
 California ISO Your Link to Power	OPERATING PROCEDURE	Procedure No.	M-425
		Version No.	3.1
		Effective Date	11/12/08
Out-Of-Sequence and Out-of-Market Dispatch		Distribution Restrictions: None	

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PURPOSE

Provides guidance for the necessary conditions and communications for:

- Out-Of-Sequence or Out-of-Market Energy or capacity transactions
- Notification
- Logging


PROCEDURE

1. Generation Dispatcher Duties


- 1.1. **Determine** an Hourly Assessment and **compare** the final Hour-Ahead schedules including the Supplemental Energy and capacity bids to the CAISO forecast and determines the amount of RMR, and possibly other, Energy or capacity resources needed for each Settlement Period.
- 1.2. **Inform** the Shift Manager and RT GRC of resource shortages.
- 1.3. **IF** the need for additional resources is determined, **THEN inform** the Shift Manager of the volume of Supplemental Energy and capacity bids plus RMR resources available and the additional Out-of-Market transactions needed from Scheduling Coordinators and Non-Scheduling Coordinators.
- 1.4. **Direct** resources that are under-generating to cease uninstructed deviation and to return to their schedule or preferred operating point.

NOTE: Directing resources to cease uninstructed deviation does not constitute an Out-of-Market Dispatch instruction.

- 1.5. **Determine** resource Go To MW value for in-state Generators and System Resources and **communicate** to Real-Time GRC for input into the OOS Tool or dispatch by RT scheduler
- 1.6. **IF** the OOM call is scheduled not using the OOS Tool, **THEN communicate** the following information to the SC:
 - **Dispatch** MW amount, “Go To ____ MW”
 - **Specify** this is an OOS/OOM dispatch instruction
 - Start and end times of instruction. (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).

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- 1.7. **Log** all OOS & OOM dispatches in SLIC and save to the Market Operations, Generation, and OOS/OOM Reports.
- 1.7.1. **IF** instruction is made via RTMA,
THEN log the following required entries:
- A. **Log Type** - Generation Desk
 - B. **Title** - OOS/OOM Dispatch (per ADS)
 - C. **Dispatch Reason**
 - D. **Mitigated Area** - must match Comment field in RTMA
 - E. **Mitigated hours** - Start and End time (HE)
- 1.7.2. **IF** the instruction is made via a phone call,
THEN log the following required entries:
- A. **Log Type** - Generation Desk
 - B. **Title** - OOS / OOM Dispatch
 - C. **BA** - Select BA
 - D. **Event DTS Date**- Represents the Operating date the OOS/OOM instruction is to occur
 - E. **Event DTS Time** - Represents the operating time OOS/OOM instruction in the text is to occur
 - F. **Contact and DTS** - Person, date & time that the dispatch instructions were issued
 - G. **Short Description** - Reason for dispatch
 - H. **Text** - Will be populated by completely filling in the attributes in the Log Template
 - I. **Operating Hours** - Enter appropriate hours
 - J. **Start Time** - Enter instruction start time
 - K. **End Time** - Enter instruction stop time
 - L. **Resource ID** - Enter resource ID
 - M. **GO TO MW (Absolute Value)** - Enter go to MW value
 - N. **Related Logs** - Associated SLIC Log if applicable
 - O. **Related Outages** - Associated SLIC Outage if applicable

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2. Real Time GRC Duties

2.1. **IF** a shortage of resources is determined or anticipated, **THEN** the RT GRC **may send out** a Market message requesting additional resources. The following is an example:

“The CAISO is requesting additional supplemental energy for HE XXXX through XXXX. To the extent that Market Participants do not provide sufficient supplemental energy bids, the CAISO will take any appropriate means necessary to procure the needed resources, including procuring energy Out-of-Market to insure the reliable operation of the Balancing Area.”

2.2. **IF** the OOM instruction is for an inter-tie resource, **THEN communicate** the MW amount required to the RT Scheduler. RT Scheduler uses CAISO Operating procedure [S-318, Out-of-Market Energy Transactions on the Inter-ties](#) for dispatch.

2.3. **IF** the OOM instruction is for an in-state resource, **THEN enter** the following information in the OOS tool:

- Either an area of congestion or a reason for the instruction in the Comments section of the OOS Tool
- MIN/MAX GOTO values in the OOS Tool for execution of the next run of RTMA.

2.4. **Ensure** instructions are sent to Market Participants via ADS.


3. Intra-Zonal Congestion OOS or OOM

- **Refer** to CAISO Operating Procedure [M-401, Real-time Intra-Zonal Congestion](#) for application of this procedure for Intra-zonal Congestion Management.
- **Follow** the logging procedure as previously described.

4. Operating Reserves - OOM

CAISO Generation Dispatcher or Real-Time GRC, in conjunction with Shift Manager

- **Dispatch** Out-Of-Market Resources, as required, to maintain sufficient Operating Reserves.
- **Refer** to CAISO Operating Procedure [M-430 Dispatch Operating Reserve](#) and **follow** the logging procedure as previously described.

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5. Dispatchability Limits and Ramp Rate Constraints

- **Provide** an OOS instruction to Pmin with a log instruction indicating the same for all units (including MOW, RA, & Peakers) that are initially dispatched to be online by the CAISO and that are not part of the RTMA Real-Time commitment market instructions.
- Dispatching a unit above Pmin:
 - **Verify** their Hour-Ahead schedules (if available) and Master File Dispatchability point
 - **Issue** an OOS instruction to the identified Dispatchability point (based on their individual characteristics)
 - **Log** the instruction indicating “*Dispatchability*” as the *Reason*
- Dispatching a unit above the Dispatchability point (with ramp rate constraints):
 - **Verify** their Hour-Ahead schedules (if available) and Master File minimum MW requirement for a given ramp rate
 - **Issue** an OOS instruction to the new MW requirement with a log instruction indicating “*Ramp Rate Constraint*” as the *Reason*

Example: *Ormond 2 is currently at 350 MW and the operator requires the unit in high range:*


Issue an OOS Dispatchability instruction to 250MW (if their final Hour-Ahead schedule is ever less than 250 MW during the applicable hours) followed by another OOS Ramp Rate Constraint instruction to 400 MW.

Note: *Units with identical Pmin and Dispatchability points and that are being dispatched because of ramp rate constraints should be instructed to the required MW as a Ramp Rate Constraint with a log instruction indicating 1) Ramp Rate Constraint and 2) Pmin and Dispatchability are the same..*

6. Real-Time Over-Generation OOM

CAISO Generation Dispatcher or Real-Time GRC, in conjunction with Shift Manager

- Upon full utilization of the Supplemental Energy, decremental stack may **curtail** resources Out-of-Market, as required, to mitigate Over-Generation conditions.
- **Refer** to CAISO Operating Procedure [G-202, Real-Time Over-Generation](#) for this condition and **follow** the logging procedure as previously described.

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7. Condition 2 OOM

Condition 2 RMR units may be dispatched through an out of market transaction for reasons other than to manage Intra-Zonal Congestion or to address local reliability if all of the following four conditions are met¹:

- (1) The CAISO calculates that it requires Energy from a Condition 2 RMR Unit to:
 - (a) Meet forecast Demand and operating reserve requirements, or
 - (b) Manage Inter-Zonal Congestion,
- (2) If the dispatch is required to meet forecast Demand and Operating Reserve requirements, the CAISO must first revoke or deny waivers of the must-offer obligation for all other Generating Units, including non-Condition 2 RMR Units and Generating Units not subject to an RMR Contract that are subject to the must-offer obligation and not on outage, except as set forth in the Note below;
- (3) If the dispatch is required to manage projected Inter-Zonal Congestion then the CAISO must first revoke or deny waivers of the must-offer obligation from all other Generating Units, including non-Condition 2 RMR Units and Generating Units not subject to an RMR Contract that are subject to the must-offer obligation, that are within the Congested Zone, except as set forth in the Note below;
- (4) Before dispatching a Condition 2 RMR Unit pursuant to this procedure, the CAISO GRC must notify Market Participants via WeNet and e-mail (see Market Notice example below) of:
 - (a) The situation for which the CAISO is contemplating dispatching a Condition 2 RMR Unit, and
 - (b) The date and time the CAISO requires the Condition 2 RMR to be operating.

The dispatch notice shall be provided as far in advance as practical and prior to directing the Condition 2 Unit to start up. Log the dispatch notification in SLIC accordingly (select "OOM Dispatch for RMR Condition 2").


¹ Dispatches to manage Intra-Zonal Congestion or to address local reliability needs shall be issued under the terms of the RMR Agreements as specified in the G-203 and M-401 operating procedures.

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Example of Market Notice:

The CAISO will be dispatching [(i) A Condition 2 RMR Unit or (ii) multiple Condition 2 RMR Units] to [(i) meet forecast Demand and operating reserve requirements or (ii) manage Inter-Zonal Congestion] and provide Energy through an out-of-market transaction of [enter trade date] for the Hours Ending [enter applicable HE's or HE ranges].

Note: The CAISO does not have to revoke or deny a waiver to a Generating Unit (a) subject to environmental limitations if doing so would violate such limitations, or cause the Generating Unit to be unavailable in the future, or if the environmental limitations currently restrict the availability or use of the Generating Unit; or (b) if that Generating Unit would cause or exacerbate Congestion, Over-generation or other operational problems; or (c) if that Generating Unit is incapable of being available for dispatch in the required timeframe.

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SUPPORTING INFORMATION

Affected Parties

- Scheduling Coordinators
- Resource Owners
- Market Participants
- Participating Transmission Owners

Responsibilities

CAISO Operations	<ul style="list-style-type: none"> • Maintains adequate Operating Reserves • Manages scheduled and actual power flows on the CAISO Controlled Grid, first through CAISO markets, then through other means as available
CAISO Generation Dispatchers	<ul style="list-style-type: none"> • Notifies market resources, RMR Units, and other resources to mitigate Intra-Zonal Congestion • Maintains adequate Operating Reserves • Logs in SLIC the dispatch of OOM and OOS resources • Communicates with the Real-Time GRC OOM/OOS instructions to enter in the OOS Tool
CAISO Schedulers	<ul style="list-style-type: none"> • Documents appropriate interchange transaction information in CAS.
CAISO Transmission Dispatchers	<ul style="list-style-type: none"> • Manages Intra-Zonal Congestion (see CAISO Operating Procedure M-401)
CAISO Grid Resource Coordinator (GRC)	<ul style="list-style-type: none"> • Monitors the market • Enters any OOM instruction into the OOS tool for input into RTMA • Communicates any OOM resources requirements on the Inter-ties to the RT Scheduler • Send Market Notices prior to utilizing Condition 2 RMR units through an OOM dispatch
CAISO Shift Manager	<ul style="list-style-type: none"> • Responsible for final decisions that regard the requirements for RMR, Out-of-Sequence, and Out-of-Market Dispatch
CAISO Manager of Markets	<ul style="list-style-type: none"> • In conjunction with the CAISO Director of Market Analysis, is responsible to determine whether Intra-Zonal Congestion on a given transmission path can be mitigated through competitive market means

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CAISO Director of Market Analysis	<ul style="list-style-type: none"> In conjunction with the Manager of Markets, is responsible to determine whether Intra-Zonal Congestion on a given transmission path can be mitigated through competitive market means
Scheduling Coordinators (SCs)	<ul style="list-style-type: none"> Dispatches resources in response to the CAISO's Dispatch instructions

References


• CAISO Operating Procedure	G-203, Reliability Must-Run (RMR) Unit Commitment Procedure
• CAISO Operating Procedure	G-202, Real-Time Over-Generation
• CAISO Operating Procedure	E-508, Electrical Emergency Plan
• CAISO Operating Procedure	M-401, Real-time Intra-Zonal Congestion
• CAISO Operating Procedure	M-430 Dispatch Operating Reserve
• CAISO Operating Procedure	M-432 Must Offer Waivers
• CAISO Tariff §§1-11	Sections 4.6.3.1 and 7.
• CAISO Tariff §§12-43	Sections 30.1, and 30.6.1.2.2.
• CAISO Operating Procedure	S-318, Out-of-Market Energy Transactions on the Inter-ties

Policy

During emergency operation or when the CAISO is unable to maintain system reliability using resources in the CAISO Real Time commodities list, the CAISO is authorized by the CAISO Tariff to arrange Out-of-Market Energy or capacity transactions with Scheduling Coordinators and Non-Scheduling Coordinators.

The CAISO dispatches OOM and OOS Resources for the following purposes:

- To mitigate Intra-Zonal Congestion when a competitive market for such mitigation does not exist and RMR Units are not available or effective. The CAISO will also dispatch for Intra-Zonal Congestion in real time when a non-competitive market exists and there is no other solution available to maintain the reliability of the Grid. This includes conditions outside the CAISO's RMR designation criteria, such as 1) when transmission lines and/or RMR Units are taken out of service for planned maintenance or 2) after the Forced Outage of transmission lines or equipment.
- To maintain system reliability through a variety of system conditions.
- To Provide Energy when market Energy Bids are not sufficient to allow the CAISO to meet Operating Reserve requirements.

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Definitions


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

The following terms capitalized in this Operating Procedure are defined as:

Reserve Shortage	A Reserve Shortage occurs when, in the Hour-Ahead Market, Operating Reserves are forecast to be marginal or less than the WECC Minimum Operating Reliability Criteria requirement.
Out-Of-Market (OOM) Resource	A resource (including non-Market Participants) that has not bid or has been bid at prices beyond the currently effective price cap.
Out-Of-Market (OOM) Call	A call for an Out-Of-Market Resource for any of the following purposes: <ul style="list-style-type: none"> • Intra-Zonal Congestion in conditions where there are no effective RMR Units, or there are no competitive market bids available to mitigate the congestion. • Inter-Zonal Congestion where there are no competitive market bids available to mitigate the congestion • Energy or Reserve shortages.

Version History

Version	Change	By	Date
1.0	Draft	C. Henry	10/02/01
1.1	Combined OOM/OOS Communication and Dispatching requirements, added note to 1.4, modified logging steps for SLIC.	J. Bellnap	8/5/02
1.2	Added section 4 to reference G-202, Over-Generation	T. McKenzie	2/27/03
1.3	Revised section 4 to direct the full utilization of supplemental decremental energy prior to OOM energy for Over-Generation. Revised all references to indicate use of OOS prior to OOM. Revised logging requirement when RTMA/ADS are used for OOS/OOM instructions	M. Challstrom J. Bellnap	8/01/03
2.0	Revised for MD02 Phase 1B. Changed format to reflect job actions. Added reference to S-318.	L. Rasmussen	01/23/04
2.1	Minor updates.	Jack Bellnap	10/21/04
2.2	Added section 6.	M. Peterson	7/21/05
2.3	Corrected section 6 - OOM calls	M. Peterson	7/28/05
2.4	Added (select "OOM Dispatch for RMR Condition 2") to section 6.	N. Enciso	1/12/06
3.0	Added new Section 5	C. Vidal	7/31/08
3.1	Added clarification to Note at end of Section 5	M. Peterson	11/12/08

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TECHNICAL REVIEW

Reviewed By Content Expert	Signature	Date
Ops Support	Mike Peterson	11/12/08
Regional Transmission	Nan Liu *	8/25/08
Grid Ops	Bill Ellard *	9/5/08
Market Ops	Jamal Batakji	11/12/08
Scheduling	Bob Sullivan *	8/27/08

APPROVAL

Approved By	Signature	Date
Director of Grid Operations	Jim McIntosh *	9/5/08

* Signed previous version only. Changes to this version were minor and did not require full signature approval.