RC West Oversight Committee

Public Session
May 24, 2022
9:30 – 11:00 a.m. Pacific
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.

• If you need technical assistance during the meeting, please send a chat to the event producer.
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<tr>
<th>Time*:</th>
<th>Topic:</th>
<th>Presenter:</th>
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<tr>
<td>9:30 – 9:35</td>
<td>Welcome/agenda</td>
<td>Brenda Corona</td>
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<tr>
<td>9:35 - 9:45</td>
<td>Roll call</td>
<td>Ben Brandt - Chair</td>
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<td>9:45 – 10:10</td>
<td><strong>RC West Operations Update</strong>&lt;br&gt;- General operations&lt;br&gt;  • COVID-19 update&lt;br&gt;  • RC West Summer Readiness highlights&lt;br&gt;- Procedures update&lt;br&gt;- RC Metrics Q1 2022 update</td>
<td>Tim Beach, RC West&lt;br&gt;Kathy Fernandez, CAISO&lt;br&gt;Ankit Mishra, CAISO&lt;br&gt;Aung Oo, CAISO&lt;br&gt;Tricia Johnstone, CAISO</td>
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<tr>
<td>10:10 – 10:15</td>
<td>CIP-014 NERC Reliability Standard Risk Assessment Agreement</td>
<td>Debi LeVine, CAISO</td>
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<td>10:15 – 10:45</td>
<td><strong>Working Group Updates</strong>&lt;br&gt;- DEWG&lt;br&gt;- OPWG: Frequency Response Monitor &amp; Mitigation task force update&lt;br&gt;- OPWG/RTWG:&lt;br&gt;  • PI Vision&lt;br&gt;  • Voltage SOL task force update</td>
<td>Rachel Melton, CAISO&lt;br&gt;Aftab Alam, CAISO&lt;br&gt;Tim Beach, RC West</td>
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<td>10:45 – 10:50</td>
<td><strong>Future agenda items</strong></td>
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<td>10:50 – 11:00</td>
<td>Public Comment</td>
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<td>11:00</td>
<td>Public Session Adjourned</td>
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Committee Member Roll Call

Ben Brandt
Committee Chair
Update: RC West Operations

Tim Beach
Director, Reliability Coordination

Kathy Fernandez
Operations Procedure Control Specialist

Ankit Mishra
Manager, Market Engineering and Network Application Support

Aung Oo
Manager, Reliability and Market Operations Engineering
Operations Update

COVID –

- Return to Office options
  - On campus
  - Hybrid (1 or more days on campus per week)
  - Full Remote
  - Flexible Hours
- 3rd Control Room – moving to permanent set up

RC West Summer Readiness Webinar highlights -

- Weather and Fire Outlook
  - Strongest heat in August and September
  - Above normal overnight temps all summer
  - Above average monsoon rainfall
  - Early start to fire season and numerous high fire risk events throughout summer
  - Above normal fire potential for most of Western US
- Reviewed WEIM Recommendations
  - Mechanism for Security Constrained Unit Commitment
  - WEIM Job Aids available on WEIM Portal
- Reviewed RC West Wildfire Procedure and WECC Threat Monitor
- Reviewed IROL (3), Stability Limits and Emergency Procedures, including use of EEA Watch
- Discussed 2023 Summer Readiness – 4 region summer assessment study plans
RC Situational Awareness Tools

- Reviewed during RTWG, TWG and Summer Outlook meetings
- Ensure BA and TOP operators have access to and are prepared to use:
  - PI Vision
  - GMS
  - HANA
- RC Portal > Training
  - Reference documents
  - Videos
  - CBTs
- If additional training/support is needed, email training@caiso.com or submit a CIDI ticket
- If other feedback re: application functions/content, submit a CIDI ticket
Situational Awareness Tools

- **Grid Messaging System (GMS)** provides messaging platform across BAs, TOPs and RCs

- **PI Vision** provides visualization for real time situational awareness for system conditions in the Western Interconnection

- **Hosted Advanced Network Applications (HANA)** provides platform for “what if” contingency analysis for situational awareness
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<thead>
<tr>
<th>RC Proc. #</th>
<th>Procedure Title</th>
<th>Status</th>
<th>Description of changes</th>
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<tbody>
<tr>
<td>RC9000</td>
<td>Open Loop Guideline</td>
<td>Published 5/17</td>
<td>Major Update: Clarified instances of “TOT 2” with WECC Path numbers. Clarified PDCI operation and NE/SE Separation in Section 3.3.2.2. Added Section 3.2.1 for list of Always Credible Multiple Contingencies. Added step to Section 3.3.3 to consider suspending Western EIM when WECC is islanded.</td>
</tr>
<tr>
<td>RC0310</td>
<td>Mitigating SOL and IROL Exceedances</td>
<td>Published 5/13</td>
<td>Periodic Review: Added Appendix A and references to it in Sections 3.3, 3.5, 3.6. Section 3.5: Added bullet and sub-bullets for a Voltage Stability exceedance. Added procedure references to RC0310A and RC0310B in References section. Updated NERC Standard references and minor format and grammar updates throughout.</td>
</tr>
<tr>
<td>RC0310A</td>
<td>Mitigating SOL and IROL Exceedances</td>
<td>Published 5/13</td>
<td>Periodic Review: Spelled out SOLs in Purpose section and minor format changes.</td>
</tr>
<tr>
<td>RC0310C</td>
<td>Guidelines for Declaring Insecure Operating State</td>
<td>Published 5/13</td>
<td>Periodic Review: Updated first paragraph to include “affecting multiple BES stations”, minor format and grammar updates.</td>
</tr>
<tr>
<td>RC0120A</td>
<td>RC West IRO-010 Data Specification</td>
<td>Published 5/3</td>
<td>Annual Review: Added exceptions to data requests.</td>
</tr>
<tr>
<td>RC0120B</td>
<td>RC West IRO-010 Data Specification for Adjacent RCs</td>
<td>Published 5/3</td>
<td>Annual Review: Added exceptions to data requests in coordination with TEPC. Clarified language in data request 6.24.</td>
</tr>
<tr>
<td>RC0120C</td>
<td>ICCP or PMU Data Request Procedure</td>
<td>Published 5/3</td>
<td>Annual Review: References: Updated NERC Standard and removed reference to CAISO IRO-010 RC Data Specifications since detail now in CAISO Operating Procedure 3140A also referenced. Definitions Section: Updated from ISO to CAISO.</td>
</tr>
<tr>
<td>RC0120</td>
<td>Guidelines for RC West IRO-010 Data Specification and Collection</td>
<td>Published 4/19</td>
<td>Annual Review: Section 3.1 - added supporting language for implementation of NERC Standard CIP-012. Section 3.1.2: Added purpose language. Section 3.1.3.4: Clarified forecast for split share units. Section 3.1.5.5: Removed Path 73 with coordination with BPA. Reviewed changes with Data Exchange Working Group on 3/9/2022.</td>
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# RC Procedures Update - continued

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<tbody>
<tr>
<td>RC0330</td>
<td>Guidelines for Declaring Insecure Operating State</td>
<td>Published - Effective 4/1</td>
<td>Annual Review: Updated procedure references where appropriate. Minor format and grammar updates.</td>
</tr>
<tr>
<td>RC0330A</td>
<td>Guidelines for Declaring Insecure Operating State</td>
<td>Published - Effective 4/1</td>
<td>Annual Review: Table 2: Updated to reflect FortisBC involved with Boundary-Waneta230kV line. Minor edits to Footnote 9 for RC West procedure reference and affected parties list.</td>
</tr>
<tr>
<td>RC0330B</td>
<td>Contingency Monitored for Neighboring RC Area</td>
<td>Published - Effective 4/1</td>
<td>Annual Review: No changes.</td>
</tr>
<tr>
<td>RC0330C</td>
<td>SPP-RC West Pseudo-Tie Arrangement for Grady Wind Generation</td>
<td>Published - Effective 4/1</td>
<td>Annual Review: Minor edit under affected parties list.</td>
</tr>
<tr>
<td>RC0520</td>
<td>Loss of Monitoring and Analysis Tools</td>
<td>Published 3/24</td>
<td>Periodic Review: Sections 3.1, 3.4, 3.5 and 3.6: Added step for RC Operator to review offline study results with RCOE. Updated NERC Standards and WECC Criterion where applicable. Minor format and grammar edits.</td>
</tr>
<tr>
<td>RC0540</td>
<td>WIT Administration</td>
<td>Published 3/24</td>
<td>Periodic Review: Section 3.1: Minor updates to BA Actions 1 and 2 for clarification. Section 3.8: Added reference to the 7th of every month. Removed Appendix references throughout that are not applicable. Updated NERC Requirements and WECC Criterion. Updated Appendix section to include Procedure Attachment RC0540A and Appendix A diagram. Minor formatting and grammar updates.</td>
</tr>
<tr>
<td>RC0540A</td>
<td>RC West WIT Schedule Change Process</td>
<td>Published 3/24</td>
<td>Periodic Review: Updated procedure title for RC West and updated “Effective” date. Updated Inquiry Ticket type to Reliability Coordinator Inquiry and removed name specific detail to make the distribution more generic. Removed Appendix A diagram and included in main procedure RC0540. Minor format and grammar edits for consistency.</td>
</tr>
<tr>
<td>RC0550</td>
<td>Reliability Coordinator Procedure Development, Maintenance and Distribution</td>
<td>Published 3/24</td>
<td>Periodic Review: Minor format and grammar updates.</td>
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## Upcoming RC Procedures Updates

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<tr>
<td>RC0460</td>
<td>Reliability Coordinator Area Restoration Plan</td>
<td>Target Effective Date 6/1/22</td>
<td>Annual Review: Minor format and grammar updates for procedure consistency and updated procedure titles in Appendix section.</td>
</tr>
<tr>
<td>RC0460A</td>
<td>Restoration Principles</td>
<td>Target Effective Date 6/1/22</td>
<td>Annual Review: No changes.</td>
</tr>
<tr>
<td>RC0460B</td>
<td>Whole or Partial Transmission System Islanding Restoration Checklist</td>
<td>Target Effective Date 6/1/22</td>
<td>Annual Review: Included link with procedure references; no content changes.</td>
</tr>
<tr>
<td>RC0460C</td>
<td>Blackout Restoration Using Connection to Energized System Checklist</td>
<td>Target Effective Date 6/1/22</td>
<td>Annual Review: Included link with procedure references; no content changes.</td>
</tr>
<tr>
<td>RC0460D</td>
<td>Blackout Restoration Energizing a De-energized System Checklist</td>
<td>Target Effective Date 6/1/22</td>
<td>Annual Review: Minor format and punctuation edits.</td>
</tr>
<tr>
<td>RC0460E</td>
<td>Synchronization Checklist</td>
<td>Target Effective Date 6/1/22</td>
<td>Annual Review: No changes.</td>
</tr>
<tr>
<td>RC0460F</td>
<td>EOP-005 Plan Review Checklist</td>
<td>Target Effective Date 6/1/22</td>
<td>Annual Review: Minor format and grammar edits.</td>
</tr>
<tr>
<td>RC0610</td>
<td>System Operating Limits Methodology For the Operations Horizon</td>
<td>Internal Coordination</td>
<td>Periodic Review: TBD</td>
</tr>
<tr>
<td>RC9130</td>
<td>Path 61/Lugo-Victorville IROL</td>
<td>Target Effective Date 6/1/22</td>
<td>Section 2.2: Added bullet point “Lugo-Mohave 500 kV Path”.</td>
</tr>
<tr>
<td>RC9510</td>
<td>Operating Plan for IPP DC Bipole Contingency</td>
<td>Target Effective Date 6/1/22</td>
<td>Periodic Review: Minor format and grammar updates. Appendix B: Updated LDWP contact information.</td>
</tr>
<tr>
<td>RC9540</td>
<td>Monitoring IID System</td>
<td>Internal Coordination &amp; Pending IID/CAISO System Resolution</td>
<td>Periodic review: Added notes in Sections 4.2.5, 4.2.6 and Table 3 where ambient temperature ratings for S-Line would be used. Added Appendix C for ambient temperature ratings for S-Line.</td>
</tr>
<tr>
<td>RC9550</td>
<td>Monitoring Heavy E-W Flows on SWPL. HANG2, SPRPL, and Parallel Transmission</td>
<td>Internal Coordination &amp; Pending IID/CAISO System Resolution</td>
<td>Periodic Review: Added Appendix A note where ambient temperature ratings for S-Line would be used. Appendix B: Minor edits to Note. Added Appendix E, Ambient Temperature Rating Table for IID Lines.</td>
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RC Metrics Q1 2022 - SE Solution related metrics (MW)

- Count of MW anomalies observed on 500kV, 345kV, 230kV, 138kV, and 115kV lines

- **Note:** Though the measurement is not used by SE in estimating the solution, the residue is computed and contributes to the metric.

![SE Solution Related Metrics, MW](image-url)
RC Metrics Q1 2022 - SE Solution related metrics (MVAR)

- Count of MVAR anomalies observed on 500kV, 345kV, 230kV, 138kV, and 115kV lines

- Note: Though the measurement is not used by SE in estimating the solution, the residue is computed and contributes to the metric.
• Percentage of Real-Time Contingency Analysis (RTCA) non-converged contingencies over the total number of contingencies in five-minute intervals

• *Note: Over 8,500 contingencies are solved in every RTCA solution*
Day Ahead Contingency Analysis (DACA) tool is designed to identify potential contingencies in the day ahead timeframe.

DACA Accuracy - 2022
Not observed in DACA but showed in RTCA

- January: 53%
- February: 52%
- March: 44%
• 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.
CIP-014 Agreement

Debi LeVine
Director, Infrastructure Contracts and Management
Working Group Updates
Data Exchange Working Group

Rachel Melton
Sr Operations Compliance Analyst
Data Exchange Working Group

- Guidelines for IRO-010 Data Specification (RC0120) – published 4/18/2022
  - Added supporting language for implementation of NERC Standard CIP-012
  - Clarifications for real-time balancing authority data and generation forecast data

  - Contingency Definition Template (Instructions on naming conventions clarified)
  - Modeling User Guide (Added clarifications/cleanup based on previous feedback)
Data Exchange Working Group

• Dynamic Ratings – Ambient Adjusted Ratings (AAR) under FERC Order 881
  – CAISO/RC West has created an internal team to understand the impacts of this order on both our reliability processes and market processes.
  – We have also met with other ISO’s/RTO’s in eastern/western interconnections to understand their respective thoughts on this issue. Our expectations are to make sure we align our fillings with our TOP’s fillings.

• Cold and Extreme Weather Task Force
  – Team has been meeting to develop an approach for the upcoming NERC cold weather standards changes 4/1/23.
  – Simple approach to gather data which will aid forecasting activities in the Operations Planning Analysis timeframe. Likely to impact data specifications, outage coordination procedures, and new templates for collecting resource data.
Joint Operations Planning - Real Time Frequency Response Monitor & Mitigation Task Force

Aftab Alam
Manager, Operations Engineering Planning, North
Real-Time Operations Working Group

Tim Beach
Director, Reliability Coordinator
RTWG Update – Joint Voltage Violation Task Force (JVSOLTF)

• Clarify requirements for System Voltage Limits. Key items:
  ➢ Encouragement for TOPs to utilize various resources in developing SVLs including manufacturer ratings, industry standards (e.g. IEEE, CIGRE or other), and data based on testing, performance history or engineering analysis.
    • Internal risk assessment of factors the TOP deems relevant, including use of time-dependent equipment ratings.

• Normal SVLs
  ➢ Although Normal SVLs considered continuous by default, allow TOPs submit additional Normal SVLs with time duration(s). RC West will monitor these as continuous.
  ➢ If a TOP provides RC West with multiple Normal SVLs, RC West will select the least restrictive limits for pre-Contingency operations.
RTWG Update – Joint Voltage Violation Task Force (JVSOLTF)

• Emergency SVLs
  – If a TOP provides RC West with multiple Emergency SVLs, RC West will select the least restrictive limits for Post-Contingency operations.

• TBD
  – Review exclusion requirements for line side series capacitor limits.
  – Review Process for TOP submission (templates) of buses to be monitored vs excluded
Future Agenda Items

• The next RC West Oversight Committee meeting is scheduled on August 24, 2022; visit [RC West webpage](https://example.com) for additional details
• Send topic suggestions to [rc-westoc@caiso.com](mailto:rc-westoc@caiso.com).
Open for Public Comments
Public Session Adjourned