
 California ISO	Reliability Coordinator Procedure	Procedure No.	RC0420
		Version No.	1.0
		Effective Date	7/01/2019
Event Reporting		Distribution Restriction: None	

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Purpose

Provide an Operating Plan¹ for identifying and reporting BES disturbances and events that threaten reliability in accordance with NERC Reliability Standards, Department of Energy (DOE) and the NERC Event Analysis Process (EAP).

1. Responsibilities

- Reliability Coordinator Operator
- Emergency Response Coordinator

2. Scope/Applicability

The CAISO RC performs an assessment, and prepares for, potential and known adverse operating conditions which may threaten elements of the BES. Each responsible entity under EOP-004-4 is responsible for reporting, in accordance with its respective Operating Plan, to NERC, DOE, WECC, the Reliability Coordinator and other entities.

3. Procedure Detail

3.1. CAISO Emergency Response and Reporting Process


The CAISO has established a corporate incident management response process to manage operational events that require reporting to agencies such as NERC, DOE, WECC, law enforcement, and other state and federal agencies. A team of CAISO personnel that includes the Emergency Response Coordinator (ERC), Public Information Officer (PIO), Incident Commander and other support personnel have been designated to help manage reporting and communications with external agencies, enabling the RC operator to focus on managing system reliability in the event of a disturbance. In addition, the incident management response team will assess, monitor, coordinate and appropriately scale the response of the organization.

3.2. DOE and NERC Reporting Requirements

The DOE has established mandatory reporting requirements for electric emergency incidents and disturbances that occur on the grid. Certain events require that an OE-417 form be submitted to the DOE with 1 hour of the incidents, while others require a submittal within 6 hours of the incident or by the end of the next business day (4pm local time). For all events, within 72 hours of the incident, a final report must be submitted unless an update has been provided.

NERC requires the submittal of an EOP-004 report for certain events that threaten the reliability of the BES. The report must be submitted within 24 hours of recognition of the event or by the end of the next business day if the event occurs on a weekend (which is recognized to be 4 PM local time

¹ EOP-004-4 R1

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on Friday to 8 AM Monday local time)². NERC will accept the DOE OE-417 form in lieu of the EOP-004 report form.

Under certain adverse conditions (e.g. severe weather, multiple events) it may not be possible for a report to include the full extent of the damage caused by an event and issue a written report within the stated time requirements. In such cases, RC personnel shall notify parties and provide as much information as is available at the time of the notification.


Appendix 1: Event Reporting Matrix lists the types of events that require submitting an OE-417 or a NERC EOP-004 report, as well as the required time frames and the entity responsible for submitting the report. Each entity is responsible for submitting reports in accordance with NERC and DOE requirements. However, as described in the appendix, the RC will submit reports when multiple BAs/TOPs are affected or for reportable events resulting from an Operating Instruction issued by the RC operator. In such situations, the CAISO RC may need to coordinate with BAs and/or TOPs to submit a joint report. Should an entity want to use the CAISO RC joint report as proof of compliance, they may request a copy.

The CAISO RC relies on BAs, TOPs and other entities within the RC area to provide relevant information specific to their area in order for CAISO RC to submit a joint report for incidents that affect multiple entities. Entities should submit event reports to the CAISO RC via emergencyresponsecoordinator@caiso.com. When such reports are received, the RC will analyze the events to determine whether they meet the criteria for additional reporting. If a reportable incident has occurred within an entity’s system, appropriate coordination of the event is important to ensure that the issue is not only mitigated, but effectively reported to the entities that need to be informed.

Appendix 1: Event Reporting Matrix lists the types of events that require submitting an OE-417 or a NERC EOP-004 report; the required time frames and the entity responsible for submitting the report.

Reliability Coordinator Actions
<ul style="list-style-type: none"> • Analyze <i>events</i> and <i>reports</i> received from external entities to determine if the event meets the criteria for reporting. The following event types may trigger the need for a DOE and/or NERC report, if they meet the reporting threshold. (See Appendix 1: Event Reporting Matrix for types of events, reporting threshold, timeframe and the agency that requires a report): <ul style="list-style-type: none"> ○ BES Facility attack, threat or damage, ○ Cyber event, ○ System failure or shutdown, ○ System separation (islanding), ○ Load shedding or reduction, ○ Fuel supply emergencies, ○ IROL or stability path SOL violations, and ○ Loss of functionality or evacuation of control center. • Begin mitigation in accordance with applicable procedures.

² EOP-004-4 R2

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Reliability Coordinator Actions

- **Notify** the on-duty Emergency Response Coordinator (ERC).
 - **Contact** the backup ERC if attempts to contact the on-duty ERC are unsuccessful, or the ERC has not acknowledged receipt of the notification within 15 minutes.
 - **Contact** the Director of Reliability Coordination if unable to reach an ERC.
- **Request** the ERC to coordinate the completion and *submission* of a DOE OE-417 report or NERC Event Report within the required timeframe, and **initiate** appropriate process in accordance with CAISO incident management response procedures.

Note: *If unable to reach ERC, place a phone call to the DOE to verbally report the event using the appropriate phone number provided in CAISO BA Procedure 4110D, ERC External Emergency Contacts, or if time permits submit the required form, following the steps for submitting the form in CAISO BA Procedure 4110C Emergency Response Coordinator Checklist.*
- **Make notifications** to BAs and TOPs in the RC Area and neighboring RCs via the Grid Messaging Tool and RC Messaging Tool respectively.
- **Continue monitoring and mitigation** activities and *provide updates* to ERC and RC Director.


3.3. Post-Event Analysis

NERC has established a voluntary Event Analysis Process (EAP) to promote a structured and consistent approach to performing event analysis, by evaluating the how, what, and why of an event. The primary purpose of the EAP is to determine if there are lessons to be learned and shared with the industry.

While reporting (notification) under DOE and NERC EOP-004 is mandatory, immediate, and brief, and is intended to notify other entities that an event has taken place on the BES or BES control facilities, reporting through the EAP is intentional, analytic, methodic, and detailed.

In accordance with the NERC EAP, CAISO *Operations Compliance* will conduct a post-event analysis, categorize the event and submit a brief report to WECC within 10 business days of the event and will deliver a final report within 20 business days of the event³. Refer to CAISO BA Procedure *5160 Analysis and Reporting for Significant Events, Major Outages, and Potential Improvements*.

³ [NERC Event Analysis Process \(EAP\) - Appendix A: Target Time Frames for Completion of Brief Reports, Event Analysis Reports, and Lessons Learned](#)

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4. Supporting Information

Operationally Affected Parties

Shared with Public.


References

NERC Requirements	EOP-004-4 R1, R2
BA/TOP Operating Procedure	CAISO BA Procedure 4110C Emergency Response Coordinator Checklist CAISO BA Procedure 4110D ERC External Emergency Contacts CAISO BA Procedure 5160 Analysis and Reporting for Significant Events, Major Outages, and Potential Improvements.
Other References	NERC ERO Event Analysis Process - Version 3.1 (Effective January 1, 2017)

Definitions

The following terms capitalized in this Operating Procedure are in accordance with the NERC Glossary, and/or otherwise when used are as defined below:

Term	Description
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.
Emergency or BES 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.
Interpersonal Communication	Any medium that allows two or more individuals to interact, consult, or exchange information.
Alternative Interpersonal Communication	Any Interpersonal Communication that is able to serve as a substitute for, and does not utilize the same infrastructure (medium) as, Interpersonal Communication used for day-to-day operation.


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Term	Description
Facility	A set of electrical equipment that operates as a single Bulk Electric System Element (e.g., a line, a generator, a shunt compensator, transformer, etc.)

Version History

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

5. Periodic Review Procedure

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Appendix 1: Event Reporting Matrix

Event Type	Reportable Event ⁴	Submittal Form	Reporting Responsibility	Threshold for Reporting	Notes
Facility attack, threat or damage	1) Physical attack	DOE (1 hr.)	RC, BA, TOP	Physical attack that causes major interruptions or impacts to critical infrastructure facilities or to operations.	Affected entity will file
	2) Physical attack or vandalism.	DOE (6 hr.)	RC, BA, TOP	Physical attack that could potentially impact electric power system adequacy or reliability; OR Vandalism which targets components of any security systems.	Affected entity will file
	3) Damage or destruction of a Facility within the Reliability Coordinator Area that results in action(s) to avoid a BES Emergency.	DOE/NERC (24 hr.)	RC, BA, TOP	Damage or destruction of its Facility that results from actual or suspected intentional human action. It is not necessary to report theft unless it degrades normal operation of its Facility.	Affected entity will file
	4) Physical threats to a BES control center	DOE/NERC (24 hr.)	RC, BA, TOP	Physical threat to its BES control center, excluding weather or natural disaster related threats, which has the potential to degrade the	Affected entity will file

⁴ DOE and NERC events not applicable to RC have been excluded from this list



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				normal operation of the control center. OR Suspicious device or activity at a BES control center.	
Cyber event	5) Cyber event that impacts BES.	DOE (1 hr.)	RC, BA, TOP	Cyber event that causes interruptions of electrical system operations.	Affected entity will file
	6) Cyber event that could potentially impact BES.	DOE (6 hr.)	RC, BA, TOP	Cyber event that could potentially impact electric power system adequacy or reliability.	Affected entity will file
System failure or shut-down	7) Complete operational failure or shut-down of the transmission and/or distribution electrical system.	DOE (1 hr.)	RC, BA, TOP	Isolated or interconnected electrical systems (Transmission or distribution) suffer electrical system collapse.	BA/TOP will file if a single entity is affected. RC will file if multiple entities are affected.
System separation (Islanding)	8) System separation (islanding)	DOE (1 hr.)	RC, BA, TOP	Electrical system separation (islanding) where part or parts of a power grid remain(s) operational in an otherwise blacked out area or within the partial failure of an integrated electrical system.	BA/TOP will file if a single entity is affected. RC will file if multiple entities are affected.
	9) System separation (islanding)	DOE/NERC (24 hr.)	RC, BA, TOP	Each separation resulting in an island \geq 100 MW	BA/TOP will file if a single entity is affected. RC will file if multiple entities are affected.



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Load shedding/reduction	10) Uncontrolled loss of firm load.	DOE (1 hr.)	RC, BA, TOP	Uncontrolled loss of 300 Megawatts or more of firm system loads for more than 15 minutes or more from a single incident.	BA/TOP will file if a single entity is affected. RC will file if multiple entities are affected.
	11) System-wide voltage reductions	DOE (1 hr.)	RC, BA, TOP	System-wide voltage reductions of 3 percent or more	RC will file if instructed by RC
	12) Public appeal to reduce the use of electricity	DOE (1 hr.)	RC, BA, TOP	Public appeal to reduce the use of electricity for purposes of maintaining the continuity of the BES.	RC will file if instructed by RC
	13) Firm load shedding resulting from a BES Emergency	DOE/NERC (24 hr.)	Initiating RC, BA, or TOP	Firm load shedding ≥ 100 MW (manual or automatic).	RC will file if instructed by RC
Fuel supply	14) Fuel supply emergencies	DOE (6 hr.)	RC, BA, TOP	Fuel supply emergencies that could impact electric power system adequacy or reliability.	BA/TOP will file if a single entity is affected. RC will file if multiple entities are affected.
IROL/stability path SOL violations	15) IROL violation or SOL violation for stability limited major WECC transfer paths	NERC (24 hr.)	RC	Operate outside the IROL for time greater than IROL Tv or Operate outside the SOL for more than 30 minutes for stability limited Major WECC Transfer Paths	RC will file
Control center functionality/evacuation	16) Unplanned evacuation of its BES control center	DOE/NERC (24 hr.)	RC, BA, TOP	Unplanned evacuation from its BES control center facility for 30 continuous minutes or more.	Affected entity will file



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	17) Complete loss of Interpersonal Communication and Alternative Interpersonal Communication capability at its staffed BES control center	DOE/NERC (24 hr.)	RC, BA, TOP	Complete loss of Interpersonal Communication and Alternative Interpersonal Communication capability affecting its staffed BES control center for 30 continuous minutes or more.	Affected entity will file
	18) Complete loss of monitoring or control capability at its staffed BES control center	DOE/NERC (24 hr.)	RC, BA, TOP	Complete loss of monitoring or control capability at its staffed BES control center for 30 continuous minutes or more.	Affected entity will file
Energy/Capacity Emergency	19) Energy Emergency Alert level 3 declared for a BA.	EEA-3 Reporting form	RC	EEA-3 declared for a BA.	RC will file.