



California ISO



RC West

RC West Oversight Committee

Public Session


Aug 24, 2023

1:00pm-2:30pm Pacific Time

Housekeeping Reminders

- This call is being recorded for informational and convenience purposes only. Please request permission from RC West before reprinting any related transcriptions.
- Materials related to the RC West Oversight Committee are available on www.caiso.com / Stay Informed / RC West.

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- If you are connected to audio through your computer or used the “call me” option, select the raise hand icon  located at the bottom of your screen. **Note:** #2 only works if you dialed into the meeting.
 - Please remember to state your name and affiliation before making your comment.
- If you need technical assistance during the meeting, please send a chat to the event producer.
- You may also send your question via chat to either Yelena Kopylov-Alford or to all panelists.

Agenda

Time:	Topic:	Presenter:
1:00 - 1:02	Welcome/agenda	Yelena Kopylov-Alford
1:02 – 1:05	Roll call	Chris Hofmann
1:05-1:10	Oversight Committee Business <ul style="list-style-type: none"> Annual charter review 	Chris Hofmann & Christopher Sanford Chis Hofmann & Tricia Johnstone
1:10- 1:40	RC West Operations Update <ul style="list-style-type: none"> Welcome General operations Procedures update RC metrics update 	John Phipps Tim Beach Kathleen Fernandez Kendall Parra & Aung Oo
1:40 – 2:20	Working Group Updates <ul style="list-style-type: none"> FERC 881 Update Cold Weather NERC Alert 3 Discussion SOL Methodology Changes for 2024 	RajaShekar Thappetaobula Tricia Johnstone RajaShekar Thappetaobula
2:20 – 2:25	Future agenda items <ul style="list-style-type: none"> Calendar of Meetings for 2023 	Yelena Kopylov-Alford
2:25	Public Comment	
2:30	Public Session Adjourned	

Oversight Committee Business

Chris Hofmann
Committee Chair

Christopher Sanford
Vice Chair

Annual Charter Review

Chris Hofmann
Committee Chair

Update: RC West Operations

Tim Beach
Kathleen Fernandez
Samson Adigun

RC West Operations Update

Peak Load	YTD	Historical
WECC	164,235 MW (08/16/2023)	167,530 MW (9/6/2022)
RC West	126,317 MW (08/16/2023)	130,986 MW (9/6/2022)

RC West Operations Update

Events 3/15/2023-8/21/2023	Quantity
EEA-W	7
EEA-1	7
EEA-2	1
EEA-3	4
Insecure Operating State	3
IROL Margin	1
IROL Exceedance	0
Forced Outage 345-500kV Equipment	92
Frequency Excursion	16
Mitigation	87
Oscillation	4
Contingency Reserve	19
Wildfire	35
Islanding	1 (AESO)

RC West Operations Update – EEA

Energy Emergency Alert	2023	2022	2021	2020
EEA - W	7	9	4	NA
EEA - 1	7	19	7	26
EEA - 2	0	7	3	9
EEA - 3	9	7	3	12
Total	23	42	17	47

Procedures Update

Recently Published Procedures:

RC Proc. #	Procedure Title	Status	Description of changes
RC0520	Loss of Monitoring and Analysis Tools	Published 8/10	Section 3.5 and 3.6: updated to clarify RC actions to be initiated for SE or RTCA failures lasting for two or more consecutive runs.
RC9570	CENACE EEAs and Requests for Emergency Assistance	Published 8/10	Section 2.1: Updated regarding CAISO not providing emergency assistance when CAISO BA is in an EEA Watch or higher. Minor punctuation edit in Item 2. Section 2.2: Provided further clarification under Emergency Assistance and Load-Arming to Meet Reserves.
RC9550	Monitoring Heavy E-W Flows on SWPL, HANG2, SRPL, and Parallel Transmission	Published 8/01	Section 4: Added Yuma transformer overload for the loss of Imperial Valley – North Gila 500 kV line. Updated instance of PG&E to PGAE and updated related procedure reference. Updated APS procedure references for Yuma Area. Added Appendix A note where ambient temperature ratings for S-Line would be used and Note 2 about post contingency flow increase by the Orchard project. Appendix B: Minor edit to Note. Added Appendix F, Ambient Temperature Rating Table for IID Lines.
RC9520	Temporary Operating Guide - Mitigating Thermal Exceedances in the Dave Johnston Area	Published 7/27	Clarified Applicability of temporary guide in Section 1. Changed WEIM constraint to Windstar TCOR in Step 2. Updated Figure 1. Clarified PAC schedule curtailment in Step 3. Added opening of tie to transmission reconfiguration in Step 5, and defined transmission emergency for the purpose of the guide. Updates agreed upon by all impacted parties.
RC9000	Open Loop Guideline	Published 7/21	Section 3.3.2.1: Added OREX study limit, S-N operating limit for NWACI/Path 66, steps for managing PGAE RAS, and note on TOP with primary mitigation responsibility. (Changes approved by affected parties)
RC0210	Monitoring Frequency and Balancing Authority Performance	Published 7/13	Updated references to EOP-011-1 due to standard update. Minor format and grammar edits.
RC9110	NW Washington Area Import IROL	Published 7/6	Appendix D2: Revised unplanned outage table with correct equipment. Updated Table 2 limit to align with limits in appendix D. Minor formatting and/or grammar edits.
RC0530	Communications Systems and Testing	Published 6/15	Updated contact information for NERC IT Support Desk for RCIS failures.

Procedures Update - continued

Recently Published Procedures:

RC Proc. #	Procedure Title	Status	Description of changes
RC0140	Guidelines for Sending Messages Across RC Seams	Published 6/01	Replaced "all Western Connection" with "RC West" in Operationally Affected Parties. Updated instances of BC Hydro RC to BCRC. Errata Change: Includes Periodic Review. (6/15/23)
RC0460	Reliability Coordinator Area Restoration Plan	Published 6/01	Annual Review: Minor edit in Section 3.8.1, added "or with neighboring RCs,"
RC0460A	Restoration Principles	Published 6/01	Annual Review: Very minor edit in Operationally Affected Parties, no content changes.
RC0460B	Whole or Partial Transmission System Islanding Restoration Checklist	Published 6/01	Annual Review: Minor edit under Operationally Affected Parties and minor formatting (No content changes).
RC0460C	Blackout Restoration Using Connection to Energized System Checklist	Published 6/01	Annual Review: Minor edit under Operationally Affected Parties and minor formatting (No content changes).
RC0460D	Blackout Restoration Energizing a De-energized System Checklist	Published 6/01	Annual Review: Minor edit under Operationally Affected Parties and minor formatting (No content changes).
RC0460E	Synchronization Checklist	Published 6/01	Annual Review: Minor edit under Operationally Affected Parties (No content changes).
RC0460F	EOP-005 Plan Review Checklist	Published 6/01	Annual Review: No changes.
RC0560	Limiting Access to BES Cyber Assets	Published 6/01	Removal of ERC references under Responsibilities and References.
RC9560	SDG&E/CENACE Import Operational Guide	Published 6/01	Periodic Review: Minor formatting and grammar edits and updated CAISO and SDG&E Contact information. 6/2 - Errata Changes: Corrected two typo instances of SDG&E.

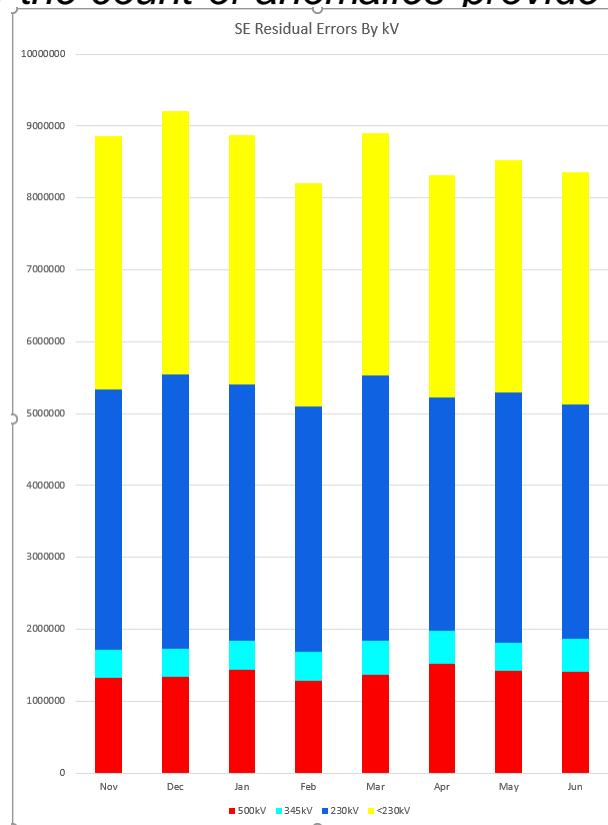
Procedures Update - continued

Upcoming Procedure Changes:

RC Proc. #	Procedure Title	Status	Description of changes
RC0110	Communications Protocols	Target Publish – 8/24	Annual Review: Minor formatting only, no content changes.
RC0470	Loss of Control Center Functionality	Target Publish – 8/30	Annual Review: Replaced ERC references with JIC and removed DOC references.
RC0470B	Evacuation and Loss of Control Center Functionality Checklists	Target Publish – 8/30	Annual Review: Replaced ERC references with JIC and removed DOC references. Minor formatting and grammar edits.

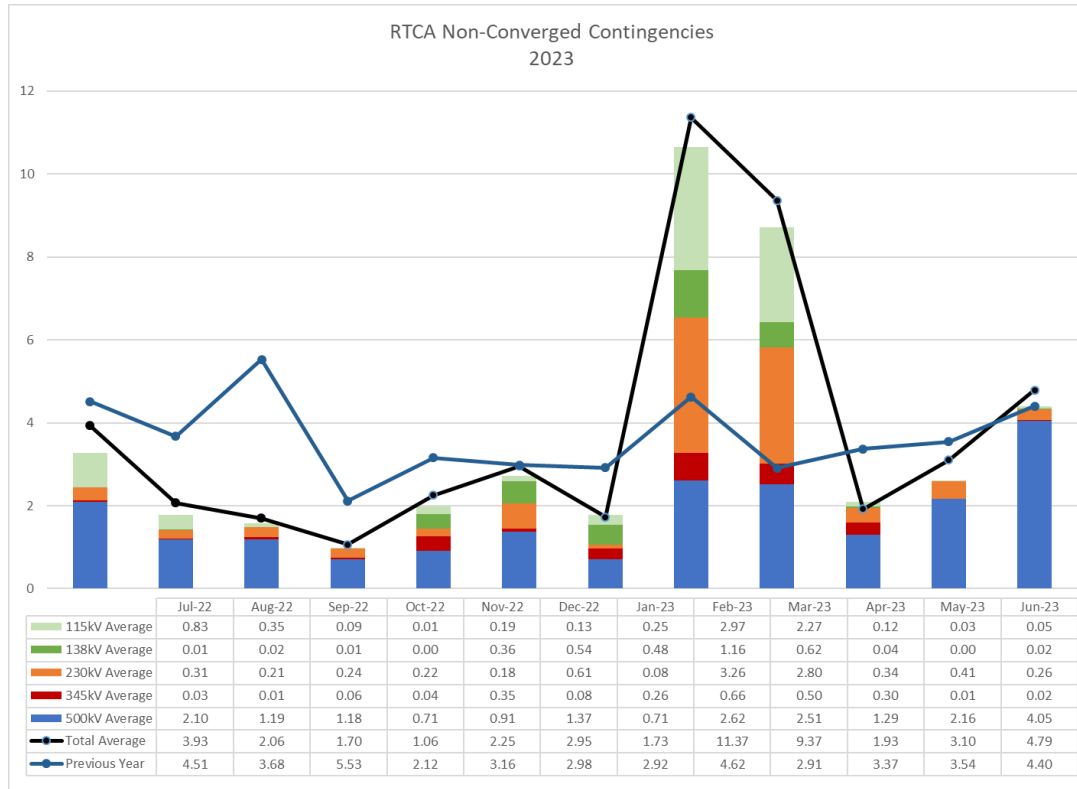
RC Metrics Q2 2023 - SE Residual Errors

- Residual Errors for line MW flow observed on 500kV, 345kV, 230kV, and less than 230kV lines
- *Note: Though the measurements in anomaly are not used by SE in estimating the solution, the count of anomalies provide opportunity of reducing them.*



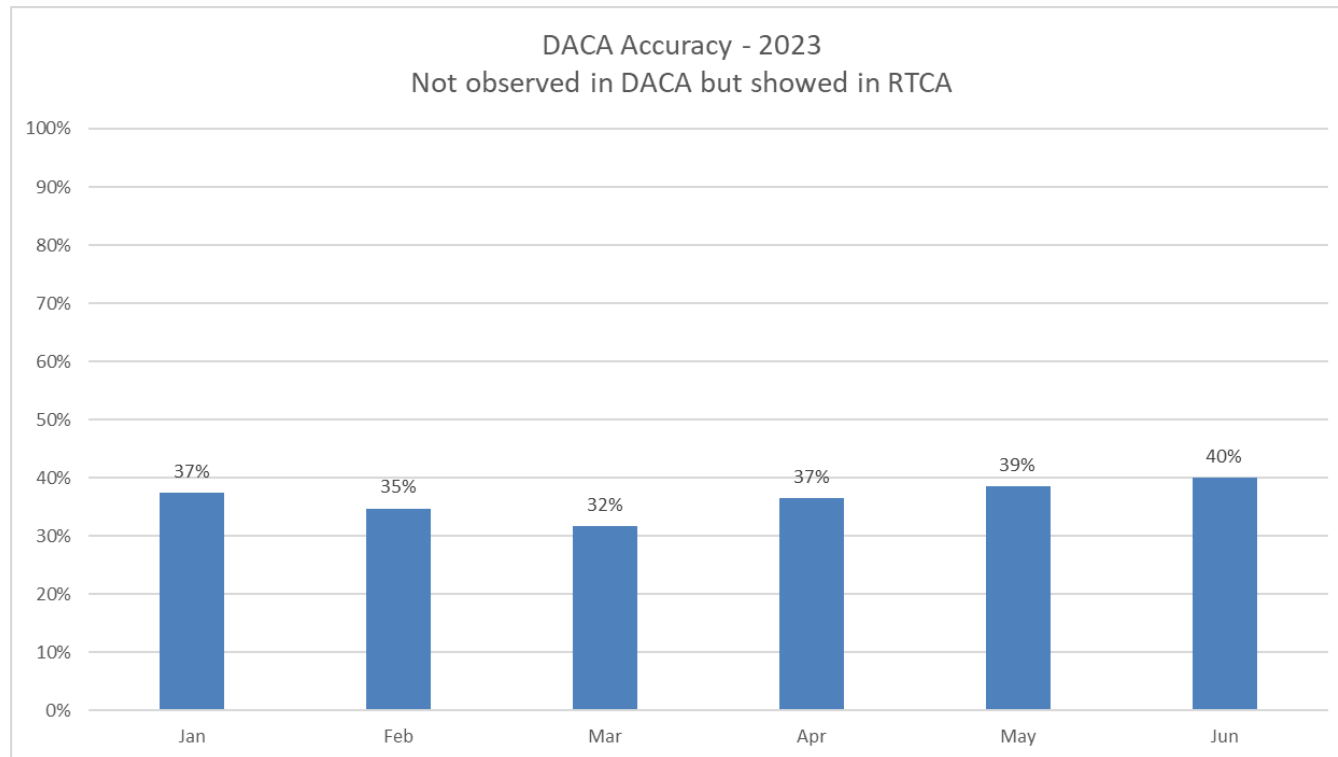
RC Metrics Q2 2023 - RTCA Non-Converged Contingencies

- Count of Real-Time Contingency Analysis (RTCA) non-converged contingencies in five-minute intervals
- *Note: Over 10,000 contingencies are solved in every RTCA solution*



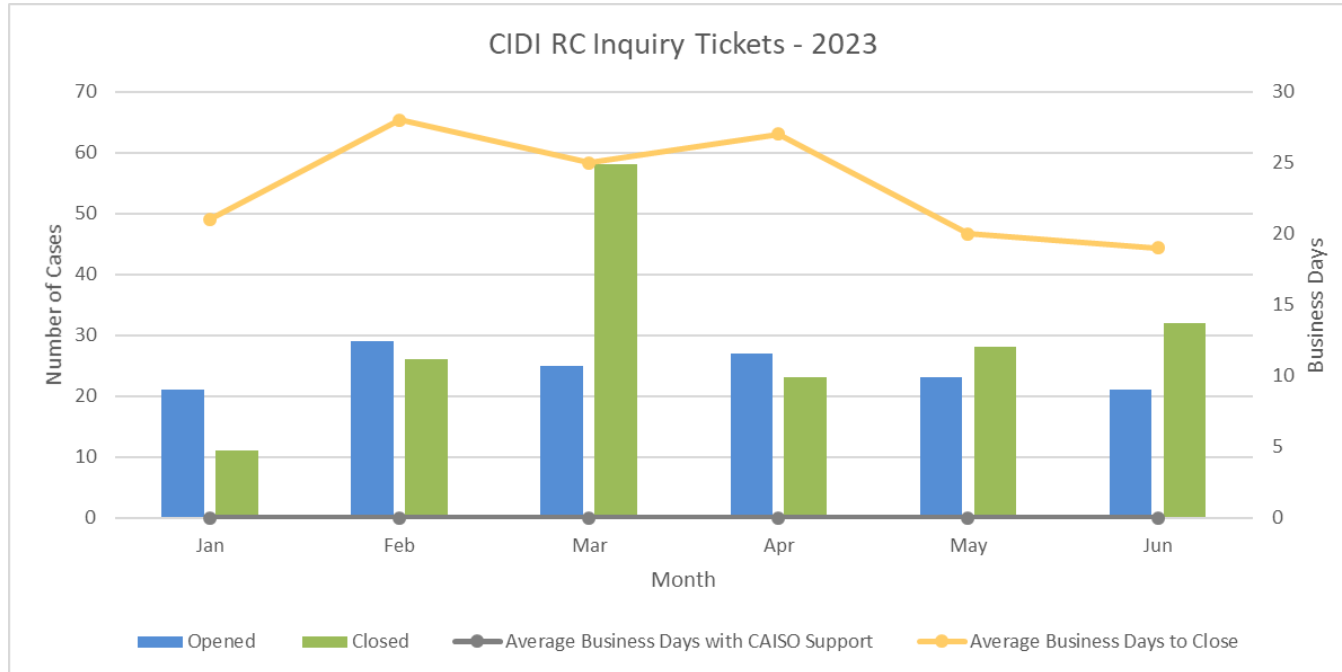
RC Metrics Q2 2023 - DACA Accuracy

Day Ahead Contingency Analysis (DACA) tool is designed to identify potential contingencies in the day ahead timeframe



RC Metrics Q2 2023 - CIDI/Issue Resolution Progress

- Count of Customer Inquiry and Dispute Information (CIDI) tickets of the RC Inquiry case record type
- The number of opened cases will not change each time the data is pulled, but the other numbers can change as there are still cases opened from a prior month that haven't been closed.



Working Group Updates

FERC 881 Ambient Adjusted Rating & Dynamic Line Ratings

Raja Thappetaobula
Director, Operations Engineering Services

FERC Order No. 881 Initiative Update

- ISO initiated a public stakeholder process
 - Quarterly initiative updates
 - Data submission working group
 - Methodology Working group
- Three proposed tracks to develop our tools and processes to meet compliance requirements by 7/12/2025
 - **Track 1: Real Time Reliability Applications**
 - **in progress; target 2023/2024**
 - Track 2: Operational/EMS Model Data and Applications
 - target 2023/2024
 - Track 3: Market Applications and Look Ahead Applications
 - target fall 2025

NERC Alert 3 – Cold Weather Task Force

Tricia Johnstone
Director, Operational Readiness

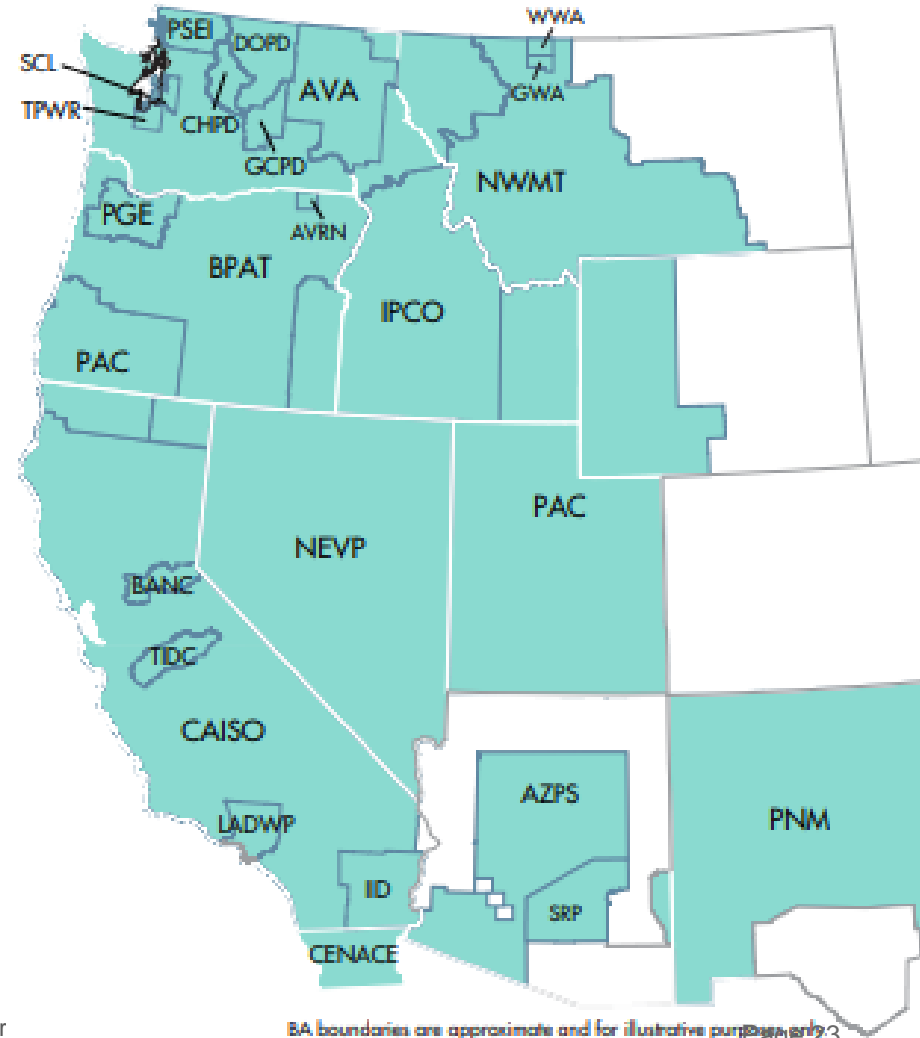
Cold/ Extreme Weather updates effective 4/1/2023

- EOP-011-2 additions
 - TOP and BA Operating Plan(s) shall include provisions to determine reliability impacts of: cold weather and extreme weather conditions
 - Each Generator Owner shall implement and maintain one or more cold weather preparedness plan(s) for its generating units
- TOP-003-5 and IRO-010-4 additions
 - TOP, BA and RC data specification collection of generator cold weather limitations and include provisions for notification of BES generating unit(s) status during local forecasted cold weather



Leveraged RC West Emergency Preparation & Power System Restoration Working Group to form a Task Force

- Task force members:
 - AEPSCO, APS, AVRN, BPA, CAISO, CHPD, HHWP, IID, LDWP, LST, MATL, NWMT, NVE, PAC, PGAE, PGE, PSEI, RDNG, SRP, SCE, SDGE, TPWR, VEA
 - WECC
 - Chair and Vice Chair from WECC Generator Operator Working Group (GOWG)
- Presented at WECC GOWG, WICF Generator Forum and [WECC Winter Weather Readiness Workshop](#)



Standards Drafting Work still in progress

- Project 2021-07 Extreme Cold Weather Grid Operations, Preparedness, and Coordination
 - EOP-011-4 – Emergency Operations
 - Adding DP and TO applicability
 - Adding natural gas infrastructure requirements
 - TOP-002-5 – Operations Planning
 - New BA requirement – Cold Weather Operating Process
 - Expecting more for EOP-012 - Extreme Cold Weather Preparedness and Operations (applicable to GO, GOP functions)
- NERC Alerts
 - [Level 1 – Industry Advisory issued 2/13/23](#)
 - [Level 3 – Industry Essential Actions issued 5/15/23](#)

NERC Alert Level 3 – 8 essential actions

1. GO – Extreme Cold Weather Temperature (ECWT) calculation
2. GO – EOP-011 R7 – add critical components to plan
3. GO – identify which resources need additional freeze protection measures, is it possible by winter 2023-2024?
4. GO – identify which resources experienced ECW event winter 2022 – 2023

NERC Alert Level 3 – 8 essential actions

5. TOP – potential updates to EOP-011 plans
6. BA – potential updates to EOP-011 plans
7. Per Essential Actions #1 and #2, each GO should provide its RC, BA, and TOP the ECWT for its location prior to the next winter season and whether Generator Cold Weather Critical Component freeze protection measures will not be implemented on components prior to the 2023–2024 winter season.
8. Per the questions below on net winter capacity Megawatts (MW), each GO should share their responses with their respective BAs and TOPs to allow for updates to any operating plans before the 2023–2024 winter season

RC0120A Data Request Review

Section	Category	Request Number	Responsible Party	Data Item	Data Transfer Method	Data Update Frequency	Data Request Effective Date	Related NERC Standards (including but not limited to)	CAISO Guidance Document
6	Power System Modeling Information	6.8.2	Transmission Operator or Balancing Authority	Generating unit(s) minimum: 1. Design temperature; or 2. Historical operating temperature; or 3. Current cold weather performance temperature determined by an engineering analysis. Temperatures will be communicated in degrees Fahrenheit (F).	Extreme Weather Template to RIMS	10 business days for existing resources	7/1/2023	EOP-011-2 IRO-010-4	RIMS User Guide, Modeling Submission Checklist

- Data received from all BAs in RC West footprint
- Reminder to submit all BES generation to RIMS for future projects
- Under TOP-003 request - CAISO BA sent out messaging for GOs in BA footprint to submit via CIDI to be aggregated
- Data specification will be updated to reflect ECWT language based on survey results and potentially other data per NERC Alert 3

Key considerations for CAISO BA - Winter 2023-24

- Leverage gas-electric coordination data and experience
- Improve DP and TO coordination
- Many processes are focused on summer loads and extreme heat events
- Consider adapting Playbook and Reports to events throughout the year

SUMMER HEAT EVENT — PROCESS AND COMMUNICATIONS California ISO				
This document describes potential actions taken by the California ISO before and during a summer heat event. For more detailed information on these steps, see CAISO Operating Procedure IOP 4420 .				
	2 – 7 DAYS OUT	1 – 4 DAYS OUT	1 DAY OUT	OPERATING DAY
OPERATIONAL ASSESSMENTS	CAISO monitors forecast 7 days out, assesses resource adequacy, system conditions, weather, and other potential grid impacts and plans for next possible steps.	CAISO reviews and validates most current information on actual and potential system conditions, resource adequacy, weather, and other potential factors impacting the grid.	CAISO reviews and validates day-ahead market results and most current information on actual and potential system conditions, resource adequacy, weather, and other potential factors impacting the grid	CAISO reviews actual and potential system conditions and takes actions in accordance with OP 4420.
OUTREACH TO EXTERNAL ENTITIES	Depending on actual and potential system conditions, outreach and coordination possible extreme event to: <ul style="list-style-type: none"> • Governor's Office (GO) • Long-start strategic reserve resource scheduling coordinators (LS-SRR SCs) Consider need for Department of Energy (DOE) 202c Orders and whether other government agency assistance may be needed	To prepare entities for possible conservation efforts and free up additional supply, the CAISO may take the following actions: Initiate communication to: <ul style="list-style-type: none"> • Water agencies (Department of Water Resources, Metropolitan Water District) • Neighboring Balancing Areas (BAs) • Emergency Load Reduction Program (ELRP) Board • Utilities • Reliability Coordinators (West and regulatory agencies) Coordinate with: <ul style="list-style-type: none"> • Resource Adequacy (RA) 202c orders • Emergency repair permits approved permit for or interconnection • State of Emergency Proclamation of a State of Emergency and/or GO Executive Orders 	Operational coordination with: <ul style="list-style-type: none"> • Utilities • Neighboring BAs • ELRP Board • RC West 	Operational coordination with: <ul style="list-style-type: none"> • Utilities • Neighboring BAs • ELRP Board • RC West
PUBLIC COMMUNICATIONS	CAISO may issue high temperature heads up via: <ul style="list-style-type: none"> • CAISO Website • CAISO social media Twitter handles: <ul style="list-style-type: none"> • @California ISO • @ISONotices • @FlexAlert 	CAISO may issue Restricted Maintenance Operations (RMO) notifications via: <ul style="list-style-type: none"> • Market notification system (MNS) • Emergency notifications email • ISO Today app • Today's Outlook Department of Energy (DOE) Emergency Orders available here GO Proclamation of a State of Emergency and GO Executive Orders will be publicly available	CAISO may issue Flex Alert and/or Energy Emergency Alert (EEA) Watch notice via: <ul style="list-style-type: none"> • Emergency notifications email • News release • Notice (Daily Briefing) • ISO Today mobile app • MNS • CAISO social media Learn more about EEA Flex Alert only: <ul style="list-style-type: none"> • FlexAlert.org • Flex Alert subscription lists • Flex Alert and CAISO social media 	CAISO may issue EEA notices as needed based on system conditions: <ul style="list-style-type: none"> • Notices (Daily Briefing) • MNS • Emergency notifications email • News release • ISO Today mobile app • Today's Outlook • CAISO social media De-escalate/all-clear notices issued via: <ul style="list-style-type: none"> • MNS • Emergency notifications email • Today's Outlook • ISO Today mobile app • CAISO social media

¹ CAISO generally issues Flex Alert and EEA Watch notices in the day-ahead timeframe, but may issue Flex Alert and EEA Watch notices earlier or day-of depending on system conditions.

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Example

FAC-011, FAC-014, IRO-008 Upcoming Standard Changes

- Upcoming standard changes effective 4/1/2024 requires RCWEST to update RC SOL methodology.
- Standards help to provide clarity by requiring a performance framework for determining SOL exceedances in SOL methodology.
- RCWEST created a joint RTWG/OPWG SOL methodology 2024 task force to agree on the SOL methodology changes and process changes and procedural changes.
- Licheng Jin is representing RCWEST at the taskforce meetings and coordinate the SOL methodology and process changes.

Major SOL Methodology Change Summary

- Broader Acceptable system performance:
 - Emergency Ratings may be used during pre-contingency situation
 - Emergency System Voltage Limits may be used during pre-contingency situation
 - Steady state post-Contingency flow through a Facility must not be above the Facility's highest Emergency Rating.
- Detailed SOL exceedance definition
- Communication of SOL Exceedance
- Stability limit establishment – Major change for RC to validate stability limit that has impact on more than one TOP
- RC West Process for Addressing Corrective Action Plans Submitted by Planning Coordinators (PC) and Transmission Planners (TP) instead of IROLs
- RC West communication of SOL and IROLs to other functional entities

Future Agenda Items

- The next RC West Oversight Committee meeting is scheduled for October 10; visit [RC West webpage](#) for additional details
- Send topic suggestions to isorc@caiso.com.

Open for Public Comments

Public Session Adjourned