



California ISO

ISO Planning Standards Update

Rene Romo de Santos - Regional Transmission Engineer Lead

Stakeholder meeting

September 17, 2026

Housekeeping



This call is being recorded for informational purposes and will be available on the CAISO website. Any related transcriptions should not be reprinted without the ISO's permission.



Today's meeting is designed to encourage open dialogue and diverse perspective. Your participation is valued.



Please engage in a respectful and professional manner.



Please keep comments brief and avoid repeating points already made so we can manage time and ensure everyone has an opportunity to participate.



You can access Closed Captioning and the Transparency Viewer using the controls located at the bottom of the Webex screen.

Instructions for Raising Your Hand to Ask a Question



If you are connected to audio through your computer or used the 'call me' option, select the raise hand icon located on the bottom of your screen.



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Please remember to state your name and affiliation before making your comment.



You may also send question via chat to all panelists.



If you need technical assistance during the meeting, please send a chat to the event producer at Intellor Events.

Today's Agenda

Time	Topic	Presenter
9:00 – 11:00 am	Welcome and introductions	Yelena Kopylov-Alford
	ISO Planning Standards Update Draft Final Proposal	Rene Romo de Santos
	Next Steps	Yelena Kopylov-Alford

Overview

- Update Voltage Standard
- Clarify for the Planning for New Transmission versus Involuntary Load Interruption Standard
- Introduce supplemental criteria related to requirement R6 of the NERC FAC-014-3 Standard
- Generation Loss Criteria

Voltage Standard

- **Objective: Align voltage limits in the ISO Planning Standards with Operating Procedure 3100B “System Voltage Limits and Credible Multiple Contingency”**
- No changes were needed for SDG&E and VEA voltage limits.
- DCRT voltage limits were added to the ISO Planning Standards.

System	Facility	Steady State Pre-Contingency		Steady State Post-Contingency	
		High Limit (kV/p.u.)	Low Limit (kV/p.u.)	High Limit (kV/p.u.)	Low Limit (kV/p.u.)
All buses	525 kV	541/1.03	520/0.990	550/1.048	499/0.95

Voltage Standard

- Updates to SCE's voltage limits

Facility	Nominal Voltage	Steady State Pre-Contingency		Steady State Post-Contingency	
		High (kV/p.u.)	Low (kV/p.u.)	High (kV/p.u.)	Low (kV/p.u.)
Mandalay	230 kV	230/1.000 ¹	220/0.957	230/1.000 ¹	207/0.900
Iron Mt., Inyo	230 kV	241.5/1.05 to 245/1.065	218.5/0.95	245/1.065 ¹ to 263/1.143	207/0.900
All other buses	230 kV	241.5/1.05 to 242/1.052	218.5/0.95	242/1.052 ¹	207/0.900
Control, Inyo	115 kV	120.75/1.05 to 126/1.096	117/1.026 to 114/0.9913	121/1.052 ¹ to 128/1.113 ¹	114.5/0.996 to 112/0.974

¹ Due to equipment (circuit breaker) voltage limit

Voltage Standard

- Updates to PG&E's voltage limits

Facility	Nominal Voltage	Steady State Pre-Contingency		Steady State Post-Contingency	
		High (kV/p.u.)	Low (kV/p.u.)	High (kV/p.u.)	Low (kV/p.u.)
Los Esteros	230 kV	242/1.052	219/0.952	245/1.065	207/0.900

Maximum voltage deviation: DCPD 230 kV bus at ~~41 kV~~ 18 kV or ~~4.78%~~ 7.8%.

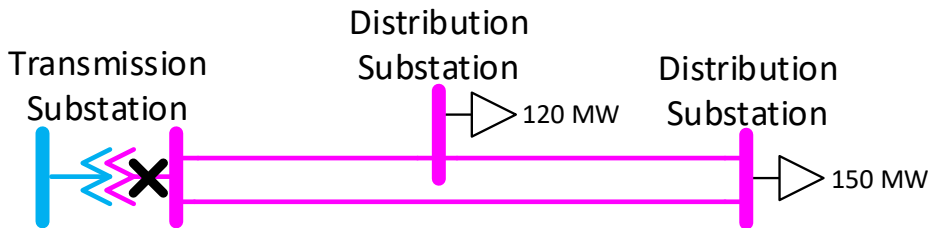
Planning for New Transmission versus Involuntary Load Interruption Standard

- **Objective: Provide clarification for the following two standards that will only apply to distribution loads and substations serving distribution loads**
 - No single contingency should result in the loss of more than 250 MW of load
 - All single substations of 100 MW or more should be served by a looped system with at least two transmission lines "closed in" during normal operations

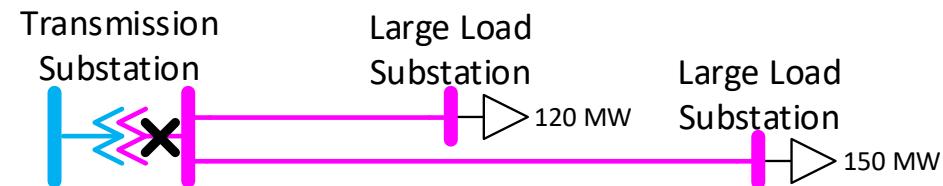
Planning for New Transmission versus Involuntary Load Interruption Standard

- No single contingency should result in the loss of more than 250 MW of load

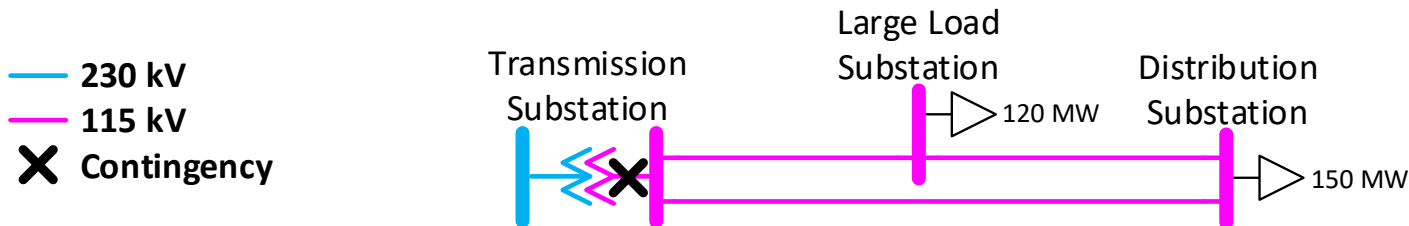
Example 1



Example 2



Example 3

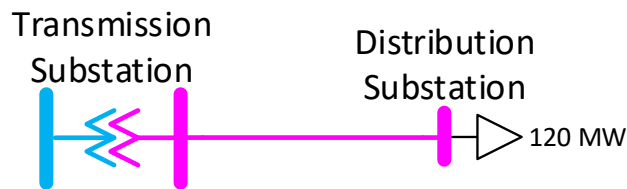


A second transformer would be needed for examples 1 and 3 but not for example 2

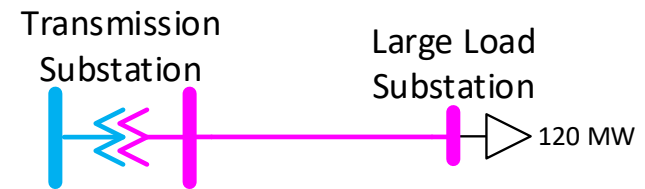
Planning for New Transmission versus Involuntary Load Interruption Standard

- All single substations of 100 MW or more should be served by a looped system with at least two transmission lines "closed in" during normal operations

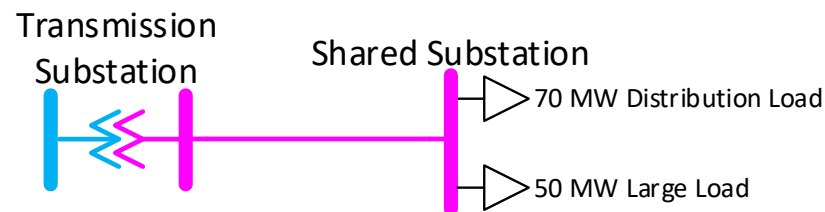
Example 1



Example 2



Example 3



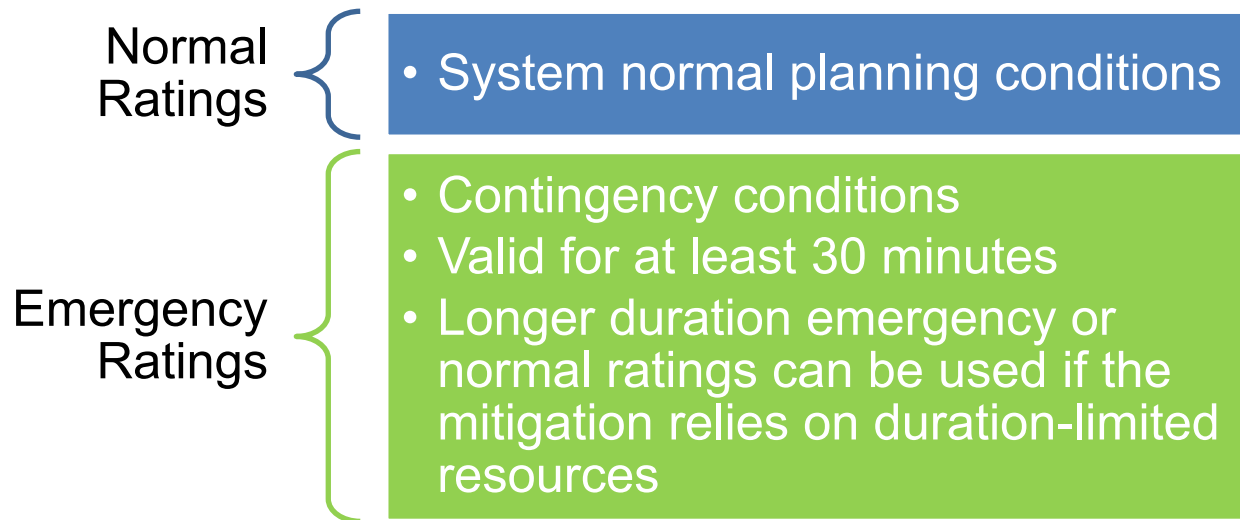
— 230 kV
— 115 kV

A second transmission line would be needed for examples 1 and 3 but not for example 2

Supplemental criteria related to requirement R6 of the NERC FAC-014-3 Standard

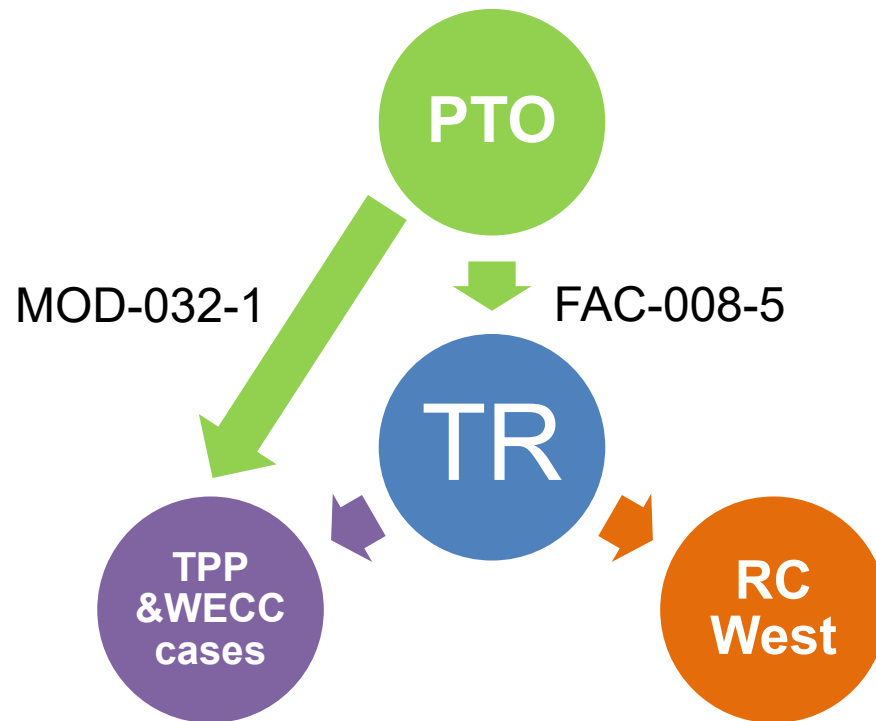
- **Objective: Conclude the implementation process for NERC FAC-014-3 Standard by including the additional criteria in the ISO Planning Standards**

– Facility Rating Criteria



Supplemental criteria related to requirement R6 of the NERC FAC-014-3 Standard

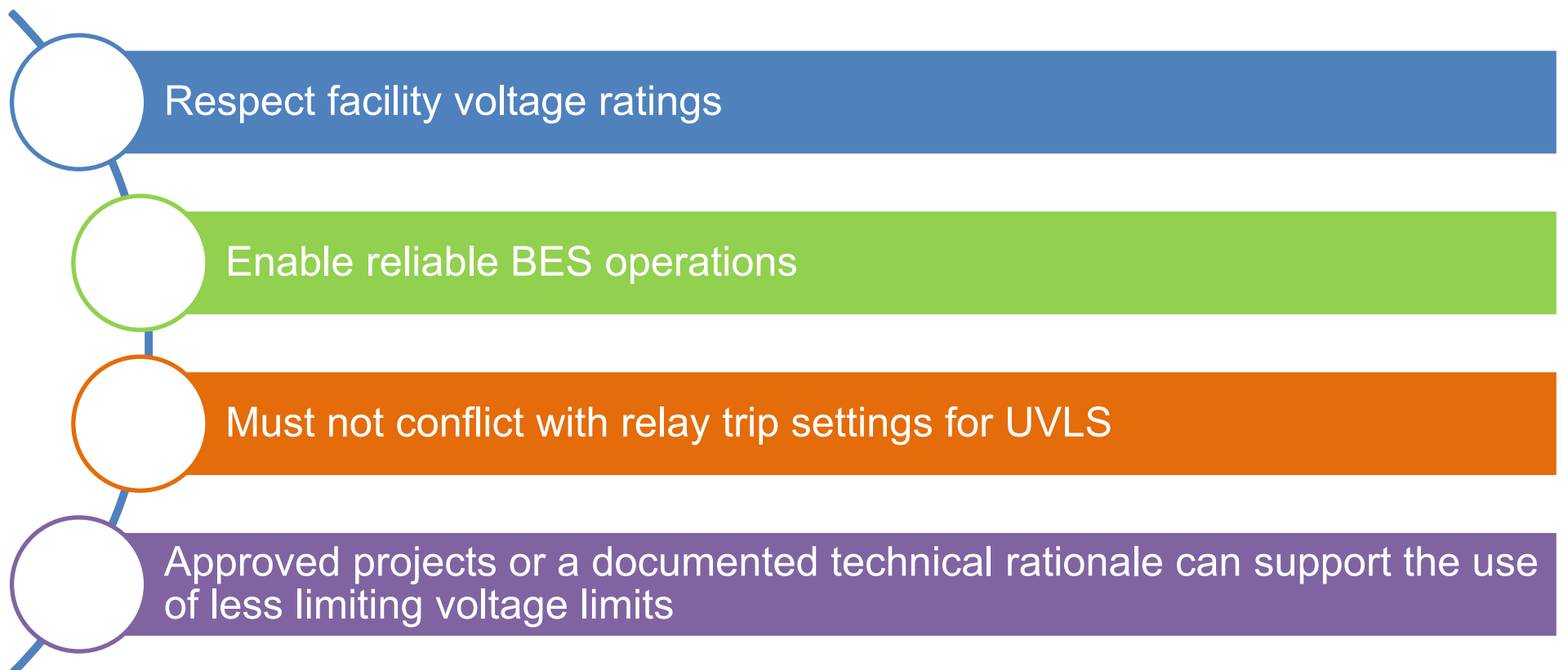
– Facility Rating Criteria



Less limiting facility ratings may be used in the planning assessment due to approved projects, or there is a documented technical rationale

Supplemental criteria related to requirement R6 of the NERC FAC-014-3 Standard

– Additions to the ISO Voltage Standard



Respect facility voltage ratings

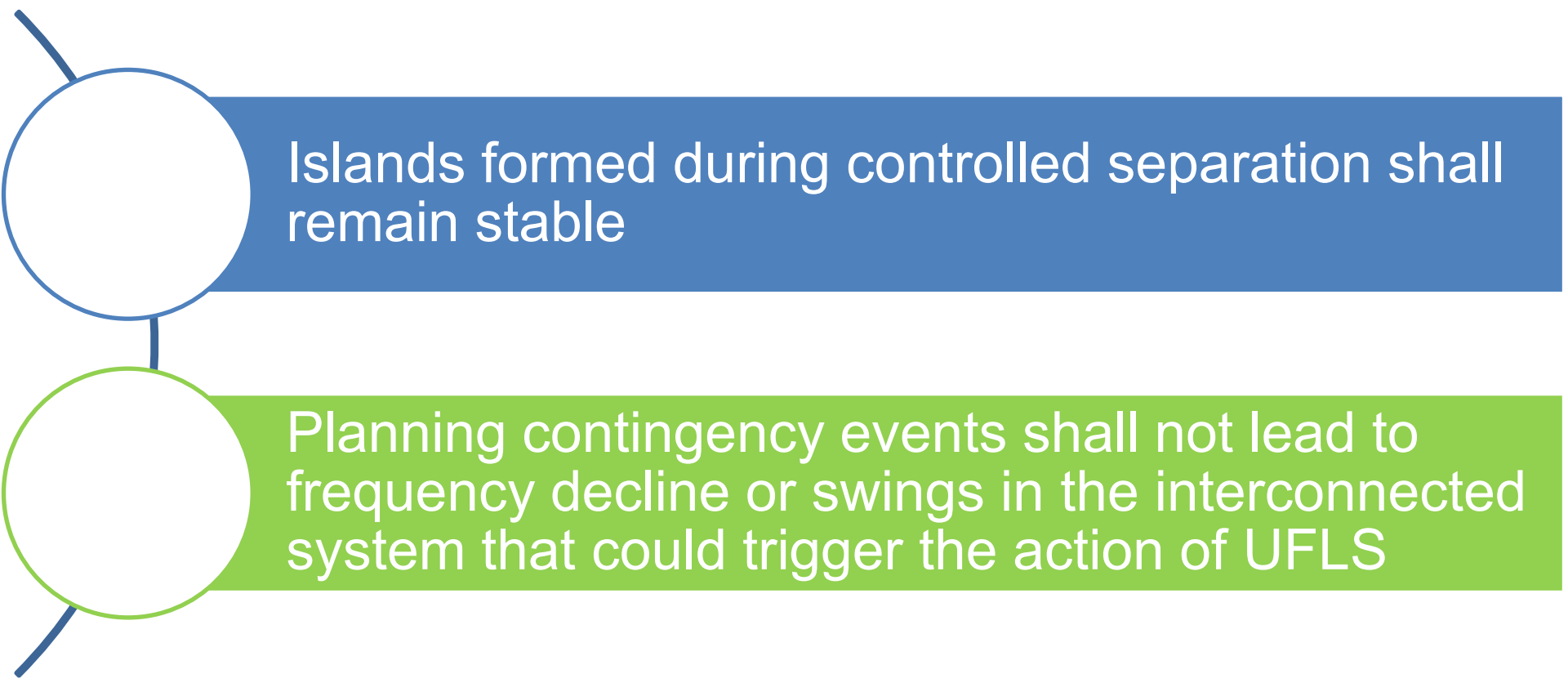
Enable reliable BES operations

Must not conflict with relay trip settings for UVLS

Approved projects or a documented technical rationale can support the use of less limiting voltage limits

Supplemental criteria related to requirement R6 of the NERC FAC-014-3 Standard

– Stability Criteria

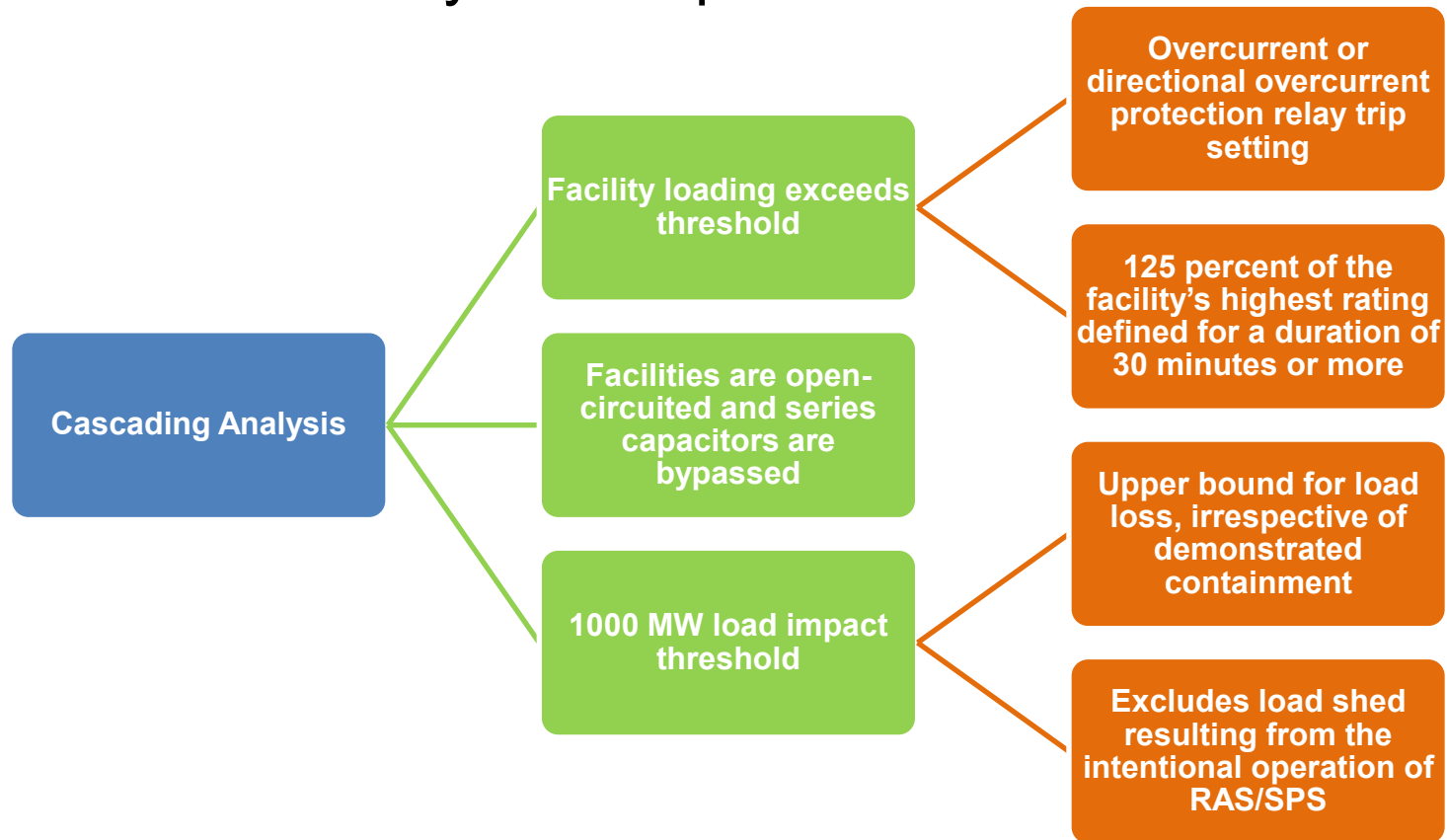


Islands formed during controlled separation shall remain stable

Planning contingency events shall not lead to frequency decline or swings in the interconnected system that could trigger the action of UFLS

Supplemental criteria related to requirement R6 of the NERC FAC-014-3 Standard

- Criteria for identifying potential cascading and uncontrolled system separation



Generation Loss Criteria

- **Objective: Specify the net resource loss allowed for a radial systems due to N-1 and N-2 outages.**

BAL-003-2

- IFROs are annually calculated
- N-2 “two largest resource losses” is the MW value defined by the RLPC
- RLPC should be set for each Interconnection such that the UFLS safety net is not activated for the largest N-2 Event

FRAA Report

- Two largest BA contingency events due to a single contingency in a normal system configuration
- Two largest units in the BA area
- Two largest RAS resource losses that are initiated by N-1 contingency events

WECC RLPC

- 2,918 MW for 2023, 2024, and 2025
- RLPC cannot be lower than the largest resource loss due to RAS operations which is initiated by a N-2 event
- In WECC this is the PDCI which drops up to 2,850 MW via RAS for a bipole contingency

Generation Loss Criteria and Considerations

- N-2 net resource loss for a radial system must not be larger than the WECC RLPC.
- N-1 net resource loss for a radial system should be no more than half of the WECC RLPC.

Example 1

Net Resource Loss
@ POI = 2,918 MW



Example 2

Net Resource Loss
@ POI = 1,459 MW



- For non-radial system generation loss via a RAS, the existing RAS standards and guidelines will continue to be used, due to the typical RAS having multiple monitored contingencies, and the potential to more frequently disrupt operation of both the BA area and the transmission system.

NEXT STEPS

Schedule

Date	Milestone
July 20, 2026	2026 ISO Planning Standards Update Issue Paper Posted
July 27, 2026	Stakeholder Meeting on Issue Paper
Aug 10, 2026	Comments due
Sept 10, 2026	Draft Final Proposal posted
Sept 17, 2026	Stakeholder Meeting on Draft Final Proposal
Oct 1, 2026	Comments due
Oct 28, 2026	Board of Governor's meeting

Next Steps

- Comments are due by end of day October 1, 2026 via the commenting tool on the Stakeholder Center or recurring process webpage linked below.
- Questions? Please email ISOStakeholderAffairs@caiso.com
- Additional information is available on the CAISO website at: <https://stakeholdercenter.caiso.com/RecurringStakeholderProcesses/2026-ISO-Planning-Standards-Update>

This Week at the ISO – 9/14/26

Stakeholder Meetings *For an overarching view of where each initiative is in the development process, view the [Policy Initiatives Timeline](#).*

All public stakeholder meetings are also listed on the [CAISO Calendar](#)

- Tuesday, September 15, 2026 – Release User Group Forum
 - 10:00am – 11:00am PT ([add to calendar](#))
- Tuesday, September 15, 2026 – Interconnection Customer User Group
 - 1:00pm – 2:00pm PT ([add to calendar](#))
- Wednesday, September 16, 2026 – Joint Market Seams Workshop
 - 9:00am – 2:30pm PT ([registration required](#) for in-person attendance; [add to calendar](#))
- Thursday, September 17, 2026 – Market Update
 - 10:00am – 10:30am PT ([add to calendar](#))
- Thursday, September 17, 2026 – 2026 ISO Planning Standards
 - 9:00am – 11:00am PT ([add to calendar](#))
- Thursday, September 17, 2026 - Department of Market Monitoring 2026 Q1 Report on Market Issues and Performance Public Call
 - 11:00am – 12:00pm PT ([add to calendar](#))
- Thursday, September 17, 2026 – 2026 Transmission Economic Assessment Methodology Update
 - 1:00pm – 2:30pm PT ([add to calendar](#))
- Thursday, September 17, 2026 – EDAM-PGE 2026 Release Activation Review
 - 2:00pm – 3:00pm PT ([add to calendar](#))
- **Comment Submission Deadlines**
- Wednesday, September 16 – BPM Proposed Revision Requests (PRR) 1680-1705

This Week at the ISO continued

DAME/EDAM Resources

FAQ & Training:

- [EDAM FAQ Guide](#) - Designed to address general EDAM related questions
- [EDAM Training Resources](#) - A comprehensive set of EDAM training materials is available, offered in both instructor-led and computer-based training (CBT) formats. These resources include courses covering:
 - Bids and Base Schedule
 - EDAM Bidding Basic Concepts
 - Scheduling Infrastructure Business Rules (SIBR)
 - EDAM Scheduling Coordinator responsibilities
 - Intertie Scheduling
- [EDAM Business Requirements Specifications](#) - Describes EDAM's business processes and the associated business requirements.
- [DAME Business Requirements Specifications](#) - Describes DAME's business processes and the associated business requirements.
- [EDAM Scheduling Coordinator Decision Matrix](#)

Settlements:

- [Settlements BPM Walkthrough](#)
- Known Issues List

BPMs:

- [Extended Day-Ahead Market BPM](#)
- [Market Instruments BPM](#)
- [Reliability Requirements BPM](#)
- [Market Operations BPM](#)
- [BPM Change Management Process \(PRRs\)](#)

EDAM Stakeholder Initiative:

- Meeting materials and recordings can be accessed through the stakeholder initiative page [here](#).

This Week at the ISO continued

Market Simulations

Please refer to our [Release Schedule](#) for the most recent updates of initiatives scheduled for MAP- and Production- stage market sims

To participate in the DAME and EDAM Implementation pre-Market Simulation meeting series, please follow these steps:

Submit a CIDI Request:

- Log in to the CAISO Customer Inquiry, Dispute, and Information (CIDI) system.
- Create a new request with the 'Functional Environment' set to "Market Simulation."
- In the request, specify your intent to participate in the DAME & EDAM Market Simulation.
- Include the following information:
 - Market Simulation initiative(s) you will participate in.
 - Any specific resources or systems you plan to test.
 - Contact names and email addresses for coordination.

Email Option:

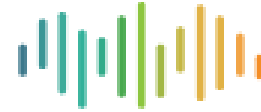
- If you do not have access to CIDI, you may send an email to marketsim@caiso.com with the subject line "DAME & EDAM Market Simulation Registration."

Business Practice Manual (BPM) Updates

- The status of all PRRs and updated BPMs in the [BPM Library](#) are published on the [BPM Change Management Website](#).
- *Please note: The California ISO has updated how participants access call-in information for Business Practice Manual (BPM) Change Management meetings. Going forward, registration is required to receive Webex and audio participation details. Previously, meeting links were posted directly on the event calendar. This change allows us to collect participant contact information to support future outreach, communication, and process improvement efforts.*



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Announcing the launch of a new publication series:



Western Energy Markets Observations

This new periodical offers concise and accessible insights into notable developments across the western power markets. [Read the first issue](#) for highlights on market performance during the first weeks of Extended Day-Ahead Market (EDAM) operations.

The document will be posted on the [EDAM Overview page of WesternEnergyMarkets.com](#) website.

REGISTRATION IS OPEN

2026 STAKEHOLDER SYMPOSIUM

Welcome reception - Oct. 5

at Kimpton Sawyer Hotel, Sacramento, CA

Symposium program - Oct. 6

SAFE Credit Union Convention Center
Sacramento, CA

Visit: <https://www.caiso.com/meetings-events/events/stakeholder-symposium>

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