



California ISO | RC West

RC West Oversight Committee

Public Session

May 18, 2021

1:00 - 2:30 p.m. Pacific

Agenda

Time*:	Topic:	Presenter:
1:00 - 1:05	Welcome/agenda	Kristina Osborne
1:05 - 1:15	Roll call	Ben Brandt - Chair
1:15 – 1:45	RC West Operations Update <ul style="list-style-type: none">• COVID-19 Update• Procedures update• RC metrics update	Tim Beach, RC West Kathy Fernandez, CAISO Rachel Lucas, CAISO
1:45 – 2:15	Working Group Updates <ul style="list-style-type: none">• Data Exchange• Power System Restoration• Real-Time Operations	Rachel Lucas, CAISO Tricia Johnstone, CAISO Tim Beach, RC West
2:15 – 2:20	Future agenda items	
2:20	Public Comment	
2:30	Public Session Adjourned	

Update: RC West Operations

Tim Beach
Director, Reliability Coordination

Rachel Lucas
Operations Compliance Analyst

Kathy Fernandez
Operations Procedure Control Specialist

Operations Update

COVID

- No change in operating posture
- CAISO general population vaccination rate +70%

RC West Winter Peak 87.2 GW (01/26/2021)

Annual Coordinated Restoration Drills completed

Currently running coordinated Capacity Emergency and Contingency Reserve drills with Balancing Authorities (BA)

Complete Summer Readiness Webinars with

- Balancing Authorities,
- Transmission Operators
- Adjacent Reliability Coordinators

RC Procedures Update

Recently Published Procedures:

RC Proc. #	Procedure Title	Status	Description of changes
RC0460	Reliability Coordinator Area Restoration Plan	Published 4/30 Effective 5/01/20	Annual Review: Updated Public sharing information, references, minor formatting and grammar updates.
RC0460A	Restoration Principles	Published 4/30 Effective 5/01/20	Annual Review: No changes.
RC0460B	Whole or Partial Transmission System Islanding Restoration Checklist	Published 4/30 Effective 5/01/20	Annual Review: Updated Operationally Affected Parties and minor punctuation edits.
RC0460C	Blackout Restoration Using Connection to Energized System Checklist	Published 4/30 Effective 5/01/20	Annual Review: Updated CAISO RC to RC West and updated Operationally Affected Parties.
RC0460D	Blackout Restoration Energizing a De-energized System Checklist	Published 4/30 Effective 5/01/20	Annual Review: Updated CAISO RC to RC West, updated Affected Parties, minor format and punctuation edits.
RC0460E	Synchronization Checklist	Published 4/30 Effective 5/01/20	Annual Review: Updated Affected Parties, minor format and punctuation edits.
RC0460F	EOP-005 Plan Review Checklist	Published 4/30 Effective 5/01/20	Annual Review: Updated Affected Parties, adding to Public sharing, minor format and grammar updates.
RC9020	Nuclear Plant Interface Coordination	Published 4/20	Updated PG&E to PGAE, removed Peak RC from Affected Parties. Removed PGAE O-34 procedure reference, included Appendix A, RC Area NPIR Summary Tables and removed Approval Section from procedure document.
RC0410	System Emergencies	Published 4/15	Added Section 3.1.1 for EEA Watch and added EEA Watch templates to Section 3.1.6. Clarified criteria and steps for RC declaring a "BES Emergency" in Section 3.2. Minor format and grammar updates. Reviewed and approved by the Real-Time Working Group.
RC0410A	EOP-011 Plan Review Checklist	Published 4/15	Annual Review: Updated email address under Plan Review Submissions and updated review frequency to Annual.
RC9130	Path 61/Lugo-Victorville IROL	Published 4/15	Seasonal Update: Purpose (p. 2), Section 2.2 Description bullets, Section 3 Table 2 Associated Contingencies, Section 3 Paragraph 2 (p. 4), Section 7.1 Paragraph 3 bullets, Section 7.2: Updated paragraph 1 bullets to reflect new IROL conditions for the 2021 summer season and updated RTCA showing post-contingency overload portion, first sub-bullet to reflect voltage below amount from 500 kV to 525 kV.
RC0510	Quality Assurance of Monitoring and Analysis Tools	Published 4/08	Periodic Review: Updates made based on EMS feedback, and minor punctuation edits.

RC Procedures Update

Recently Published Procedures - continued:

RC Proc. #	Procedure Title	Status	Description of changes
RC0100A	RC Desk Area of Responsibility	Published 4/01	Updated for Gridforce transition to SPP, and clarified AEPCO in Table 2.
RC0120	Guidelines for RC West IRO-010 Data Specification and Collection	Published 4/01	Annual Review: Section 3.1.5.5 – removed Path 49 with coordination with AZPS. Updated to RC West where applicable, updated Affected Parties and Reference sections. Updated in coordination with AZPS.
RC0120A	RC West IRO-010 Data Specification	Published 4/01	Annual Review: Added exceptions to data requests, modified language in request 6.16. Updated NERC Standards referenced in Data Specification tab. Reviewed changes with the Data Exchange Working Group on 3/9/21.
RC0120B	RC West IRO-010 Data Specification for Adjacent RCs	Published 4/01	Annual Review: Section 2 - Added requests 2.22 and 2.23. Section 6 - Updated 6.1 data transfer method and CAISO guidance document to include webOMS for instances such as double modeling. Modified language in request 6.16. Added exceptions to data requests updated to RC West, and updated NERC Standard referenced in Data Specification tab. Changes coordinated with RC-RC IRO-010 coordination subteam.
RC0120C	ICCP or PMU Data Request Procedure	Published 4/01	Annual Review: Updated Affected Parties and NERC Standard reference.
RC0210A	Reserve Sharing Group Information	Published 4/01	Updated Section 1 for GRID transition to SPP.
RC0310A	Non-IROL Stability Limits	Published 4/01	Removed Bridger West (Path 19), TOT 4A (Path 37), and TOT 4B (Path 38), as these are no longer stability limited.
RC0330	Coordination with Neighboring Reliability Coordinators	Published 4/01	Annual Review: Minor update to RC West procedure references, updated Affected Parties and NERC Requirements, added new RC0330C procedure to Appendix section, minor format and grammar updates.
RC0330A	List of Ties with Neighboring RCs	Published 4/01	Annual Review: Table 3: Updated Pahrump-Mead 230 kV Line, by replacing “Pahrump” with Sloan Canyon (Pahrump no longer connected to Mead) and removed Notes column. Updated in coordination with SPP West RC for GRID transition.
RC0330B	Contingency Monitored for Neighboring RC Area	Published 4/01	Annual Review: Minor update to Affected Parties and updated NERC Requirement.
RC0330C	SPP-RC West Pseudo-Tie Arrangement for Grady Wind Generation	Published 4/01	Initial version issued (approved by SPP West RC on 3/31/21).
RC9110	NW Washington Area Import IROL	Published 4/01	Included SPP West RC as an Affected Entity. Changed contact for Centralia Units from GRID to SPP. Removed references to Bellingham Area Load Tripping RAS.

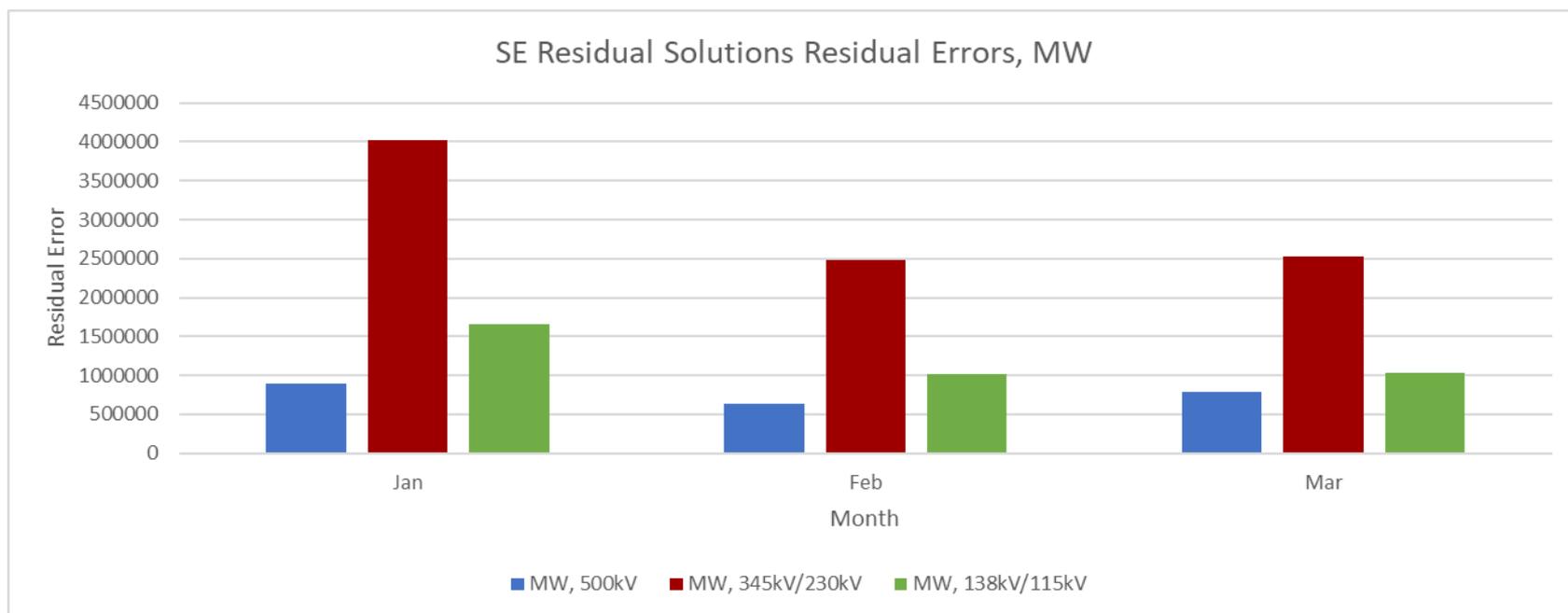
RC Procedures Update - continued

Upcoming Procedure Updates

RC Proc. #	Procedure Title	Status	Description of changes
RC0310	Mitigating SOL and IROL Exceedances	Internal Coordination	Section 3.2: Added footnote IRO-009-2 R4. Removed and merged Section 14 of RC0310 and RC0310B content into RC9010 procedure. Updated Affected Parties to include Neighboring RCs in addition to Public sharing. Added IRO-009-2 R4 to References, minor formatting and grammar updates.
RC0310B	Qualified Paths and Controllable Devices	Internal Coordination	Retired: merged relevant content into RC9010.
RC0410	System Emergencies	Internal Coordination	Section 3.1: Updates made related to EEA Watch based on received feedback.
RC0460	Reliability Coordinator Area Restoration Plan	Internal Coordination	Corrected Typo in Section 3.4 title.
RC0460F	EOP-005 Plan Review Checklist	Internal Coordination	Updated section references for questions 1, 2 & 4 in checklist.
RC9010	Unscheduled Flow Mitigation on Qualified Transfer Paths	Internal Coordination	Merged Section 14 of RC0310 and RC0310B content into RC9010 procedure. Removed previous Section 2 (Affected Parties), which was redundant. Added background information on the WIUFMP process to Section 2.1 regarding description of the UFMP Steps and qualification requirements. Minor format and grammar updates.
RC9015	Configurable Shift Factors for USFMP	Internal Coordination	Initial/New Procedure
RC9320	Montana Facilities Seams	Internal Coordination	Annual Review: Section 3: Corrected typo in Footnote 1. Section 4: Updated instance of CAISO to RC West.
RC9320A	Montana Facilities Seams Overview	Internal Coordination	Annual Review: Minor format and grammar updates and included document controlled statement in footer.

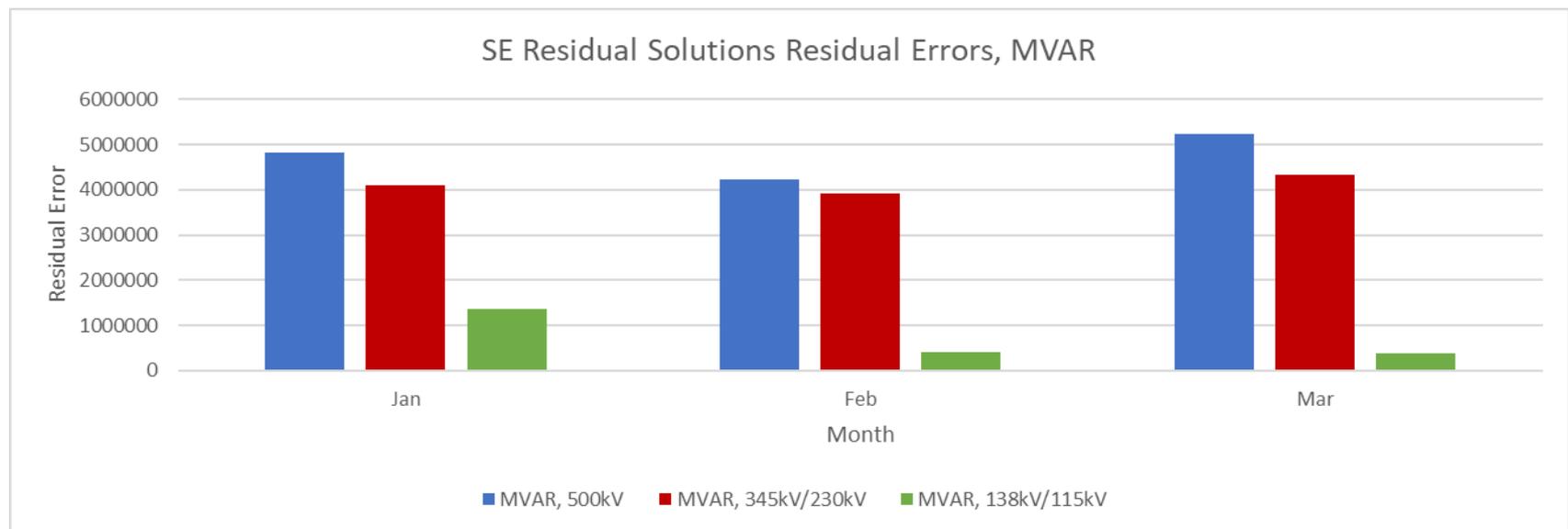
RC Metrics Q1 2021 - State Estimator Solutions Residual Errors

- SE Residual Error – MW flow on 500kV, 345kV, 230kV, 138kV, and 115kV lines
- *Note: Residual flow is the difference between the calculated SE solution flow on each line compared to the actual telemetry value. This is a reflection of SE accuracy in RC West area.*



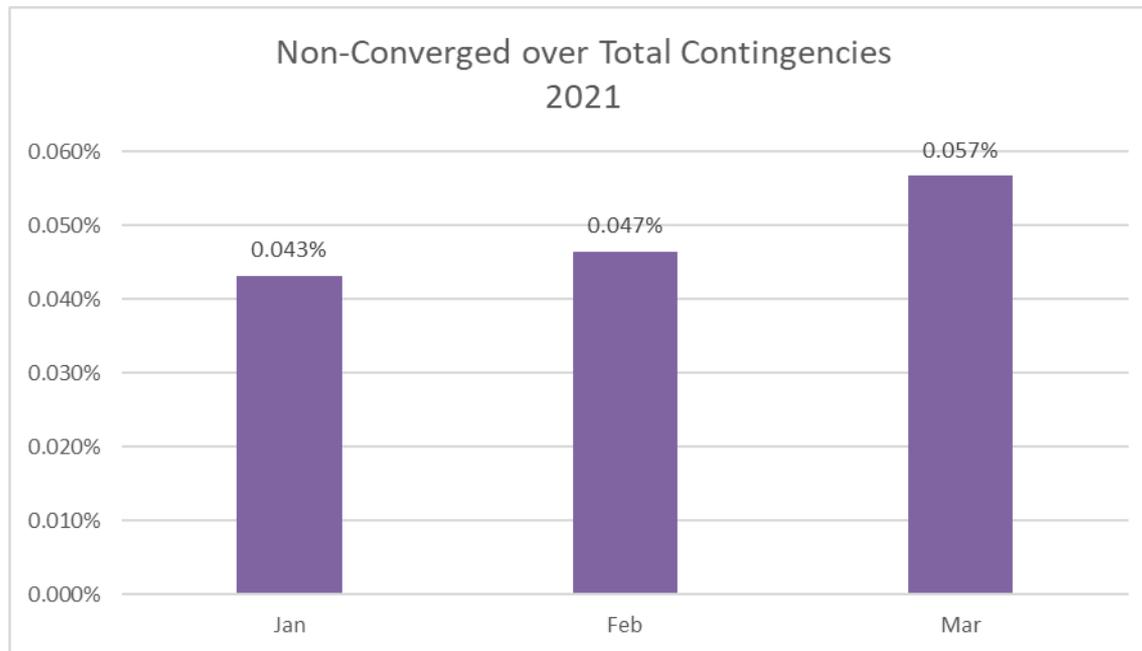
RC Metrics Q1 2021 - State Estimator Solutions Residual Errors

- SE Residual Error – MVAR flow on 500kV, 345kV, 230kV, 138kV, and 115kV lines
- *Note: Residual flow is the difference between the calculated SE solution flow on each line compared to the actual telemetry value. This is a reflection of SE accuracy in RC West area.*



RC Metrics Q1 2021 - RTCA Non-Converged Contingencies

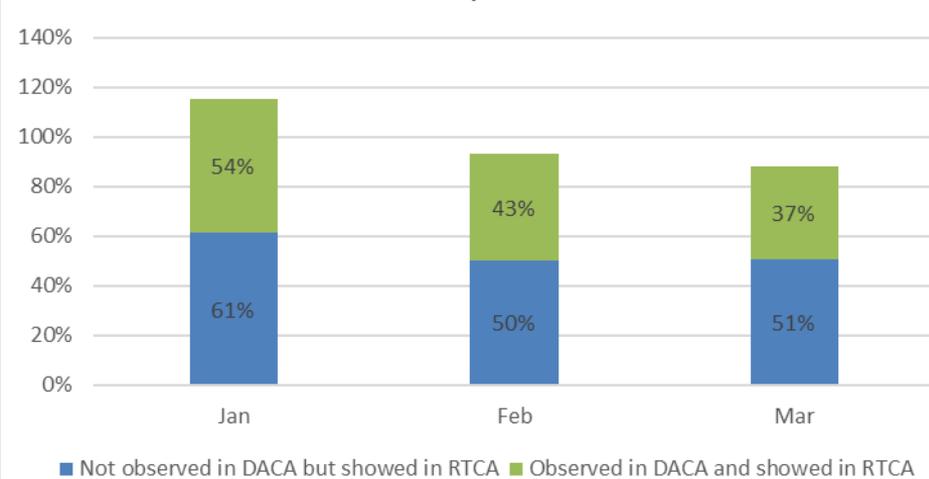
- Average count of Real-Time Contingency Analysis (RTCA) non-converged contingencies in five-minute intervals divided by the total number of contingencies for that interval
- *Note: Over 8,500 contingencies are solved in every RTCA solution*



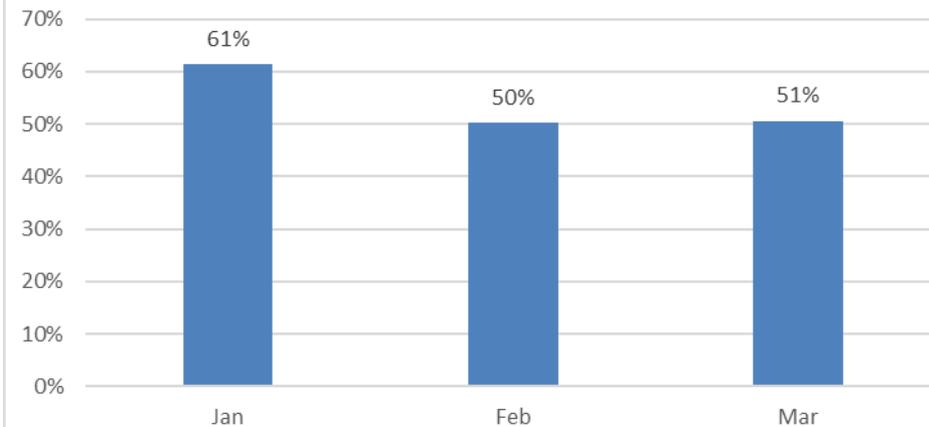
RC Metrics Q1 2021 - DACA Accuracy

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

DACA Accuracy - 2020 Format

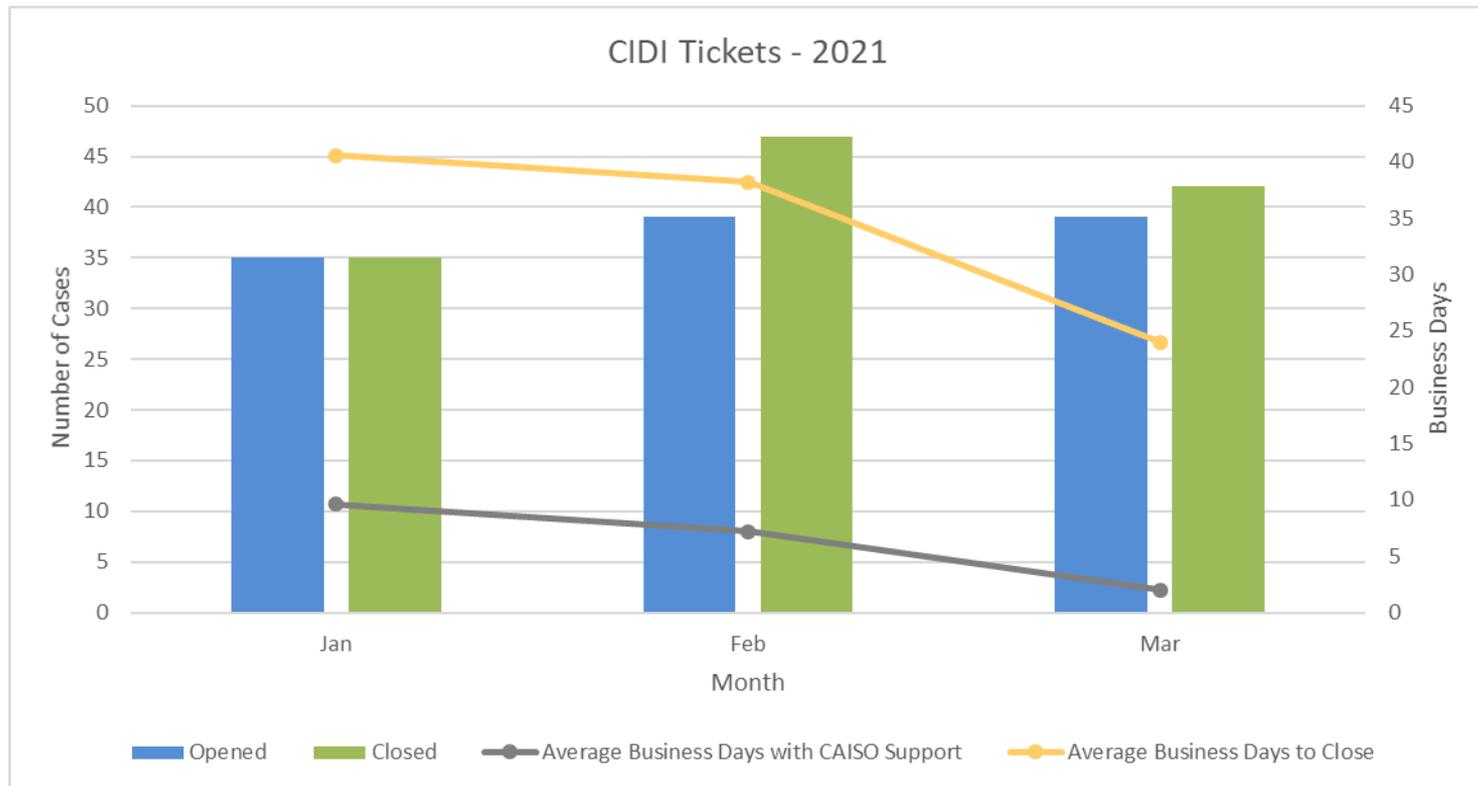


DACA Accuracy - 2021 Updated Format
Not observed in DACA but showed in RTCA



RC Metrics Q1 2021 - 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

Data Exchange Working Group

Rachel Lucas

Operations Compliance Analyst, Operations Compliance and Controls

IRO-010 Data Specification – Published 4/1/2021

- IRO-010 Specification (RC0120A)
 - Reviewed changes with the Data Exchange Working Group on 3/9/21.
 - Added exceptions to data requests.
 - Modified language in request 6.16 regarding listing pseudo ties and jointly owned units by the owner BA. Listing dynamic schedules as requested by the RC.
- Modeling Templates & Guides
 - JOU & Dynamic Schedules Template (New)
 - RC Data Gathering Template (geospatial data update and removing 6.16)
 - User Guide and Submission Checklist updates to reflect above changes

Power System Restoration Working Group

Tricia Johnstone
Director, Operations Compliance and Controls

Real-Time Operations Working Group

Tim Beach
Director, Reliability Coordination

RTWG Activities –

WECC Heat Report Findings and Recommendations

- ✓ Issued March 19th 2021

RC West Summer Readiness Webinars

- ✓ California\Mexico
- ✓ Desert Southwest
- ✓ Pacific Northwest

RC and Balancing Authority Reserve Drills

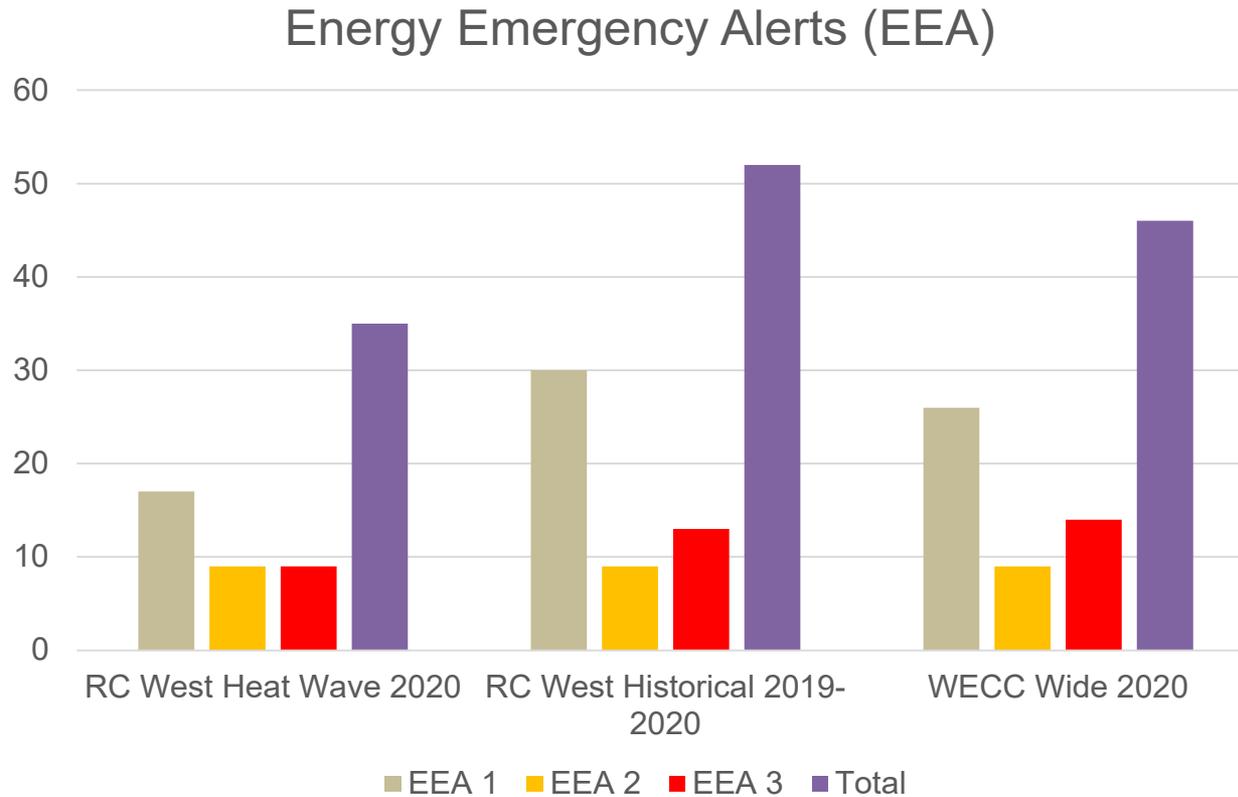
Joint RTWG/OPWG/DEWG

- ✓ Phase Angle System Operating Limits
- ✓ Frequency Response Data, Monitoring and Mitigation

WECC Heat Wave Report

- Heat Wave August 14th-19th
- Impacted the entire Western Interconnection
- WECC set new historical peak load of 162 GW
- RC West set historical peak load of 123.6GW
- Large number of Energy Emergency Alerts declared during the event

Heat Wave – Energy Emergency Alerts



General Operations Heat Wave Report

Extreme High Demand Findings

Finding 1—Increased demand during summer months is creating more competition for available generation.

Finding 2—Energy Emergency Alerts during the heatwave indicate generation availability challenges.

Finding 3—Reliability Standard BAL-002-WECC-2a may not be applied by BAs in the same way, which can lead to different outcomes.

Extreme High Demand Recommendation

Recommendation 1—Industry subject matter experts (SME) should create a guideline to document best practices while in an EEA state.

Status-- WECC is organizing a Advisory Team to develop a EEA/Contingency Reserve Management Reference Document. Scope definition is completed

General Operations Heat Wave Report

Transmission Constraints Findings

Recommendation 1—RCs and TOPs should use phase shifters to mitigate unscheduled flow beyond the Qualified Paths.

Status-

- Currently with Qualified Owners and Operators (QOO) and the Unscheduled Flow Committee (UFC) for review

General Operations Heat Wave Report

Transmission Constraints Findings

Recommendation 2—TOPs should collaboratively investigate phase angle limitations with RCs to establish appropriate System Operating Limits (SOL) or Interconnection Reliability Operating Limits (IROL) and related Operating Plans for use in real-time operations.

Status-

- RC West OPWG developing Phase Angle System Operating Limits (SOL)
- Joint OPWG/RTWG meeting scheduled for May 20th

General Operations Heat Wave Report

Transmission Constraints Findings

Recommendation 3—RCs, BAs, and TOPs should prepare for summer of 2021 by developing Operating Plans for similar events.

Status-

- RC West held Summer Readiness Seminars
- RC West added EEA Watch step to RC0410
- WECC Advisory Team to develop EEA\Contingency Reserve Reference Document

General Operations Heat Wave Report

Inaccurate Demand and Generation Forecasting

Finding 1—Inaccurate day-ahead demand forecasts contributed to reduced generation availability.

Recommendation 1—BAs should ensure that studies have accurate forecasts and can account for demand and generation variability.

Resource Adequacy

Finding 1—Variable generation contributed to the inability to meet peak demand.

Finding 2—Outreach programs to reduce usage during peak demand hours helped avoid rolling outages.

Recommendation 1—BAs should become familiar with the WECC Western Assessment of Resource Adequacy report

Future Agenda Items

- The next RC West Oversight Committee meeting will be on August 10, 2021.

Open for Public Comments

Public Session Adjourned