <li>• Transient stability ratings (applicable pre- and post-Contingency stability limits),</li> <li>• Voltage stability ratings (applicable pre- and post-Contingency voltage stability), and</li> <li>• System voltage limits (applicable pre- and post-Contingency voltage limits).</li> </ul>


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Term	Description
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.
Reliability Coordinator (RC) Area	The collection of generation, transmission, and loads within the boundaries of the Reliability Coordinator. Its boundary coincides with one or more Balancing Authority Areas.

## Version History

Version	Change	Date
1.0	Approved by Steering Committee.	9/26/18
1.1	Item 3.1.3: aligned language with Outage Coordination Process doc. Added Item 3.3.1 to address BAL-002-3 changes. Reviewed by RTWG.	1/16/19
1.2	Modified 3.3.9: Added clarification note regarding when ICCP data is sufficient. Added 3.3.11 to address INT-006-4 R3.	4/25/19
1.3	Updated from CAISO RC to RC West. Added RC0130A reference to Section 3.3, Item 3.3.2 and under Appendix Section. Added note referencing RC0420 to Section 3.3, item 3.3.6. Updated NERC references. Minor format and grammar updates for consistency. Approved by Real-Time Working Group (RTTWG).	1/29/21
1.4	Section 2: Updated NERC Standard IRO-010 reference. Section 3.1, Item 3.1.4: Removed footnote referencing PRC-001 as it has been retired. Section 3.2: Added requirement for phone notifications to RC for forced and urgent generation derates $\geq 300$ MW. Section 4: Updated Operationally Affected parties and removed NERC Standard PRC-001 reference. Approved by the Real-Time Working Group (RTWG).	7/21/21
1.5	Periodic Review: No changes.	3/01/22
1.6	Added footnote to Item 3.1.1 regarding momentary outages of equipment <300 kV. Added new Items 3.2.10 and 3.2.11 to streamline requirements for phone or GMS notification to RC, for generation outages. Changed generation outages in Items 3.2.5 and 3.2.8 to be OMS notification only. Added clarifying statement to Scope/Applicability section.	11/28/22
1.7	Section 3.1: Added item 3.1.6 for planned outage of BES RAS. Section 3.3: Added item 3.3.13 for first time energization of a new equipment and RAS.	12/01/23

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1.8	Section 3.3, Item 3.3.2: Replaced reference to RC0130A with RC0310 due to retirement of RC0130A. Added reference to RC0310, RC0610 and NERC Standard FAC-011 to References section. Updated other NERC Standard references. Removed RC0130A from Appendix section, as it retired effective 4/01/24.	4/01/24

## 5. Periodic Review Procedure

### Review Criteria & Incorporation of Changes

There are no specific review criteria identified for this document.

### Frequency

Review at least once every three years.

## Appendix

No references at this time.