



California ISO



RC West

RC West Oversight Committee

Public Session


Aug 22, 2024

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 / Products and Services/ RC West.

Instructions for raising your hand to ask a question

- Please open the Participant and Chat panels from the bottom right of your screen.
- If you are connected to audio through your computer or used the “call me” option, select the raise hand icon  at the bottom of the participant panel to raise your hand.
- **Note:** *3 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 - 1:05	Welcome/agenda	Yelena Kopylov-Alford
1:05-1:15	Oversight Committee Business <ul style="list-style-type: none"> Vote for Chair & Vice chair RC Customer onboarding status 	Chris Hofmann Tricia Johnstone
1:15- 1:45	RC West Operations Update <ul style="list-style-type: none"> Emergency Declarations Winter Storm Heather Lesson Learned Items Procedures update RC metrics update 	Tim Beach Tim Beach Kathleen Fernandez Lucas Rasmussen & Kiel Donahue
1:45 – 2:05	Working Group Updates <ul style="list-style-type: none"> FERC 881 Update ECC Expansion Update 	RajaShekar Thappetaobula RajaShekar Thappetaobula
2:20 – 2:25	Future agenda items	Tricia Johnstone
2:25	Public Comment	
2:30	Public Session Adjourned <i>*Note Executive session will start immediately following Public session. This may be earlier than 2:30 pm.</i>	

Oversight Committee Business

Chris Hofmann
Committee Chair

Christopher Sanford
Vice Chair

Tricia Johnstone
RC West/ Operational Readiness

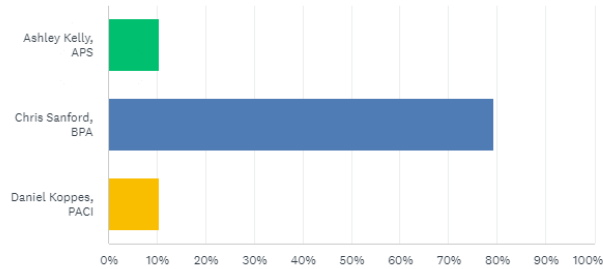
Vote for RCWOC Chair & Vice Chair – 2025 - 2026

- Absentee votes received from ~29 entities as of 8/22
- The positions will be approved by a majority vote of the Oversight Committee members for each position and based on the Voting Rule Procedure.
- Three nominees for the two positions, so the two candidates with the most votes will become Chair and Vice Chair.
 - 1) Ashley Kelly, APS
 - 2) Chris Sanford, BPA *
 - 3) Daniel Koppes, PacifiCorp
 - **Note: Chris Sanford has already served as Vice Chair, he is only eligible to be nominated for Chair.*
- RCWOC will make the final decision re: who will fill the Chair and Vice Chair positions. RCWOC will also determine if transition should start at Q4 – 2024 meeting or Q1 – 2025 meeting.

RCWOC Chair & Vice Chair Election Results:

Please submit you vote for RC West Oversight Committee Chair

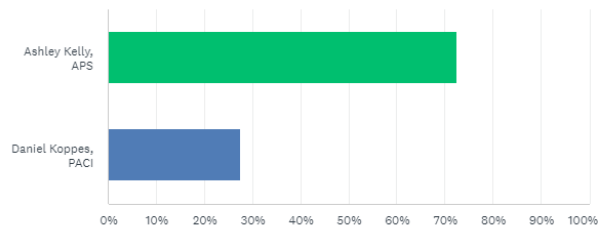
Answered: 29 Skipped: 0



ANSWER CHOICES	RESPONSES
▼ Ashley Kelly, APS	10.34% 3
▼ Chris Sanford, BPA	79.31% 23
▼ Daniel Koppes, PACI	10.34% 3
TOTAL	29

Please submit your vote for RC West Oversight Committee Vice Chair

Answered: 29 Skipped: 0



ANSWER CHOICES	RESPONSES
▼ Ashley Kelly, APS	72.41% 21
▼ Daniel Koppes, PACI	27.59% 8
TOTAL	29

	Quorum if at least 50%:	69%
Meeting Date: 08-22-24		
	Voting Status	
Company	Attendance or absentee vote(Y):	Submitted vote via survey (Y/N):
Arizona Electric Power Cooperative (AEPCO)	Y	Y
Avista (AVA)	Y	Y
Avangrid Renewables (AVRN)	Y	Y
Arizona Public Service (APS)	Y	Y
Balancing Authority of Northern California (BANC)	Y	Y
Bonneville Power Administration-Transmission (BPAT)	Y	Y
California ISO (CAISO)	Y	Y
Centro Nacional de Control de Energia (CENACE)	Y	Y
Chelan County PUD (CHPD)	Y	Y
City of Redding		
Douglas County PUD (DOPD)	Y	Y
Grant County PUD (GCPD)		
Gridforce Energy Management (GRID)	Y	Y
City & County of San Francisco (Hetch Hetchy)	Y	Y
Idaho Power Company (IPCO)		
Imperial Irrigation District (IID)	Y	Y
Los Angeles Department of Water and Power (LADWP)	Y	Y
Lone Star		
Modesto Irrigation District (MID)	Y	Y
Montana Alberta Tie Line		
BHE Power Watch, LLC (GWA)	Y	Y
BHE Wind Watch, LLC (WWA)	Y	Y
NorthWestern Energy (NWMt)	Y	Y
NV Energy (NEVP)		
PacifiCorp (PAC)	Y	Y
Pacific Gas and Electric (PG&E)	Y	Y
Portland General Electric (PGE)	Y	Y
Public Service Co. of New Mexico (PNM)		
Puget Sound Energy (PSEI)		
Salt River Project (SRP)		
Southern California Edison (SCE)	Y	Y
San Diego Gas & Electric (SDG&E)	Y	Y
Seattle City Light (SCL)	Y	Y
Silicon Valley		
Sacramento Municipal Utility District (SMUD)	Y	Y
Snohomish County PUD		
Tacoma Power (TPWR)	Y	Y
Trans Bay Cable		
Tri-State Generation and Transmission Association		
Turlock Irrigation District (TIDC)	Y	Y
Valley Electric Association (VEA)	Y	Y
Western Area Power Administration Sierra Nevada Region	Y	Y
	42	29

CAISO BA Area - GRID TOP Onboarding Update

- Ten West Link project

Milestone	Status	Target Date of Completion
Agreements/ Approvals	Complete	-
Network Model Updates Submission	Complete	-
Operating Procedures	Complete	-
Operating Guides	N/A	N/A
Messaging Validation	Complete	-
RC Customer Integration/Data Validation	Complete	-
Network Model Updates – Production	Complete	-
Settlement Integration	Complete	-
Shadow Operations	N/A	N/A
Executive Statement of Readiness	Complete	-
Go-Live	Complete	6/12/24

**GRID TOP has successfully onboarded and is operating within RC West footprint. For more information about RC West Onboarding and Readiness criteria, please refer to Business Practice Manual: RC Services on www.caiso.com*

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CAISO BA Area – LS Power Grid (LSPG) TOP

Onboarding Update - Orchard 500kV Reactive Project

Milestone	Status	Target Date of Completion
Agreements/Approvals	Complete	-
Network Model Updates Submission	Complete	-
Network Model Updates – Production	On Track	9/1/2024
RC Customer Integration/Data Validation	On Track	12/31/24
Messaging Validation	On Track	12/31/24
Operating Procedures	On Track	12/31/24
Operating Guides	N/A	N/A
Settlement Integration	On Track	12/31/24
Shadow Operations	N/A	N/A
Executive Statement of Readiness (T-30)	On Track	12/2/2024
Go-Live	On Track	1/2/2025

LS Power is an onboarding TOP, targeting implementation for January 2024. For more information about RC West Onboarding and Readiness criteria, please refer to Business Practice Manual: RC Services on www.caiso.com

RC West Operations Update

Tim Beach
Samson Adigun
Kathleen Fernandez

Operations update

Energy Emergency Alert	2024	2023	2022	2021	2020
EEA - W	25	9	9	4	NA
EEA - 1	10	14	19	7	26
EEA - 2	0	0	7	3	9
EEA - 3	7	6	7	3	12
Total	42	29	42	17	47
ISO	1	2	4		
TE	10	1	3		





Peak Load	YTD	Historical
WECC	167,988 MW (07/10/2024)	167,988 MW (07/10/2024)
RC West	128,470 MW (07/10/2024)	130,986 MW (9/6/2022)

Other items

- Winter Storm Heather (MLK weekend) Lessons Learned
- Northwest Mutual Assistance Agreement (NWMAA)
 - (NWMAA) is a voluntary collaboration among entities that control natural gas assets in the Pacific Northwest, including British Columbia, Alberta, Washington, Oregon, Nevada, and Idaho. The agreement is designed to enhance regional system reliability during natural gas emergencies by enabling these entities to cooperate and provide mutual aid when needed. By coordinating their efforts, members can mitigate the impact of unplanned events that may disrupt natural gas supply and transportation, thereby supporting a quicker restoration of normal service and maintaining the integrity of the regional gas system.
- Western Region Mutual Assistance Agreement (WRMAA)
 - (WRMAA) serves as a framework for cooperation among utility companies in the Western U.S. during emergencies that impact electricity and natural gas systems. This agreement allows participating entities to request and provide mutual assistance during emergencies, ensuring rapid mobilization and deployment of resources like personnel, equipment, and materials (boots on the ground). The WRMAA strengthens operational readiness and enhances situational awareness, particularly for entities like CAISO (RC West).

RC West Daily Condition Status

The purpose of the Daily Condition Status is to provide visual status representation.

RC West Condition Status Legend		
RED - Existing condition poses risk to BPS reliability or Firm Load		
ORANGE - Existing or Emerging condition may present risk to BPS reliability OR Firm LOAD		
YELLOW - Conditions warrant elevated monitoring of potential threats to BPS reliability or Firm load		
GREEN - Conditions do not indicate an elevated risk or abnormal threat to BPS reliability		

Indicator levels are set by

- Temperature forecast for
 - ✓ D+1
 - ✓ D+2 - 4
 - ✓ D+4 - 7
- RCW Load Forecast 98% of historical peak
 - D+1-2
 - D+>2
- Certain wildfires impacts.

**RC West Daily RC Report****07/10/2024****RC West Daily Status Indicator****Condition:****Reason***RC West Forecasted Load to be within 98% All-time Peak (D1-D2)**D1 Ambient temp forecasted to intensify seasonal conditions in 3 or more RC West BAs in one region****RC West Condition Status Legend***

RED - Existing condition poses risk to BPS reliability or Firm Load

ORANGE - Existing or Emerging condition may present risk to BPS reliability OR Firm LOAD

YELLOW - Conditions warrant elevated monitoring of potential threats to BPS reliability or Firm load

GREEN - Conditions do not indicate an elevated risk or abnormal threat to BPS reliability



Procedures update

Upcoming procedure changes:

RC Proc. #	Procedure Title	Status	Description of changes	Comments
RC0670	NERC PRC-002 Disturbance Monitoring and Reporting Requirements Process	Pending Internal Review – Target 8/22 effective	Section 3: Updated review and update information. Section 4: Updated the criteria of name plate MVA vs MW in EMS model and various other edits for clarification. Section 6: Included Talen and Northw estern Energy under Operationally Affected Parties shared w ith list.	8/16: Sent for approval.
RC0670A	PRC-002 RC West DRR List	Pending Internal Review – Target 8/22 effective	Section 3: Updated Operationally Affected Parties, stating that procedure w ill be shared w ith "affected" RC West BAs and TOPs, "Generator Ow ners and Transmission Ow ners listed below ," neighboring RCs, and TANC. Appendix I: Added TO/GO Contact column to reflect distribution contacts. Added SRP Gila River Unit 1 to Unit 12 w ith notes. Corrected spelling of Pahrump. Added Note below table defining RC Portal PC Contact. (These changes were recommended by WECC.)	8/16: Sent for approval.
RC0520	Loss of Monitoring and Analysis Tools	Pending Internal Review – Target by 8/29	New Section 3.4, Partial Degradation of ICCP Data Impacting IROL Monitoring included.	8/19: Sent for approval.
RC0410A	EOP-011 Plan Review Checklist	Target Publish 10/1	Updated EOP-011 references, added additional text to reflect standard changes and removed all "RC Review er Comments" sections.	7/24: Approved
RC0430A	EOP-010 Plan Review Checklist	Target Publish 10/1	Removed "RC Review er Comments" sections.	7/24: Approved
RC0460F	EOP-005 Plan Review Checklist	Target Publish 10/1	Removed "RC Review er Comments" sections.	7/24: Approved

Procedures update - continued

Recently published procedures:

RC Proc. #	Procedure Title	Status	Description of changes
RC0110	Communications Protocols	Effective 8/15/24	Annual Review : Minor update to communication protocol in Section 3.2 stating that operators should identify with use of first and/or last name. Minor format and grammar edits in Sections 3.1 and 3.2.
RC0420	Event Reporting	Effective 8/15/24	Updated noting that RCs will notify the JIC of reportable events, instead of MRT0, and submit OE-417 reports as needed. Added EEA-Watch to events that require reporting to JIC.
RC0520	Loss of Monitoring and Analysis Tools	Effective 8/15/24	Updated NERC Standard IRO-008 version references. Section 3.11: Updated RC West procedure reference in third bullet. References section: Added EOP-008-2 and IRO-018-1(i) to NERC Requirements and updated CAISO 5410 procedure reference due to title change.
RC9020	Nuclear Plant Interface Coordination	Effective 8/01/24	Added Appendix B: RC West RTCA NPIR Analysis Setup.
RC9040	Frequency Response Monitoring and Mitigation	Effective 8/01/24	Replaced all instances of Comanche Unit 1 with Comanche Unit 3, due to retirement of Comanche Unit 1.
RC9260	Path 24 Operating Procedure	Effective 8/01/24	Initial procedure developed in coordination with CAISO and NVE.
RC9520	Monitoring of LDWP N-1-1 Potential Cascading	Effective 7/25/24	Table 2 - Rating update based on LADWP's information.
RC0420	Event Reporting	Effective 7/11/24	Added RC reporting requirements for other/new worthy events to Appendix A1, and related language in Section 3.2.
RC9110	NW Washington Area Import IROL	Effective 7/11/24	Section 11: Updated Operationally Affected Parties with entity detail due to NERC FAC-014 R5.2 and R5.6 requirements.
RC9120	Oregon Export IROL	Effective 7/11/24	Updated Operationally Affected Parties section and References to be FAC-014 R5.2 and R5.6 compliant and including APS and SCE.
RC9240	Bonanza Area Operating Guide	Effective 7/11/24	Periodic Review : Minor format and grammar edits only.

Procedures update - continued

Recently published procedures - continued:

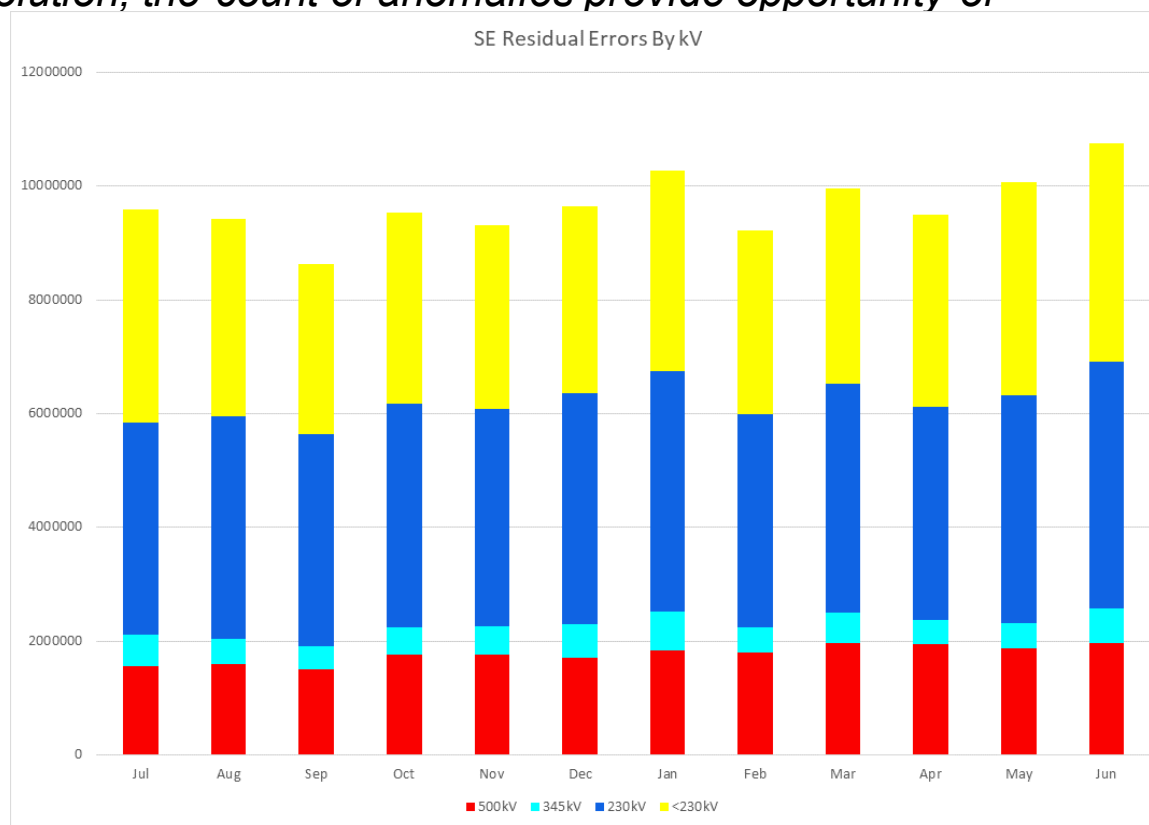
RC Proc. #	Procedure Title	Status	Description of changes
RC9230	Path 14 Operating Guide	Effective 7/01/24	Section 4: Replaced existing Step 2 mitigation step with Copperfield RAS verbiage.
RC9540	Monitoring IID System	Effective 7/01/24	Updated Sections 3, 4.3, 4.4, 5 and 6 per IID S-line project and El Centro 230/92 #5 bank energization. Updated instances of cutplane to cut plane.
RC9550	Monitoring Heavy E-W Flows on SWPL, HANG2, SRPL, and Parallel Transmission	Effective 7/01/24	Updated Sections 4.3 and Appendix A per IID S-line project and El Centro 230/92 #5 bank energization. Updated instances of cutplane and cut-plane to cut plane.
RC0320	Outage Review and Coordination	Effective 6/15/24	Section 3.3: Added language for condition status indicator in RC Daily report, and a policy for RC management to initiate conference calls with entities when extreme weather is forecasted for the next day. Prior to this call, BAs may be requested to provide forecast information. Updated version for NERC Standard IRO-008 references.
RC0410	System Emergencies	Effective 6/15/24	Section 3.2: Additional criteria for RC declaration of transmission emergency – unplanned load loss for next contingency.

RC Metrics Q2 2024

Lucas Rasmussen - Power Systems Technology Engineer
Kiel Donahue - Associate Power Systems Technology Engineer

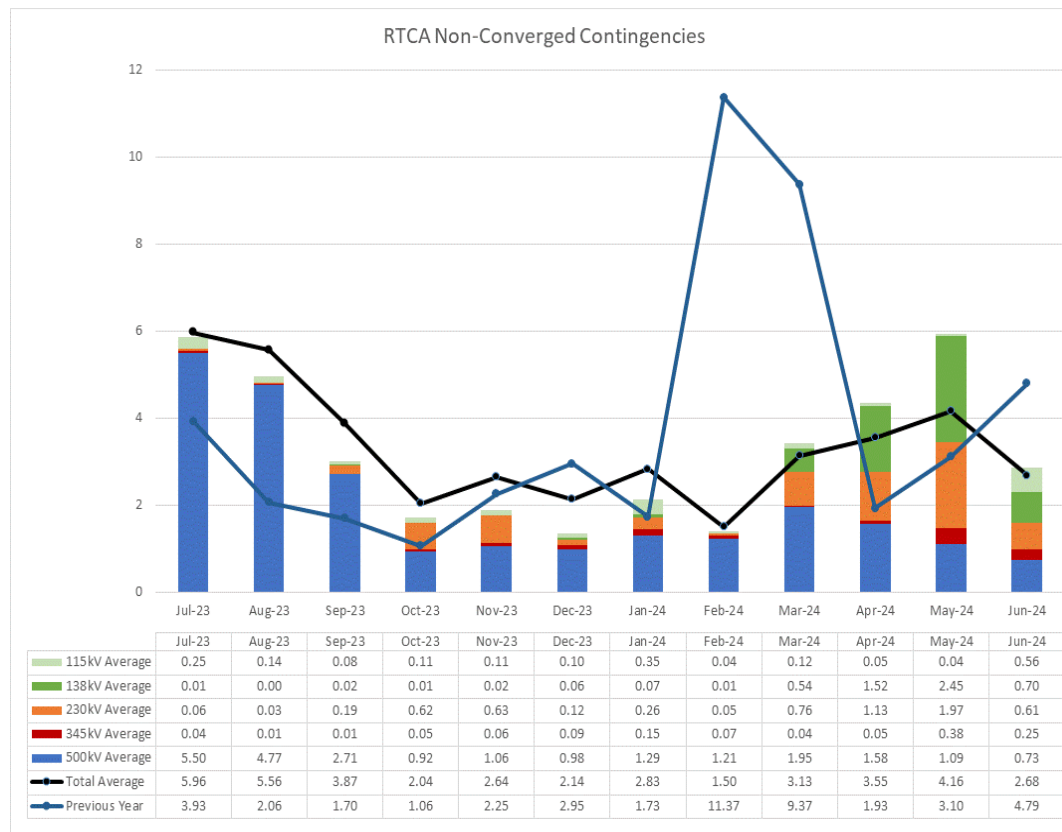
RC Metrics Q2 2024 - SE Residual Errors

- 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.*



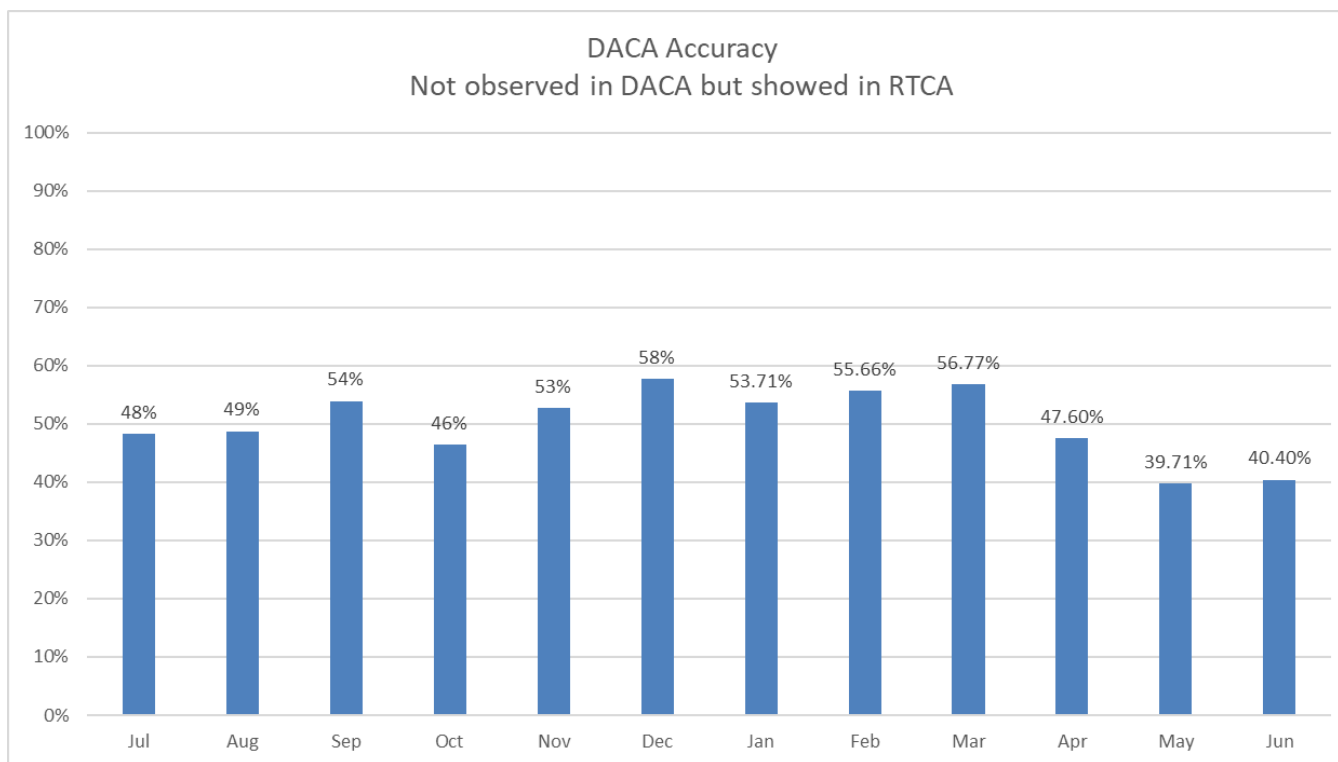
RC Metrics Q2 2024 - RTCA Non-Converged Contingencies

- 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*



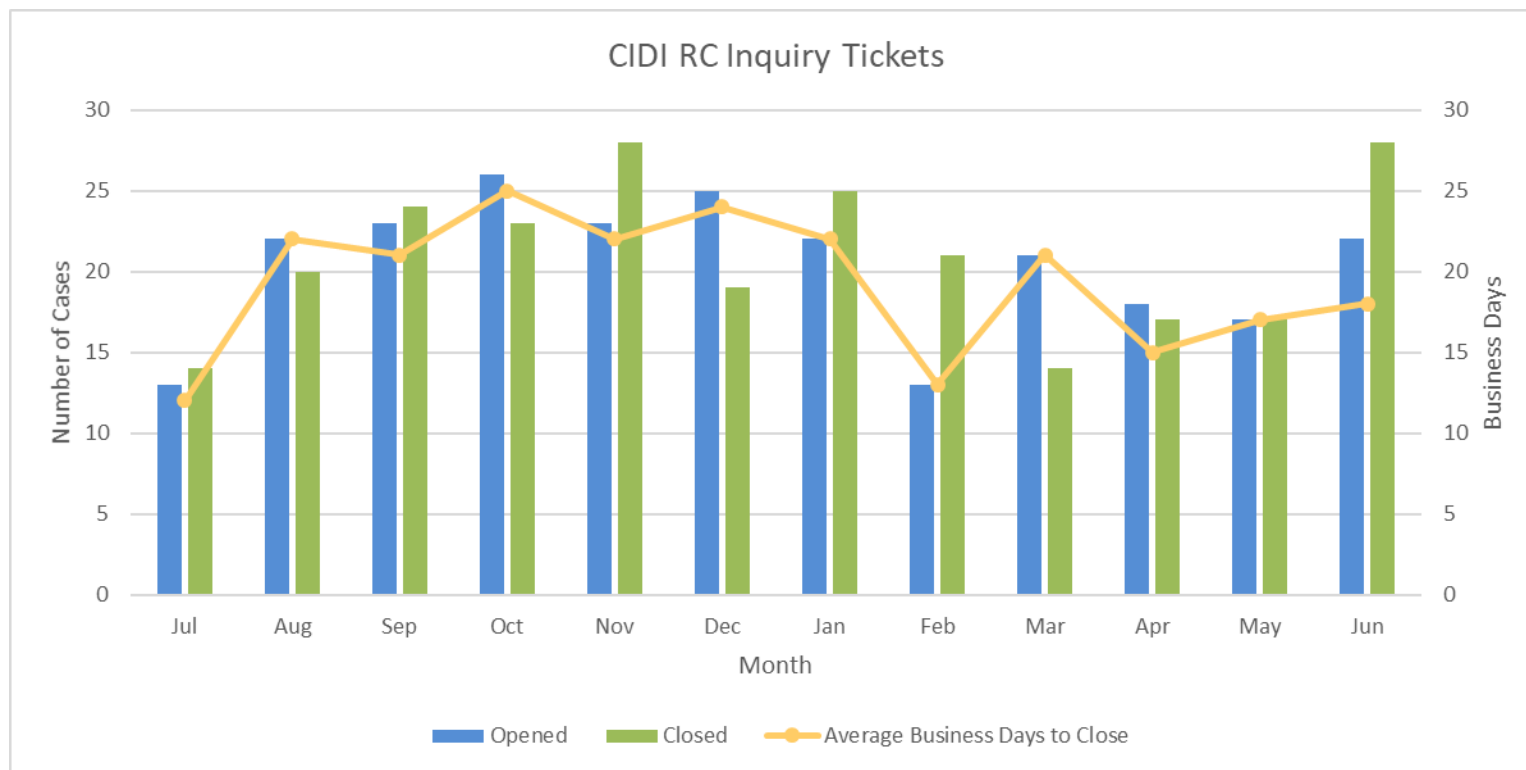
RC Metrics Q2 2024 - DACA Accuracy

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



RC Metrics Q2 2024 - 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.

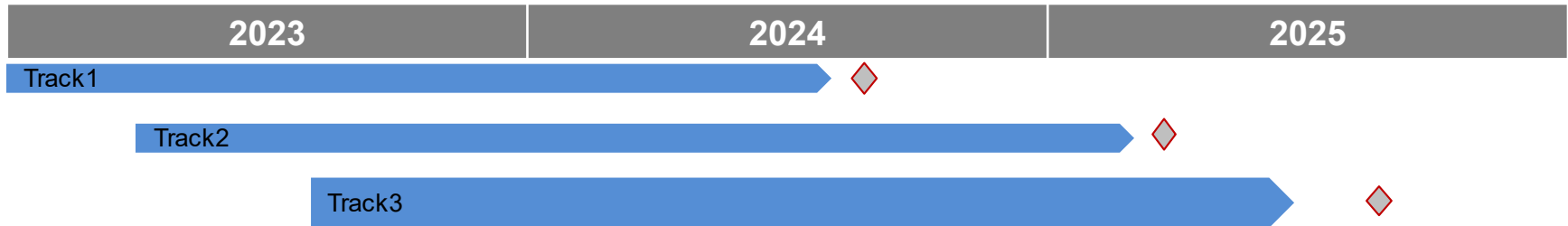


Working Group Updates

FERC 881 Ambient Adjusted Rating & Dynamic Line Ratings

Raja Thappetaobula
Director, Operations Engineering Services

FERC 881 Project Timelines by Tracks



- **Track 1 – Real Time Reliability Applications**
 - Delays in application deliver timeline with FAC-11 additions to the project.
 - Utilization of AAR in real time reliability applications.
 - Estimated - Target Capability to be ready by Q3 2024 . Originally Q2.
- **Track 2 – Operational/EMS Model Data and Applications**
 - OATI Webliner product will be utilized for receiving Look ahead ratings.
 - Finalizing OATI functional specification document.
 - Estimated - Target Capability to be ready early 2025
- **Track 3 – Market Application and Look Ahead Applications**
 - Requirements phase started and should be complete by September 2024.
 - With EDAM work and other internal constraints we wont be able to complete full compliance by July 2025.
 - We are in the process of determining our timelines for seeking an extension from FERC.

ECC Expansion

Raja Thappetaobula
Director, Operations Engineering Services

ECC Expansion Effort:

- Flow based congestion management on SOLs/IROL's in real-time
- RC led process
- Standardized curtailment methodology
 - Tag Curtailments
 - Specific curtailment priority details need to be defined in NAESB
 - Very similar to tag curtailments currently done in UFMP Step 4 but with TDF calculated to the SOL not a proxy path
 - Gen to Load relief obligations (GTL)

ECC Expansion Effort:

- Calculate the impact of any BA serving its load within its boundary on transmission constraints.
 - All non-tagged generation impacts are captured by the GTL calculation.
- Calculation is performed on a generator level utilizing the real-time MW submitted.
- Any MWs used to support an external obligation (e.g. Tag) is subtracted from the real-time MW of the generators support the obligation.

ECC Expansion Effort:

Two step approach

1. SPP and RCWEST coordinated effort on ECC model validation and constraint benchmarking.
2. Request a standard be drafted at NAESB
 - Curtailment methodology standard development.
 - Q4 2024

ECC Expansion Effort:

- Below are some of the primary goals of this effort.
 - Compare Real time flows on the constraint with WebECC calculated impacts.
 - Improve modeling in the existing WebECC tool to make sure all e-tags and dynamic transfer impacts are being calculated/modeled correctly.
 - Impact of phase shifters are accounted correctly.
 - Coordinate with BA's in west to improve the e-tag modeling and Generation to Load impacts in webECC.
 - Compare webECC source/sink Transfer distribution impacts with other tools to benchmark webECC calculations.

ECC Expansion Effort:

- We define unaccounted flow on a constraint as difference between solved flow on a constraint and Sum of all calculated impacts on the constraint (e-tag impacts+ dynamic schedule impacts + GTL impacts+ACE impacts Phase shifter impacts DC line impacts).
- Un accounted flow is not same as un scheduled flow, it is just a measure of how well the calculations are accounting the sources of impacts on a constraint.
- Our goal is to reduce the unaccounted flow to a reasonable measure
- Metrics will be developed to track the unaccounted flow performance across all the constraints through different seasons.
- SPP and RCWEST will work with TOP to identify top constraints across the western interconnection for this benchmarking effort (around 30

Future Agenda Items

- The next RC West Oversight Committee meeting is Nov 21, 2024. Visit [RC West webpage](#) for additional details
- Send topic suggestions to isorc@caiso.com.

Open for Public Comments

Public Session Adjourned