

14.8

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### Purpose

Provides guidance for issuing Exceptional Dispatches (ED), making notifications and logging of ED.



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## 1. Responsibilities

CAISO Generation Dispatcher	•	Maintains adequate Operating Reserves and enters ED Instructions into RTM. Communicates resource requirements for any Manual Dispatch on the Interties to the Transmission Dispatcher.	
CAISO Manager, Real-Time Operations		Responsible for final decisions that regard the requirements for EDs.	

# 2. Scope/Applicability

#### 2.1. Background

The California ISO (CAISO) will make every effort to use ED only as necessary for conditions described in Section 3.1. During emergency operations, or when the CAISO is unable to maintain System Reliability by using resources available to the CAISO market, the CAISO is authorized by the CAISO Tariff to arrange ED for Energy transactions with Scheduling Coordinators and Non-Scheduling Coordinators. This may include, but is not limited to, forced Shutdowns or forced Start-Ups of Generation, Dynamic System Resources, and Participating Load. The CAISO may also enter into agreed upon transactions with Interchange Resources (Imports and Exports).

CAISO System Operators hold authority, as delegated by the Executive Officers of the CAISO, to take or direct timely and appropriate Real-Time (RT) actions necessary to ensure reliable operation of the CAISO Controlled Grid; up to and including shedding of Firm Load to prevent or alleviate System Operating Limit or Interconnection Reliability Operating Limit exceedances and comply with NERC and WECC Control Performance and Disturbance Control Standards. These actions may be performed without obtaining approval from higher-level personnel within the CAISO.

### 2.2. Scope/ Applicability

This procedure applies to cases where an Exceptional Dispatch is necessary.



# 3. Procedure Detail

### 3.1. Exceptional Dispatch (ED)

The following provides guidance for issuing an ED in Real-Time:

An ED is a commitment or Dispatch Instruction by CAISO Operators that is not a result of the market optimization in the IFM, RUC or RTM. To the extent possible, the CAISO utilizes market solutions before issuing ED. ED to Start-Up, Shut-Down, increment or decrement a resource may only be issued (per the CAISO Tariff Section 34.11) for the following reasons:

Refer to CAISO Operating Procedure <u>2330C Exceptional Dispatch Instruction Type Codes</u> for instruction type codes.

- 1. During a System Emergency
- 2. Prevent an imminent System Emergency
- 3. Prevent a situation that threatens System Reliability that cannot be addressed by the RTM optimization and system modeling in the required timeframe.
- 4. Commitment of Long-Start Strategic Reserve Resources (LS-SRR).

**Note:** This may include future-dated EDs that verify that the LS-SRR resource can startup, run through PMin and PMax tests as defined in Operating Procedure <u>5330 Resource</u> <u>Testing Guidelines</u>, and return to PMin to hold there until the start of the event period when Day-Ahead bids are present to dispatch economically. See Operating Procedure <u>4420 System Emergency</u> for more details.

- 5. Perform AS Testing (not subject to CPM)
- 6. Perform pre-commercial operations testing for Generating Units (not subject to CPM)
- 7. Perform PMax testing (not subject to CPM)
- 8. Mitigate for Overgeneration (not subject to CPM)
- 9. Provide for Black Start
- 10. Provide for Voltage Support
- 11. Accommodate TOR or ETC Self-Schedule changes after market close of HASP
- 12. Reverse a commitment instruction issued through the IFM that is no longer optimal as determined through RUC (not subject to CPM)



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## **Real-Time Exceptional Dispatch**

- 13. In the event of a Market Disruption, to prevent a Market Disruption, or to minimize the extent of a Market Disruption
- 14. Reverse the operating mode of a Pumped-Storage Hydro Unit
- 15. Any FNM modeling limitations that arises from transmission maintenance, lack of Voltage Support at proper levels as well as incomplete or incorrect information about the transmission network, for which PTOs have the primary responsibility.
- 16. Any system conditions including threatened or imminent reliability conditions for which the timing of the RTM optimization and system modeling are either too slow or incapable of bringing the CAISO controlled grid back to reliable operations in an appropriate time-frame based on the timing and physical characteristic of available resources to the CAISO.
- 17. Perform SC initiated post-outage testing (not subject to CPM).
- 18. Perform SC initiated certification testing (not subject to CPM).
- 19. To charge or hold a battery storage resource State-of-Charge (SOC) where projected peak or net peak system conditions require manual intervention to ensure high-levels of SOC is available.

**Note**: SOC Hold EDs must be of FIXED Instruction Type and GoTo equals to 0 (zero) MWs.

#### Additional Notes:

- To ensure proper settlement Start-up cost and Bid Cost Recovery (BCR) for all Exceptional Dispatches in either the Day-Ahead or Real-Time timeframe, the ED timeframe shall be entered as the maximum of either:
  - ED timeframe length required for Operations and reliability needs;
  - The length of Minimum On line registered in the MasterFile
- The ED Tool is also utilized for other purposes. See CAISO Operating Procedure <u>2330C Exceptional Dispatch Instruction Type Codes</u> for more details.



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### 3.1.1. ED Commitment Decision Timeframe

Reason	Prior HASP	STUC	HASP & STUC
To keep from cycling units	Yes	Yes	Yes
Flow based issues (modeled) or (not modeled)	Based on reliability needs	Based on reliability needs	Based on reliability needs
Voltage (single or multiple resource choices)	Yes, if Start-Up time requires	Yes, if Start-Up time requires	Yes, if Start-Up time requires
Stability (single or multiple resource choices) Voltage	Yes, if Start-Up time requires	Yes, if Start-Up time requires	Yes, if Start-Up time requires
Change of conditions Stability (single or multiple resource choices)	Yes, if Start-Up time requires	Yes, if Start-Up time requires	Yes, if Start-Up time requires
Change of conditions	Yes, if Start-Up time requires	Yes, if Start-Up time requires	Yes, if Start-Up time requires

#### 3.1.2. After DAM Publishes

Take the following actions after the DAM publishes:

#### CAISO Market Operator, CAISO Manager of Real-Time Operations, CAISO Generation Dispatcher

- 1. After the DAM,
  - **Review** the DAM results.
  - If additional capacity is required to meet a reliability need that is not committed in the DAM,
    - Utilize ED Tool to commit resources that meet reliability need.



### 3.1.3. RT ED

The following provides guidance for issuing an ED in real-time:

CAISO Generation Dispatcher
1. If an ELC resource start up is required for readiness testing,
<ul> <li>Verbally dispatch the resource online instructions including start time, end time, MWs and testing instructions.</li> </ul>
<ul> <li>Create an ED in the market if the start or end dates do not exceed the end of the next operating day.</li> </ul>
<ul> <li>Utilize the instruction-type = TEST, which indicates to the subsequent Day-Ahead run that the resource was online for readiness testing and its initial condition should not be updated.</li> </ul>
<ul> <li>If the start or end dates exceed the end of the next operating day <u>and</u> the ED cannot be created in the market yet,</li> </ul>
<ul> <li>Track the ED details in the Generation Dispatch Turnover until the ED is created in the market.</li> </ul>
<ul> <li>Create a SLIC log of type "EDE Instruction for Generators" with the resource name, start and end timeframes, MWs and testing instructions.</li> </ul>
<ol> <li>If specific resources are identified as deviating from Schedule/DOP <u>and</u> are contributing to the problem causing the need to consider an ED,</li> </ol>
<ul> <li>Issue an Operating Instruction to the resources that are contributing to the problem to cease uninstructed deviation and to comply with CAISO Dispatch Instructions, and</li> </ul>
Log the event in the Operations log.
<i>Note</i> : Directing resources to cease uninstructed deviation does not constitute an ED Instruction.
HASP/RTM:
<ol> <li>If reliability need is not immediate or if it is expected, the resource may be picked up in a HASP run,</li> </ol>
<ul> <li><u>Do not</u> issue Start-Up ED to units that have a start time of 60 minutes or less.</li> </ul>
<ul> <li>Wait for the HASP/RTM to run first to see if they are offered and cleared in the HASP/RTM.</li> </ul>
<ol> <li>If RT conditions dictate an ED is needed without using the RTM optimization software,</li> </ol>
<ul> <li>Determine if the ED is needed internal to the CAISO Balancing Authority or not.</li> </ul>
○ If yes, continue to Step 5.



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CAISO Generation Dispatcher
<ul> <li>If not, but there is a need for an Interchange resource (either an</li> </ul>
Import or Export),
<ul> <li>Communicate with Transmission Dispatcher and</li> </ul>
<ul> <li>Refer to CAISO Operating Procedure <u>2530 Manual</u></li> </ul>
Dispatch on Interties.
<ol> <li>Follow the priority in Section 3.2, Exceptional Dispatch Priority.</li> <li>Determine if a Verbal or Non-Verbal ED is required.</li> </ol>
Note: Verbal EDs are primarily for system emergency conditions that require the SC to follow the ED instruction immediately upon verbal confirmation. A Non-
Verbal ED may or may not be communicated via phone call to the SC and the ED
start time is reflected in the ADS dispatch.
Verbal ED Communication - State the following:
Verbal ED Dispatch: "The CAISO is issuing a min/max/fixed MW Verbal/ADS
Exceptional Dispatch for resource X starting at XX:XX and ending at XX:XX.
Please also follow all subsequent ADS instructions."
Note: Upon completion of the verbal communication, the ED is considered
issued by the CAISO for the exact start time given.
Additional Note: At the point of initial contact, the dispatcher may not yet know
the desired end time of the instruction in this instance, the end time will be
communicated via subsequent contact with the SC.
<b>Enter</b> ED into RTM for the entire ED period.
Non-Verbal ED Communication:
Enter ED into RTM for the entire ED period.
If time permits a verbal communication may be given as follows:
"The CAISO is informing [SC] of an Exceptional Dispatch for resource X which is
forthcoming or visible in ADS. Please follow your ADS instruction."
7. If an ED needs to be edited up to $T+7$ ,
• <b>Correct</b> the data in RTM.
<ul> <li>Create a Generation Notes Log with the trade date, ED#, resource and</li> </ul>
data edited.
8. If an ED needs to be edited after T+7,
<ul> <li>Create Log Type: Generation Desk Log and Log Title: EDE Instructions for Generators/ Corrections-96 hour with the trade date, ED#, resource and</li> </ul>
data edited.
9. If there is no longer a need for an ED,
Contact the SC to inform them to follow ADS dispatches.
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#### **CAISO Generation Dispatcher**

- **Update** the end time in RTM ED tool.
- 10. **Record** all Exceptional Dispatch in the ED Tool of the market application using the appropriate instruction type.
- 11. For pre-planned scheduled testing,
  - See CAISO Operating Procedure <u>5330 Resource Testing Guidelines</u>.
- 12. If the Market Software is unavailable,
  - **Log** the Exceptional Dispatch Instruction in operations logging tool (SLIC) using the appropriate instruction type.

**Note:** For pre-commercial test and resource testing guidelines, see CAISO Operating Procedure <u>5320 Resource Trial Operations and Test Energy Process</u> and <u>5330</u> <u>Resource Testing Guidelines</u>.

### 3.1.4. SOC Hold and SOC Charge ED

During projected high-load conditions of reliability concerns, EDs may be created as a lastresort to ensure a high-level of battery fleet SOC is available across peak time periods. SOC Charge EDs will efficiently charge battery resources to a target SOC by a desired end-time. If an SOC Charge ED reaches the target SOC before the desired end-time, a subsequent SOC Hold ED is created.



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### 3.2. ED Priority

#### 3.2.1. Unit Commitment Priority

Take the following actions when a resource is required to meet area reliability Capacity requirements, prior to issuing an ED:

CAISO Generation Dispatcher, CAISO Manager of Real-Time Operations		
1. Warning:		
<ul> <li>If an ED commitment is needed,</li> </ul>		
<ul> <li>Real-Time Operations personnel have decision-making authority to</li> </ul>		
commit non-RA units as required to maintain system reliability.		
2. Commit a full RR unit or partial RR unit, as appropriate,		
Considering Capacity and/or Energy needs, economics, and/or		
effectiveness with preference to full RR if all other criteria are equal.		
Note: Multiple units should be considered, based on Start-Up and min-Load costs.		
• If there are no RR units available and time permits,		
<ul> <li>Discuss with the RT Operations Management Team the need to</li> </ul>		
commit a non-RA unit to meet the reliability requirement.		
• If need is immediate,		

• **Take** all necessary actions to ensure reliability up to and including committing units subject to CPM.

### 3.2.2. RT Generation Dispatch

The following describes RT Dispatch of RR Generation resources for the various types of units:

Type of Unit	Dispatch Description
Full RR Units (up to NQC) and Partial RR Resources	<b>ED</b> RR Capacity as required for Energy, congestion mitigation, and reserve Capacity.
Unit with RR less than it's PMin	<b>Can be ED'd to</b> PMin as required for Energy, Congestion mitigation, ramping, and reserve Capacity and will not subject to CPM designation.
Non-RR Units	<b>ED</b> Capacity that has a Day-Ahead award. (ED Capacity with Energy, AS or RUC awards from Day-Ahead is not eligible for CPM designation, ED above Day-Ahead awards is eligible for CPM designation.)

**Note**: Not withstanding any of the above, in an emergency, or to ensure grid reliability, the Generation Dispatcher has authority to deviate from the above approval requirements and



None

Dispatch non-RR units as required to preserve the integrity of the bulk electric system and Interconnection.

### 3.2.3. Energy, Reserves and Congestion Mitigation

The following describes dispatching of Energy, reserves, and Congestion management:

Reason	Dispatch Description
Energy	<ul> <li>RA, partial RA, non-RA, or CPM unit Capacity dispatched as Energy in RT is done through the market application (RTM). Dispatches otherwise are through ED and any non-RA or RMR Capacity is eligible for CPM, unless the non-RA has been subject to a self-schedule or market-based commitment (i.e. DA award) or Spin/Non Spin market award at the time of the Exceptional Dispatch.</li> </ul>
Reserves	• RA, Partial RA, or non-RA unit Capacity dispatched as Energy in RT is done through the market application. Dispatches otherwise would be through ED. Non-RA RMR Capacity is eligible for CPM, unless the non-RA RMR Capacity has been subject to a self-schedule or market-based commitment (i.e. DA award) or Spin/Non Spin market award at the time of the Exceptional Dispatch.
	• Non-RA RMR Capacity committed and/or dispatched through ED for reserve Energy will be eligible for CPM designation, unless the resource has a self-schedule or market-based commitment (i.e. DA or FMM award) at the time of the Exceptional Dispatch.
Congestion Management	All resources can be dispatched through the market application as required for Congestion mitigation.
	• RA unit capacity with an effectiveness factor or determined effective by Operating Engineer (OE) study can be dispatched as needed through ED for Congestion mitigation outside of the market.
	• Partial RA unit Capacity greater than the RA Capacity should be dispatched through ED only after all available RA Capacity with an effectiveness factor or determined effective by OE study has been dispatched. (As conditions allow RA/RR capacity should be utilized prior to non-RA capacity.)
	• RA unit Capacity that has a minimal effectiveness equal to or less than 1% can be dispatched to redistribute or change Energy patterns based upon operator experience and or OE studies as long as it does not jeopardize system security or reliability.
	<ul> <li>Non-RA Capacity committed and/or dispatched for Congestion mitigation through ED with an effectiveness factor or determined effective by OE study can be subject to CPM designation, unless the</li> </ul>



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Reason	Dispatch Description
	Capacity is on a resource which has been subject to a self-schedule or market-based commitment (i.e. DA award) or Spin/Non Spin market award at the time of the Exceptional Dispatch; attempts should be made to utilize RUC awarded Capacity before any unit commitment of non-RA awarded Capacity.
	<b>Note</b> : Effort should be utilized to determine the least cost basis for Congestion mitigation as circumstances allow. (The Market Bid Overview information and generation shift factors should be utilized as circumstances allow to determine lease cost) In Emergency Conditions, for example, decisions must be made in real-time.

# 4. Supporting Information

#### **Operationally Affected Parties**

Shared with the Public.

#### References

Resources studied in the development of this procedure and that may have an effect upon some steps taken herein include but are not limited to:

CAISO Tariff	
CAISO Operating	2330C Exceptional Dispatch Instruction Type Codes
Procedure(s)	2530 Manual Dispatch on Interties
	5320 Resource Trial Operations and Test Energy Process
	5330 Resource Testing Guidelines
NERC Requirements	
WECC Criterion	
Other References	

#### Definitions

Unless the context otherwise indicates, any word or expression defined in the Master Definitions Supplement to the CAISO Tariff shall have that meaning when capitalized in this Operating Procedure.



None

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

Resource Adequacy (RA)	Resource Adequacy Resource: A resource that is required to offer Resource Adequacy Capacity. The criteria for determining the types of resources that are eligible to provide Qualifying Capacity may be established by the CPUC or other applicable Local Regulatory Authority and provided to the CAISO.
RR	Reliability Requirement (RR) Capacity is the sum of RA and CPM Capacity and is required to be offered to the CAISO.
System Unit	One or more individual Generating Units and/or Loads within a Metered Subsystem controlled to simulate a single resource with specified performance characteristics, as mutually determined and agreed to by the MSS Operator and the CAISO. The Generating Units and/or Loads making up a System Unit must be in close physical proximity to each other such that the operation of the resources comprising the System Unit does not result in significant difference in flows on the CAISO Controlled Grid.
Dynamic System Resource	A System Resource that has satisfied the CAISO's contractual and operational requirements for submitting a Dynamic Schedule, and for which a Dynamic Schedule has been submitted, including a Dynamic Resource-Specific System Resource.
СРМ	<ul> <li>Capacity Procurement Mechanism. The CPM enables the CAISO to acquire Generation Capacity through Exceptional Dispatches to:</li> <li>Maintain grid reliability if Load Serving Entities fail to meet Resource Adequacy requirements.</li> <li>Procured Resource Adequacy Resources are insufficient.</li> <li>Unexpected conditions, i.e., significant events, create the need for additional Capacity. The CPM replaces the Interim Capacity Procurement Mechanism.</li> </ul>

### **Version History**

Version	Change	Date
12.2	Added detail regarding instruction type TEST for readiness testing. Updated role of ISO Day-Ahead Market Desk to ISO Market Operator Desk. Minor formatting updates.	6/14/18



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Version	Change	Date
13.0	Section 3.1.3: Updated to include ED logging requirement clarification as a result from DMM inquiries on return from outage testing. Sections 1 & 3.1.3: Changed Interchange Scheduler to Transmission Dispatcher. Removed Real-Time MED references and instructions. Re-inserted Section 3.2 from version 11.7 (with edits to references to SR and management approvals), which was removed with the implementation of MED. Updated to include revised language on logging the ED.	4/23/20
	Added Resource Adequacy to the Definitions Section. Updated to remove pre-planned Scheduling Coordinator initiated Unit Testing requirements. Revised references to RMR to 'Legacy RMR' Removed 2330E from Appendix list as it retired 1/10/20 and added 2330F. Minor format and grammar updates.	
14.0	Periodic Review: Minor format and grammar changes and removed history prior to 5-years.	12/04/20
14.1	Removed reference of 2330F, as it retired 5/14/21. Updated to CAISO in most instances and spelled out first instance. Removed history prior to five years.	10/06/22
14.2	Section 3.1: Updated Tariff section reference to 34.11. References section: Included all procedure references.	1/12/23
14.3	Periodic Review: Added information on charging or holding battery State-of-Charge (SOC). Removed history prior to five years and minor formatting.	7/01/23
14.4	Updated from Generation Desk to Generation Dispatcher, from Market Operator Desk to Market Operator, and from Shift Manager to Manger, Real-Time Operations or Manager of Real-Time Operations. Updated one instance of ISO to CAISO.	9/11/23
14.5	Removed Legacy RMR and changed reference to Non-Legacy RMR to just RMR. Note that the Oakland Units 1 and 3 remain Legacy RMR until 1/1/24. Added note that SOC Hold EDs be of FIXED Instruction Type and GoTo of 0 (zero) MWs.	11/09/23
14.6	Section 3.1: Added new #4 with "Note" including detail on LS-SRR ED commitment and removed "Note" below for Non-Legacy RMR, as it is no longer applicable.	1/25/24
14.7	Section 2.1: Removed "Legacy RMR Generating Units" since this is no longer applicable. Section 3.1: Minor update to Item 3. Section 3.1.1: Updated decision table. Minor formatting and/or grammar edits.	2/22/24

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equie	<b>Effective Date</b>	5/02/24
	Distribution	Restriction:

None

Version	Change	Date
14.8	Section 3.1.3: Updated Task 6 to Determine if a Verbal or Non- Verbal ED is required and included clarification between verbal and non-verbal EDs.	5/02/24

## 5. Periodic Review Procedure

### Review Criteria & Incorporation of Changes

There are no specific criteria for reviewing or changing this document, follow instructions in CAISO Operating Procedure 5510.

#### Frequency

Every three (3) years.

# Appendix

2330C Exceptional Dispatch Instruction Type Codes