1. Background

This procedure outlines Exceptional Dispatches *Instruction Types*, *Reasons* and *Other Reasons* required for Dispatch Instructions issued pursuant to California ISO (CAISO) Tariff Section 34.11 to be entered manually by the CAISO Operator into the Exceptional Dispatch (ED) software.

The following major categories of exceptional dispatches should be used when positioning resources.

- **SYSEMR** is used to respond to or prevent system emergencies or imminent system emergency. SYSEMR code applies to events beyond the control of the CAISO including generator or transmission resource tripping, disruptive events in other balancing authority areas and captures events or conditions that cannot reasonably or feasibly be modelled or handled through the market and required manual intervention. (CAISO tariff 34.11.1)
- **TMODEL** is used for any Transmission-related modeling limitations that arise from transmission maintenance, lack of Voltage Support at proper levels as well as incomplete or incorrect information about the transmission network, for which the Transmission Owners (TO) have primary responsibility. (CAISO tariff 34.11.3)
- **NONTMOD** is used to capture any system conditions including threatened or imminent reliability conditions for which the timing of the Real-Time Market 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 characteristics of available resources to the CAISO. (CAISO tariff 34.11.3)

The following OTHER REASONS, which are used by CAISO Settlements for bid mitigation, are available in the ED tool:

- **DPMin**
- **Stranded AS**
- **Stranded RUC**

Other Reason **N/A** should not be used.

If the operator is mitigating for a constraint, the constraint being mitigated should be selected from the Nomogram/Flowgate dropdown menu (constraint is the best-fit monitored element).

Minimum Dispatchable Level (DPMin): is defined as "the greater of (1) the lower limit of the fastest segment of a Generating Unit's Operational Ramp Rate, as adjusted for the Generating Unit's Forbidden Operating Regions, if any and (2) if the resource is providing regulation, the lower limit of the Generating Units' Regulating Range." For MSG resources, the DPMin level is by configuration. Thus, there may be a higher ramp rate available in a higher configuration. Operators should use Bid Overview tables in market software for the most updated ramp rate information.

The purpose of EDs to access stranded AS or RUC is to ramp resources with Ancillary Services Awards or RUC Capacity to a dispatch level that ensures the availability of the awards.

2. Procedure Detail

2.1 SYSEMR Exceptional Dispatch Type:

Instruction Type	Reason	Other Reason	Notes
SYSEMR	Gas Limitations	N/A	To be used when there is a gas burn constraint requiring a unit or units to limit their gas burn.
		DPMin	
		Stranded AS	
		Stranded RUC	
	Other Reliability Requirement	N/A	If managing congestion, identify the best fit Transmission Constraint (i.e. most relevant monitored element) in the Transmission Constraint drop down.
		DPMin	
		Stranded AS	
		Stranded RUC	
	Load Forecast Uncertainty	N/A	To be used for commitment only.
	Market Disruption	N/A	Used for energy balance and congestion management during times of market disruption (e.g. market is down).
		DPMin	
		Stranded AS	

Instruction Type	Reason	Other Reason	Notes
		Stranded RUC	If managing congestion, identify the best fit Transmission Constraint (i.e. most relevant monitored element) in the Transmission Constraint drop down.
	Unplanned Outage (Transmission/Generation)	N/A	ED to respond to a tripped generator or transmission resource. Can be used to supplement a contingency dispatch. If managing congestion, identify the best fit Transmission Constraint (i.e. most relevant monitored element) in the Transmission Constraint drop down.
		DPMin	
		Stranded AS	
		Stranded RUC	
	Reverse Commitment Instruction	N/A	To be used to reverse a market commitment.
	Conditions Beyond the Control of the CAISO	N/A	Used to address conditions beyond the control of the CAISO that cannot be modeled in the market: i.e. fires, adverse weather, Transmission elements outside of the CAISO BAA. If managing congestion, identify the best fit Transmission Constraint (i.e. most relevant monitored element) in the Transmission Constraint drop down.
		DPMin	
		Stranded AS	
		Stranded RUC	
	SOC Charge	N/A	Used to instruct a battery storage resource to charge to a specific SOC in order to increase capacity for a real-time or forecasted system condition (i.e. forecasted energy shortage).
	SOC Hold	N/A	Used to instruct a battery storage resource to hold a specific SOC in order to retain capacity for a real-time or forecasted system condition (i.e. forecasted energy shortage). SOC Hold EDs must be of FIXED Instruction Type and zero (0) MWs for the Market Participant to receive the counterfactual payment. Create SOC Hold EDs with FIXED and zero (0) MWs only.

2.2 TMODEL Exceptional Dispatch Type:

Instruction Type	Reason	Other Reason	Notes
TMODEL	Planned Transmission Outage	N/A	Typically used for commitment. Identify PTO that has a planned transmission outage. If managing congestion, identify the best fit Transmission Constraint if the mitigation is clearly associated with the planned transmission outage (i.e. most relevant monitored element) in the Transmission Constraint drop down.
		DPMin	
		Stranded AS	
		Stranded RUC	
	Voltage Support	N/A	Typically used for commitment. Identify the responsible PTO. To be used for commitment or to increment resource only based on outage/study results, procedure or real-time conditions.
	Incomplete or Inaccurate Transmission	N/A	Typically used for commitment. Identify the PTO that provided incomplete or inaccurate transmission regarding testing, outage, etc. If managing congestion, identify the best fit Transmission Constraint (i.e. most relevant monitored element) in the Transmission Constraint drop down.
		DPMin	
		Stranded AS	
		Stranded RUC	
	Transmission Testing	N/A	Identify the PTO that is performing transmission testing and the element being tested.

2.3 NONTMOD Exceptional Dispatch Type:

Instruction Type	Reason	Other Reason	Notes
NONTMOD	Ramping Capacity	DPMin	Can be used for commitment to meet ramping requirements and/or net peak load. If ED is to DPMin level, use "DPMin" for Other Reason; if used to run units above DPMin use other reason N/A. If managing congestion, identify the best fit Transmission Constraint (i.e. most relevant monitored element) in the Transmission Constraint drop down.
		N/A	
		Stranded AS	
		Stranded RUC	
		N/A	
	Fast Start Unit Management	DPMin	ED used to shut down or keep a resource online so that it can provide its IFM AS awards (See CAISO Desktop Procedure GEN 003 Fast-start Non-Spinning Reserve Management). ED can also be used to preserve available starts for future hours.
		Stranded AS	
		Stranded RUC	
		N/A	
	Software Limitation	DPMin	ED issued only due to known or obvious software malfunction or limitation. Software Limitation ED reasons are excluded from CPM (Capacity Procurement Mechanism) designation. Identify software issue in Notes section. If managing congestion, identify the best fit Transmission Constraint (i.e. most relevant monitored element) in the Transmission Constraint drop down. This code should be used when a resources is given an ED to preserve Ramping capacity of other resources when needed.
		Stranded AS	
		Stranded RUC	
		N/A	
	Pump Management	N/A	Non-modeled pump resource characteristics.
	Bridging Schedules	N/A	Used when resource cannot be shut down and restarted before the next commitment or operating timeframe.
	Reliability Assessment	DPMin	Encompasses CP, IROL, SOL, and congestion-related EDs to mitigate reliability issues identified through the real-time assessment tools, such as RTCA (Real-Time Contingency Analysis), VSA (Voltage Stability
		Stranded AS	

Instruction Type	Reason	Other Reason	Notes
		Stranded RUC	Analysis, DSA (Dynamic Stability Analysis) and/or OP (Operating Procedures) or offline study. If managing congestion, identify the best fit Transmission Constraint (i.e. most relevant monitored element or nomogram constraint as applicable) in the Transmission Constraint drop down.
		N/A	

2.4 Testing Exceptional Dispatch Type Codes

Instruction Type	Reason	Other Reason	Notes
ASTEST	AS Testing Unannounced AS test	CAISO initiated testing	Testing for AS certification or unannounced AS test. The ED Tool will auto-populate with the Instruction Type, Reason and Other Reason when the CAISO performs Contingency AS Testing from the market tool.
		SC requested testing	
TEST	Unit Testing	CAISO initiated testing	For CAISO requested testing for reliability testing.
		SC requested testing	For SC or unit requested testing as requested by plant or Scheduling Coordinator (e.g. pre-commercial, post-outage, Black Start, or PMax testing).

2.6 Other Exceptional Dispatch Type Codes

Instruction Type	Reason	Other Reason	Notes
BS	Black Start	Real-Time Black Start Instructions	Used for actual Black Start resource instruction or actual Black Start resource dispatch under contract with the CAISO for Black Start services (*Not to be used for non-black start condition ED instruction or non-actual black start related testing*). Operations will create a single ED for the entire time for the specific BS resource after-the-fact. The ED shall be at PMin for the timeframe the resource was under TO/TOP control. This currently only applies to Russell City Energy Center (RUSCTY_2_UNITS) and Marsh Landing Generation (COCOPP_2_CTG3 / COCOPP_2_CTG4).
TEMR	Emergency Assistance	N/A	Used when emergency assistance energy must be provided from a specific resource or resources during Emergency Energy transactions with another BA.
TORETC	[None]	[None]	Used to override market dispatch for a resource that has TOR or ETC rights.
VS	Voltage Support	N/A	Used as a maximum go-to in order to back down resource so it can increase its Mvar support.

3. 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	Sections 34.11 (authority to issue exceptional dispatches); 39.7 (default competitive path designation); and 39.10 (categories of exceptional dispatches subject to mitigated settlement.
CAISO Operating Procedure	2330 Real-Time Exceptional Dispatch
NERC Requirements	

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.

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

SYSEMR	Is used to respond to or prevent system emergencies or imminent system emergency. SYSEMR code applies to events beyond the control of the CAISO including generator or transmission resource tripping, disruptive events in other balancing authority areas, captures events or conditions than cannot reasonably or feasibly be modelled or handled through the market, and required manual intervention. (CAISO tariff 34.11.1)

TMODEL	**I**s used for any Transmission-related modeling limitations that arise from transmission maintenance, lack of Voltage Support at proper levels as well as incomplete or incorrect information about the transmission network, for which the Transmission Owners (TO) have primary responsibility. (CAISO tariff 34.11.3)
NONTMOD	Is used to capture any system conditions including threatened or imminent reliability conditions for which the timing of the Real-Time Market 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 characteristics of available resources to the CAISO. (CAISO tariff 34.11.3)
DPMin	Minimum Dispatchable Level (DPMin): is defined as "the greater of (1) the lower limit of the fastest segment of a Generating Unit's Operational Ram Rate, as adjusted for the Generating Unit's Forbidden Operating Regions, if any and (2) if the resource is providing regulation, the lower limit of the Generating Units' Regulating Range." For MSG resources, the DPMin level is by configuration (Thus, there may be a higher ramp rate available in a higher configuration. Use Resource Parameters or Bid Overview tables in market software for the most updated resource characteristics or ramp rate information.

The following terms are referenced throughout this Operating Procedure and are as defined below:

Term	Definition
AS	Ancillary Services
BA	Balancing Authority
CP	Control Point
DPMin	Dispatchable PMin
DSA	Dynamic Stability Analysis
ED	Exceptional Dispatch
ETC	Existing Transmission Contract
IFM	Integrated Forward Market
IROL	Interconnection Reliability Operating Limit
MSG	Multi-Stage Generator

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Term	Definition
NONTMOD	Non-Transmission Modification (ED Type Code)
OP	Operating Procedure
PTO	Participating Transmission Owner
RCO	Resource Constraint Override (ED Type Code)
RMR	Reliability Must Run
RTCA	Real-Time Contingency Analysis
RUC	Residual Unit Commitment
SOL	System Operating Limit
SYSEMR	System Emergency (ED Type Code)
TEMR	Transmission Emergency (ED Type Code)
TMODEL	Transmission Modeling (ED Type Code)
TOR	Transmission Ownership Rights
VSA	Voltage Stability Analysis

Version History

Version	Change	Date
5.6	Updated where Instruction_Type equals BS for Blackstart events.	7/12/18
6.0	Added Background section. Restructured ED Instruction Type and associated Reason/Other Reason matrix. Added CAISO Tariff and procedure references. Minor format and grammar updates.	11/26/19
6.1	Clarified ED instruction for Black Start resources.	12/20/19
6.2	Updated Section 2.3: Updated "Notes" for "Software Limitation." Replaced "RTCA/VSA/DSA/OP" with "Reliability Assessment" and updated "Notes."	2/12/20
7.0	Periodic Review: Section 2.3: Updated notes for Ramping Capacity and Software Limitation.	12/04/20

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Version	Change	Date
	Section 2.4: Made corrections to "Other Reason" column for Test/Unit Testing and switched notes to align with the Market.	
7.1	Section 2.5: Added 'Legacy' to title and other edits made relating to Legacy RMR resources. Section 2.3: Added reference to Desktop GEN-003 under NONTMOD > Fast Start Unit Management.	5/14/21
7.2	Added clarification on use of BS ED code for only Russell City Energy Center. Removed Technical Review and Approval Sections for procedure consistency (Approvals kept on file electronically). Minor grammar edit in Section 1.	8/12/22
7.3	Section 2.4, ASTEST: Added "Unannounced AS test" to Other Reason column. References Section: Minor grammar edits to CAISO Tariff references.	9/09/22
7.4	Periodic Review: Section 2.1: added "SOC Charge" and "SOC Hold" to table. Section 2.3: Removed "SOC Hold" and "SOC Charge" from Ramping Capacity and added note. Rearranged "Other Reasons" for Fast Start Unit Management, Software Limitation and Reliability Assessment. Section 2.4, ASTEST: Removed "Unannounced AS test" from Other Reason column. Removed history prior to five years.	7/01/23
7.5	Added Marsh Landing resources to Black Start ED requirement and added that SOC Hold EDs must be of FIXED Instruction Type and zero (0) MWs. Note that the Oakland Units 1 and 3 remain Legacy RMR until 1/1/24. Minor format and grammar edits.	11/09/23
7.6	Spelled out first instance of CAISO in Background section. Section 2.1: Updated Notes for SYSEMR, Gas Limitations and corrected typo for SOC Hold note. Section 2.3: Removed last paragraph of NONTMOD, Software Limitation Notes, as it is no longer applicable. Section 2.4: Removed references related to Legacy RMR, as it is no longer applicable. Removed Section 2.5 for Legacy RMR, as it is no longer applicable.	2/22/24