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		Version No. 17.2
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Transmission Outages		Distribution Restriction: None

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Purpose

This procedure details the processes related to planned & forced outages of transmission equipment & interconnections under the CAISO jurisdiction.

1. Responsibilities


Participating Transmission Owner (PTO)	Ensure that Outages of transmission facilities that are part of the CAISO grid are coordinated with the CAISO in accordance with this CAISO Operating Procedure and the BPM for Outage Management .
Adjacent Balancing Authority (ABA)	Coordinate Outages that affect the CAISO control grid with the CAISO in accordance with NERC/WECC Reliability Standard.
Transmission Operator (TOP)	Coordinate Outages that affect the CAISO control grid with the CAISO in accordance with NERC/WECC Reliability Standard.
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 Outage Coordination Timeframe.
CAISO Transmission Dispatcher	Manages and coordinates transmission Outages in real-time to 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 transmission Outages and management of Forced Outages. The provisions of this procedure are intended to be consistent with the CAISO Tariff.

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2.2 Scope / Applicability

Describes the procedures for managing transmission Outages within the CAISO’s jurisdiction, including the submission and approval of transmission Outage Requests. The procedure is applicable to all Participating Transmission Owners and transmission entities connected to the CAISO grid with operating agreements that require coordination of Outages with the CAISO. Procedures for managing generation Outage requests are covered in CAISO Operating Procedure [3220 Generation Outages](#). For an 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 transmission Maintenance Outages or requests to change Approved Maintenance Outages must be submitted to the CAISO at least seven (7) 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) days or less prior to the start of the Outage are designated as Forced Outages.

If the CAISO initially approves a requested planned transmission outage and the CAISO subsequently disapproves the outage or withholds final approval, it is generally not appropriate for the PTO resubmit the same (or substantially similar) transmission outage as a forced outage. A monthly report is generated to catch this practice. The CAISO sends the report to the Department of Market Monitoring after PTOs’ confirmation.

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 Planned Outage Requests of Significant Facilities for CRR

CAISO transmission facilities of 200 kV or greater, or which have been designated as Significant Facilities in Attachments B, C, or D, must be submitted 30 days in advance of the calendar month that the outage is to begin. If the 30th day falls on a non-CAISO business day, the Planned Outage Request is due on or before the last business day, 30 days prior to the month the Outage is to begin.

3.1.3 Long-Range Outage Plans

By July 1 of each year, PTOs shall provide the CAISO with any proposed Outages for the following year impacting its transmission system, in 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 January 1 until December 31 of the following year. In addition, long-range plans from external BAs and TOPs are also accepted and are used in determining priority of all Outages affecting PTOs.

3.1.4 Sharing of Outage Information

To maintain coordinated system operation, all BA/TOP confirmed 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 (IRO-010-3 R3, IRO-017-1 R2, TOP-003-4 R5 and R6):

- Reliability Coordinators (RCs)
- Affected Balancing Authorities (BAs)
- Affected Transmission Operators (TOPs)


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 OASIS site (**Note:** requires a CAISO digital certificate to access). The CAISO also publishes Approved Outages and Outages in progress for the next seven (7) days on the website.

3.2 Submittals of Outage Requests

Outage requests must be submitted for:

- All types of work on transmission equipment, communication and monitoring facilities listed in the [BPM for Outage Management](#).

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- Energization/Synchronization of new, rerated or modified transmission facilities, identified as part of transmission projects in the CAISO Resource Interconnection Management System (RIMS). Refer to the [BPM for Managing the Full Network Model](#) for more information on the RIMS process.
- Permanent removal of existing transmission equipment from service.

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

- Equipment 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
- Primary and secondary cause codes, if the request is submitted within the Forced Outage timeframe


If an equipment is to be taken out of service, then modeling of the switch positions is required.

3.2.1 Nature of Work (NoW) Categories

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

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.

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). See [Section 3.5](#) for a description of how FAR and FAN outages are processed in real-time.

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NoW Categories for Transmission Outage
 (Screenshot provided below to demonstrate the terms “Equipment,”
 “Switches” and “Equipment Rating Changes”):

Category	Purpose
Out of Service	Transmission equipment out of service or interrupting a transmission flow path.
Energized Work	Transmission equipment work while facilities are energized.
Relay Work	Protective equipment taken out of service.
Special Setup	Transmission work that requires unique system setup and modeling.
Test Program	Transmission facility/equipment testing (equipment may or may not be energized).
Equipment De-rate	Work that will cause a derate of transmission facility/equipment.
Equipment Abnormal	Work that requires switching or placing system equipment in abnormal positions.
Path Limitation	Work that will limit capacity on a transmission path.
Communications	Work on system communication equipment.
Out of Service with Special Setup	Transmission work that requires equipment to be out of service while also requiring unique system setup and modeling.
RIMS Outage	Participant projects that are new, replacement, or decommissioning of equipment scheduled to be energized.
RIMS Testing	Request to test new or replaced equipment before energizing.


3.2.2 Final Approval Required / Not Required Designation

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

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

- Outage with data defined in the Market Impacts portion of the outage.
- Equipment with voltage of 500 kV or higher.

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- NoW of Communications is selected.
- 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 2 or more outages, the outages will be grouped and designated as FAR). Also, a CAISO Operator can manually group two or more outages if it is determined that one outage impacts the other, or for other reliability reasons).

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

3.2.3 Initiation of an Outage Request

Participating Transmission Owner (PTO), Transmission Operator (TOP)
<ol style="list-style-type: none"> 1. Submit Outage requests to the CAISO OMS using the appropriate NoW category in Section 3.2.1. <ul style="list-style-type: none"> • 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 voice communication (Refer to CAISO Operating Procedure 3210A Transmission Outage Request and 3210F CAISO Outage Coordination Contact Information). 2. If the request is for a transmission equipment significant to CRR, <ul style="list-style-type: none"> • Select the “CRR Designation attribute”. If the request is for an equipment that affects a RAS, • Select the “Affects RAS” attribute. <p><i>Note: Refer to Section 5 of the BPM for Outage Management for the requirements for scheduling transmission equipment significant to CRRs.</i></p> 3. If the request is for 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 de-rates are required) to request Outages or de-rates starting at the beginning of the quarter and for at least the next twelve (12) 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 and any information relative to linkages with other Outages.

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Participating Transmission Owner (PTO), Transmission Operator (TOP)
<p>4. If the request is for Energization of new equipment:</p> <ul style="list-style-type: none"> • Select the “Is New Equipment Energized” attribute. • Include applicable information from 3210G Outages to Connect New or Rearranged Facilities. <p>5. If the request is for an equipment associated with a RIMS project:</p> <ul style="list-style-type: none"> • Select the relevant RIMS NoW <u>and</u> • Enter the RIMS project information in the RIMS project information fields. <p><i>Note: the RIMS project identifier can be provided by the PTOs RIMS coordinator.</i></p> <p>6. If the request is for equipment that will be taken out of service,</p> <ul style="list-style-type: none"> • Model associated switch and/or circuit breaker positions in the CAISO OMS. • If the Outage requires a switch position to change during the Outage period, <ul style="list-style-type: none"> ○ Submit a separate Outage request for each configuration. <p><i>Note: This requirement is not applicable to test programs and switches that do not change the power flow which are not operated off the normal position for more than 30 minutes.</i></p> <p>7. If the request is for an outage induced equipment ratings change,</p> <ul style="list-style-type: none"> • Enter the new ratings in the CAISO OMS in the equipment ratings change section. <p>8. Provide any other relevant details related to the Outage in the free form text notes field of the OMS Outage entry form.</p>

3.2.4 Outage Request Submission Timelines

3.2.4.1 Long Range and Mid-Range Outage Submission Timeline


Please refer to RC0630 Outage Coordination procedure for timeline.

3.2.4.2 Short Range Outage Submission Timeline

PTOs 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 the [BPM for Outage Management](#).

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The RC OPA lock-down time is 08:00 a.m. PPT one (1) business day prior to the start date of the outage.

3.3 Review and Approval of Outage Requests


The CAISO Operations Planning group (OP) reviews all Outages in accordance with CAISO Operating Procedure [3100 Establishing System Operating Limits for the Operations Horizon](#) and of the [BPM for Outage Management](#) to assess impact to reliability based on the projected system conditions. Based on the results of the assessments, the CAISO OP will either approve or deny the Outage request.

Note: *Planned Outages should not be considered “Approved” until an assessment has been completed by both CAISO OP and Reliability Coordinator personnel. In addition, final approval from a CAISO Real-Time Dispatcher must be received on the day of the outage prior to commencing or ending an Outage designated as a FAR Outage.*

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

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3.3.1 Review and Approval of Long-Range and Mid-Range Outage Requests

CAISO Operations Planning
<ol style="list-style-type: none"> 1. Coordinate annual maintenance plan submitted by participants to the CAISO by July 1 of the prior year. 2. Coordinate with SC any modifications and additions expected to annual maintenance plan. 3. Determine if the requested Outage affects the Nuclear Plant Interface Requirements (NPIR) (NUC-001-4 R6). 4. If the NPIR are affected, <ul style="list-style-type: none"> • Validate that the requesting PTO has coordinated with the Nuclear Plant Operator. 5. Confirm the Outage plan, via OMS, by transitioning the Outage to the BA/TOP confirmation State if there are no reliability concerns; <ul style="list-style-type: none"> • Otherwise, disapprove the outage by transitioning the Outage to the Denied State. 6. 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. 7. Offer any additional Outage opportunity based on adjusted assumptions, or reschedule Outages or derates. If the Outage opportunity is refused, remove the requester from further consideration or the affected Outage. 8. 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. 9. If insufficient volunteers are identified, <ul style="list-style-type: none"> • Cancel <u>and</u> • Re-schedule Outages or derates starting with the lowest prioritized Outage listed for that start date.


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3.3.2 Review and Approval of Short-Range Outage Requests

CAISO Operations Planning
<p>1. Review all new requests and modifications to existing Outage requests.</p> <p><i>Note: Outages must be reviewed and approved prior to the RC short-range submission timeline. Refer to CAISO Desktop Procedure GOT-010 Internal Coordination of Outage Tasks.</i></p> <p>2. Determine if the requested Outage affects the Nuclear Plant Interface Requirements (NPIR) (NUC-001-4 R6).</p> <p>3. If the NPIR are affected,</p> <ul style="list-style-type: none"> • Validate that the requesting PTO has coordinated with the Nuclear Plant Operator. <p>4. Perform engineering study:</p> <ul style="list-style-type: none"> • If there are no adverse reliability impacts expected due to the Outage: <ul style="list-style-type: none"> ○ Assign market impacts as needed to manage constraints in the market due to the Outage. ○ Confirm and submit the Outage to the RC for final approval. • If adverse reliability impacts are expected due to the Outage, <ul style="list-style-type: none"> ○ Contact the PTO to reschedule or cancel the outage.


3.3.3 Review and Approval of Forced Outage Requests

CAISO Transmission Dispatcher, CAISO Operations Planning, CAISO Real-Time Operations Engineer
<p>1. Review all new requests and modifications to existing Outage requests.</p> <p><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></p> <p>2. Review all Outages in OMS to assess impact to reliability based on projected system conditions.</p> <p>3. Assign market impacts as needed to manage constraints in the market due to the Outage.</p> <p>4. Confirm or Deny Outages in OMS based on engineering study by transitioning the Outage record in OMS to the BA/TOP confirmed or Denied State respectively.</p>

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3.3.4 “Transmission Induced” Resource Outages Identified Before Real-Time

CAISO Operations Planning
<ol style="list-style-type: none"> 1. If a transmission outage is submitted and it is identified that a transmission induced generation card is required to limit a resource to a hard limit or keep it out of service: <ul style="list-style-type: none"> • Ensure an OMS outage is created for each affected resource, using the NoW of “TRANSMISSION_INDUCED”. • Notify the Scheduling Coordinator(s) for the affected resource(s) that a “TRANSMISSION_INDUCED” resource outage has been created. • Create an outage group in OMS, which contains both the transmission outage and the “TRANSMISSION_INDUCED” resource outage(s). The group comment will indicate that the group is created due to a transmission induced resource outage scenario. 2. If a transmission outage is submitted and it is identified that it has intertie impacts and the topology has a CAISO-generator connected to a non-CAISO system, <ul style="list-style-type: none"> • Ensure an OMS ticket is created for the CAISO-generator, using the NoW as “TRANSMISSION INDUCED”. 3. Notify the Scheduling Coordinator(s) for the affected resource(s) that a “TRANSMISSION_INDUCED” resource outage has been created. 4. Create an outage group in OMS, which contains both the transmission outage and the “TRANSMISSION_INDUCED” resource outage(s). The group comment will indicate that the group is created due to a transmission induced resource outage scenario.

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3.3.5 Rejection Notification

CAISO Operations Planning
<ol style="list-style-type: none"> 1. If an Outage cannot be approved as requested, <ul style="list-style-type: none"> • Identify the reliability concerns that initiated the rejection. 2. Request additional information (if required) to prioritize the Outage <u>and/or</u> 3. Identify scheduling opportunities; <u>and</u> 4. Suggest possible remedies <u>or schedule</u> revisions, as available, to mitigate reliability concerns. 5. If adjustments cannot be exercised to remedy the Outage conflict, <ul style="list-style-type: none"> • Deny the request. <p><i>Note: The only exception applies to Outages of an immediate nature that threaten public safety, personnel or equipment.</i></p> <ol style="list-style-type: none"> 6. If an Outage cannot be approved as requested, <ul style="list-style-type: none"> • Identify the reliability concerns that initiated the rejection. 7. Request additional information (if required) to prioritize the Outage <u>and/or</u> 8. Identify scheduling opportunities; <u>and</u> <ul style="list-style-type: none"> • Suggest possible remedies <u>or schedule</u> revisions, as available, to mitigate reliability concerns. 9. If adjustments cannot be exercised to remedy the Outage conflict, <ul style="list-style-type: none"> • Deny the request. <p><i>Note: The only exception applies to Outages of an immediate nature that threaten public safety, personnel or equipment.</i></p>

3.3.6 Modifications and Cancellations of Approved Outages

Participating Transmission Owner (PTO), Transmission Operator (TOP)
<ol style="list-style-type: none"> 1. Submit changes or cancellations to Approved Outages in the CAISO OMS: <ul style="list-style-type: none"> • If modifying an Approved Outage, <ul style="list-style-type: none"> ○ Submit a request to modify the Outage Card at any time prior to the minimum notification requirements for Planned Outages (see Section 3.1.1), or 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> 2. If cancelling an Outage, <ul style="list-style-type: none"> • Submit the cancellation request at any time prior to actual initiation of the Outage. <i>(Best efforts should be made to provide at least 4½ hours cancellation notice for outages with market impacts.)</i>

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CAISO Operations Planning, CAISO Real-Time Operations Engineer

1. If a change is requested for an Outage within the Outage Coordination Timeframe,
 - **Review** the request for any reliability issues before making the decision to approve or reject the change, per CAISO Desktop Procedure [GOT- 010 Internal Coordination of Outage Tasks](#).

3.3.7 Deferred Planned Outages

CAISO Operations Planning

If the CAISO defers a Planned Outage due to system reliability requirements, AND during that deferral period, the affected facility has a failure, which is directly related to the deferred Planned Outage:

1. **Designate** the Outage as a Planned Outage.
2. **Conduct** a review, as appropriate, to determine the nature and circumstances of the failure.
 - If such a review is conducted,
 - **Report** the results of that review (including the forced or planned designation of the Outage) to the facility owner, and the RC.

3.4 Forced Outage Submissions

3.4.1 Immediate Forced Outages


Participating Transmission Owner (PTO), Transmission Operator (TOP)

1. If a situation is likely to occur that results in a Forced Outage, within the next twenty-four (24) hours (any of the following situations), **take immediate** corrective action:
 - Removing transmission facilities from service, or
 - Causing RAS to be disabled or
 - Lose redundancy,
 - **Submit** an Outage request through OMS **with** as much notice as possible and within 60 minutes of the discovery of the Outage.

CAISO Transmission Dispatcher

1. **Look** for conflicts to current forced outages and active planned outages as well as any near term upcoming outages (next 12-24 hours).
2. **Request** RMOE studies as needed to validate reliability impacts.
3. **Cancel/reschedule** conflicting Outages if deemed necessary to ensure reliability.

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3.4.2 Imminent Forced Outages


Participating Transmission Owner (PTO), Transmission Operator (TOP)
<ol style="list-style-type: none"> 1. If a situation is likely to result in a Forced Outage, but of a nature not requiring a removal from service until <u>more than</u> twenty-four (24) hours in the future: <ul style="list-style-type: none"> • Submit an Outage entry in OMS in accordance with the requirements in Section 3.1 and Section 3.2, and • Attach any special procedures to Outage card.

CAISO Transmission Dispatcher
<ol style="list-style-type: none"> 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 RMOE review as needed by changing the outage to study state. • 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 by Operations Planning.

CAISO Operations Engineer
<ol style="list-style-type: none"> 1. Review and recommend the requests for Imminent Forced Outages <u>within</u> the Outage Coordination Timeframe.

3.4.3 "Transmission Induced" Resource Outages Identified In Real-Time

CAISO Transmission Dispatcher
<ol style="list-style-type: none"> 1. If a transmission outage occurs, and it is identified that the transmission outage causes a resource to be limited or out of service: <ul style="list-style-type: none"> • Ensure an OMS outage is created for the transmission outage. • Notify CAISO Generation Dispatcher of transmission outage and all identified resources that are affected.

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CAISO Generation Dispatcher
<ol style="list-style-type: none"> 1. If notified of a transmission outage that causes a resource to be limited or out of service: <ul style="list-style-type: none"> • Ensure an OMS outage is created for each affected resource, using the NoW of “TRANSMISSION_INDUCED”. • Ensure notification is made to the Scheduling Coordinator(s) for the affected resource(s) that a “TRANSMISSION_INDUCED” resource outage has been created. • Create an outage group in OMS, which contains <u>both</u> the transmission outage <u>and</u> the “TRANSMISSION_INDUCED” resource outage(s). The group comment will indicate that the group is created due to a transmission induced resource outage scenario. 2. If notified of a transmission outage that has intertie impacts and the topology has a CAISO-generator connected to a non-CAISO system, <ul style="list-style-type: none"> • Ensure an OMS ticket is created for the CAISO-generator, using the NoW as “TRANSMISSION INDUCED”. 3. Notify the Scheduling Coordinator(s) for the affected resource(s) that a “TRANSMISSION_INDUCED” resource outage has been created. 4. Create an outage group in OMS, which contains both the transmission outage and the “TRANSMISSION_INDUCED” resource outage(s). The group comment will indicate that the group is created due to a transmission induced resource outage scenario.

3.5 Real-Time Outage Processing

3.5.1 Final Approval

CAISO Final Approval


In accordance with the [BPM for Outage Management](#), a PTO/TOP within the CAISO controlled grid must not initiate an Outage without receiving final approval of the Outage, unless the CAISO determined that final approval 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 Transmission **Dispatcher**:

- Reviews all scheduled Outages for the day to ensure no reliability issues exist.
- If determined necessary, completes a Dispatch Load Flow (DLF) analysis to verify reliability impacts.

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- Reviews any applicable nomograms, procedures, and/or historical data relating to the Outage.
- Moreover, during the Outage, periodically verifies to ensure no reliability issues exist.

RC 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.


3.5.2 Starting an Approved Outage

Participating Transmission Owner (PTO), Transmission Operator (TOP)
<p>1. Initiate the start of an Outage <u>in accordance with</u> FAN/FAR Outage processing rules below:</p> <ul style="list-style-type: none"> • Request, if Outage designated as FAR, to start the outage by: <ul style="list-style-type: none"> ○ Submitting an “Out OK” request electronically in OMS <u>or</u> ○ By contacting the CAISO Transmission Dispatcher by phone. • If Outage designated as FAN: <ul style="list-style-type: none"> ○ Submit, at the scheduled start time of the Outage, an “Out” notification and actual start time electronically in OMS <u>or</u> by contacting the CAISO Transmission Dispatcher by phone. ○ Proceed with the scheduled FAN Outage work. <p><i>Note: If the actual start time of a scheduled Outage deviates from the scheduled start time by more than 30 minutes, a request to change the scheduled start time must be submitted in OMS.</i></p>

CAISO Transmission Dispatcher
<ol style="list-style-type: none"> 1. Ensure that system conditions allow all Outages to proceed as scheduled. 2. Review and confirm “Out OK” requests to initiate FAR Outages electronically in OMS. 3. If system conditions do <u>not</u> allow an Outage to proceed as scheduled, <ul style="list-style-type: none"> • Cancel the Outage <u>and</u> • Work with the PTO/TOP to reschedule the Outage.

Participating Transmission Owner (PTO), Transmission Operator (TOP)
<ol style="list-style-type: none"> 1. For a FAR Outage, once an “Out OK” approval has been received, <ul style="list-style-type: none"> • Submit an actual start time for the Outage electronically in OMS. 2. Proceed with the scheduled FAR Outage work.

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3.5.3 Ending an Outage

Participating Transmission Owner (PTO), Transmission Operator (TOP)
<ol style="list-style-type: none"> 1. Once the equipment is ready to be returned to service, <ul style="list-style-type: none"> • Initiate the end of the Outage <u>in accordance with</u> FAN/FAR Outage processing rules: <ul style="list-style-type: none"> • If Outage designated as FAR, <ul style="list-style-type: none"> ○ Request to end the outage by submitting an “In OK” request electronically in OMS <u>or</u> by contacting the CAISO Transmission Dispatcher by phone. • If Outage designated as FAN, at the scheduled end time, <ul style="list-style-type: none"> ○ Submit an “In-Service” notification <u>and include</u> the actual end time electronically in OMS <u>or</u> by notifying the CAISO Transmission Dispatcher by phone.


CAISO Transmission Dispatcher
<ol style="list-style-type: none"> 1. Ensure that system conditions allow the Outage to end as scheduled. 2. Review <u>and confirm</u> “In OK” requests to end FAR Outages electronically in OMS.

Participating Transmission Owner (PTO), Transmission Operator (TOP)
<ol style="list-style-type: none"> 1. For a FAR Outage, once an “In OK” approval has been received, <ul style="list-style-type: none"> • Proceed with returning the equipment to service. 2. Submit the actual end time for the Outage electronically via OMS, <u>and</u> 3. Transition the Outage card to the In-Service Editable State. 4. If needed, <ul style="list-style-type: none"> • Provide additional details to the Outage by making edits to the Outage card in OMS <u>prior to</u> the Outage card automatically transitioning to the In-Service State. <p><i>Note: 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 PTO/TOP should contact the CAISO Transmission Dispatcher to make any additional changes to the card.</i></p>

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

Participating Transmission Owner (PTO), Transmission Operator (TOP)
<ol style="list-style-type: none"> 1. If there is a deviation from the scheduled outage times <u>greater than</u> 30 minutes, <u>or</u> 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 in OMS <u>or</u> • Notify the CAISO Transmission Dispatcher <u>immediately</u> by phone.

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CAISO Transmission Dispatcher
<ol style="list-style-type: none"> 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 RMOE studies as needed by changing the outage to study state. 4. Confirm the real-time changes if it is determined that system conditions allow <u>and</u> 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.

3.5.5 Extending an Approved Outage without Issuing Forced Outage Designation

In accordance with the [BPM for Outage Management](#), the CAISO Transmission Dispatcher may approve the extension of an Approved Outage without designating the Outage as a Forced Outage, if the following conditions are met:


- The CAISO is notified no later than two hours before the scheduled return time.
- The Outage has no direct effect on a Generating Unit.
- No Branch Group is affected by Congestion due to the extended Outage.

3.6 Outage Types & Validation Rules

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

Rule	RC Outage Type
If (NoW = Communications or Relay Work or Energized Work or RIMS outages) and affects RASSPS = 'N'	Informational
If (NoW = Communications or Relay Work or Energized Work or RIMS outages) or affects RASSPS = 'Y' and (Submit Time-Start Time <= 0)	Forced Automatic
If (NoW = Communications or Relay Work or Energized_Work or RIMS outages) or affects RASSPS = 'Y' and (0 < Submit Time-Start Time < 24 hrs and Emergency Return Time < 60 Minutes)	Operational Transmission
If (NoW = Communications or Relay Work or Energized Work or RIMS outages) or affects RASSPS = 'Y' and (0 < Submit Time-Start Time < 24 hrs)	Forced Emergency

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Rule	RC Outage Type
If (NoW = Communications or Relay Work or Energized Work or RIMS outages) or affects RASSPS = 'Y' and (24hrs <= Submit Time-Start Time < 17d)	Urgent
If (NoW = Communications or Relay_Work or Energized_Work or RIMS outages) or affects RASSPS = 'Y' 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-010-3 R3 IRO-017-1 R2 NUC-001-4 R6 TOP-003-4 R5, R6
WECC Criterion	
Other References	Business Practice Manual (BPM) for Outage Management

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.


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

Confirm Outage	An Outage request that has been reviewed and Confirmed by the CAISO. A confirmed outage is marked in WebOMS as “BA/TOP confirmed”.
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 Denied by the RC. An Outage that has been disapproved by the RC 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.
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.
Long Range, Mid-Range, Short Range, OPA Outage	Refer to RC West Operating Procedure RC0630 Outage Coordination Process
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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Study State	An Outage state in OMS that identifies an Outage as under review by a CAISO Operations Engineer.
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Version History

Version	Change	Date
16.7	<ul style="list-style-type: none"> • Updated 3.3.4 to clarify the criteria when Transmission Induced Gen card will be created by Operations Planning. • Removed version history prior to three years. • Minor grammar and format changes. 	9/27/18
16.8	Section 3.1.4: Minor updates to align with RC updates. Section 3.2.4.1: Updated title to include Mid-Range. Removed timeline figure and referenced RC0630. Section 3.2.4.2: minor update to include PPT. Section 3.3.1: Updated title to include Mid-Range and updated #5. Section 3.3.2: Minor update to #4. Section 3.3.3: Updated #4. Section 3.3.5: Updates to #'s 5 & 9. Section 3.4.1, ISO Transmission: minor update to #2. Section 3.4.2: Updated #1 for ISO Transmission and minor update to #1 for ISO Operations Engineer. Section 3.5.2, ISO Transmission Desk: Minor update to #2. Section 3.5.3, ISO Transmission Desk: Minor update to item #2. Section 3.5.4, ISO Transmission: Updated #'s 3 & 4. Definitions Section: RC Related changes. Minor format and grammar updates.	7/01/19
16.9	Section 3.1.1: Added new paragraph to address planned outages submitted as forced outages. Section 5: Corrected section title. Minor format and grammar updates.	11/21/19
17.0	Periodic Review: Minor updates of Section reference and removal of “the RC” from operationally affected parties. Sections 3.1.3 & 3.3.1: Updated submission date to July 1 st .	6/18/20
17.1	Periodic Review: Updated from ISO to CAISO. Updated NERC Standards references. Minor format and grammar edits. Removed history prior to five years. Updated title of 3210G in Appendix section.	5/18/23
17.2	Section 3.3.4 and 3.4.3: Added new tasks for TIGO for stranded generation scenario. Replaced Generation and Transmission “Desk” with “Dispatcher”. Removed history prior to five years,	10/26/23

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Version	Change	Date
	minor formatting and grammar edits.	

5. Periodic Review

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 3 years.

Appendix

- 3210A Transmission Outage Request
- 3210B PG&E Equipment Significant to CRRs
- 3210C SCE Equipment Significant to CRRs
- 3210D SDG&E Equipment Significant to CRRs
- 3210E WAPA-WASN 500 kV Outage Management
- 3210F CAISO Outage Coordination Contact Information
- 3210G Outages to Connect New or Rearranged Facilities

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