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		Version No.	6.4
		Effective Date	8/15/24
Generation Outages		Distribution Restriction: None	

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Appendix 25

Purpose

This procedure details the processes related to planned and forced outages of generation facilities that are connected to the California ISO (CAISO) grid.

1. Responsibilities

Scheduling Coordinators (SC)	Ensure that Outages of generation facilities are coordinated with the CAISO in accordance with this CAISO Operating Procedure and the BPM for Outage Management .
Participating Generator (PG)	Ensure that Outages of generation facilities are coordinated with the CAISO in accordance with this CAISO Operating Procedure and the BPM for Outage Management .
CAISO Operations Planning	Performs engineering studies of Outage requests to determine impacts to reliability. Reviews, processes and approves requests for all Outages in the CAISO Planned Outage scheduling timeframe
CAISO Real-Time Operations	Manages and coordinates generation Outages in Real-Time and ensures system reliability.

2. Scope/Applicability


2.1 Background

The CAISO Tariff establishes the business processes used by the CAISO to coordinate the scheduling of generation Outages and management of Forced Outages. The provisions of this procedure are intended to be consistent with the CAISO Tariff.

2.2 Scope / Applicability

Describes the processes for managing Generation Outages within CAISO's jurisdiction, including the submission and approval of Outage Requests. This procedure is applicable to all Participating Generators with Participating Generator Agreements that require coordination of Outages with the CAISO. Procedures for managing transmission Outage requests are covered in CAISO Operating Procedure [3210 Transmission Outages](#). For an

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overview of implementation rules, requirements and guidelines regarding scheduling of generation and transmission outages, refer to the CAISO [BPM for Outage Management](#).

3. Procedure Detail

3.1 Outage Coordination and Request Timeframes

3.1.1 Planned vs. Forced

New requests for planned Maintenance Outages or requests to change Approved Maintenance Outages must be submitted to the CAISO at least seven (7) calendar days in advance of the start date for the Outage, in order for the Outage to be designated as a Planned Outage. The timeline for submitting the required advanced notice is calculated excluding the day the request is submitted and the day the Outage is scheduled to commence.


New Outage requests or requests to change Approved Maintenance Outages submitted seven (7) calendar days or less prior to the start of the Outage are designated as Forced Outages.

If the CAISO initially approves a requested planned generation outage and the CAISO subsequently disapproves the outage or withholds final approval, it is generally not appropriate for the scheduling coordinator (SC) to resubmit the same (or substantially similar) generation outage as a forced outage. Among other concerns, such conduct may constitute the submission of false information in violation of 18 CFR 35.41(b) and/or taking an outage not authorized by the CAISO in violation of section 9 of the CAISO tariff. The CAISO generates a monthly report to identify instances of this practice. CAISO Operations Planning staff typically will contact the scheduling coordinator that reported the outage to understand the circumstances of the outage better. If Operations Planning staff's concerns are not resolved about whether the outage was truly a forced outage, then the matter may be raised with the CAISO's Department of Market Monitoring for further review and investigation.

The preferred medium for submitting Outage requests is through the CAISO Outage management system (OMS). Outages can be submitted to the CAISO OMS directly from a web interface or via an Application Program Interface (API). The CAISO OMS will automatically designate an Outage as either Planned or Forced based on the date of submittal.

If the CAISO OMS is unavailable during the Outage Coordination timeframe, then requests can be provided via email. If the CAISO OMS is unavailable during the Real-time Timeframe, then requests can be provided by phone.

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3.1.2 Long-Range Outage Plans

By October 15 of each year, Participating Generators shall provide the CAISO with any proposed Outages for the following year via the CAISO OMS. These proposed Outage submittals should also include any requested additions or changes to previously approved Outages. The resulting submittal looks forward, approximately 15 months, including any new or revised Outages for the period of January 1 through December 31 of the following year.

3.1.3 Sharing of Outage Information


To maintain coordinated system operation, all approved Outage information shall be available by 10:00 a.m. Pacific Prevailing Time (PPT) for the next day. The CAISO shares Outage information with the following entities:¹

- Reliability Coordinator (RC)
- Affected Balancing Authorities (BA)
- Affected Transmission Operators (TOP)

The RC has final authority for the resolution of Outages affecting the bulk electric system. Operating Instructions received to cancel Outages from the RC are final. The CAISO publishes Path limiting Outages up to 30 days prior to the current date on the CAISO OASIS² site. The CAISO also publishes Approved Outages and Outages in progress for the next seven (7) calendar days on the CAISO website.


¹ TOP-002-4

² Requires a CAISO digital certificate to access.

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3.2 Planned Outage Scheduling of Resource Adequacy Resources

Outage Type	Submittal Timeline	Approval Criteria	Replacement or Substitution Requirement
RA Maintenance Outage With Replacement	No more than 45 days prior to RA month and no less than eight days prior to outage start date	Outage not likely to have a detrimental effect on reliable operation of the grid or facilities of a connected entity	Replacement capacity no less than MW of capacity on outage
RA Maintenance Outage Without Replacement	No more than 45 days prior to RA month and no less than eight days prior to outage start date	Outage not likely to have a detrimental effect on reliable operation of the grid or facilities of a connected entity; and outage will not result in insufficient RA capacity during outage period	No
Off-Peak Opportunity Outage	No more than 45 days prior to RA month and no less than eight days prior to outage start date	Outage not likely to have a detrimental effect on reliable operation of the grid or facilities of a connected entity; and outage scheduled during off-peak hours	No
Short-Notice Opportunity Outage	7 days or less prior to the outage start date	Outage not likely to have a detrimental effect on reliable operation of the grid or facilities of a connected entity; and outage will not result in insufficient RA capacity during outage period	Forced outage not subject to RAAIM
Forced Outages – RA and Non-RA Resources	7 days or less prior to the outage start date	Outage not likely to have a detrimental effect on efficient use and reliable operation of the grid or facilities of a connected entity	Forced outage subject to RAAIM

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3.3 Submittals of Outage Requests

Outage requests must be submitted for:


- Maintenance on any equipment (including Non-CAISO controlled line Outages or gen-ties) which may affect the maximum output of:
 - **Regulatory Must Take.**
 - A Participating Generator (PG) with a rated capacity of 10 MW or greater.
- Requests for Ancillary Service certification testing.
- Energization/Synchronization of new, re-rated or modified resources, identified as part of projects in the CAISO Resource Interconnection Management System (RIMS). Refer to the [BPM Managing the Full Network Model](#) for more information on the RIMS process.
- **Remote Intelligent Gateway (RIG)/Inter-Control Center Communications Protocol (ICCP)** equipment work.
- Any other outages resulting in curtailment of generation resources, as listed in Section 2 of the [BPM for Outage Management](#).
- Reliability Demand Response Resource dispatches performed in Real-Time by an entity other than the CAISO.
- Failure of Interpersonal Communication capability.³

At a minimum, all generation Outage requests must include the following information:

- Resource information
- Outage start date and time
- Outage end date and time
- Discovery date and time
- Emergency return time
- Nature of work (NoW)
- Short description of outage

Additional information such as Availability, Ancillary Service Availability and ramp rate information may be required depending on the NoW selected and the type of resource.

³ COM-001-3 R11

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3.3.1 Nature of Work (NoW) Categories

NoW and OMS

All Outage requests submitted to the CAISO OMS must have an associated NoW category assigned to it.

The NoW categories streamline Outage submission and processing time, capture relevant data for outage coordination, and increase consistency in the level of information reported. These NoW categories will provide downstream systems with the structured data necessary to ensure appropriate Outage processing and will facilitate increased automation of Outage requests. Use of certain NoW categories will determine whether an Outage de-rate for an RA resource will be subject to Resource Adequacy Availability Incentive Mechanism (RAAIM) provisions in Section 40.9 of the Tariff. Refer to Section 9 of the [BPM for Reliability Requirements](#). Refer to Outage Management BPM for more details on NoW.

Furthermore, the use of certain NoW categories in OMS will automatically designate an Outage as final approval required (FAR) or final approval not required (FAN). Refer to [Section 3.5](#) for a description of how FAN and FAR outages are processed in real-time.


3.3.2 Final Approval Required/ Not Required Designation

FAR vs FAN

All Outages submitted to the CAISO OMS are automatically designated as FAR or FAN, based on specific criteria.

Generation Outages in the following categories will be automatically designated as FAR:

- Outage with data defined in the Market Impacts portion of the outage.
- Resource is a Black Start resource.
- NoW of Automatic Voltage Regulator (AVR)/Exciter, Power System Stabilizer (PSS) or Transmission Induced is specified.
- NoW that requires Ancillary Service (AS) Availability data to be entered has been specified.
- If the curtailment value is 50 MW or greater.
- Outage is included in a group. The CAISO OMS automatically groups outages when certain criteria is met (e.g., when OMS automatically trumps switch positions in **two (2)** or more outages, the outages will be grouped and designated as FAR). In addition, a CAISO System Operator can manually group two (2) or more outages if it is determined that one outage impacts the other, or for other reliability reasons.


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All other generation Outages will be designated as FAN. If the Outage is not automatically set to FAR, the designation can be manually entered by CAISO Operations Planning or Real-Time Dispatcher. If the OMS designates the outage type as FAR, it cannot be manually changed to FAN.

3.3.3 Initiation of an Outage Request

Scheduling Coordinator (SC, Participating Generator (PG))	
1.	Submit Outage requests to the CAISO OMS using the appropriate NoW category in Section 3.3.1 .
2.	If OMS is not available, <ul style="list-style-type: none"> Submit the Outage request to the CAISO by electronic format (e.g., email or FTP file), voice communication or facsimile. <ul style="list-style-type: none"> Refer to CAISO Operating Procedure 3210F CAISO Outage Coordination Contact Information.
3.	If the request is for an equipment that affects a RAS, <ul style="list-style-type: none"> Select the "Affects RAS" attribute.
4.	If the request is for an Outage Coordination long-term planning: <ul style="list-style-type: none"> Select the "OC Long-Term Planning" attribute (i.e., identify work planned for which Outages or derates are required) to request Outages or derates starting at the beginning of the quarter and for at least the next twelve months. Include the preferred start date, the duration of the Outage, the specific work to be done along with the required boundaries for the Outage (i.e., clearance limits). Include all information relative to the necessary Outage window: <ul style="list-style-type: none"> System equipment operating limits Emergency return time Lead-time required to prepare for the Outage Required completion date, if any Provide alternative start dates, information relative to linkages with other Outages or de-rates (Example: if needed for providing start-up steam to adjacent units), or other pertinent information (ambient de-rates) to assist the CAISO in scheduling Outage opportunities.
5.	If this request is for a unit associated with RIMS project, <ul style="list-style-type: none"> Enter the RIMS project information in the RIMS tab of the electronic OMS Outage entry form.
6.	If this request is for an RA Maintenance Outage with Replacement, <ul style="list-style-type: none"> Enter the replacement ID for the replacement resource from the RAAM tool in the notes.
7.	If this request is for an Off-Peak Opportunity RA Maintenance Outage, <ul style="list-style-type: none"> Select the "Off Peak Opportunity" attribute.
8.	If this request is for a Short-Notice Opportunity RA Outage, <ul style="list-style-type: none"> Select the "Short-Notice Opportunity" attribute.

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Scheduling Coordinator (SC, Participating Generator (PG))
<ul style="list-style-type: none"> • Provide any other relevant details related to the Outage in the free form text notes' field of the OMS Outage Entry form.

3.3.4 Outage Request Submission Timelines

3.3.4.1 Long-Range and Mid-Range Outage Submission Timeline

Please refer to RC West Procedure [RC0630 Outage Coordination](#) for details.

3.3.4.2 Short-Range Outage Submission Timeline

The SCs are expected to submit five (5) business days prior to the RC short-range outage submission deadline for outages to be evaluated in the RC short-range study process.

Outages that were not received prior to the RC Short-Range Outage Study Window will need to meet the RC urgent outage requirements. For additional details, please refer to BPM.

The RC OPA lock-down time is 8:00 a.m. PPT one (1) business day prior to the start date of the outage.


3.4 Review and Confirmation of Outage Requests

Outage Request Review and Confirmation and Outage Request Priority:

Outage Request Review and Confirmation

The CAISO Operations Planning group (OP) reviews all Outages in accordance with the [BPM for Outage Management](#) to assess impact to reliability for the projected system conditions. Based on the results of the assessments, the CAISO OP will either confirm or deny the Outage request.

Note: *Planned Outages should not be considered “Confirmed” until an assessment has been completed by CAISO Operations Planning personnel and the Reliability Coordinator. In addition, final confirmation by a CAISO Real-time Dispatcher is needed on the day of the outage prior to commencing or ending an Outage designated as a FAR Outage.*

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Outage Request Priority


Outage requests are generally considered on a first-come first-serve basis with additional consideration given to the following factors:

1. Uncontrollable limitations.
2. Regulatory or other legal constraints.
3. Joint ownership facilities requiring CAISO coordination with external entities.
4. Warranty requirements.
5. Facilitation of additional (new) system resources.
6. Seasonal constraints (restricted access due to weather or protected areas for migratory birds, protected species, etc.).
7. Linkage to other outages (overlapping equipment, required to enable return of other equipment, etc.).
8. Other environmental benefits.

3.4.1 Review and Confirmation of Long-Range and Mid-Range Outage Requests

CAISO Operations Planning	
1. Coordinate annual maintenance plan submitted by participants to the CAISO by October 15 of the prior year.	
2. Coordinate with SC any modifications and additions expected to annual maintenance plan.	
3. Determine if the requested Outage affects Nuclear Plant Interface Requirements (NPIR). ⁴	
<ul style="list-style-type: none"> • If the requested Outage does not affect NPIR, <ul style="list-style-type: none"> ○ Go to Step 6 to review and confirm the outage prior to the RC long-range outage submission timeline. • If the requested Outage affects NPIR, <ul style="list-style-type: none"> ○ Contact the requesting SC <u>and</u> ○ Inform them that due to NPIR being affected, they must communicate and coordinate the outage between the PTO, CAISO and the Nuclear Plant Operator. 	
4. Confirm the Outage plan via OMS, by marking the “ <u>BA/TOP confirm</u> ” check box, if there are no reliability concerns.	
<ul style="list-style-type: none"> • Otherwise, deny the Outage by transitioning the Outage to the Denied State. 	
5. If a change is requested,	
<ul style="list-style-type: none"> • Assign that Outage request on a first come first serve basis. (The Outage no longer has priority associated with the previous CAISO coordinated Outage plan.) 	

⁴ NUC-001-4


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CAISO Operations Planning	
<ul style="list-style-type: none"> • Offer any additional Outage opportunity (based on adjusted assumptions or rescheduled Outages or de-rates). • If the Outage opportunity is refused, <ul style="list-style-type: none"> ○ Remove the requester from further consideration or the affected Outage. 	
6. If there is a need to cancel a Planned Outage due to system reliability concern, <ul style="list-style-type: none"> • Request volunteers via phone or email to reschedule their Outage without loss of their priority status. • If insufficient volunteers are identified, <ul style="list-style-type: none"> ○ Cancel and re-schedule Outages or de-rates starting with the lowest prioritized Outage listed for that start date. 	

3.4.2 Review and Confirmation of Short-Range Outage Requests

CAISO Operations Planning	
1. Review all new requests and modifications to existing Outage requests. <i>Note: Outages must be reviewed and confirmed prior to the RC short-range submission timeline.</i>	
2. Determine if the Outage is for an RA resource and if a replacement is required. <ul style="list-style-type: none"> • If the Outage is for an RA resource with replacement: <ul style="list-style-type: none"> ○ Verify RA replacement for the resource in the CIRA tool, using the replacement ID number provided in the Outage card notes. ○ Verify that the Outage will not result in insufficient available RA Capacity during the outage period. • If the Outage will result into insufficient available RA Capacity, <ul style="list-style-type: none"> ○ Reject the request. • If the Outage is an Off-Peak Opportunity RA Maintenance Outage, <ul style="list-style-type: none"> ○ Verify that the Outage is being requested for an off-peak period in accordance with the requirements in the BPM for Outage Management. • If the Outage is a Short-Notice Opportunity RA Outage, <ul style="list-style-type: none"> ○ Verify that the Outage will not result in insufficient available RA Capacity during the outage period. • If the Outage will result into insufficient available RA Capacity, <ul style="list-style-type: none"> ○ Reject the request. • If the request was submitted three (3) calendar days or less prior to the start date of the outage, <ul style="list-style-type: none"> ○ Verify that the repairs are necessary to maintain system or resource reliability and require immediate attention to prevent equipment damage or failure. 	

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CAISO Operations Planning
<ol style="list-style-type: none"> Review all Outages in OMS to assess impact to reliability based on projected system conditions. Assign market impacts, as needed, to manage constraints in the market due to the Outage. Confirm <u>or</u> deny Outages in OMS based on engineering study by checking the BA/TOP confirmation box <u>or</u> Denied State respectively.

3.4.3 Review and Approval of Forced Outage Requests

CAISO Operations Planning / CAISO Operations Engineer
<ol style="list-style-type: none"> Review all new requests and modifications to existing Outage requests. <i>Note: Outages must be reviewed and approved prior to the RC OPA submission timeline from Outage Management BPM and per CAISO Desktop Procedure GOT-010 Internal Coordination of Outage Tasks.</i> Review all Outages in OMS to assess impact to reliability based on projected system conditions. Assign market impacts as needed to manage constraints in the market due to the Outage. Confirm <u>or</u> deny Outages in OMS based on engineering study by checking the BA/TOP confirmation box <u>or</u> Denied State respectively.

3.4.4 Rejection Notification

CAISO Operations Planning
<ol style="list-style-type: none"> If an Outage cannot be approved as requested, <ul style="list-style-type: none"> Identify the reliability and security concerns that initiated the rejection. Request additional information (if required) to prioritize the Outage <u>and/or</u> Identify scheduling opportunities; <u>and</u> Suggest possible remedies or schedule revisions, as available, to mitigate reliability concerns. If adjustments cannot be exercised to remedy the Outage conflict, <ul style="list-style-type: none"> Deny the request. The <u>only</u> exception applies to Outages of an immediate nature that threaten public safety, personnel <u>or</u> equipment.


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3.4.5 Modifications and Cancellations of Confirmed Outages

Scheduling Coordinator (SC)
<ol style="list-style-type: none"> Submit changes or cancellations to Confirmed Outages in the CAISO OMS. If modifying an Approved Outage, <ul style="list-style-type: none"> Submit a request to modify the OMS Outage record at any time prior to the minimum notification requirements for Planned Outages (see Section 3.1.1), <u>or</u> prior to notification of approval or rejection by the CAISO, whichever occurs later. <p><i>Note: Outage priority will change if the Outage is rescheduled to a timeframe that is outside the timeframe of the original request.</i></p> If cancelling an Approved Outage, <ul style="list-style-type: none"> Submit the cancellation request at any time prior to actual initiation of the Outage. Best efforts should be made to provide <u>at least 4.5 hours</u> cancellation notice for outages with market impacts.

CAISO Operations Planning
<ol style="list-style-type: none"> If a change is requested for an Outage <u>within</u> the Outage Coordination Timeframe, <ul style="list-style-type: none"> Review the request for any reliability issues before making the decision to confirm <u>or</u> deny the change.

CAISO Generation Dispatcher
<ol style="list-style-type: none"> If a change is requested for an Outage within the Real-time Timeframe, <ul style="list-style-type: none"> Make the decision to confirm, reschedule, <u>or</u> cancel the Outage. For any questions, Real-Time Generation Dispatcher may consult Operations Planning or on-call Operations Planning representative. If a change is requested for an Outage for the current day, which extends through multiple business days, <ul style="list-style-type: none"> Evaluate if a conflict would arise from an extension based on expected conditions and Outages in the requested extension period.

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3.4.6 Deferred Planned Outages


CAISO Operations Planning
<ol style="list-style-type: none"> If the CAISO defers a Planned Outage due to system reliability requirements, <u>and</u> during that deferral period, the affected facility has a failure, which is directly related to the deferred Planned Outage: <ul style="list-style-type: none"> Designate the Outage as a Planned Outage. Conduct a review, as appropriate, to determine the nature and circumstances of the failure. If such a review is conducted, <ul style="list-style-type: none"> Report the results of that review (including the Forced or Planned designation of the Outage) to the facility owner and the RC.

3.5 Forced Outage Submissions

3.5.1 Immediate Forced Outages

Scheduling Coordinator (SC), Participating Generator (PG)
<ol style="list-style-type: none"> If a situation is likely to occur that results in a Forced Outage within the next twenty-four (24) hours unless immediate corrective action is taken, by any of the following situations: <ul style="list-style-type: none"> Removing generation facilities from service, <u>or</u> Causing RAS to be disabled or lose redundancy, <ul style="list-style-type: none"> Submit an outage request through OMS with as much notice as possible, and <u>within 60 minutes</u> of the discovery of the Outage.

CAISO Generation Dispatcher
<ol style="list-style-type: none"> Look for conflicts to current forced outages and active planned outages, as well as, any near term upcoming outages (next 12-24 hrs.). Request Operations Engineer studies as needed to validate reliability impacts. Cancel/reschedule conflicting Outages if deemed necessary to ensure reliability.


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3.5.2 Imminent Forced Outages

Scheduling Coordinator (SC), Participating Generator (PG)
1. If a situation is likely to result in a Forced Outage, but of a nature not requiring a removal from service until more than twenty-four (24) hours in the future, <ul style="list-style-type: none"> • Submit an Outage entry via OMS in accordance with the requirements in Section 3.1 and Section 3.2. • Attach any special procedures to outage card.
CAISO Generation Dispatcher
1. If the request is for an Outage within the Real-Time Timeframe, <ul style="list-style-type: none"> • Review and confirm the request at the earliest opportunity, if system conditions allow. • Request Operations Engineer to review as needed. • Email the Real-Time Outage Changes group. 2. If the request is for an Outage outside the Real-Time Timeframe, <ul style="list-style-type: none"> • Forward the request for review to Operations Planning.
CAISO Operations Planning
1. Review and confirm the requests for Imminent Forced Outages within the Outage Coordination timeframe.

3.5.3 Submission of Reliability Demand Response Resource Outages

Scheduling Coordinator (SC), Participating Generator (PG)
1. If an entity other than the CAISO dispatches a Reliability Demand Response Resource in Real-Time in order to mitigate a local transmission <u>or</u> distribution system emergency, <u>or</u> perform a test, <ul style="list-style-type: none"> • The SC must submit an Outage entry via OMS in accordance with the requirements in Section 3.2.
CAISO Generation Dispatcher
1. If the request is for an Outage within the Real-Time Timeframe, <ul style="list-style-type: none"> • Review and confirm the request at the earliest opportunity, if system conditions allow. • Request Operations Engineer to review as needed. • Email the Real-Time Outage Changes group. 2. If the request is for an Outage outside the Real-Time Timeframe, <ul style="list-style-type: none"> • Forward the request to Operations Planning for review.

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CAISO Operations Planning, CAISO Operations Engineer
1. Review and confirm the requests for Imminent Forced Outages within the Outage Coordination timeframe, per CAISO Desktop Procedure GOT-010 Internal Coordination of Outage Tasks . <ul style="list-style-type: none"> Does the outage limit two (2) or more generators to zero (0) MW?

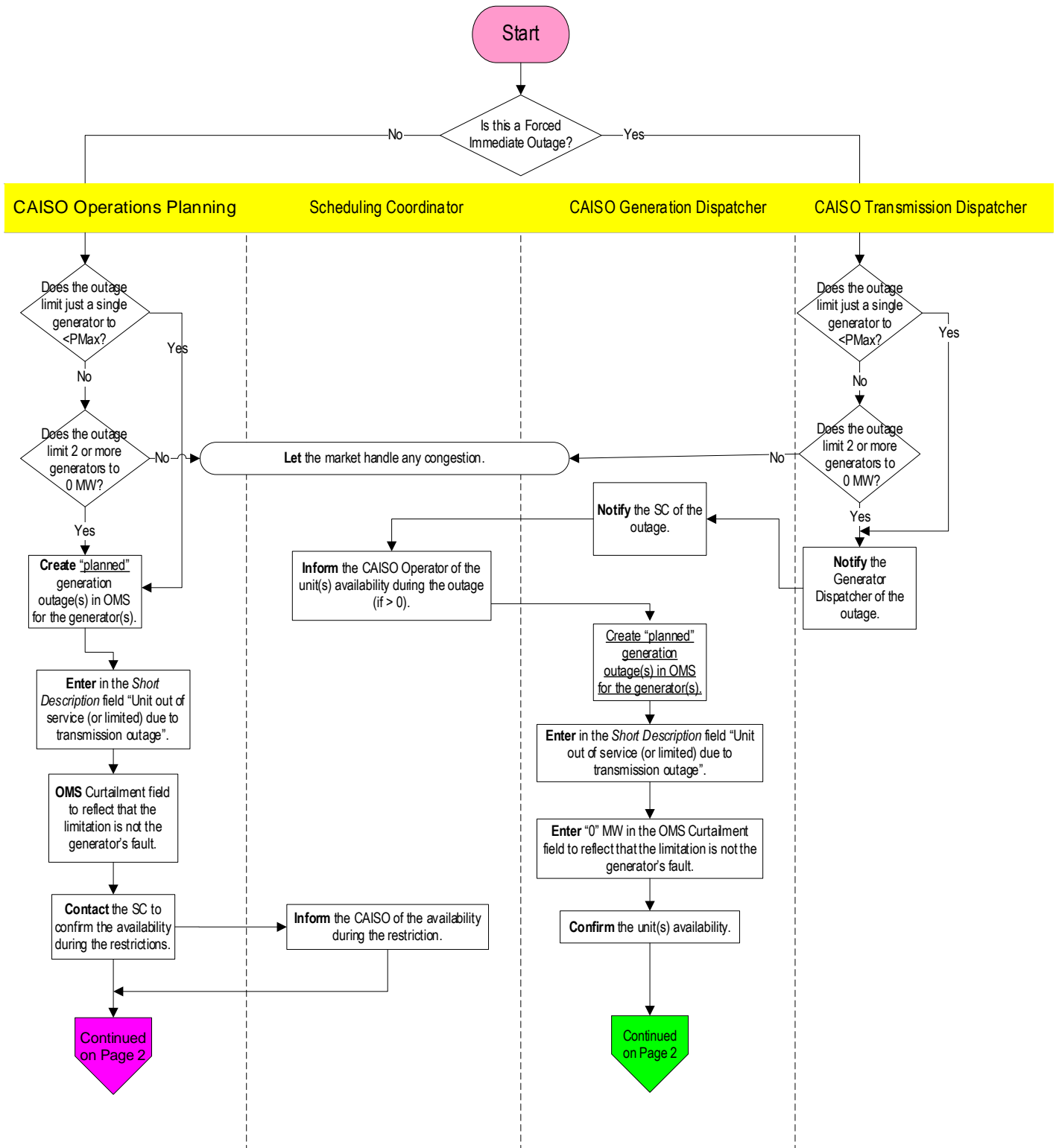
3.6 Transmission Induced Generation Outages

The flowchart on the following pages shows the tasks and communications that are necessary by the indicated parties to prepare for or react to Planned or Immediate forced generation outages that are caused by a transmission line outage.


This process applies to either:

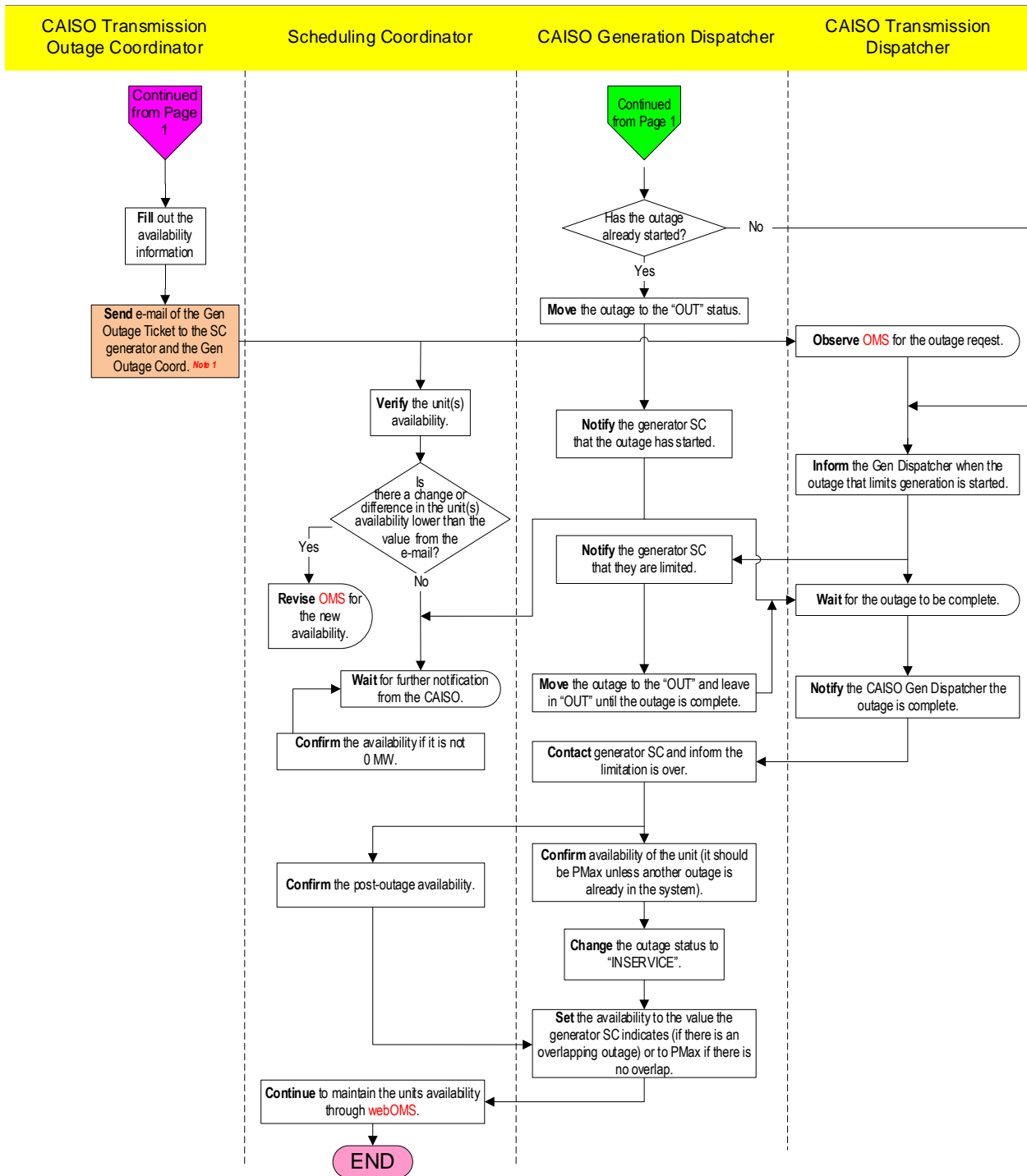
- Outages that hard limit just a single generator to < PMax, or
- Outages that limit two (2) or more generators to zero (0) MW, otherwise let the market mechanisms address the outage(s).
- Outages that have inertia impacts and have CAISO generator connected to a non-CAISO system.

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Note 1: Place the following verbiage on the top of the e-mail: "Hello, please note that there has been a change to your transmission induced generation outage and let me know if you have any concerns with this change. Refer to CAISO Operating Procedure 3220 for further information. Please monitor your OMS Web workspace for outage status changes. If you have any questions regarding this limitation, please contact the CAISO Outage Management group. Daily updated outage information for scheduled generator and bulk transmission outages planned for the next day (as per TOP-003-5 R.1.2) is provided at <https://www.caiso.com/market-operations/outages#transmission-outage-reports> (Note: A valid user certificate is required to access the CAISO Transmission Outage Report).

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3.7 Real-Time Outage Processing

3.7.1 Final Approval

CAISO Final Approval

In accordance with the [BPM for Outage Management](#), an SC or PG within the CAISO controlled grid must not initiate an Outage without receiving final approval of the Outage, unless the CAISO determined that final approval is not required.

In Real-Time, FAR outages require CAISO System Operator final approval to start and end outages; requests and approval of requests may be handled electronically. FAN outages can proceed as scheduled without CAISO System Operator approval, and actions are reported electronically.

Prior to the start of the Outages for the day, the CAISO Generation Dispatcher is to:


- Review all scheduled Outages for the day to ensure no reliability issues exist.
- Review any applicable nomograms, procedures, and/or historical data relating to the Outage.
- In addition, during the Outage, periodically verifies to ensure no reliability issues exist.

Reliability Coordinator Final Approval

Where a Maintenance Outage requires separate approval from the Reliability Coordinator, the Operator may not request final approval of the Maintenance Outage unless the Reliability Coordinator separately has approved the requested Maintenance Outage.

3.7.2 Starting an Approved Outage

Scheduling Coordinator (SC), Participating Generator (PG)	
1. Prior to the scheduled Start time,	<ul style="list-style-type: none"> • Request to start the outage by submitting an “OUT OK” request electronically via OMS or by contacting the CAISO Generation Dispatcher by phone. <p>Note: The Outage card will automatically transition to the OUT State at the Scheduled start time, if the Generation Dispatcher has approved the OUT OK request prior to the scheduled start time.</p>

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CAISO Generation Dispatcher
<ol style="list-style-type: none"> 1. Ensure that system conditions allow all Outages to proceed as scheduled. 2. Review and approve “OUT OK” requests to initiate FAN and FAR Outages electronically via OMS. 3. If system conditions do not allow an Outage to proceed as scheduled, <ul style="list-style-type: none"> • Cancel the Outage and • Work with the SC to reschedule the Outage.

Scheduling Coordinator (SC), Participating Generator (PG)
<ol style="list-style-type: none"> 1. At the scheduled start time, <ul style="list-style-type: none"> • Verify that the Outage card has automatically transitioned to the OUT state. • Proceed with the scheduled Outage work, once it is confirmed that the Outage card has transitioned to the OUT state.


3.7.3 Ending an Outage

Scheduling Coordinator (SC), Participating Generator (PG)
<ol style="list-style-type: none"> 1. Prior to the scheduled end time, <ul style="list-style-type: none"> • Request to end the outage by <ul style="list-style-type: none"> ○ Submitting an “IN OK” request electronically via OMS or by ○ Contacting the CAISO Generation Dispatcher by phone. <p>Note: The Outage card will automatically transition to the In-service State at the scheduled end time, if the CAISO Generation Dispatcher has approved the IN OK request prior to the scheduled end time.</p>

CAISO Generation Dispatcher
<ol style="list-style-type: none"> 1. Ensure that system conditions allow all Outages to end as scheduled. 2. Review and 3. Confirm “IN OK” requests to end FAN and FAR Outages electronically via OMS.

Scheduling Coordinator (SC), Participating Generator (PG)
<ol style="list-style-type: none"> 1. Verify that the CAISO Generation Dispatcher has approved ending the outage. 2. Restore the unit to the grid prior to the scheduled end time. <p>Note: The Outage card will automatically transition to the In-service Editable State at the scheduled end time, if the Generation Dispatcher approves the IN OK request.</p> <p>The Outage Card will automatically transition to the In-service State 24 hours after In-service Editable State. The Outage card is locked from editing in the In-service State. The SC or PG should contact the CAISO Generation Dispatcher to make any additional changes to the card.</p>

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3.7.4 CAISO Notification of Real-Time Change to an Approved Outage


Scheduling Coordinator (SC), Participating Generator (PG)
1. If there is a deviation from the scheduled outage times greater than 30 minutes, or scope of the work changes during or prior to its beginning: <ul style="list-style-type: none"> • Submit a change request to the Outage card via OMS <u>or</u> • Notify the CAISO Generation Dispatcher immediately by phone.
CAISO Generation Dispatcher
1. Review all Real-Time changes to the Approved Outage in OMS for impacts to system reliability. 2. Re-evaluate any future approved Outages for reliability. 3. Request Operations Engineer studies as needed. 4. Confirm the Real-Time changes if it is determined that system conditions allow and there are no adverse impacts to reliability. 5. If the revised Outage extends into the next Outage day, <ul style="list-style-type: none"> • Email the Real-Time Outage Changes group.

3.8 Outage Types & Validation Rules

The following explains the outage type mapping logic between CAISO OMS and Reliability Coordinator Outage Management system.

Rule	RC Outage Type
If (NoW != ICCP or RTU_RIG or Unit Testing or RIMS Testing or RIMS outages or New Generator Test Energy or Metering/Telemetry)	Informational
If (NoW != ICCP or RTU_RIG or Unit Testing or RIMS Testing or RIMS outages or New Generator Test Energy or Metering/Telemetry) And (Submit Time-Start Time <= 0)	Forced Automatic
If (NoW != ICCP or RTU_RIG or Unit Testing or RIMS Testing or RIMS outages or New Generator Test Energy or Metering/Telemetry) And (Short-Notice Opportunity OR Off Peak Opportunity != 'Y') And (0 < Submit Time-Start Time < 24 hrs.)	Forced Emergency
If (NoW != ICCP or RTU_RIG or Unit Testing or RIMS Testing or RIMS outages or New Generator Test Energy or Metering/Telemetry) And (Short-Notice Opportunity OR Off Peak Opportunity != 'Y') And (24hrs <= Submit Time-Start Time < 17d)	Urgent

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Rule	RC Outage Type
If (NoW != ICCP or RTU_RIG or Unit_Testing or RIMS Testing or RIMS outages or New Generator Test Energy or Metering/Telemetry) And (Submit Time-Start Time >= 17d)	Planned

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	Section 9
CAISO Operating Procedure	
NERC Standards	IRO-017-1; NUC-001-4 R9.1
WECC Criterion	
Other References	BPM for Outage Management BPM for Reliability Requirements RAAM User Guide


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:


Approved Outage	An Outage request that has been reviewed and approved by the RC.
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Approved State	An Outage state in OMS that identifies an Outage as approved by the RC. An Outage that has been approved by the RC will be clearly identified with the label “Approved” in the OMS Outage record.
Denied State	An Outage state in OMS that identifies an Outage as disapproved by the CAISO/RC West. An Outage that has been disapproved by the CAISO will be clearly identified with the label “Denied” in the OMS Outage record.
In-service Editable State	An Outage state in OMS that indicates that the actual end time for the Outage has been submitted and the OMS Outage record can still be edited.
In-service State	An Outage state in OMS that indicates that the actual end time for the Outage has been submitted and the OMS Outage record has been locked from editing.
Late to End State	An Outage state in OMS that indicates a request to end an Outage (i.e. an In OK request) has not been submitted by the planned end time.
Long-Range Outage	According to the BPM for Outage Management, this refers to all outage requests with a start date of 46 days or greater from date of submittal.
NoW	Nature of Work.
Late to Start State	An Outage state in OMS that indicates a request to start an Outage (i.e. an Out OK request) has not been submitted by the planned start time.
OMS	Outage management system.
Outage Coordination Timeframe	As applied to Outage processing, Outages submitted outside the Real-time Timeframe are considered to be within the Outage Coordination Timeframe.
Real-Time Timeframe	As applied to Outage processing, Outages submitted after 1500 PPT with a start time up until the end of the next day are considered to be within the Real-Time Timeframe.
RIMS	Resource Interconnection Management System: A web application used by the CAISO to track transmission and generation projects.


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Version History

Version	Change	Date
5.0	Noted Errata changes (Highlighted above) to version history for previous two updates. Section 3.3: Added last bullet (Generation Outage type Failure of Interpersonal Communication capability) and reference/footnote. Section 3.6.1: Spelled out Reliability Coordinator and not RC. Section 3.7: Updated right column title to RC Outage Type and added missing "!" in first row under "Rule" column. Replaced Real-Time Operations Engineer & Real-Time OE with Operations Engineer throughout. Replaced Peak RC with the RC throughout. Added back reference of 3220A that was left off from past few versions. Removed version history prior to 5-years. Minor format and grammar updates throughout.	7/01/19
6.0	Periodic Review: Section 3.1.1: Added 3rd paragraph. Added new 3.6 Transmission Induced Generation Outages section (Including Flowchart with minor edits) and renumbered following sections. Replaced instances of ISO with CAISO and Blackstart with Black Start. Minor format and grammar updates for consistency.	2/19/21
6.1	Removed Section 3.7.5, as it is no longer applicable. Updated NERC Standard references. Updated instances of ISO to CAISO in diagrams. Minor update in Review Criteria for consistency. Minor format and grammar updates.	11/15/21
6.2	Section 3.6: Addition third bullet about intertie impacts with CAISO generator connected to a non-CAISO system. References section: Added IRO-017-1 under NERC Standards. Replaced Generation "Desk" with "Dispatcher". Removed history prior to five years.	10/26/23
6.3	Periodic Review: Spelled out first instance of CAISO in Purpose section. No other content changes.	2/22/24
6.4	Section 3.6: Updated text box for "Note 1" below second page of outage process diagrams. Minor formatting and grammar edits, and removed history prior to five years.	8/15/24

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5. Periodic Review Procedure

Review Criteria & Incorporation of Changes

There are no specific review criteria identified for this procedure, follow instructions in CAISO Operating Procedure 5510.

Frequency

Every three (3) Years.

Appendix

3220A CDWR-SWP System Outage