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|  California ISO RC West | Reliability Coordinator Procedure | Procedure No. | RC0130 |
| | | Version No. | 1.3 |
| | | Effective Date | 1/29/2021 |
| Notification Requirements for Real-Time Events | | Distribution Restriction: None | |

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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-010-2 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 **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. | 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 telemetering and control equipment 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 ¹ | 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 ² | TOP | Phone notification or GMS | As soon as practicable |

¹ TOP-001-5 R9 (applicable to BA and TOP)

² PRC-001-1.1(ii) R2.2 (applicable to 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 | Any unplanned Facility Ratings changes ³ | TOP | Phone notification or GMS. (OMS required if 30 minutes or more in duration; even if submitted after the fact). | As soon as practicable |

3.2. 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 generating unit derate of > 50 MW reduction of available capacity (30 minutes or more in duration) | BA | OMS notification | As soon as practicable |
| 3.2.2 | Any Urgent Outages generating unit derate of > 50 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 FAC-014-2 R2 (applicable to TOP)

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| Item # | Event | Responsible Party | Medium | Time Requirement |
|--------|---|--|---|---|
| 3.2.3 | 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 | Phone notification or GMS. (OMS required if 30 minutes or more in duration; even if submitted after the fact). | As soon as practicable |
| 3.2.4 | 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 and Phone notification | As soon as practicable; with as much advanced notice as possible. |
| 3.2.5 | Any forced Automatic Voltage Regulator (AVR) or Power System Stabilizer (PSS) 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 |
| 3.2.6. | Any Forced Outage of a Black Start certified unit (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 |
| 3.2.7 | Inability to calculate ACE for more than 30 minutes ⁴ | BA | Phone notification to the RC & GMS. | Within 45 minutes of beginning inability to calculate ACE |

⁴ 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 Emergency or BES Emergency (as defined in the NERC Glossary) ⁵ | BA or TOP | Phone notification or GMS | As soon as practicable |
| 3.3.2 | SOL or IROL exceedance , and actions taken to return system within limits ⁶ | BA or TOP | Phone notification or GMS | Refer to RC0130A SOL Exceedance Reporting Guideline |
| 3.3.3 | Viable post-Contingency mitigation plan ⁷ | 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 | Inability to perform an Operating Instruction because the instruction cannot be physically implemented or would violate safety, equipment, regulatory, or statutory requirements ⁸ | BA or TOP | Phone notification or GMS | As soon as practicable |

⁵ TOP-001-5 R8 (applicable to TOP)


⁶ TOP-001-5 R15 (applicable to TOP)

⁷ See [RC0310-Mitigating SOL and IROL Exceedances](#), Sections 3.6 and 3.7

⁸ IRO-001-4 R2, R3 (applicable to BA and TOP)

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| Item # | Event | Responsible Party | Medium | Time Requirement |
|--------|---|-------------------|---|------------------------|
| 3.3.5 | Inability to perform a Real-time Assessment (RTA) within 30 minutes of the last RTA | BA or TOP | Phone notification to the RC or GMS message | As soon as practicable |
| 3.3.6 | NERC or DOE reportable event per CAISO procedure RC0420-Event Reporting | BA or TOP | Phone notification to the RC Note: Refer to RC0420 Event Reporting , 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 Note: 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. ⁹ | BA | Phone notification to the RC | As soon as practicable |
| 3.3.11 | If denying a Reliability Adjustment Arranged Interchange, (typically called a "Curtailement") ¹⁰ | 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 |


4. Supporting Information

Operationally Affected Parties

Shared with the Public.

⁹ See BAL-002-3 R1.3.1.

¹⁰ INT-006-5 R3.

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References

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| NERC Requirements | BAL-005-1 R2; PRC-001-1.1(ii); R2.2; TOP-001-5 R8, R9, R15; INT-006-5 R3; IRO-001-4 R3; IRO-010-3 |
| BA/TOP Operating Procedure | |
| RC West Operating Procedures | RC0120A RC West IRO-010 RC Data Specification RC0310 Mitigating SOL and IROL Exceedances RC0420 Event Reporting |

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. |
| 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"> • Meet requirements identified in the NERC Reliability Standards, • Maintain Bulk Electric System (BES) stability, • Maintain acceptable BES voltages, • Maintain acceptable BES power flows, and • Limit the impact of Cascading or extreme events. <p>The following do not individually constitute a RAS:</p> <p>a. Protection Systems installed for the purpose of detecting Faults on BES Elements and isolating the faulted Elements,</p> |


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| Term | Description |
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| | b. Schemes for automatic underfrequency load shedding (UFLS) and automatic undervoltage load shedding (UVLS) comprised of only distributed relays, c. Out-of-step tripping and power swing blocking, d. Automatic reclosing schemes, or e. 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. (See NERC Glossary for continued definition) |
| System Operator on mitigating System Operating Limit (SOL) | 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: <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), and • 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. |
| 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 |

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| 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 |

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

RC0130A SOL Exceedance Reporting Guideline