



California ISO | RC West

RC West Oversight Committee

Public Session


May 15, 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 / Stay Informed / RC West.

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 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 - 1:05	Welcome/agenda	Yelena Kopylov-Alford
1:05-1:15	Oversight Committee Business <ul style="list-style-type: none"> Chair & Vice chair nominations for Q3 GRID TOP onboarding status WIDSA Request 	Chris Hofmann Tricia Johnstone John Spomer
1:15- 1:45	RC West Operations Update <ul style="list-style-type: none"> General operations Voltage SOL Procedures update RC metrics update 	Tim Beach Samson Adigun Kathleen Fernandez Kendall Parra & Daniel Tiang
1:45 – 2:05	Working Group Updates <ul style="list-style-type: none"> FERC 881 Update OPWG Updates Data Quality Improvement Effort 	RajaShekar Thappetaobula RajaShekar Thappetaobula Rachel Melton
2:05-2:20	ECC Expansion White Paper Update	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

- Chair and Vice Chair Nominations for Q3

Chris Hofmann
Committee Chair

Christopher Sanford
Vice Chair

Tricia Johnstone
RC West/ Operational Readiness

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	On Track	6/5/24 *
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	On Track	6/5/24

**Updated to 6/5/24 to align with effective date for procedures. For more information about RC West Onboarding and Readiness criteria, please refer to Business Practice Manual: RC Services on www.caiso.com*

WIDSA Request

- LS Power Grid California

- Notice of Request to Sign Western Interconnection Data Sharing Agreement sent out and posted 4/23/24
- <https://www.caiso.com/Documents/LS-Power-Grid-California-Notice-Request-to-Sign-RCWest-WIDSA.pdf>
- Have signed RC Services Agreement w/ RC West
- Will be operating in CAISO BA/TOP/PA area as TO/TOP/TP – coordinating multiple projects interconnecting with PG&E's Transmission

Reference WIDSA and List of Signatories posted on www.caiso.com > Stay Informed > RC West

RC West Operations Update

Tim Beach
Samson Adigun
Kathleen Fernandez

Operations update

Energy Emergency Alert	2024	2023	2022	2021	2020
EEA - W	11	9	9	4	NA
EEA - 1	8	14	19	7	26
EEA - 2	0	0	7	3	9
EEA - 3	7	6	7	3	12
Total	26	29	42	17	47
ISO	1	2	4		
TE	2	1	3		

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)

Voltage SOL Task Force Wrap Up on April 24, 2024

Key Date	Milestone Completed
March 9, 2022	Initial Kickoff
October 1, 2022	Revised RC0610 SOL Methodology and System Voltage Limits Template
April 1, 2023	Data Request to all TOPs for revised SVLs due. Start of Parallel Operations
December 1, 2023	Shunt Equipment Data template finalized. Data request sent to all TOPs.
February 1, 2024	Shunt Equipment data from TOPs due
April 1, 2024	Implementation of Voltage SOL monitoring per FAC-011-4

Procedures Update

Recently Published

RC Proc. #	Procedure Title	Status	Description of changes
RC9210	Path 3 (Northwest- British Columbia)	Effective 5/09/24	Annual Review : Minor formatting and punctuation edits only.
RC0410	System Emergencies	Effective 5/02/24	Annual Review : Minor formatting throughout. Section 3.1.2: Added "non-firm for wholesale energy sales.
RC0410A	EOP-011 Plan Review Checklist	Effective 5/02/24	Annual review : No changes.
RC0410B	Transmission Emergencies Due to Wildfire	Effective 5/02/24	Annual Review : Updated NERC TOP-001 reference version.
RC9010	Unscheduled Flow Mitigation on Qualified Paths	Effective 5/02/24	Annual Review : No content changes, only minor formatting.
RC0610	System Operating Limits Methodology for the Operations Horizon	Effective 4/16/24	Major revision by Joint RTWG OPWG SOL IROL Methodology Task Force to address changes due to FAC-011-4 and FAC-14-3 standard change (approved by Joint RTWG OPWG).
RC Plan	RC West Coordination Plan	Effective 4/01/24	Appendix D: Updated procedure titles for RC0640, RC0650, RC0660, RC0670 and RC0670A removing NERC Standard versions.
RC0120	Guidelines for RC West IRO-010 Data Specification and Collection	Effective 4/01/24	Annual Review : Updated NERC Standards references. Updated Section 3.1.5.5 path references. Minor formatting and grammar edits.
RC0120A	RC West IRO-010 Data Specification	Effective 4/01/24	Annual Review : Request 1.5 and 4.4 - Updated language for clarity; Added new data request items 2.25 for storage resources and 2.26 for hybrid resources. Request 4.10 - Updated to add also sharing the list of BES exceptions with neighboring TOPs within RC Portal; Requests 4.9 and 6.10.1 – updated FAC-014-3 R3 references. Added to Exceptions tab – see yellow highlights.
RC0120B	RC West IRO-010 Data Specification for Adjacent RCs	Effective 4/01/24	Annual Review : Updated data requests 1.13 and exceptions based on discussions with SPP. Added data requests RC-2.25 and RC-2.26. Updated NERC Standards references.
RC0120C	ICCP or PMU Data Request Procedure	Effective 4/01/24	Annual Review : Updated two instances of RC West “help desk” to “Service Desk”.
RC0130	Notification Requirements for Real-Time Events	Effective 4/01/24	Section 3.3, Item 3.3.2: Replaced reference to RC0130A with RC0610 due to retirement of RC0130A. Added reference to RC0310, RC0610 and NERC Standard FAC-011 to References section. Updated other NERC Standard references. Removed RC0130A from Appendix section, as it retired effective 4/01/24.
RC0130A	SOL Exceedance Reporting Guideline	Effective 4/01/24	Retired: SOL Reporting Guidelines were incorporated into new Section 3.3 (TOP Notification Requirements for SOL Exceedances) of RC0310, effective 4/01/24.

Procedures Update

Recently Published - *continued*

RC Proc. #	Procedure Title	Status	Description of changes
RC0310	Mitigating SOL and IROL Exceedances	Effective 4/01/24	Major revisions to several sections to align procedure with revised FAC-011-4 and revised RC0610 SOL Methodology, which will be effective April 1, 2024. Retired RC0130A (effective 4/01/24), and incorporated SOL Reporting Guidelines into new Section 3.3 (TOP Notification Requirements for SOL Exceedances). Revised definition of System Operating Limit (SOL), and added definition for System Voltage Limit, to align with updated definitions in NERC Glossary. (Update was approved by the RTWG.)
RC0550	Reliability Coordinator Procedure Development, Maintenance and Distribution	Effective 4/01/24	Updates to NERC Standards references.
RC0610A	Criteria for Determining Facilities Critical to Derivation of IROL	Effective 4/01/24	Section 2: Updated NERC FAC-014 reference due to standard update.
RC0640	Transmission Near-Term Planning Assessments: NERC IRO-017	Effective 4/01/24	Updated procedure title, removing NERC Standard version and requirement numbers.
RC0650	Steady-State and Dynamic System Model Validation: NERC MOD-033	Effective 4/01/24	Updated procedure title by removing NERC Standard version.
RC0660	Transmission Relay Loadability: NERC PRC-023	Effective 4/01/24	Updated NERC PRC-002 version references throughout and removed standard version from procedure title.
RC0670	NERC PRC-002 Disturbance Monitoring and Reporting Requirements Process	Effective 4/01/24	Updated NERC PRC-002 version references throughout and removed standard version from procedure title.
RC0670A	PRC-002 RC West DDR List	Effective 4/01/24	Updated NERC PRC-002 version references and removed version from procedure title.
RC9000	Open Loop Guideline	Effective 4/01/24	2024 Annual Review / Major reorganization of procedure for clarity: <ul style="list-style-type: none"> - Added background Section 3.1 and clarified content. - Merged steps related to NE/SE Separation mitigation to the section for Potential Open Loop (3.3). - Merged steps related suspending WEIM and steps related to disabling NE/SE Separation scheme during islanded conditions, into the section on Open Loop (3.2). - Reorganized and renamed sub-headings for clarity.
RC9330	NWMT Path 80 Operating Guide	Effective 4/01/24	Section 4: Added Footnote 4. References: Updated NERC IRO-008 Standard version.

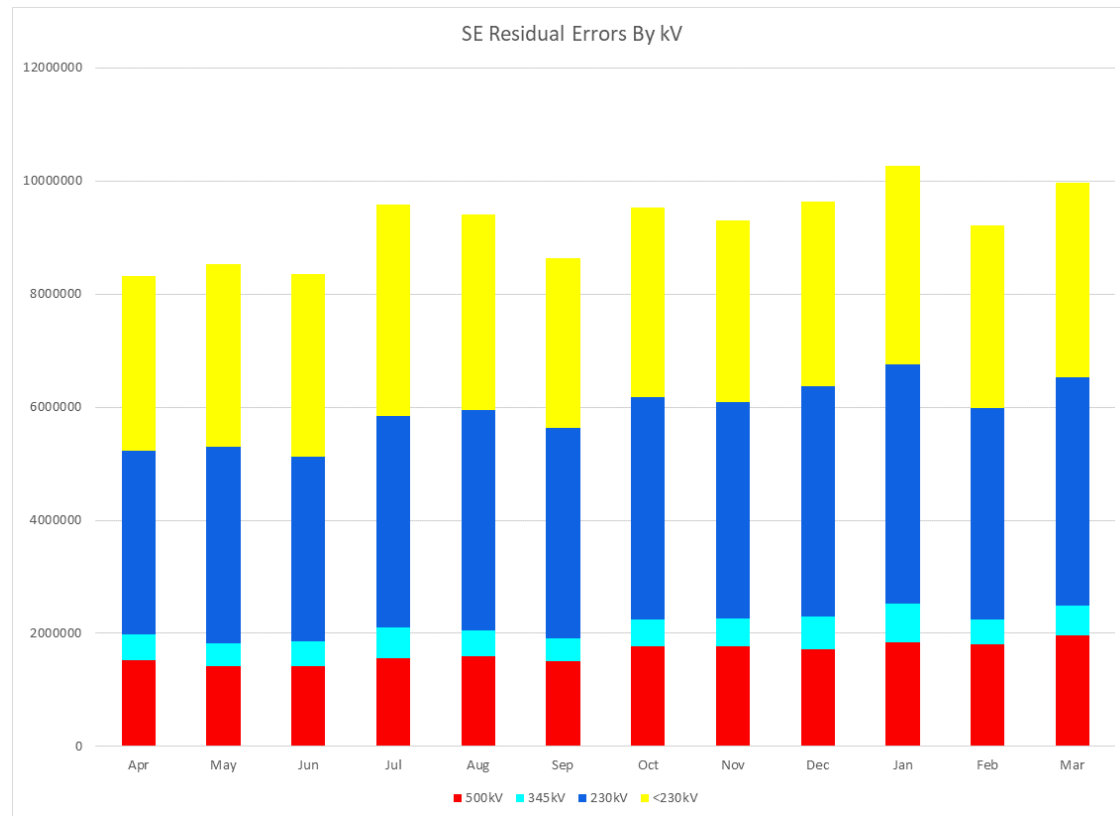
Procedures Update - *continued*

Upcoming Changes

RC Proc. #	Procedure Title	Status	Description of changes
RC0120A	RC West IRO-010 Data Specification	Target - Effective 6/1	Request 1.15 - Clarified PMU data requested from BA/TOPs with IBRs. New Request 4.11 - to provide list of existing PMUs and their locations. Request 6.8.1 - clarified requirements for MVAR curve data submission.
RC0330	Coordination with Neighboring Reliability Coordinators	Target - Effective 6/1	Annual Review: Minor formatting and punctuation edits only.
RC0330A	List of Ties with Neighboring RCs	Target - Effective 6/1	Annual Review: Minor formatting only, no content changes.
RC0330B	Contingency Monitored for Neighboring RC Area	Target - Effective 6/1	Annual Review: Minor formatting only, no content changes.
RC0330C	SPP-RC West Pseudo-Tie Arrangement for Grady Wind Generation	Target - Effective 6/1	Annual Review: No changes.
RC0460	Reliability Coordinator Area Restoration Plan	Target - Effective 6/1	Annual Review: Updated TOP-001 standard version in References section. Minor formatting and punctuation edits.
RC0460A	Restoration Principles	Target - Effective 6/1	Annual Review: Minor formatting only, no content changes.
RC0460B	Whole or Partial Transmission System Islanding Restoration Checklist	Target - Effective 6/1	Annual Review: No changes.
RC0460C	Blackout Restoration Using Connection to Energized System Checklist	Target - Effective 6/1	Annual Review: Minor format edit only, no content changes.
RC0460D	Blackout Restoration Energizing a De-energized System Checklist	Target - Effective 6/1	Annual Review: No changes.
RC0460E	Synchronization Checklist	Target - Effective 6/1	Annual Review: No changes.
RC0460F	EOP-005 Plan Review Checklist	Target - Effective 6/1	Annual Review: No changes.

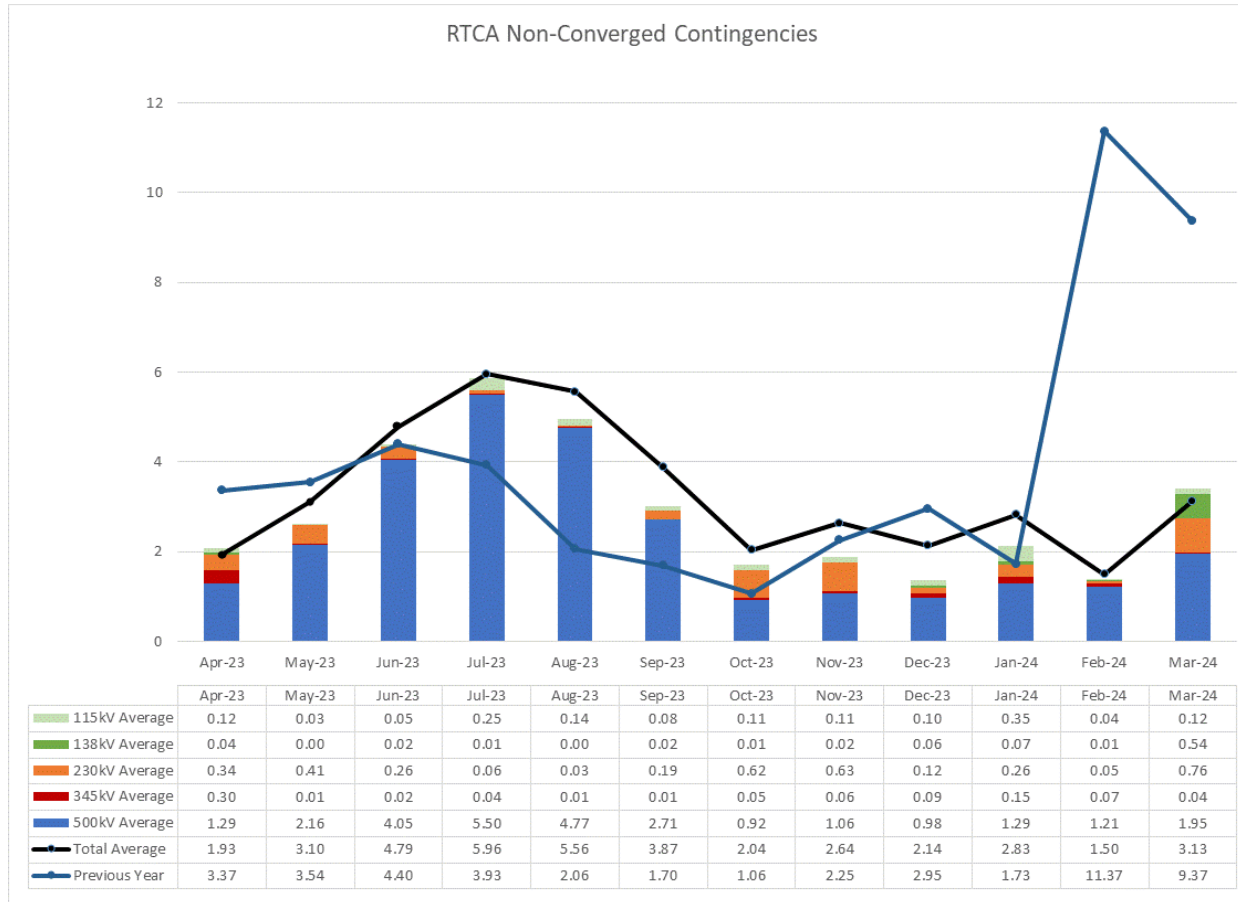
RC Metrics Q1 2024 - SE Residual Errors

- 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.*



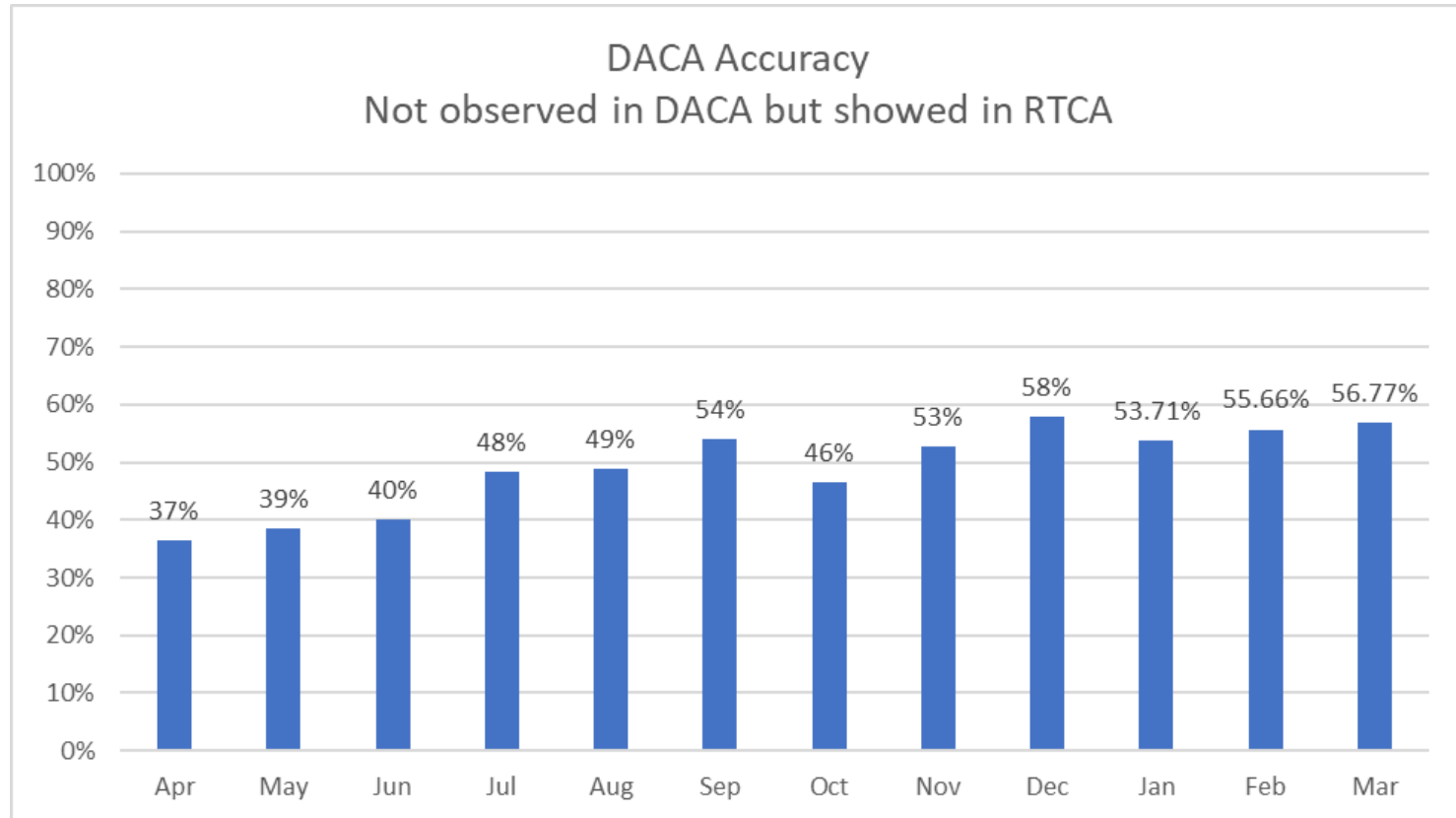
RC Metrics Q1 2024 - RTCA Non-Converted Contingencies

- 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*



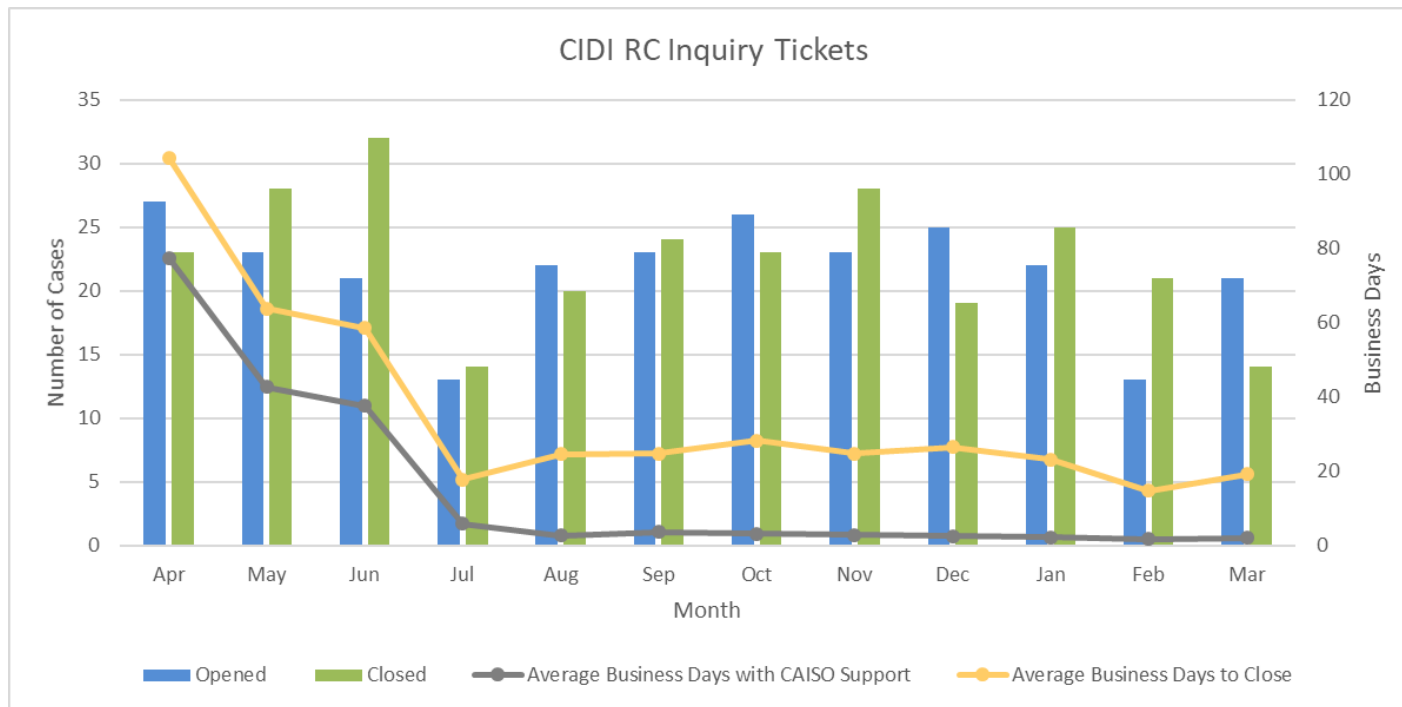
RC Metrics Q1 2024 - DACA Accuracy

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



RC Metrics Q1 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.

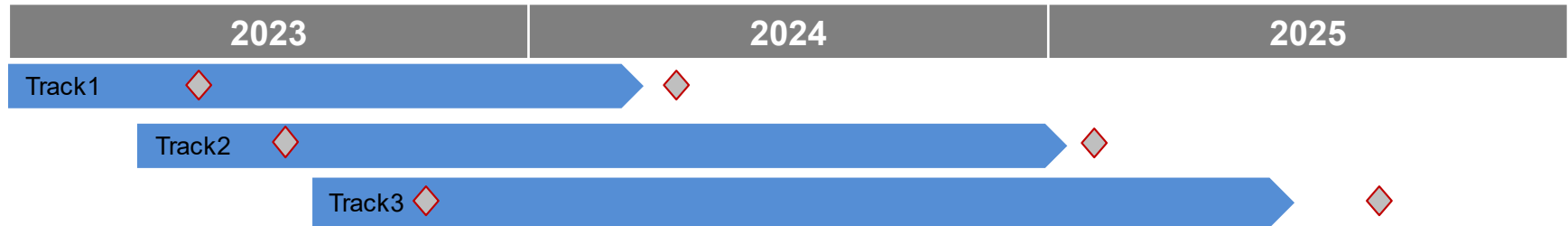


Working Group Updates

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**
 - Minor delays in application deliver timeline with FAC-11 additions to the project
 - Estimated - Target Capability to be ready by Q2 2024
- **Track 2 – Operational/EMS Model Data and Applications**
 - July 2023 - Complete Business Requirements
 - OATI Webliner product will be utilized for receiving Look ahead ratings.
 - Estimated - Target Capability to be ready in late 2024/early 2025
- **Track 3 – Market Application and Look Ahead Applications**
 - Requirements phase will be started in Jan 2024.
 - Based on requirements gathering and vendor/internal resources constraints potential for delay in some aspects of implementation.
 - Estimated - Target Capability to be ready in Q2 2025.

OATI Webliner:

- CAISO/RCWEST has signed an agreement with OATI on developing OATI webliner product for CAISO's AAR rating management.
- We are working with OATI on schedule and requirements.
- Will share with TOP's once we finalize requirements on how ratings will be acquired.

2024 Q1/Q2 goals :

- Work with WECC System Review Subcommittee (SRS) and collaborate on seasonal model development that reflect 4 seasons.
- Collaborate and develop a process with TOP and other RC in western interconnection on Tie line AAR rating management.
- Discuss and develop process to calculate updated TTC for inter area paths that are impacted by AAR ratings.

WECC Seasonal Base case Models

- RCWEST had discussions with WECC SRS committee at their April 11th meeting on the need for development of 4 seasonal base cases incorporating appropriate 4 seasonal ratings once FERC order No.881 is effective.
- Good discussion and there was support from the committee on the need and agreed to take a vote in their June meeting.
- Next steps RCWEST will submit a specialized case request form for creating new autumn (fall) operational cases from 2025.

Tie-Line and Joint Owned Equipment Rating Coordination:

- Currently RCWEST is planning to develop a process to determine lowest ratings on tie- lines or joint owned transmission lines in OATI webliner tool.
- Utilization of these cleared ratings in RC downstream applications.
- BPA and couple of other TOP's approached RCWEST if the cleared ratings could be shared with TOP's on the tie line or joint ownership.
- RCWEST is considering this approach.

Tie-Line and Joint Owned Equipment Rating Coordination:

- This approach will work seamlessly if there is an alignment on rating methodologies between TOP's on the tie lines and Joint owned.
- Alignment on how normal ratings and emergency ratings and durations are calculated.
- If alignment is not achieved we need to agree on a logic to determine the lowest rating with differences in rating durations.

OPWG Updates:

Raja Thappetaobula
Director, Operations Engineering Services

OPWG Updates:

- Below Items were discussed at the last OPWG on 4/17/2024
 - RC Day ahead reliability study improvement-
 - RC TOP contingency definition review discussion
 - FAC-11 Voltage SOL discussion
 - Highest Emergency rating and Day ahead reliability studies.

DEWG Updates:

Rachel Melton
Operations Compliance & Analysis Technical Lead

Draft Data Specification (RC0120A) Requests

Responsible	Data Request	Due Date
BA/TOPs with IBRs	Upload list of all currently installed PMUs in BA/TOP area to RC Portal	June 15, 2024
BA/TOPs with IBRs	Provide Real-time Voltage magnitude and angle, Current magnitude and angle, and Frequency measurements from existing PMU installations	August 15, 2024
BAs	Review RC West spreadsheet lists of Unit D-Curve data issues and submit updated CIM model	June 15, 2024
TOPs	Review RC West spreadsheet list of radial busbars and submit updated bus exclusion to RIMS	June 15, 2024
BA/TOPs	Review priority list of bad SCADA measurements and work with RC West to fix	August 1, 2024

RC West posted draft RC0120A and comments template to RC Portal (certificate required, only for BA and TOP customers).

- Commenting period available until 5/22/24.
- RC0120A is planned to be effective on 5/30/24.



California ISO



RC West

RCWEST Support For ECC Taskforce Whitepaper

Raja Thappetaobula, Director, Operations Engineering Services

ECC Taskforce Whitepaper Background:

- ECC Taskforce was created by ECCWG to evaluate the expanding utilization of webECC process for SOL's and IROL's across western interconnection.
- A comprehensive curtailment approach was drafted by the ECCETF for both tagged and non-tagged transaction MWs, using a prioritization approach consistent with existing NAESB standards.
- Work in tandem with WECC Unscheduled Flow Mitigation Process(not replacing it).

ECC Taskforce Whitepaper:

- ECC Taskforce whitepaper has been finalized.
- It includes the suggestions from RCWEST as discussed at previous RCWEST oversight committee meetings.
- Both RCWEST and SPP has agreed to support the whitepaper.

ECC Taskforce Whitepaper:

- Next Steps:
 - Present the whitepaper to ECCWG - April 30, 2024. Complete. ECCWG approved the whitepaper
 - Present the whitepaper to Western Interconnection Reliability Coordinator Executive committee (WIRCEC) Meeting – 6/6/2024
 - WECC stakeholder presentations
 - NAESB Process - Hoping Start Q3 2024
 - FERC Filing after NAESB Process.
 - OATI implementation

ECC Taskforce Whitepaper:

- In parallel RCWEST and SPP will work on enhancing calculations of existing webECC tool.
 - Identifying constraints on the seam
 - Benchmarking flow calculations
 - Discuss and enhance modeling transparency
 - Update Service Point Model mapping

Future Agenda Items

- The next RC West Oversight Committee meeting is Aug 22, 2024. Visit [RC West webpage](#) for additional details
- Send topic suggestions to isorc@caiso.com.

Open for Public Comments

Public Session Adjourned