

**Balancing Authority of Northern California**

# Regular Meeting of the Commissioners of BANC

**2:00 P.M.  
Wednesday, March 22, 2023  
555 Capitol Mall, Suite 570  
Sacramento, CA 95814**

# Balancing Authority of Northern California

## NOTICE OF REGULAR MEETING AND AGENDA

Notice is hereby given that a regular meeting of the Commissioners of the Balancing Authority of Northern California (BANC) will be held on **March 22, 2023 at 2:00 p.m.** at **555 Capitol Mall, Suite 570, Sacramento, CA 95814.**

The following information is being provided as the forum by which members of the public may observe the meeting and offer public comment:

**Phone:** 1-646-558-8656 or 1-309-205-3325

**Meeting ID:** 861 6468 0778

**Passcode:** 903006

**Meeting Link:** <https://us06web.zoom.us/j/86164680778?pwd=dWlscDlrMkhENjJONkk3Tnh5TG90dz09&from=addon>

### AGENDA

- 1 Call to Order and Verification of Quorum.**
- 2 Matters subsequent to posting the Agenda.**
- 3 Public Comment** – any member of the public may address the Commissioners concerning any matter on the agenda.
- 4 Consent Agenda.**
  - A. Minutes of the Regular Commission Meeting held on January 25, 2023.
  - B. BANC Operator Reports (January and February).
  - C. Compliance Officer Reports (February and March).
  - D. PC Committee Chair Reports (February and March).
  - E. General Manager's Report and Strategic Initiatives Update.
- 5 Regular Agenda Items – Discussion and Possible Action.**
  - A. General Manager Updates.
    - i. Market Updates – EIM, EDAM, Markets+, WMEG, WRAP.
    - ii. SB100 Update.
    - iii. BANC Process/Procedure Development.
  - B. Consider and Possibly Approve Resolution 23-03-01 *Acceptance of BANC 2022 Audited Financials.*
  - C. Consider and Possibly Approve Resolution 23-03-02 *Approval of Cash Reserve Seasonal Adjustment Requirements.*
  - D. Consider and Possibly Approve Resolution 23-03-03 *Acceptance of BANC RA Principles and Guidelines Report.*
  - E. Member Updates.
- 6 Adjournment.**

Accessible Public Meetings - Upon request, BANC will provide written agenda materials in appropriate alternative formats, or disability-related modification or accommodation, including auxiliary aids or services, to enable individuals with disabilities to participate in public meetings. Please send a written request, including your name, mailing address, phone number and brief description of the requested materials and preferred alternative format or auxiliary aid or service at least 3 days before the meeting. Requests should be sent to: Kris Kirkegaard, 555 Capitol Mall, Suite 570, Sacramento, CA 95814 or to [administrator@braunlegal.com](mailto:administrator@braunlegal.com).

## **Balancing Authority of Northern California**

# Consent Agenda Items

- A. Minutes of the January 25, 2023 BANC Regular Meeting.**
- B. BANC Operator Reports (January and February).**
- C. Compliance Officer Reports (February and March).**
- D. PC Committee Chair Reports (February and March ).**
- E. General Manager Report and Strategic Initiatives Update.**

MINUTES OF THE REGULAR MEETING  
OF THE COMMISSIONERS OF  
THE BALANCING AUTHORITY OF NORTHERN CALIFORNIA (BANC)

January 22, 2023

On this date, a Regular Meeting of the Commissioners of the Balancing Authority of Northern California was held telephonically, pursuant to the provisions of Assembly Bill 361.

Representatives:

<b>Member Agency</b>	<b>Commissioner</b>
Modesto Irrigation District (MID)	Martin Caballero, Alternate
City of Redding	Nick Zettel, Acting Chair
City of Roseville	Dan Beans
Sacramento Municipal Utility District (SMUD)	Laura Lewis, Alternate
City of Shasta Lake	James Takehara
Trinity Public Utilities District (TPUD)	Absent

Other Participants:

Jim Shetler	General Manager
Tony Braun	General Counsel
Kevin Smith	General Counsel
Brittany Iles	General Counsel
Kris Kirkegaard	General Counsel Support
Mark Willis	BANC Operator
James Leigh-Kendall	BANC Compliance Officer
Janice Zewe	BANC Planning Coordinator Chair
Jeanne Haas	WAPA

1. Call to Order: Mr. Shetler verified that there was a quorum to proceed; attendance is noted above. Acting Chair Zettel called the meeting to order at 2:00 p.m.
2. Matters Subsequent to Posting the Agenda: None.
3. Public Comment (any matter on the agenda): None.
4. Consent Agenda: Acting Chair Zettel invited comments from the Commission on the Consent Agenda, and there were none.

**ACTION:** M/S (Beans/Lewis) to **approve the Consent Agenda**. Motion carried by a unanimous roll call vote (Absent: Commissioner Hauser).

MINUTES OF THE REGULAR MEETING  
OF THE COMMISSIONERS OF  
THE BALANCING AUTHORITY OF NORTHERN CALIFORNIA (BANC)

5. Regular Agenda Items.

A. General Manager Updates:

i. Market Updates – EIM, EDAM, Markets+, WMEG, WRAP:

Mr. Shetler provided a brief overview of ongoing operations, benefits, EIM Committee oversight, EDAM key dates, status updates regarding gap and benefits analyses, a timeline on BANC EDAM decision-making, and the latest on Markets+, WMEG, and WRAP, responding to questions from the Commissioners.

ii. SB100 Update.

Mr. Shetler noted BANC continues to work with other balancing authorities in anticipation of future collaboration with respect to the reliability aspects of SB100.

iii. Resource Adequacy (RA) Principles & Guidelines.

Mr. Shetler reported that the Resource Committee (RC) has reviewed the draft proposal, with a goal of bringing it to the RC followed by the Commission in February or March.

iv. September Heat Wave Follow-up.

Mr. Shetler noted that BANC had participated in discussions with both the Governor's Office and the CEC on areas for improvement for the coming summer and provided input to the CEC for an AB205 report to the state legislature. In addition, BANC hosted tour of operations for legislative staff in January.

v. Update on Administrative Activities.

Mr. Shetler reported dialogue has been initiated regarding BANC services agreements, with a goal to finalize by the end of 2024. An effort has also been initiated to develop and formalize BANC policies and procedures.

B. Resolution 23-01-02 Approval of Revised 2023 Annual Budget for BANC.

Mr. Shetler presented the amended budget and reviewed the proposed budget updates with the Commission, answering any questions they had.

**ACTION:** M/S (Lewis/ Beans) to **approve Resolution 23-01-02 Approval of Revised 2023 Annual Budget for BANC.** Motion carried by a unanimous roll call vote (Absent: Commissioner Hauser).

C. Resolution 23-01-03 Authorization of Amendment to Extend Utilicast Contract for Services Related to EDAM Evaluation Support.

Mr. Shetler introduced this item, and there were no questions from the Commission.

**ACTION:** M/S (Beans/Lewis) to **approve Resolution 23-01-03 Authorization of Amendment to Extend Utilicast Contract for Services Related to EDAM Evaluation Support.** Motion carried by a unanimous roll call vote (Absent: Commissioner Hauser).

MINUTES OF THE REGULAR MEETING  
OF THE COMMISSIONERS OF  
THE BALANCING AUTHORITY OF NORTHERN CALIFORNIA (BANC)

D. Resolution 23-01-04 Authorization of Audit Services Contract Extension with Baker-Tilly US, LLP.

Mr. Shetler introduced this item, and there were no questions from the Commission.

**ACTION:** M/S (Beans/Lewis) to **approve Resolution 23-01-04 Authorization of Audit Services Contract Extension with Baker-Tilly US, LLP.** Motion carried by a unanimous roll call vote (Absent: Commissioner Hauser).

E. Resolution 23-01-05 Authorization of Amended Legal Services Agreement with Braun Blaising & Wynne, P.C.

Mr. Shetler introduced this item and responded to questions from the Commission regarding reauthorization and delegations.

**ACTION:** M/S (Beans/Lewis) to **approve Resolution 23-01-05 Authorization of Amended Legal Services Agreement with Braun Blaising & Wynne, P.C.** Motion carried by a unanimous roll call vote (Absent: Commissioner Hauser).

F. Member updates.

Mr. Shetler noted that there were currently no anticipated action items for a February meeting, but a decision about whether a meeting would be required would be made closer to the meeting date. Alternate Commissioner Lewis made comments on behalf of Commissioner Lau, thanking fellow BANC members for their support and mutual aid during the recent storms.

The Commission adjourned at 2:57 p.m.

Minutes approved on March 22, 2023.

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C. Anthony Braun, Secretary



# BALANCING AUTHORITY OF NORTHERN CALIFORNIA

P.O. BOX 15830 • D109 • SACRAMENTO • CA 95852 -1830

**TO:** BANC Commission

**RE:** BANC Operator Report for January 2023

## Operations:

- BA Operations: Normal
- Significant BA Issues: None
- Declared BA Energy Emergency Alert Level (EEA): EEA0
- NWPP Reserve Energy Activations
  - 0 contingency requiring activation of NWPP
  - 0 MW average generation lost
  - 0 MW maximum generation lost
  - Generating unit(s) and date(s) affected: None
  - All recoveries within 0 minutes
- USF
  - 10 of 31 days with instances of USF mitigation procedure utilized
  - 0 days on Path 66
  - No operational impact on BANC
- BAAL Operation:
  - Maximum duration of BAAL exceedance: 1 Minute
  - Number of BAAL exceedance >10 minutes: None
  - BAAL violation (BAAL exceedance >30 minutes): None
- Frequency Response (FR) Performance – Quarterly Metric:
  - 2023 Frequency Response Obligation (FRO): -18.8 MW/0.1Hz
  - 2022 Frequency Response Obligation (FRO): -19.0 MW/0.1Hz
  - Q3 Frequency Response Measure (FRM): -67.1 MW/0.1Hz
  - Q3 Number of Under-Performed Events: 0 out of 4
  - Q1~Q3 Frequency Response Measure (FRM): -45.1 MW/0.1Hz
  - Q1~Q3 Number of Under-Performed Events: 2 out of 16

## Monthly Notes:

- No additional notes or impacts

A JOINT POWERS AUTHORITY AMONG

Modesto Irrigation District, City of Redding, City of Roseville, Trinity Public Utilities District,  
City of Shasta Lake, and Sacramento Municipal Utility District



# BALANCING AUTHORITY OF NORTHERN CALIFORNIA

P.O. BOX 15830 • D109 • SACRAMENTO • CA 95852 -1830

**TO:** BANC Commission

**RE:** BANC Operator Report for February 2023

## Operations:

- BA Operations: Normal
- Significant BA Issues: None
- Declared BA Energy Emergency Alert Level (EEA): EEA0
- NWPP Reserve Energy Activations
  - 1 contingency requiring activation of NWPP
  - 247 MW average generation lost
  - 247 MW maximum generation lost
  - Generating unit(s) and date(s) affected: 2/28/23, LNL, JFK, ROB, UNV, JAY 1 & 2, CAM 1 & 2
  - All recoveries within 11 minutes
- USF
  - 8 of 28 days with instances of USF mitigation procedure utilized
  - 0 days on Path 66
  - No operational impact on BANC
- BAAL Operation:
  - Maximum duration of BAAL exceedance: 7 Minutes  
*Erroneous EIM ETSR data sent by CAISO, causing WAPA's ACE ramped to -1000 MW*
  - Number of BAAL exceedance >10 minutes: None
  - BAAL violation (BAAL exceedance >30 minutes): None
- Frequency Response (FR) Performance – Quarterly Metric:
  - 2023 Frequency Response Obligation (FRO): -18.8 MW/0.1Hz
  - 2022 Frequency Response Obligation (FRO): -19.0 MW/0.1Hz
  - Q4 Frequency Response Measure (FRM): -42.2 MW/0.1Hz
  - Q4 Number of Under-Performed Events: 0 out of 4
  - Q1~Q4 Frequency Response Measure (FRM): -45.1 MW/0.1Hz
  - Q1~Q4 Number of Under-Performed Events: 2 out of 20

## Monthly Notes:

- No additional notes or impacts

A JOINT POWERS AUTHORITY AMONG

Modesto Irrigation District, City of Redding, City of Roseville, Trinity Public Utilities District,  
City of Shasta Lake, and Sacramento Municipal Utility District



# Compliance Officer Report

## BANC Commission Meeting

### February 2023

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The following summarizes routine issues for the Commission's information and consideration. Any major issues or action items will be identified on a future Commission agenda for action.

#### **BA Compliance Issues:**

- No significant operational Balancing Authority compliance events occurred.
- All required BA compliance reports and operating data were submitted to WECC.
- BA/PC-applicable NERC Standard requirements are currently being reviewed as part of the annual compliance self-certification submittal, which is due to WECC on or before March 1st.

#### **BANC MCRC:**

- The next BANC MCRC meeting is scheduled to be held at 10:00 AM on Monday, February 27<sup>th</sup> via teleconference.

# Compliance Officer Report

## BANC Commission Meeting

### March 2023

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The following summarizes routine issues for the Commission's information and consideration. Any major issues or action items will be identified on the Commission agenda for action.

#### **BA Compliance Issues:**

- No significant operational Balancing Authority compliance events occurred.
- All required BA compliance reports and operating data were submitted to WECC.
- All BA/PC-applicable NERC Standard requirements have been reviewed and the BANC annual compliance self-certification submittal was submitted to WECC on February 23<sup>rd</sup> in advance of the March 1<sup>st</sup> deadline.

#### **BANC MCRC:**

- The next BANC MCRC meeting is scheduled to be held at 10:00 AM on Monday, March 27<sup>th</sup> via teleconference.

# PC Committee Chair Report

## BANC Commission Meeting

### February 2023

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The following summarizes Planning Coordinator-related activities and updates for the Commission's information and consideration. Any major issues or action items will be identified separately on a future Commission agenda for action.

#### **BANC PC Committee Updates and/or activities:**

SMUD staff continue to work toward demonstrating compliance with PC-related NERC reliability standards.

- TPL-001-5 - Transmission System Planning Performance – The 2023 BANC PC TPL-001-5 Assessment Study Plan was sent out for review along with the first data request on February 3<sup>rd</sup>. The deadline to return the requested information is March 3<sup>rd</sup>.
- MOD-031-2 – Demand and Energy Data – Staff is coordinating the 2023 Loads and Data request cycle. WECC broke up the data request into multiple spreadsheets with two sets of due dates. The first set of data has been uploaded to WECC. The second set of sheets are due February 17<sup>th</sup>.
- MOD-032-1 – The data request was sent to fulfill the requirement to ask for new data every 13 calendar months. The request was sent on February 3<sup>rd</sup> with a deadline of March 3<sup>rd</sup>.
- PRC-010-2 Undervoltage Load Shedding – Roseville has expressed interest in using the BANC PC study for its NERC compliance. Staff will reach out and coordinate with Roseville for the UVLS relay setting data and prepare for another study, which is due by the end of 2024.

The table below shows the current status of all PC-related NERC standards:

	<b>PC Standard</b>	<b>Estimated % Complete</b>	<b>Notes</b>
1	FAC-002-3 Interconnection Studies	0%	A data request will be sent out soon requesting a list of all planned near-term projects from BANC PC participants for 2023-2025.
2	FAC-010-3 SOL Methodology for Planning Horizon	100%	An updated version was sent to external stakeholders and BANC PC Participants on 12/31/2022.
3	FAC-014-2 Establish and Communicate SOLs	0%	2023 FAC-014-2 SOLs will be established based on this year's study plan.
4	IRO-017-1 Outage Coordination	0%	Awaiting the completion of the 2023 annual assessment to send to the reliability coordinator.
5	MOD-031-2 Demand and Energy Data	66%	Staff is coordinating the 2023 data request cycle. The first set of data has been uploaded to WECC. The second set of sheets are due 02/17/2023.
6	MOD-032-1 Data for Power System Modeling & Analysis		Ongoing activity. Data request to fulfill 13 month cycle for compliance was sent on 02/03/2023.
7	MOD-033-1 System Model Validation	0%	Data requests and study will be performed later in the year.
8	PRC-006-5 Underfrequency Load Shedding	0%	New BANC PC data request cycle will begin when the WECC OFSPR group data collector sends out a request in April-May 2023 timeframe. Staff has been participating in WECC UFLSWG on regular webinars hosted by WECC staff.
9	PRC-010-2 Undervoltage Load Shedding	0%	Another study is due by 12/30/2024.
10	PRC-012-2 Remedial Action Schemes	80%	New Standard effective 01/01/2021. Study Plan finalized 04/10/2020. Working on performing studies for each RAS scheme.
11	PRC-023-4 Transmission Relay Loadability	0%	A new study plan for the 2023 assessment will be shared with BANC PC participants for review in the upcoming months to kick off this year's assessment cycle.
12	PRC-026-1 Relay Performance During Stable Power Swings	0%	A new study plan for the 2023 assessment will be shared with BANC PC participants for review in the upcoming months to kick off this year's assessment cycle.

	<b>PC Standard</b>	<b>Estimated % Complete</b>	<b>Notes</b>
13	TPL-001-5 Transmission System Planning Performance	5%	The 2023 BANC PC study plan was sent for review along with the first data request on 02/03/2023. Deadline is due on 03/03/2023.
14	TPL-007-4 Transmission System Planned Performance for Geomagnetic Disturbance Events	100%	<p>Registered the SMUD/BANC PC GIC monitoring device at Carmichael with NERC – compliance requirement.</p> <p>Made request to the GIC manufacturer to increase sampling rate from the default once every hour to once every 10s or faster per NERC recommendation.</p> <p>SMUD sent the TPL-007-4 requirement R12 and R13 to the BANC PC members. The effective date for these requirements was 07/01/2021.</p> <p>Ongoing, NERC has declared a GMD event (Kp&gt;7) for reporting purpose. The GMD event duration was from 11/3 2021 3:00pm to 11/4/2021 11:59pm. Recording data for these two events was downloaded and saved for reporting prior to the annual due date (06/30/2022).</p> <p>SMUD uploaded all 3 GMD events that were requested by NERC (due 06/30/2022).</p> <p>Completed benchmarking and supplemental GMD Vulnerability Assessment of the Near-Term Transmission Planning Horizon (R4 and R8), provided GIC flow information to the BANC PC members (R5 and R9) – Due 01/01/2023.</p>

# PC Committee Chair Report

## BANC Commission Meeting

### March 2023

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The following summarizes Planning Coordinator-related activities and updates for the Commission's information and consideration. Any major issues or action items will be identified separately on the Commission agenda for action.

#### **BANC PC Committee Updates and/or activities:**

SMUD staff continue to work toward demonstrating compliance with PC-related NERC reliability standards.

- TPL-001-5 - Transmission System Planning Performance – The first data request was sent, and all BANC PC participants responded by the due date. The next request is set to be sent on March 10<sup>th</sup> with a due date of April 7<sup>th</sup>.
- MOD-031-2 – Demand and Energy Data – Staff is coordinating the 2023 Loads and Data request cycle. WECC broke up the data request into multiple spreadsheets with two separate due dates. Both sets of data have been uploaded to WECC. Staff is working on L&R Narrative questions, which will be uploaded by March 20<sup>th</sup>.
- MOD-032-1 – The data request was sent to fulfill the requirement to ask for new data every 13 calendar months. February 3<sup>rd</sup> with a deadline of March 3<sup>rd</sup>.
- PRC-010-2 Undervoltage Load Shedding – Roseville has expressed interest in using the BANC PC study for its PRC-010-2 NERC standard compliance. Staff will reach out and coordinate with Roseville for the UVLS relay setting data and prepare for another study, which is due by the end of 2024.

The table below shows the current status of all PC-related NERC standards:

	<b>PC Standard</b>	<b>Estimated % Complete</b>	<b>Notes</b>
1	FAC-002-3 Interconnection Studies	100%	There are no BES interconnection projects for 2023-24 for BANC PC Participants.
2	FAC-010-3 SOL Methodology for Planning Horizon	100%	An updated version was sent to external stakeholders and BANC PC Participants on 12/31/2022.
3	FAC-014-2 Establish and Communicate SOLs	0%	2023 FAC-014-2 SOLs will be established based on this year's study plan.
4	IRO-017-1 Outage Coordination	0%	Awaiting the completion of the 2023 annual assessment to send to the reliability coordinator.
5	MOD-031-2 Demand and Energy Data	75%	Staff is coordinating the 2023 data request cycle. Both sets of data have been uploaded to WECC. BANC is working on L&R Narrative questions, which will be uploaded by 03/20/2023.
6	MOD-032-1 Data for Power System Modeling & Analysis		Ongoing activity. Data request to fulfill 13 month cycle for compliance was sent on 02/03/2023.
7	MOD-033-1 System Model Validation	0%	Data requests and study will be performed later in the year
8	PRC-006-5 Underfrequency Load Shedding	0%	New BANC PC data request cycle will begin when the WECC OFSPR group data collector sends out a request in April-May 2023 timeframe. Staff has been participating in WECC UFLSWG on regular webinars hosted by WECC staff.
9	PRC-010-2 Undervoltage Load Shedding	0%	Another study is due by 12/30/2024.
10	PRC-012-2 Remedial Action Schemes	80%	New Standard effective 01/01/2021. Study Plan finalized 4/10/2020. Working on performing studies for each RAS scheme.
11	PRC-023-4 Transmission Relay Loadability	0%	A new study plan for the 2023 assessment will be shared with BANC PC participants for review in the upcoming months to kick off this year's assessment cycle.

	<b>PC Standard</b>	<b>Estimated % Complete</b>	<b>Notes</b>
12	PRC-026-1 Relay Performance During Stable Power Swings	0%	A new study plan for the 2023 assessment will be shared with BANC PC participants for review in the upcoming months to kick off this year's assessment cycle.
13	TPL-001-5 Transmission System Planning Performance	10%	The first data request has been responded to. The next request is set to be sent on 03/10/2023 with a due date of 04/07/2023.
14	TPL-007-4 Transmission System Planned Performance for Geomagnetic Disturbance Events	100%	<p>Registered the SMUD/BANC PC GIC monitoring device at Carmichael with NERC – compliance requirement.</p> <p>Made request to the GIC manufacturer to increase sampling rate from the default once every hour to once every 10s or faster per NERC recommendation.</p> <p>SMUD sent the TPL-007-4 requirement R12 and R13 to the BANC PC members. The effective date for these requirements was 07/01/2021</p> <p>Ongoing, NERC has declared a GMD event (Kp&gt;7) for reporting purpose. The GMD event duration was from 11/3 2021 3:00pm to 11/4/2021 11:59pm. Recording data for these two events was downloaded and saved for reporting prior to the annual due date (06/30/2022).</p> <p>SMUD uploaded all 3 GMD events that were requested by NERC (due 06/30/2022).</p> <p>Completed benchmarking and supplemental GMD Vulnerability Assessment of the Near-Term Transmission Planning Horizon (R4 and R8), provided GIC flow information to the BANC PC members (R5 and R9) – Due 01/01/2023.</p>



# GM Report

## BANC Commission Meeting

### March 22, 2023

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I wanted to summarize routine issues for the Commission's information and consideration. Any major issues or action items will be identified separately on the Commission agenda for action.

#### **Outreach Efforts:**

Refer to GM outreach report provided under separate distribution. In addition, here are some other noteworthy items:

#### **LADWP/Seattle City Light/SRP**

Dialogue continues with these entities regarding EIM participation. We continue to interact on an informal basis to make sure we are aligned on EIM issues from a POU perspective. We are routinely holding bi-weekly calls to provide updates and discuss issues. We have also used this forum to discuss POU positions regarding the EDAM development, other market design issues (e.g.- SPP Markets+), and to discuss potential summer heat wave impacts on EIM and EDAM design.

#### **Market Initiatives:**

##### **EIM Participation**

Staff continues monitoring EIM participation. CAISO quarterly benefit reports continue to show that BANC is seeing benefits from EIM participation, with the 4<sup>th</sup> Quarter 2022 report showing gross benefits of \$83.44 million for BANC, with a total of \$457.48 millions of gross benefits for BANC since joining in 2019.

With respect to BANC EIM Phase 2 effort, BANC has been passing both the EIM Capacity and Flex Ramp tests with a high success rate. Both the Technical Evaluation Subcommittee and the Settlements Subcommittee are meeting routinely and evaluating EIM operations, with reports out to the EIM Committee. The BANC Settlements group has developed a recommendation regarding seasonal adjustment to the EIM Reserve Account to address potential heat wave price impacts on EIM transactions. This is being discussed at the EIM Committee and a recommendation will be brought to the Commission for consideration, likely at the March meeting.

##### **EDAM Participation**

The CAISO obtained approval by the EIM Governing Body/Board of Governors of the final EDAM proposed design at their February 1, 2023, meeting. The CAISO plans to

file a revised EDAM tariff at FERC by mid-2023. BANC attended the February meeting and made supportive comments consistent with the Commission approved EDAM talking points. BANC continues to participate with other interested EDAM parties and the CAISO on EDAM tariff development and design implementation issues.

### **Other Market Developments**

In parallel with the re-initiation of the EDAM process, two other West-wide market developments are also in process:

1. SPP announced on March 2, 2023, that eight entities (APS, BPA, Chelan, NVE, Powerex, PSE, SRP, and TEP) have executed funding agreements for Phase 1 development. They intend to immediately initiate efforts with planned detailed design development in 2023-2024, implementation in 2024-2025, and a go live in 2026. Staff views Markets+ as a fallback option for BANC and will continue to monitor this market option but does not plan on seeking funding for participation in this next phase of their efforts.
2. A group of Western utilities have formed a group called Western Market Exploratory Group (WMEG) with a stated purpose of identifying what a full market in the West should entail. They have hired Utilicast to assist in this effort. BANC has executed the necessary agreements to participate in the WMEG as authorized by the Commission at the May meeting. The WMEG has selected E3 to conduct a cost benefits analysis considering different future market options. As noted in prior communications, BANC has elected not to fund and formally participate in this study. However, we will support providing data for the study and will be provided the overall results of the study. Current forecast is for the cost benefit study to be completed in the first half of 2023.

### **WAPA:**

#### **Market Engagement**

WAPA-SNR continues to be an active participant in the EIM.

We have also held several discussions with WAPA-SNR on how staff could assist in their decision-making on EDAM participation. This has included joint discussions with the CAISO.

### **WECC**

#### **WECC Board Meetings**

The last set of Board and committee meetings was held on March 7-8, 2022, in Salt Lake City, UT. The next set of meetings will be June 13-14, 2023, in Salt Lake City, UT.

## **WPP**

### **Resource Adequacy Project**

As agreed previously, BANC has informed WPP that it will not be participating in Phase 3 of the Western Resource Adequacy Program (WRAP) due to our lack of ability to have firm, long-term transfer capability at Mid-C, which is the hub for the WRAP interchanges. BANC continues to monitor development of the WRAP and hold discussions with WPP regarding our ability to participate in the future. FERC provided WRAP tariff approval on 2/10/23. WPP has issued requests to the WRAP participants for additional funding to continue the effort into 2023 and 20 parties have agreed to provide funding. WPP has noted that moving to a “binding program” might not occur until 2028.

### **RSG and FRSG Participation**

BANC continues to participate in the Reserve Sharing Group and the Frequency Response Sharing Group through the WPP and receive benefits in doing so.

### **CDWR Delta Pumping Load:**

BANC is coordinating with SMUD, CDWR, WAPA, and the CAISO regarding how the construction and pumping loads and ancillary services will be provided for this project. The CAISO has reached out to BANC/SMUD/WAPA-SNR regarding contacts for initiating discussions on how CAISO will supply energy for the construction loads in our footprints. With the Governor’s announcement that the project will be downsized from two to one tunnel, CDWR has withdrawn the current applications and will be submitting revised environmental documentation. SMUD reported that CDWR has approached them regarding the revised environmental review and updated project schedule and SMUD is initiating updated studies. The current schedule for the project is to initiate construction in 2030 with operations initiated in 2040.

### **SB100 Implementation**

As part of SB100, the CPUC, CEC, and CARB (Joint Agencies) are required to collaborate with the California BAs to develop a quadrennial report on the status of achieving the goals of SB100. The four POU BAs (BANC, IID, LADWP, and TID) are collaborating on positions and responses. The final, initial report was issued on 3/15/21. The CEC did reach out to the POU BAAs via CMUA in early March 2021 seeking more engagement with the BAAs for the next round of analysis for the SB100 effort. The POU BAAs are coordinating via CMUA on how to engage in this request. A subgroup of the POU BAAs, including BANC, participated in a Joint Agency SB100 workshop on June 2, 2021. We have also had several follow-up discussions with the Joint Agencies. Based upon recent discussions, the POU BAAs have hired a consultant via CMUA to assist in this effort. We are also working on concepts for a reliability analysis effort and providing current known interconnection queue

information as well as forecast renewable resource procurement assumptions. The Joint Agencies have also indicated that they will be initiating the next cycle of the SB100 effort to support issuing an update report by the required date of 1/1/25.

### **Western Electricity Industry Leaders (WEIL) Group**

The WEIL CEOs last met on March 3, 2023, in San Diego, CA. The next meeting of the WEIL group is planned for September 29, 2023, in Portland, OR.

### **Strategic Initiatives**

The 2022/2023 Strategic Initiatives updates are attached to this report.

BANC 2022/2023 Strategic Plan - Routine Initiatives - March 2023 Update

No./Priority	Focus Area	Initiative	Responsibility	Target Due Date	Status
1 Medium	INDEPENDENCE	Effectively oversee the BA operations.	Jim Shetler	Ongoing	See monthly Ops, PC, Compliance, & GM Reports
2 Medium		Maintain long-term succession plan and traits for General Manager	Jim Shetler/Commission	Ongoing as Necessary	
3 Medium		Develop appropriate policies, procedures, & action tracking	Jim Shetler/BBW	4th Qtr. 2023	Developing outline
4 Medium	OUTREACH	Engage in industry forums (WECC, RC West, NWPPA, etc.)	Jim Shetler	Ongoing	Attend RC West, WECC Board, WEIL, & NWPP Exec. Forum meetings
5 Medium		Coordinate with other POU BAs (Ca and regionally)	Jim Shetler	Ongoing	Coordinating with SCL/SRP/LA/TP/TID on EIM/EDAM & SB100
6 Medium		Outreach to regulatory and legislative bodies on key issues	Jim Shetler/BBW/WEL	Ongoing as Necessary	FERC update discussion 1/12
7 Medium		More formal engagement with TID on BA/EIM/EDAM issues	Jim Shetler/BBW/WEL	Ongoing	Continue periodic discussions on areas of collaboration
8 Medium	ASSETS	Establish BANC criteria for RA	Jim S./Res. Com.	4th Qtr. 2022	Draft proposal at 3/22/23 Commission meeting
9 Low	MEMBER SERVICES	Identify and outreach to potential new BANC members	Jim Shetler	Ongoing as Appropriate	

BANC 2022/2023 Strategic Plan - Focused Initiatives - March 2023 Update

No./Priority	Focus Area	Initiative	Responsibility	Target Due Date	Status
10 High	INDEPENDENCE	Manage EIM Phase 2 Going Forward	Jim Shetler/SMUD	Ongoing	Manage Phase 2 operations including EIM, Tech Anal. & Settlements committees
11 High		EDAM evaluation effort ~ CAISO Stakeholder Process	Jim Shetler/BBW/WEL	Dec-22	Approved at 2/1 BOG Mtg.
		~ CAISO Tariff Development ~ BANC EDAM participation decision	Jim Shetler/BBW/WEL Jim Shetler/BBW/WEL/ Commission	Mid-2023 4th Qtr. 2023	Gap analysis finalized. Finalizing benefits study
12 Medium	OUTREACH	Evaluate opportunities to engage other entities in market development	Jim Shetler	Ongoing	Coordinating with SCL, SRP, LADWP, TID, & Tacoma
13 Medium		Regional Policy Issues: Monitor/ weigh-in where appropriate	Jim Shetler/Commission	Ongoing	Support letter for EDAM ACR188 Report issued
14 High		Market Regionalization: ~ Monitor ongoing discussions at WEIL & other venues	Jim Shetler/BBW/WEL	Ongoing	Participating at WEIL/WMEG CA/PNW Summit - 3/10/23
15 High		Coordinate with CA BAs on SB100 effort	Jim Shetler/BBW	Ongoing	
16 Medium	ASSETS	~ Evaluate state & federal funding for BANC projects	Jim S./BBW/Res. Com.	2nd Qtr. 2023	
		~ Evaluate future BANC projects	Jim S./BBW/Res. Com.	12/1/23	
17 Medium	MEMBER SERVICES	Evaluate possible support to participants for EIM operations	Jim S.	Ongoing	

## Balancing Authority of Northern California

# Agenda Item 5B

1. **Resolution 23-03-01 Acceptance of BANC 2022 Audited Financials.**
2. **BANC Audited Financials.**
  - a. **Report and Insights from the 2022 Audit: Balancing Authority of Northern California.**
  - b. **Financial Statements and Independent Auditors' Report: December 31, 2022 and 2021.**

**Balancing Authority of Northern California  
Resolution 23-03-01**

**Acceptance of BANC 2022 Audited Financials**

WHEREAS, the Balancing Authority of Northern California (“BANC”) was created by a Joint Powers Agreement (“JPA”) to, among other things, acquire, construct, maintain, operate, and finance projects; and

WHEREAS, JPA Section 19 provides that the Controller of BANC shall cause to be performed an annual audit of the accounts and records of BANC; and

WHEREAS, the minimum requirements of that audit shall be those prescribed by the State Controller for special districts under Section 26909 of the Government Code of the State of California and shall conform to generally accepted auditing standards; and

WHEREAS, the JPA specifies that a report of that audit shall be filed with each Member and also with the County Auditor of the County of Sacramento within twelve (12) months of the end of the fiscal year under examination; and

WHEREAS, BANC has contracted with Baker Tilly US, LLP to provide these audit services; and

WHEREAS, Baker Tilly US, LLP has provided its audit report, which is included in the Commission packet as BANC 2022 Audited Financials.

NOW, THEREFORE, BE IT RESOLVED that the Commissioners of the Balancing Authority of Northern California hereby acknowledge and accept the BANC 2022 Audited Financials.

PASSED AND ADOPTED by the Commissioners of the Balancing Authority of Northern California this 22<sup>nd</sup> day of March 2023, by the following vote:

		Aye	No	Abstain	Absent
Modesto ID	James McFall				
City of Redding	Nick Zettel				
City of Roseville	Dan Beans				
City of Shasta Lake	James Takehara				
SMUD	Paul Lau				
TPUD	Paul Hauser				

\_\_\_\_\_  
James McFall  
Chair

\_\_\_\_\_  
Attest by: C. Anthony Braun  
Secretary



# Reporting and insights from the 2022 audit:

## Balancing Authority of Northern California

December 31, 2022

# Executive summary

February 24, 2023

The Commissioners  
Balancing Agency of Northern California  
6201 S Street  
Sacramento, CA 95817

We have completed our audit of the financial statements of the Balancing Authority of Northern California (the Agency) for the year ended December 31, 2022 and have issued our report thereon dated February 24, 2023. This letter presents communications required by our professional standards.

Your audit should provide you with confidence in your financial statements. The audit was performed based on information obtained from meetings with management, data from your systems, knowledge of the Agency's operating environment and our risk assessment procedures. We strive to provide you clear, concise communication throughout the audit process and of the final results of our audit.

Additionally, we have included information on key risk areas the Agency should be aware of in your strategic planning. We are available to discuss these risks as they relate to the Agency's financial stability and future planning.

If you have questions at any point, please connect with us:

- Aaron Worthman, Partner: [Aaron.Worthman@bakertilly.com](mailto:Aaron.Worthman@bakertilly.com) or +1 (512) 975 7281
- Ryan O'Donnell, Senior Manager: [Ryan.Odonnell@bakertilly.com](mailto:Ryan.Odonnell@bakertilly.com) or +1 (608) 240 2606

Sincerely,

Baker Tilly US, LLP



Aaron Worthman, CPA



Ryan O'Donnell, CPA

# Responsibilities

## Our responsibilities

As your independent auditor, our responsibilities include:

- Planning and performing the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement. Reasonable assurance is a high level of assurance.
- Assessing the risks of material misstatement of the financial statements, whether due to fraud or error. Included in that assessment is a consideration of the Agency's internal control over financial reporting.
- Performing appropriate procedures based upon our risk assessment.
- Evaluating the appropriateness of the accounting policies used and the reasonableness of significant accounting estimates made by management.
- Forming and expressing an opinion based on our audit about whether the financial statements prepared by management, with the oversight of the Commissioners:
  - Are free from material misstatement
  - Present fairly, in all material respects and in accordance with accounting principles generally accepted in the United States of America
- Our audit does not relieve management or the Commissioners of their responsibilities.

We are also required to communicate significant matters related to our audit that are relevant to the responsibilities of the Commissioners, including:

- Internal control matters
- Qualitative aspects of the Agency's accounting practice including policies, accounting estimates and financial statement disclosures
- Significant unusual transactions
- Significant difficulties encountered
- Disagreements with management
- Circumstances that affect the form and content of the auditors' report
- Audit consultations outside the engagement team
- Corrected and uncorrected misstatements
- Other audit findings or issues

# Audit status

## Significant changes to the audit plan

There were no significant changes made to either our planned audit strategy or to the significant risks and other areas of emphasis identified during the performance of our risk assessment procedures.

# Audit approach and results

## Planned scope and timing

### Audit focus

Based on our understanding of the Agency and environment in which you operate, we focused our audit on the following key areas:

- Key transaction cycles
- Areas with significant estimates
- Implementation of new accounting standards

Our areas of audit focus were informed by, among other things, our assessment of materiality. Materiality in the context of our audit was determined based on specific qualitative and quantitative factors combined with our expectations about the Agency's current year results.

## Key areas of focus and significant findings

### Significant risks of material misstatement

A significant risk is an identified and assessed risk of material misstatement that, in the auditor's professional judgment, requires special audit consideration. Within our audit, we focused on the following areas below.

Significant risk areas	Testing approach	Conclusion
Management override of controls	Incorporate unpredictability into audit procedures, emphasize professional skepticism and utilize audit team with industry expertise	Procedures identified provided sufficient evidence for our audit opinion
Improper revenue recognition due to fraud	Confirmation or validation of certain revenues supplemented with detailed predictive analytics based on non-financial data and substantive testing of related receivables	Procedures identified provided sufficient evidence for our audit opinion

**Other areas of emphasis**

We also focused on other areas that did not meet the definition of a significant risk, but were determined to require specific awareness and a unique audit response.

Other areas of emphasis		
Cash and cash equivalents	Revenues and receivables	Collateral deposits
General disbursements	Financial reporting and required disclosures	Information technology
Accounts Payable	Due to/from Members	

**Internal control matters**

We considered the Agency's internal control over financial reporting as a basis for designing our audit procedures for the purpose of expressing an opinion on the financial statements. We are not expressing an opinion on the effectiveness of the Agency's internal control.

Our consideration of internal control was for the limited purpose described in the preceding paragraph and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies and, therefore, material weaknesses or significant deficiencies may exist that were not identified.

A deficiency in internal control exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct misstatements on a timely basis.

A material weakness is a deficiency or combination of deficiencies in internal control such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected, on a timely basis. We did not identify any deficiencies in internal control that we consider to be material weaknesses.

# Required communications

## Qualitative aspect of accounting practices

- Accounting policies: Management is responsible for the selection and use of appropriate accounting policies. In accordance with the terms of our engagement letter, we have advised management about the appropriateness of accounting policies and their application. The significant accounting policies used by the Agency are described in Note 2 to the financial statements. No new accounting policies were adopted and the application of existing accounting policies was not changed during 2022. We noted no transactions entered into by the Agency during the year for which accounting policies are controversial or for which there is a lack of authoritative guidance or consensus or diversity in practice.
- Accounting estimates: Accounting estimates, including fair value estimates, are an integral part of the financial statements prepared by management and are based on management's knowledge and experience about past and current events and assumptions about future events. Certain accounting estimates are particularly sensitive because of their significance to the financial statements, the degree of subjectivity involved in their development and because of the possibility that future events affecting them may differ significantly from those expected. There were no significant estimates identified.
- Financial statement disclosures: The disclosures in the financial statements are neutral, consistent and clear.

## Significant unusual transactions

There have been no significant transactions that are outside the normal course of business for the Agency or that otherwise appear to be unusual due to their timing, size or nature.

## Significant difficulties encountered during the audit

We encountered no significant difficulties in dealing with management and completing our audit.

## Disagreements with management

Professional standards define a disagreement with management as a matter, whether or not resolved to our satisfaction, concerning a financial accounting, reporting, or auditing matter that could be significant to the financial statements or the auditors' report. We are pleased to report that no such disagreements arose during the course of our audit.

## Audit report

There have been no departures from the auditors' standard report.

## Audit consultations outside the engagement team

We encountered no difficult or contentious matters for which we consulted outside of the engagement team.

## Uncorrected misstatements and corrected misstatements

Professional standards require us to accumulate all known and likely misstatements identified during the audit, other than those that are trivial, and communicate them to the appropriate level of management. There were no misstatements identified.

## **Other audit findings or issues**

We encountered no other audit findings or issues that require communication at this time.

We generally discuss a variety of matters, including the application of accounting principles and auditing standards, with management each year prior to retention as the Agency's auditors. However, these discussions occurred in the normal course of our professional relationship and our responses were not a condition to our retention.

## **Management's consultations with other accountants**

In some cases, management may decide to consult with other accountants about auditing and accounting matters. Management informed us that, and to our knowledge, there were no consultations with other accountants regarding auditing or accounting matters.

## **Written communications between management and Baker Tilly**

The attachments include copies of other material written communications, including a copy of the management representation letter.

## **Compliance with laws and regulations**

We did not identify any non-compliance with laws and regulations during our audit.

## **Fraud**

We did not identify any known or suspected fraud during our audit.

## **Going concern**

Pursuant to professional standards, we are required to communicate to you, when applicable, certain matters relating to our evaluation of the Agency's ability to continue as a going concern for a reasonable period of time but no less than 12 months from the date of the financial statements, including the effects on the financial statements and the adequacy of the related disclosures, and the effects on the auditor's report. No such matters or conditions have come to our attention during our engagement.

## **Independence**

We are not aware of any relationships between Baker Tilly and the Agency that, in our professional judgment, may reasonably be thought to bear on our independence.

## **Related parties**

We did not have any significant findings or issues arise during the audit in connection with the Agency's related parties.

## **Other matter**

We applied certain limited procedures to the required supplementary information (RSI) that supplements the basic financial statements. Our procedures consisted of inquiries of management regarding the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We did not audit the RSI and do not express an opinion or provide any assurance on the RSI.



# Audit committee resources

Visit our resource page for regulatory updates, trending challenges and opportunities in your industry and other timely updates.

Visit the resource page at <https://www.bakertilly.com/insights/audit-committee-resource-page>.

# Management representation letter



# BALANCING AUTHORITY OF NORTHERN CALIFORNIA

RELIABILITY • COLLABORATION • SUSTAINABILITY

February 24, 2023

Baker Tilly US, LLP  
4807 Innovate Ln  
P.O. Box 7398  
Madison, WI 53707-7398

Dear Baker Tilly US, LLP:

We are providing this letter in connection with your audits of the financial statements of Balancing Authority of Northern California (the Agency) as of December 31, 2022 and 2021 and for the years then ended for the purpose of expressing an opinion as to whether the financial statements present fairly, in all material respects, the financial position of the Agency and the respective changes in financial position and cash flows of the Agency in conformity with accounting principles generally accepted in the United States of America. We confirm that we are responsible for the fair presentation of the previously mentioned financial statements in conformity with accounting principles generally accepted in the United States of America. We are also responsible for adopting sound accounting policies, establishing and maintaining internal control over financial reporting, and preventing and detecting fraud.

Certain representations in this letter are described as being limited to matters that are material. Items are considered material, regardless of size, if they involve an omission or misstatement of accounting information that, in the light of surrounding circumstances, makes it probable that the judgment of a reasonable person relying on the information would be changed or influenced by the omission or misstatement. An omission or misstatement that is monetarily small in amount could be considered material as a result of qualitative factors.

We confirm, to the best of our knowledge and belief, the following representations made to you during your audits.

### *Financial Statements*

1. We have fulfilled our responsibilities, as set out in the terms of the audit engagement letter dated January 3, 2023.
2. The financial statements referred to above are fairly presented in conformity with accounting principles generally accepted in the United States of America and include all financial information required by accounting principles generally accepted in the United States of America.
3. We acknowledge our responsibility for the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.
4. We acknowledge our responsibility for the design, implementation, and maintenance of internal control to prevent and detect fraud.
5. Significant assumptions we used in making accounting estimates, including those measured at fair value, if any, are reasonable.

---

A JOINT POWERS AUTHORITY BETWEEN

Modesto Irrigation District, City of Redding, City of Roseville, Trinity Public Utilities District,  
City of Shasta Lake and Sacramento Municipal Utility District

6201 S STREET, MS B356, SACRAMENTO, CA 95852-0830  
WWW.THEBALANCINGAUTHORITY.ORG

6. All events subsequent to the date of the financial statements and for which accounting principles generally accepted in the United States of America require adjustment or disclosure have been adjusted or disclosed. No other events, including instances of noncompliance, have occurred subsequent to the balance sheet date and through the date of this letter that would require adjustment to or disclosure in the aforementioned financial statements.
- 7 All material transactions have been recorded in the accounting records and are reflected in the financial statements.
8. We are not aware of any known actual, possible, pending, or threatened litigation, claims, or assessments or unasserted claims or assessments that are required to be accrued or disclosed in the financial statements in accordance with accounting principles generally accepted in the United States of America, and we have not consulted a lawyer concerning litigation, claims, or assessments.

*Information Provided*

9. We have provided you with:
  - a. Access to all information, of which we are aware, that is relevant to the preparation and fair presentation of the financial statements, such as financial records and related data, documentation, and other matters.
  - b. Additional information that you have requested from us for the purpose of the audit.
  - c. Unrestricted access to persons within the entity from whom you determined it necessary to obtain audit evidence.
  - d. Minutes of the meetings of the Commissioners or summaries of actions of recent meetings for which minutes have not yet been prepared.
10. We have disclosed to you results of our assessment of the risk that the financial statements may be materially misstated as a result of fraud.
11. We have no knowledge of any fraud or suspected fraud that affects the entity and involves:
  - a. Management,
  - b. Employees who have significant roles in internal control, or
  - c. Others where the fraud could have a material effect on the financial statements.
12. We have no knowledge of any allegations of fraud or suspected fraud affecting the entity received in communications from employees, former employees, regulators, or others.
13. We have no knowledge of known instances of noncompliance or suspected noncompliance with provisions of laws, regulations, contracts, or grant agreements, or abuse, whose effects should be considered when preparing financial statements.
14. We have disclosed to you the names of our related parties and all the related party relationships and transactions, including any side agreements, of which we are aware.

*Other*

15. There have been no communications from regulatory agencies concerning noncompliance with, or deficiencies in, financial reporting practices.
16. We have a process to track the status of audit findings and recommendations.
17. We are responsible for compliance with federal, state, and local laws, regulations, and provisions of contracts and grant agreements applicable to us, including tax or debt limits, debt contracts, and IRS arbitrage regulations; and we have identified and disclosed to you all federal, state, and local laws, regulations and provisions of contracts and grant agreements that we believe have a direct and material effect on the determination of financial statement amounts or other financial data significant to the audit objectives, including legal and contractual provisions for reporting specific activities in separate funds.
18. There are no:
  - a. Violations or possible violations of budget ordinances, federal, state, and local laws or regulations (including those pertaining to adopting, approving and amending budgets), provisions of contracts and grant agreements, tax or debt limits, and any related debt covenants whose effects should be considered for disclosure in the financial statements or as a basis for recording a loss contingency, or for reporting on noncompliance, except those already disclosed in the financial statement, if any.
  - b. Other liabilities or gain or loss contingencies that are required to be accrued or disclosed by accounting principles generally accepted in the United States of America.
  - c. Rates being charged to customers other than the rates as authorized by the applicable authoritative body.
19. The Agency has satisfactory title to all owned assets, and there are no liens or encumbrances on such assets nor has any asset been pledged as collateral.
20. The Agency has complied with all aspects of contractual agreements that would have a material effect on the financial statement in the event of noncompliance.
21. Components of net position (net investment in capital assets; restricted; and unrestricted) are properly classified and, if applicable, approved.
22. The Agency has no derivative financial instruments such as contracts that could be assigned to someone else or net settled, interest rate swaps, collars or caps.

23. Deposits are properly classified, valued and disclosed (including risk disclosures, collateralization agreements, valuation methods, and key inputs, as applicable).
24. We acknowledge our responsibility for the required supplementary information (RSI). The RSI is measured and presented within prescribed guidelines and the methods of measurement and presentation have not changed from those used in the prior period. We have disclosed to you any significant assumptions and interpretations underlying the measurement and presentation of the RSI.
25. The auditing standards define an annual report as “a document, or combination of documents, typically prepared on an annual basis by management or those charged with governance in accordance with law, regulation, or custom, the purpose of which is to provide owners (or similar stakeholders) with information on the entity’s operations and the entity’s financial results and financial position as set out in the financial statements.” Among other items, an annual report contains, accompanies, or incorporates by reference the financial statements and the auditor’s report thereon. We do not prepare an annual report.
26. We have reviewed existing contracts and determined there are no items requiring accounting or reporting as leases in accordance with GASB Statement No. 87, *Leases*.

Sincerely,

Balancing Authority of Northern California

Signed:   
Jim Shetler, General Manager

Signed: **Russell Mills** Digitally signed by Russell Mills  
Date: 2023.02.24 12:52:54 -08'00'  
Russell Mills, Treasurer

Signed: **Lisa Limcaco** Digitally signed by Lisa Limcaco  
Date: 2023.02.24 08:58:32 -08'00'  
Lisa Limcaco, Controller

# Accounting changes relevant to the Agency

## Future accounting standards update

GASB Statement Number	Description	Potentially Impacts you	Effective Date
94	Public-Private and Public-Public Partnerships and Availability Payment Arrangements		12/31/23
96	Subscription-Based Information Technology Arrangements	✓	12/31/23
99	Omnibus 2022	✓	12/31/23
100	Accounting Changes and Error Corrections	✓	12/31/24
101	Compensated Absences		12/31/24

Further information on upcoming [GASB pronouncements](#).

### Determining if GASB 94 applies for your organization

GASB 94, *Public-Private and Public-Public Partnerships and Availability Payment Arrangements* provides guidance related to public-private and public-public partnerships (PPP) and availability payment arrangements (APA).

A PPP is an arrangement in which an entity contracts with an operator to provide public services by conveying control of the right to operate or use infrastructure or other capital asset. A common example of PPP is a service concession arrangement.

An APA is an arrangement in which an entity compensates an operator for services that may include designing, constructing, financing, maintaining, or operating an asset.

The Agency should start to identify any contracts that could meet either definition to ensure they are reviewed for applicability and accounted for correctly when the standard is effective. Initial steps include reviewing contracts that didn't meet the definition of a lease under GASB 87 and identifying any other agreements where the organization contracts with or partners with another entity to provide services.

## **Future accounting for subscription-based IT arrangements**

Subscription-based IT arrangements include contracts that convey control of the right to use another party's IT software. It would not include any licensing arrangements that provide a perpetual license, which would still be accounted for as an intangible asset. Subscription-based IT arrangements are becoming more and more popular with IT vendors. This standard mirrors the new lease standard. The Agency will be able to utilize the systems put into place to implement the lease standard to properly account for these contracts. Common examples of these contracts in the utility industry include:

- Leasing space in the cloud
- GIS systems
- SCADA systems
- Some work order or inventory systems as well as some general ledger or billing systems

The Agency should work with its IT department and department managers to determine a population listing of contracts that would fall under this standard to determine the potential future impact to financial reporting.



# Two-way audit communications

As part of our audit of your financial statements, we are providing communications to you throughout the audit process. Auditing requirements provide for two-way communication and are important in assisting the auditor and you with more information relevant to the audit.

As this past audit is concluded, we use what we have learned to begin the planning process for next year's audit. It is important that you understand the following points about the scope and timing of our next audit:

- a. We address the significant risks of material misstatement, whether due to fraud or error, through our detailed audit procedures.
- b. We will obtain an understanding of the five components of internal control sufficient to assess the risk of material misstatement of the financial statements whether due to error or fraud, and to design the nature, timing and extent of further audit procedures. We will obtain a sufficient understanding by performing risk assessment procedures to evaluate the design of controls relevant to an audit of financial statements and to determine whether they have been implemented. We will use such knowledge to:
  - Identify types of potential misstatements.
  - Consider factors that affect the risks of material misstatement.
  - Design tests of controls, when applicable, and substantive procedures.
- c. We will not express an opinion on the effectiveness of internal control over financial reporting or compliance with laws, regulations and provisions of contracts or grant programs.
- d. The concept of materiality recognizes that some matters, either individually or in the aggregate, are important for fair presentation of financial statements in conformity with generally accepted accounting principles while other matters are not important. In performing the audit, we are concerned with matters that, either individually or in the aggregate, could be material to the financial statements. Our responsibility is to plan and perform the audit to obtain reasonable assurance that material misstatements, whether caused by errors or fraud, are detected.

Our audit will be performed in accordance with auditing standards generally accepted in the United States of America.

We are very interested in your views regarding certain matters. Those matters are listed here:

- a. We typically will communicate with your top level of management unless you tell us otherwise.
- b. We understand that the governing board has the responsibility to oversee the strategic direction of your organization, as well as the overall accountability of the Agency. Management has the responsibility for achieving the objectives of the Agency.
- c. We need to know your views about your organization's objectives and strategies, and the related business risks that may result in material misstatements.
- d. We anticipate that the Agency will receive an unmodified opinion on its financial statements.
- e. Which matters do you consider warrant particular attention during the audit, and are there any areas where you request additional procedures to be undertaken?
- f. Have you had any significant communications with regulators or grantor agencies?
- g. Are there other matters that you believe are relevant to the audit of the financial statements?

Also, is there anything that we need to know about the attitudes, awareness and actions of the governing body concerning:

- a. The Agency's internal control and its importance in the Agency, including how those charged with governance oversee the effectiveness of internal control?
- b. The detection or the possibility of fraud?

We also need to know if you have taken actions in response to developments in financial reporting, laws, accounting standards, governance practices, or other related matters, or in response to previous communications with us.

With regard to the timing of our audit, here is some general information. If necessary, we may do preliminary financial audit work during the months of October-December, and sometimes early in January. Our final financial fieldwork is scheduled during January and/or February to best coincide with your readiness and report deadlines. After fieldwork, we wrap up our financial audit procedures at our office and may issue drafts of our report for your review. Final copies of our report and other communications are issued after approval by your staff. This is typically 4-6 weeks after final fieldwork, but may vary depending on a number of factors.

Keep in mind that while this communication may assist us with planning the scope and timing of the audit, it does not change the auditor's sole responsibility to determine the overall audit strategy and the audit plan, including the nature, timing and extent of procedures necessary to obtain sufficient appropriate audit evidence.

We realize that you may have questions on what this all means, or wish to provide other feedback. We welcome the opportunity to hear from you.

# Balancing Authority of Northern California Sacramento, CA

## **Financial Statements**

and Independent Auditors' Report

December 31, 2022 and 2021

**BALANCING AUTHORITY OF NORTHERN CALIFORNIA**  
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## Independent Auditors' Report

To the Commissioners of  
Balancing Authority of Northern California

### Opinion

We have audited the accompanying financial statements of the Balancing Authority of Northern California, as of and for the years ended December 31, 2022 and 2021, and the related notes to the financial statements, which collectively comprise the Balancing Authority of Northern California's basic financial statements as listed in the table of contents.

In our opinion, the accompanying financial statements referred to above present fairly, in all material respects, the financial position of the Balancing Authority of Northern California as of December 31, 2022 and 2021 and the changes in financial position and cash flows for the years then ended in accordance with accounting principles generally accepted in the United States of America.

### Basis for Opinion

We conducted our audits in accordance with auditing standards generally accepted in the United States of America (GAAS). Our responsibilities under those standards are further described in the Auditors' Responsibilities for the Audit of the Financial Statements section of our report. We are required to be independent of the Balancing Authority of Northern California and to meet our other ethical responsibilities, in accordance with the relevant ethical requirements relating to our audits. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

### Responsibilities of Management for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with accounting principles generally accepted in the United States of America; and for the design, implementation and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the Balancing Authority of Northern California's ability to continue as a going concern for twelve months beyond the financial statement date, including any currently known information that may raise substantial doubt shortly thereafter.

## **Auditors' Responsibilities for the Audit of the Financial Statements**

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinion. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with GAAS will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations or the override of internal control. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by a reasonable user based on the financial statements.

In performing an audit in accordance with GAAS, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Balancing Authority of Northern California's internal control. Accordingly, no such opinion is expressed.
- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the financial statements.
- Conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about the Balancing Authority of Northern California's ability to continue as a going concern for a reasonable period of time.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings and certain internal control-related matters that we identified during the audit.

## **Required Supplementary Information**

Accounting principles generally accepted in the United States of America require that the required supplementary information, as listed in the table of contents be presented to supplement the basic financial statements. Such information is the responsibility of management and, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

*Baker Tilly US, LLP*

Madison, Wisconsin  
February 24, 2023

**BALANCING AUTHORITY OF NORTHERN CALIFORNIA  
MANAGEMENT'S DISCUSSION AND ANALYSIS - UNAUDITED  
As of and for the Years Ended December 31, 2022 and 2021**

**Using this Financial Report**

This annual financial report for Balancing Authority of Northern California (Agency) consists of management's discussion and analysis and the financial statements, including notes to the financial statements. The basic Financial Statements consist of the Statements of Net Position, the Statements of Revenues, Expenses and Changes in Net Position and the Statements of Cash Flows.

The Agency's accounting records are maintained in accordance with Generally Accepted Accounting Principles for proprietary funds as prescribed by the Governmental Accounting Standards Board. The Agency's accounting records generally follow the Uniform System of Accounts for Public Utilities and Licensees prescribed by the Federal Energy Regulatory Commission (FERC).

**Overview of the Financial Statements**

The following discussion and analysis of the financial performance of the Agency provides an overview of the financial activities for the years ended December 31, 2022 and 2021. This discussion and analysis should be read in conjunction with the Agency's financial statements and accompanying notes, which follow this section.

The Statements of Net Position provide information about the nature and amount of resources and obligations at a specific point in time.

The Statements of Revenues, Expenses and Changes in Net Position report all of the Agency's revenues and expenses during the periods indicated.

The Statements of Cash Flows report the cash provided and used by operating activities, as well as other cash sources such as investment income and debt financing, and other cash uses such as payments for debt service and capital additions.

The Notes to Financial Statements provide additional detailed information to support the financial statements.

**Nature of Operations**

The Agency is a joint powers authority consisting of the following California publicly owned utilities: the Sacramento Municipal Utility District (SMUD), the Modesto Irrigation District, the City of Redding, the City of Roseville, the Trinity Public Utilities District, and the City of Shasta Lake (collectively, Members). The Agency performs FERC approved Balancing Authority Area (BAA) and Planning Coordinator (PC) reliability functions that are overseen by North American Electric Reliability Corporation, nationally, and by Western Electricity Coordinating Council (WECC) in the West. The Agency also has the ability to acquire, construct, maintain, operate and finance projects for the Agency and for the benefit of any one or more of the Members. The Agency has no employees. The Agency has a contract with an industry professional to serve as the general manager. The Agency also has a contract with a legal firm to provide legal services for the Agency. An Agency Member, SMUD, serves as the Treasurer and Controller, Compliance Officer, BAA Operator and PC services provider.

## Operational Highlights

The Agency continues to support the Members' desire to have the BAA provide a strong base for maintaining their independence and ability for self-determination. In 2022, the Agency's Commission continued to reinforce its strategic direction for this goal with a focus on initiatives in the areas of:

- *Independence*
- *Assets*
- *Outreach*
- *Customer Services*

In the area of Independence, the Agency has been proactive at ensuring BAA operations are maintained in full compliance with industry standards. This has been accomplished through the proactive use of the Agency's Operations Committee, Member Compliance Review Committee, Resource Committee, and Energy Imbalance Market (EIM) Committee. The Agency, through its compliance group, has been proactive in taking a risk-based approach to evaluating operational incidents, including near miss lessons-learned. This proactive approach has proven to be beneficial as it resulted in BANC receiving no non-compliance issues in its 2022 WECC triennial audit.

The Agency has been actively engaged in evaluating market alternatives for its Members, as well as the Western Area Power Administration – Sierra Nevada Region (WAPA-SNR), which is a contract participant in BANC. This evaluation resulted in a decision for the Agency to become an EIM Entity as part of the California Independent System Operator (CAISO) Western Energy Imbalance Market (WEIM) and allow phased-in participation by Members and WAPA-SNR. SMUD was the first BANC Member to become an EIM Participating Resource and BANC was the first public power entity to participate in the EIM, with go-live in April 2019, referred to as BANC EIM Phase 1. In addition, three other Members (Modesto Irrigation District, City of Redding, and City of Roseville) and WAPA-SNR decided to participate in EIM and went live in late March 2021, which was referred to as BANC EIM Phase 2. The Agency is also an active participant with other EIM Entities and stakeholders in evaluating the Extended Day Ahead Market (EDAM) with the CAISO.

As proposed, EDAM will allow an expansion of CAISO participation for EIM entities into the Day Ahead Market. Like EIM, EDAM participation is proposed to be voluntary, maintain the independence of the EDAM participant's BAA, and will not require participants to turn over operational control of their transmission or generation facilities to the CAISO. After an initial kick off in 2019 that was interrupted by COVID and issues of primacy triggered by the Summer 2020 load shedding events in the CAISO, the CAISO reinitiated the EDAM stakeholder process in 2021, starting with a small subgroup of EIM Entities and CAISO Participating Transmission Owners (PTO) during the summer of 2021. After successful and productive EDAM design discussions with this subgroup through the summer, the CAISO reengaged the broader stakeholder community in the fall of 2021. In December 2022, the CAISO completed its stakeholder process and produced a final EDAM market design document. The EIM Governing Body and the CAISO Board approved the EDAM design in February 2023.

BANC was an active participant in this effort, starting as a member of the small subgroup that was organized in the summer of 2021, through the stakeholder process yielding the final design proposal. Since completing the EDAM design, the process has now pivoted to more detailed tariff and business practice discussions. BANC will continue to be involved in these more focused and technical efforts.

BANC is actively evaluating potential participation in EDAM, including an anticipated assessment of the final tariff design and its implications for BANC and its Members, costs, benefits, and systems gap analysis, with a goal of reaching a decision in 2023. BANC is also engaged in discussions on other potential West-wide efforts, including the Southwest Power Pool (SPP) Markets+ initiative, the Western Power Pool (WPP) Western Resource Adequacy



Program (WRAP), and the Western Markets Exploratory Group (WMEG). As far as markets options are concerned, Members have expressed the view that, subject to the above-referenced analysis, EDAM as the logical next step to build upon the benefits of the EIM, given the transfer opportunities with the CAISO market and the fact that BANC Members have ownership and/or firm purchases with resources in the CAISO BAA.

Regarding Assets, the Agency has an arrangement with its BAA Operator, which is also a registered transmission operator, to determine relative responsibilities for funding facility assets. The Agency funds its fair share of these assets. The Agency also worked with the BAA Operator and WECC to finalize compliance responsibilities for any joint violations that might be imposed on the Agency and the BAA Operator. The Agency worked with its Members to understand how the implementation of Senate Bill (SB)100 requirements for “zero” carbon emissions from electric generation will impact future BA operations. This includes active collaboration with the oversight agencies (California Public Utilities Commission, California Energy Commission, and California Air Resources Board) and other California BAAs to support the development of the first assessment report on implementation of SB100 and ongoing discussions on implementation of SB100 goals. BANC is now actively engaged with the other California BAAs and the state agencies as the next version of the SB100 report is developed, with an expected emphasis on reliability metrics for decarbonization portfolios. As a result of the resource adequacy concerns raised in the summers of 2020 and 2021, the BANC Members directed the Agency to issue a request for proposals for new, renewable resources that could be interconnected to the BANC grid. The evaluation of proposals in early 2022 resulted in a decision to not pursue any new resources at this time. It is expected that BANC considering additional resources will be revisited in 2023. The BANC members have also directed the Agency to develop more formalized resource adequacy guidelines which should be completed in 2023.

In the area of Outreach, the Agency has been reaching out to the appropriate state and federal agencies regarding its BAA role. The Agency has been proactive in its engagement with WECC and the reliability coordinator (formerly Peak Reliability [Peak], now RC West). The Agency has also been proactive in reaching out to other Publicly Owned Utilities BAAs in the West, engaging in the EIM Regional Issues Forum, and in CAISO regionalization discussions. BANC General Counsel serves as a member of the Governance Review Committee that is finalizing recommendations for EDAM governance. BANC General Counsel also serves as one of two public power liaisons on the Body of State Regulators, which is the advisory committee of state representatives to the EIM Governing Body. The Agency is also an active participant in the Western Electricity Industry Leaders (WEIL) group.

Regarding Customer Services, the Agency has worked with its Members to take on the role of PC for a part of the Agency's footprint. The Agency has contracted with SMUD to provide the PC services for participating Members. The initial study work was completed in 2017 and the Agency was fully compliant as a PC by January 1, 2018, for those Members that have elected to take PC service. In addition, the agency has assisted members with software needs for implementation of EIM Phase 2 in 2021. Also, as noted above, the Agency is assisting the Members with evaluating resource adequacy requirements for BANC.

## **FINANCIAL POSITION**

The following table summarizes the financial position as of December 31 (in thousands).

	<b>Condensed Statements of Net Position</b>		
	<u>2022</u>	<u>2021</u>	<u>2020</u>
Assets			
Current assets	\$ 14,520	\$ 6,596	\$ 3,177
Noncurrent assets	508	500	4,948
Total Assets	<u>\$ 15,028</u>	<u>\$ 7,096</u>	<u>\$ 8,125</u>
Liabilities			
Current liabilities	\$ 14,520	\$ 6,596	\$ 3,177
Noncurrent liabilities	508	500	4,948
Total Liabilities	<u>15,028</u>	<u>7,096</u>	<u>8,125</u>
Net position			
Unrestricted	<u>-0-</u>	<u>-0-</u>	<u>-0-</u>
Total net position	<u>-0-</u>	<u>-0-</u>	<u>-0-</u>
Total liabilities and net position	<u>\$ 15,028</u>	<u>\$ 7,096</u>	<u>\$ 8,125</u>

### **2022 Compared to 2021**

#### **ASSETS**

Current Assets increased by \$7.9 million due to higher unrestricted cash, offset by lower receivables from Members for WEIM related activities.

#### **LIABILITIES**

Current Liabilities increased by \$7.9 million primarily due to higher Due to Members, offset by lower accruals for WEIM related activities.

### **2021 Compared to 2020**

#### **ASSETS**

Current Assets increased by \$3.4 million due to higher unrestricted cash and receivables from Members for WEIM related activities, offset by lower Due from Members.

Noncurrent Assets decreased by \$4.4 million primarily due to lower Credit Support Collateral posted by the Agency to CAISO for WEIM participation.

#### **LIABILITIES**

Current Liabilities increased by \$3.4 million primarily due to higher Due to Members and accruals for WEIM related activities.

Noncurrent Liabilities decreased by \$4.4 million primarily due to lower Credit Support Collateral posted by the Agency to CAISO for WEIM participation.

## **RESULTS OF OPERATIONS**

The following table summarizes the operating results for the years ended December 31 (in thousands).

### **Condensed Statements of Revenues, Expenses and Changes in Net Position**

	2022	2021	2020
Operating revenues	\$ 6,170	\$ 6,063	\$ 5,029
Operating expenses	(6,170)	(6,063)	(5,029)
Operating income	-0-	-0-	-0-
Change in net position	-0-	-0-	-0-
Net position - beginning of year	-0-	-0-	-0-
Net position - end of year	<u>\$ -0-</u>	<u>\$ -0-</u>	<u>\$ -0-</u>

#### **2022 Compared to 2021**

Operating Revenues and Operating Expenses increased by \$0.1 million primarily due to higher billings to Members and higher payments for WEIM expenses.

#### **2021 Compared to 2020**

Operating Revenues and Operating Expenses increased by \$1.0 million primarily due to higher billings to Members and higher payments for WEIM expenses.

#### **Requests for Information**

For more information about the Balancing Authority of Northern California, visit our website at [www.thebanc.org](http://www.thebanc.org) or contact us at [JimShetler@thebanc.org](mailto:JimShetler@thebanc.org).

**BALANCING AUTHORITY OF NORTHERN CALIFORNIA  
STATEMENTS OF NET POSITION**

	December 31,	
	2022	2021
<b>ASSETS</b>		
<b>CURRENT ASSETS</b>		
Unrestricted cash	\$ 13,350,174	\$ 3,582,918
Receivable from Members	1,169,361	3,013,513
Total current assets	14,519,535	6,596,431
<b>NONCURRENT ASSETS</b>		
Credit support collateral deposits	508,429	500,082
Total noncurrent assets	508,429	500,082
<b>TOTAL ASSETS</b>	\$ 15,027,964	\$ 7,096,513
<b>LIABILITIES AND NET POSITION</b>		
<b>CURRENT LIABILITIES</b>		
Accounts payable	\$ 1,321,679	\$ 2,031,479
Advances from Members	2,394,142	2,165,794
Due to Members	10,803,187	2,395,576
Other	527	3,582
Total current liabilities	14,519,535	6,596,431
<b>NONCURRENT LIABILITIES</b>		
Due to Members	508,429	500,082
Total noncurrent liabilities	508,429	500,082
<b>TOTAL LIABILITIES</b>	15,027,964	7,096,513
<b>NET POSITION</b>		
Unrestricted	-0-	-0-
<b>TOTAL NET POSITION</b>	-0-	-0-
<b>TOTAL LIABILITIES AND NET POSITION</b>	\$ 15,027,964	\$ 7,096,513

The accompanying notes are an integral part of these financial statements.

**BALANCING AUTHORITY OF NORTHERN CALIFORNIA**  
**STATEMENTS OF REVENUES, EXPENSES AND CHANGES IN NET POSITION**

	Years Ended December 31,	
	2022	2021
<b>OPERATING REVENUES</b>		
Member revenues	\$ 5,829,592	\$ 5,787,688
Other	340,224	275,589
Total operating revenues	6,169,816	6,063,277
<b>OPERATING EXPENSES</b>		
Operations	4,244,291	4,166,560
Administrative and general	1,925,525	1,896,717
Total operating expenses	6,169,816	6,063,277
<b>OPERATING INCOME</b>	-0-	-0-
CHANGE IN NET POSITION	-0-	-0-
NET POSITION - BEGINNING OF YEAR	-0-	-0-
NET POSITION - END OF YEAR	\$ -0-	\$ -0-

The accompanying notes are an integral part of these financial statements.

**BALANCING AUTHORITY OF NORTHERN CALIFORNIA  
STATEMENTS OF CASH FLOWS**

	Years Ended December 31,	
	2022	2021
<b>CASH FLOWS FROM OPERATING ACTIVITIES</b>		
Receipts from Members for operating activities	\$ 8,242,316	\$ 3,970,240
Receipts from/(payments to) Members for WEIM activities	8,415,958	(1,356,435)
(Payments to)/receipts from credit support collateral deposit	(8,347)	4,448,303
Payments to vendors	(6,882,671)	(5,190,089)
Net cash provided by operating activities	9,767,256	1,872,019
Net increase in cash	9,767,256	1,872,019
Cash - beginning of the year	3,582,918	1,710,899
Cash - end of the year	\$ 13,350,174	\$ 3,582,918
<b>RECONCILIATION OF OPERATING INCOME TO NET CASH PROVIDED BY OPERATING ACTIVITIES</b>		
Operating income	\$ -0-	\$ -0-
Adjustments to reconcile operating income to net cash provided by operating activities:		
Changes in operating assets and liabilities:		
Receivable from Members	1,844,152	(2,243,937)
Due from Members	-0-	696,292
Credit support collateral deposit	(8,347)	4,448,303
Accounts payable	(709,800)	881,420
Other payable	(3,055)	(8,232)
Advances from Members	228,348	150,900
Due to Members	8,415,958	(2,052,727)
Net cash provided by operating activities	\$ 9,767,256	\$ 1,872,019

The accompanying notes are an integral part of these financial statements.

**BALANCING AUTHORITY OF NORTHERN CALIFORNIA**  
**NOTES TO FINANCIAL STATEMENTS**  
**As of and for the Years Ended December 31, 2022 and 2021**

**NOTE 1. ORGANIZATION AND OPERATIONS**

The Balancing Authority of Northern California (Agency) is a joint powers authority (JPA) consisting of the following California publicly owned utilities: the Sacramento Municipal Utility District (SMUD), the Modesto Irrigation District, the City of Redding, the City of Roseville, the Trinity Public Utilities District, and the City of Shasta Lake (collectively, Members). The Agency performs Federal Energy Regulatory Commission approved Balancing Authority Area (BAA) and Planning Coordinator (PC) reliability functions that are overseen by the North American Electric Reliability Corporation, nationally, and by the Western Electricity Coordinating Council in the West. The Agency also has the ability to acquire, construct, maintain, operate and finance projects for the Agency and for the benefit of any one or more of the Members.

The Agency has no employees. The Agency has a contract with an industry professional to serve as the general manager. An Agency Member, SMUD, serves as the Treasurer and Controller, Compliance Officer, BAA Operator and PC service provider.

The Agency's Commission is comprised of one commissioner from each Member. The Members pay its participation percentage share of the costs associated with the operation of the Agency, with a minimum cost share of \$25.0 thousand per calendar year. The participation percentage of each Member is based on their proportional share of the annual retail load from the previous calendar year.

**NOTE 2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES**

**Method of Accounting.** The accounting records of the Agency are maintained in accordance with Generally Accepted Accounting Principles for proprietary funds as prescribed by the Governmental Accounting Standards Board (GASB). The Agency's accounting records generally follow the Uniform System of Accounts for Public Utilities and Licensees prescribed by the Federal Energy Regulatory Commission. The financial statements are reported using the economic resources measurement focus and the accrual basis of accounting. Revenues are recorded when earned and expenses are recorded when a liability is incurred, regardless of the timing of related cash flows.

**Use of Estimates.** The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues and expenses. Actual results could differ from those estimates.

**Cash and Cash Equivalents.** Cash and cash equivalents include all debt instruments purchased with an original maturity of 90 days or less.

**Custodial Credit Risk.** This is the risk that in the event of the failure of a depository financial institution or counterparty to a transaction, the Agency's deposits may not be returned or the Agency will not be able to recover the value of its deposits, investments or collateral securities that are in the possession of another party. The Agency does not have a deposit policy for custodial credit risk. At December 31, 2022 and 2021, \$13.1 million and \$3.3 million of the Agency's bank balance were uninsured, respectively.

**Credit Support Collateral Deposits.** The Agency entered into a Western Energy Imbalance Market (WEIM) participation agreement with the California Independent System Operator (CAISO), which allows participants to buy and sell power close to the time electricity is consumed. In 2022 and 2021, the Agency contributed \$0.5 million for the collateral deposit to cover the WEIM settlement activity credit requirements. These deposits are recorded as noncurrent assets.

**Receivable from Members.** The Agency records as a Receivable from Members the costs incurred related to the WEIM activities.

**Advances from Members.** Members provide cash to the Agency in advance for operations costs. These advances are recognized as operating revenue as expenses are incurred.

**Due From (To) Members.** The Due from Members represents proceeds from CAISO for Members WEIM power trading activities. The Due to Members represents amounts posted by Members for the Credit Support Collateral Deposits to CAISO, cash reserves posted by Members to cover market uncertainties, and amounts owed to CAISO for Members WEIM power trading activities.

**Net Position.** The Agency classifies its net position as unrestricted.

**Operating Revenues.** The Agency invoices its Members for their respective participation percentage in accordance with the JPA agreement.

**Operating Expenses.** Operating expenses include the operations and administrative expenses of the Agency.

**Subsequent Events.** Subsequent events for the Agency have been evaluated through February 24, 2023, which is the date that the financial statements were available to be issued.

**Recent Accounting Pronouncements, not yet adopted.** In June 2022, GASB issued SGAS No. 100, “*Accounting Changes and Error Corrections – an amendment of GASB Statement No. 62*” (GASB No. 100), to enhance accounting and financial reporting requirements for accounting changes and error corrections. The statement defines accounting changes and sets forth requirements for reporting changes and error corrections in the financial statements. In addition, the statement contains requirements for disclosure in notes to financial statements of information about accounting changes and error corrections. Furthermore, for periods that are earlier than those included in the financial statements, information presented in required supplementary information and supplementary information should be restated for error corrections, but not for changes in accounting principles. This statement is effective for the Agency in fiscal year 2024. The Agency is currently assessing the financial statement impact of adopting this statement.

### **NOTE 3. CONTINGENCIES**

**General Contingencies.** In the normal course of operations, the Agency may be party to various claims, disputes and litigation. There are no such matters pending. Thus, there are no such actions that could have a material adverse impact on the Agency's financial position or results of operations.



## Balancing Authority of Northern California

### Agenda Item 5C

1. **Resolution 23-03-02 Approval of Cash Reserve Seasonal Adjustment Requirements.**
2. **Attachment A to Resolution 23-03-02: Cash Call Assessment of BANC EIM Participants.**



# BALANCING AUTHORITY OF NORTHERN CALIFORNIA

P.O. Box 15830 • D109 • SACRAMENTO • CA 95852 -1830

3/22/23

**To: BANC Commission**

**From: BANC General Manager**

**RE: Establishment of a BANC Minimum Cash Reserve – Seasonal Adjustment**

BANC staff are requesting that the Commission establish a seasonal adjustment to the minimum EIM cash reserve that the Commission approved in 2021. As was reported to the Commission in Fall 2022, the heat wave that California experienced in early September 2022 resulted in higher than expected EIM settlement prices and amounts. The invoices received from the CAISO for that time period were in the amount of \$~6.2 million, which resulted in BANC exceeding its collateral with the CAISO and the amount (\$2.5 million) that was in the reserve account. Consequently, we were required to request expedited *additional funding* from the Commission to cover the invoices. At that time, staff indicated that BANC Settlements would review the pricing issue from the September 2022 heat wave and provide a recommendation on how to handle this in the future.

As a result of its review, BANC Settlements proposes that BANC establish a seasonal adjustment to the Reserve Account from June 1 to September 30 (Seasonal Adjustment Period) to cover potential high market prices in potential heat wave situations. BANC Settlements has provided two options for increasing funding levels:

1. Option 1: Increase the Reserve Account by \$3.7 million to an amount of \$6.2 million to cover the highest invoice seen in 2022.
2. Option 2: Increase the Reserve Account by \$5.5 million to an amount of \$8.0 million to provide an additional 30% contingency over Option 1.

These options were discussed with the EIM Committee, including how conservative BANC wants to be with its assumptions. Based upon these discussions, staff recommended, and the EIM Committee concurred, that the Commission move forward with Option 1. This will result in the following additional assessments for each EIM participant during the Seasonal Adjustment Period (based upon 2023 3-year rolling average NEL):

A JOINT POWERS AUTHORITY AMONG

Modesto Irrigation District, City of Redding, City of Roseville, Trinity Public Utilities District,

City of Shasta Lake, and Sacramento Municipal Utility District



# BALANCING AUTHORITY OF NORTHERN CALIFORNIA

P.O. Box 15830 • D109 • SACRAMENTO • CA 95852 -1830

<b>Participant</b>	<b>Percentage</b>	<b>Current Reserve Amount</b>	<b>Additional Reserve Needed</b>
SMUD	64.4%	\$1,607,500.00	\$2,382,800.00
MID	15.3%	\$365,000.00	\$566,100.00
WAPA	7.8%	\$215,000.00	\$288,600.00
Roseville	6.8%	\$172,500.00	\$251,600.00
Redding	5.7%	\$140,000.00	\$210,900.00
<b>Total Cash Reserve</b>		<b>\$2,500,000.00</b>	<b>\$3,700,000.00</b>
<b>New Cash Reserve</b>			<b>\$6,200,000.00</b>

This recommendation will result in both establishing the seasonal cash reserves at \$6,200,000.00 and authorizing the Treasurer to issue a cash call for the additional seasonal reserve amount to the participants in advance of June 1 and reimburse those participants who request reimbursement the additional seasonal reserve amount after September 30 each year. It is further recommended that the EIM Settlements Working Group be tasked with reviewing this recommendation after each summer season to determine any adjustments that should be made going forward.

A JOINT POWERS AUTHORITY AMONG

Modesto Irrigation District, City of Redding, City of Roseville, Trinity Public Utilities District,

City of Shasta Lake, and Sacramento Municipal Utility District

**Balancing Authority of Northern California  
Resolution 23-03-02**

**APPROVAL OF CASH RESERVE SEASONAL ADJUSTMENT REQUIREMENTS**

WHEREAS, the Balancing Authority of Northern California (“BANC”) was created by a Joint Powers Agreement (“JPA”) to, among other things, acquire, construct, maintain, operate, and finance Projects; and

WHEREAS, BANC serves as the Energy Imbalance Market (“EIM”) Entity for the BANC EIM footprint; and

WHEREAS, participation in the EIM market has resulted in an exposure to increased fluctuations in potential cash needs due to market dynamics, including summer heat wave effects; and

WHEREAS, operational experience in EIM has demonstrated that the amount previously thought to be sufficient to cover these fluctuations can no longer be considered adequate during summer heat waves; and

WHEREAS, the General Manager has worked with SMUD (BANC Accounting, Treasury, and Settlements) team members and the EIM Committee to review the available data and provide a recommendation.

NOW, THEREFORE, BE IT RESOLVED that the Commissioners of the Balancing Authority of Northern California hereby:

1. Authorize the plan to establish a seasonal adjustment to the cash reserve of \$3,700,000.00 and raise the reserve from \$2,500,000.00 to \$6,200,000.00 from June 1 through September 30 each year.
2. Direct the BANC Treasurer to assess each BANC EIM Participant prior to June 1 each year and to reimburse each BANC EIM Participant that so requests after September 30 each year in accordance with the cash calls outlined in Attachment A to this resolution.
3. Direct the EIM Settlements Working Group to review the seasonal adjustment after each summer and to recommend appropriate adjustments to the EIM Committee and Commission for consideration prior to the next summer.

**Balancing Authority of Northern California  
Resolution 23-03-02**

PASSED AND ADOPTED by the Commissioners of the Balancing Authority of Northern California this 22<sup>nd</sup> day of March 2023, by the following vote:

		Aye	No	Abstain	Absent
Modesto ID	James McFall				
City of Redding	Nick Zettel				
City of Roseville	Dan Beans				
City of Shasta Lake	James Takehara				
SMUD	Paul Lau				
TPUD	Paul Hauser				

\_\_\_\_\_  
James McFall  
Chair

\_\_\_\_\_  
Attest by: C. Anthony Braun  
Secretary

**Cash Call Assessment of BANC EIM Participants**

<b>Participant</b>	<b>Percentage</b>	<b>Current Reserve Amount</b>	<b>Additional Reserve Needed</b>
SMUD	64.4%	\$1,607,500.00	\$2,382,800.00
MID	15.3%	\$365,000.00	\$566,100.00
WAPA	7.8%	\$215,000.00	\$288,600.00
Roseville	6.8%	\$172,500.00	\$251,600.00
Redding	5.7%	\$140,000.00	\$210,900.00
<b>Total Cash Reserve</b>		<b>\$2,500,000.00</b>	<b>\$3,700,000.00</b>
<b>New Cash Reserve</b>			<b>\$6,200,000.00</b>

## Balancing Authority of Northern California

### Agenda Item 5D

1. **Resolution 23-03-03 Acceptance of BANC RA Principles and Guidelines Report.**
2. **Attachment A to Resolution 23-03-03: BANC Resource Adequacy Principles and Best Practices.**



# BALANCING AUTHORITY OF NORTHERN CALIFORNIA

P.O. Box 15830 • D109 • SACRAMENTO • CA 95852 -1830

3/22/23

**To: BANC Commission**

**From: BANC General Manager**

**RE: BANC Resource Adequacy Principles and Guidelines**

BANC staff are providing the Commission with an update on the effort to establish a set of Resource Adequacy (RA) principles and guidelines. In past discussions with the Commission, staff has noted that the issue of RA is becoming more of a concern across the Western Interconnection, including for participation in both real-time and day-ahead markets. This has led to both proposed upgrades to the RA requirements for entities in the CAISO footprint as well as the development of the Western Resource Adequacy Program (WRAP) by the Western Power Pool (WPP). As a participant in WPP, BANC initially participated in the early development efforts of the WRAP. However, in 2021, it was determined that the design of the WRAP program would require access to the Mid-C trading hub in order for BANC to receive the diversity benefits of the program. However, BANC and its members do not have any long-term firm rights to Mid-C. In response, BANC requested that a specific transmission hub be established at the California-Oregon Border to facilitate the ability of BANC to participate. To date, this request from BANC has not been accepted or acted upon by the WPP. As a result, BANC was compelled to withdraw from further WRAP participation. As part of BANC's strategic planning discussions, staff recommended, and the Commission concurred, that we should develop a specific set of RA guidelines for BANC in order to show our commitment to RA at the BA level.

With that in mind, the Commission concurred with staff's recommendation to enter into a contract with Customized Energy Solutions (CES) to assist staff in the development of a set of RA principles and guidelines. Staff has been working with CES in coordination with the BANC Resource Committee, and an established subcommittee, to develop these principles and guidelines. The result of this effort is the attached report prepared by CES that provides a set of recommended principles and guidelines for BANC along with a summary of industry best practices. The intent is that these are not mandatory requirements on BANC participants but are rather suggested best practices. Staff is requesting that the Commission accept this report as the basis for a set of BANC RA principles and guidelines that will be finalized as part of the BANC policies and procedures that are being developed. The BANC Resource Committee, which has been involved in the development and review of these RA principles and guidelines, concurs with this recommendation.

A JOINT POWERS AUTHORITY AMONG

Modesto Irrigation District, City of Redding, City of Roseville, Trinity Public Utilities District,

City of Shasta Lake, and Sacramento Municipal Utility District



**Balancing Authority of Northern California  
Resolution 23-03-03**

**ACCEPTANCE OF BANC RA PRINCIPLES AND GUIDELINES REPORT**

WHEREAS, the Balancing Authority of Northern California (“BANC”) was created by a Joint Powers Agreement to, among other things, acquire, construct, maintain, operate, and finance projects; and

WHEREAS, BANC serves as the Energy Imbalance Market (“EIM”) Entity for the BANC EIM footprint, and BANC is considering participation in a day ahead market such as the CAISO Extended Day Ahead Market (“EDAM”); and

WHEREAS, Resource Adequacy (“RA”) is essential to both reliable grid operations and to ensuring Resource Sufficiency (“RS”) Tests can be met in both the EIM and EDAM; and

WHEREAS, BANC had originally participated in the Western Power Pool (“WPP”) Western Resource Adequacy Program (“WRAP”) design development, but WRAP design details, most notably the transmission requirements to reach a central “Mid-C” hub, rendered the program impractical for BANC; and

WHEREAS, the BANC Commission concurred in its strategic plan that development of RA principles and practices would be an appropriate next step and that BANC should have established RA policies.

WHEREAS, BANC staff worked with outside consultants and in coordination with the BANC Resource Committee to develop the attached BANC RA Principles and Guidelines Report, with which the Resource Committee concurs.

NOW, THEREFORE, BE IT RESOLVED that the Commissioners of the Balancing Authority of Northern California hereby:

1. Accept the attached Exhibit A, BANC RA Principles and Guidelines Report.
2. Direct BANC staff to incorporate the concepts contained in the report into the appropriate BANC documents.

PASSED AND ADOPTED by the Commissioners of the Balancing Authority of Northern California this 22<sup>nd</sup> day of March 2023, by the following vote:

		Aye	No	Abstain	Absent
Modesto ID	James McFall				
City of Redding	Nick Zettel				
City of Roseville	Dan Beans				
City of Shasta Lake	James Takehara				
SMUD	Paul Lau				
TPUD	Paul Hauser				

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James McFall  
Chair

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Attest by: C. Anthony Braun  
Secretary



# **Balancing Authority of Northern California Resource Adequacy Principles and Best Practices**

**March 14, 2023**

**Prepared by:**

**Customized Energy Solutions, Ltd.**



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## 1 Introduction and Purpose

Customized Energy Solutions (CES) has engaged with the Balancing Authority of Northern California (BANC) to assist in the development of a set of resource adequacy (RA) principles and best practices for use in the BANC Balance Authority Area (BAA). In addition to draft RA principles and best practices, this document includes background on the content and purpose of RA and discussion of related RA program element design considerations that can inform future development of RA program design.

The following section introduces draft BANC RA principles and best practices. The suggested approaches are intended to be a starting point for RA discussions among BANC member/participant utilities<sup>1</sup> (BANC RA Participants). Attachment A includes a broader review of RA best practices design considerations intended to provide further background on RA practices and approaches regarding the potential benefits and drawbacks, costs, effort, and feasibility of developing a more formalized RA program with consideration of forward planning and assessment mechanisms that reflect BANC RA Participants' reliability needs and policy goals.

A recounting of the elements, goals, and objectives of the Western Power Pool's (WPP) Western Resource Adequacy Program (WRAP) is included in Attachment B with the intent to provide background on a developing RA framework in the neighboring regions that can inform the development of BANC's own RA principles and best practices. The existing designs of additional regional RA programs are also reviewed in Attachment C. Specifically, the approaches utilized by the Midcontinent Independent System Operator (MISO) and Southwest Power Pool (SPP) Regional Transmission Organization, and the latest evolutions of their RA provisions are summarized. The review of these other regional RA programs is also intended to inform discussions on the recommended RA principles and best practices with additional perspectives on regions that include organized markets with bilateral RA program designs that apply the RA best practices explored in Attachment A to various degrees.

### 1.1 Resource Adequacy and Why is it Needed

RA is forward planning for electric systems that is essential to achieve reliability during most expected operating conditions. In other words, RA is the forward commitment of sufficient resources to ensure that electric system operations can meet actual loads (demand) with available supply, while considering scheduled and unscheduled outages of system components and required reserves. RA is foundational for providing reliable electric service and system reliability depends on both RA and operational reliability to design, plan, and operate the electric grid.

Power system operations require decisions over multiple time frames, ranging from seconds (real time) to years ahead and can be categorized broadly into planning and operations horizons. The planning and operational horizons can be further divided into long-term planning, which covers years and months; medium-term operations, which includes planning days, weeks, or months ahead of time; and short-term operations, which encompasses events

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<sup>1</sup> This proposal is being proposed on a broader basis to address the possible inclusion of a non-BANC member entity. At this point in time, the Western Area Power Administration – Sierra Nevada Region, is not a member of BANC, however it is a contract participant in specific BANC activities, including the Western Energy Imbalance Market.

occurring in minutes, seconds, and fractions of seconds. For the purposes of this document the focus is on the long-term planning and medium-term operations horizons, with some discussion of how RA is needed to ensure successful short-term operations and market participation.

Reliability is achieved and maintained in the operating horizon through appropriate long-term RA planning activities intended to ensure enough capacity is available to meet system demand. In general, planning to meet annual peak demand is the focus of traditional RA because historically this is when the maximum capacity is required, and when the risk and impact of a supply shortfall is greatest. Electric system planners forecast the approximate annual peak demand during the planning horizon, and most utilities use these peak forecasts to estimate their load obligation to help determine how much capacity should be available to serve system demand reliably. On the supply side, RA is supported by the resources that generate electricity, as well as the transmission and distribution network that delivers power to end-use customers. Supply resources are typically categorized by generation technology or fuel e.g., natural gas, hydroelectric, solar, wind, storage, etc., and whether they operate as baseload, variable, or peaking resources.

Due to the uncertain availability of supply resources and variation in loads, electric system operators maintain reserves to ensure that demand can be met even when load is higher than expected or resources experience unplanned disruptions. The resource mix of electric utilities continues to include increasing amounts of variable generation including wind and solar or Variable Energy Resources (VER), batteries, demand response and energy efficiency, distributed generation, and other new and evolving technologies. Further, in many areas the shape of electricity demand has changed due to the interaction of these evolving resources, conservation, electric vehicles, electrification, and the increased frequency of extreme weather events. These developments mean that ensuring adequate resources are available to serve the electricity needs of utility customers has increasingly become more challenging and it continues to become more important to ensure forward planning efforts are addressing these needs reliably, which may mean considering how to evolve different planning approaches to meet future needs.

## **1.2 Recommendations for Future BANC Resource Adequacy Efforts**

The RA principles and best practices included in Section 2 are suggested for consideration by BANC to help ensure that BANC RA Participants are performing adequate forward planning and coordination efforts to maintain reliability and meet any applicable market participation requirements in an increasingly variable and uncertain supply landscape in the broader western region.

The consideration of prospective BANC RA principles and best practices will also support BANC RA Participants with a foundation for ensuring supply adequacy and reliable operations as a starting point for pursuing participation in any of the day ahead market programs currently under development that will likely become operational in the coming years. BANC may also contemplate utilizing these RA principles and best practices in the future development of a formal applicable RA program for BANC RA Participants, including establishing RA assessments, requirements, resource counting rules, and other foundational elements, such as those discussed in Attachment A should the need arise.

## 2 Draft BANC Resource Adequacy Principles and Best Practices

### 2.1 Draft BANC Resource Adequacy Principles

A set of initial BANC RA principles are outlined below for consideration and discussion. The format and content of the suggested RA principles are modeled after a combination of issues raised by North American Electric Reliability Corporation (NERC) and Western Electricity Coordinating Council (WECC) regional RA evaluations. These suggestions include mention of several foundational RA elements as well as overarching RA objectives. The organization is intended to provide high-level guidance with actionable principles that can be refined following further consideration.

These suggested RA principles are also intended to recognize the unique circumstances of the BANC BAA and BANC RA Participants, including the fact that BANC is surrounded by the California Independent System Operator (CAISO) footprint while being a current Western Energy Imbalance Market (WEIM) Entity that may require certain special consideration compared to a traditional Independent System Operator (ISO), Regional Transmission Organization (RTO), or Investor-Owned Utility (IOU) RA program or larger regional RA program in a non-organized market area. BANC and membership may also need to consider the expectations that California policy makers have on in-state entities meeting RA requirements and broader policy goals.

These suggestions are provided with the understanding that BANC's interest in establishing a common set of RA principles and best practices can assist in the planning and procurement of resources and facilitation of reliable participation in developing market offerings. How BANC may proceed with any further formalization of RA policies could be a topic for future discussions.

- A. Reliability:** BANC RA and planning practices should ensure the BANC system has enough resources installed and committed to reliably serve demand, including during stressed grid and market conditions, with a high degree of confidence.
1. BANC RA rules and expectations should enable the BANC BAA to operate safely, efficiently, and reliably.
  2. BANC RA rules and expectations should encourage and enable BANC RA Participants to plan to build and procure sufficient resources to meet individual and collective resource needs reliably, including forecasted demand and reserve requirements.
  3. Individual and collective planning and operational assessments conducted by BANC RA Participants and the BANC BAA should be used to help determine resource needs and associated reliability risks.
  4. BANC RA practices and expectations should account for transmission and deliverability considerations for RA purposes, operational preparedness, and market participation requirements.
  5. BANC RA practices and expectations should ensure that participation in existing real-time energy imbalance markets and evolving organized day-ahead market offerings, and related resource sufficiency requirements are considered and reflected in forward RA planning and procurement.

- B. Improved Visibility and Coordination:** BANC RA planning activities should enable transparency and visibility for the BANC RA Participants and BANC administration into the combined capabilities and needs of the overall BANC footprint.
1. Planning assessments should enable BANC RA Participants and their customers to make fully informed RA planning and procurement decisions.
  2. Coordination of planning and procurement activities by BANC RA Participants should ensure the BANC BAA is fully resourced and identify any potential shortfalls well in advance.
  3. Long-term planning assessments should be utilized to inform future BANC RA planning and operational needs and to support and reinforce resource assessments.
- C. Fairness and Equity:** BANC RA practices and expectations should be fair and unbiased to all BANC RA Participants with respect to member type and size, and resource mix.
1. BANC RA practices and expectations should respect local autonomy over investment decisions and operations and respect the rights and characteristics of individual BANC RA Participants to the extent possible.
  2. BANC RA practices and expectations should enable the consideration of unique needs and the applicable requirements of BANC RA Participant administrations and California State policies.
  3. BANC RA practices and expectations should avoid the possibility for any biased or unequal treatment or exceptions without sufficiently defined special circumstances.
- D. Efficiency and Cost-Effectiveness:** The benefits associated with forward planning in the BANC footprint should be realized by BANC RA Participants, while effectively and equitably utilizing transmission infrastructure, and precluding overly conservative provisions and requirements.
1. BANC RA practices and expectations should balance the need to be conservative enough to ensure resource adequacy and to avoid undue impacts to end-use customer rates and ensure cost-effectiveness.
  2. BANC RA practices and expectations should ensure benefits are realized by BANC RA Participants through RA assessments and increased awareness and transparency.
  3. BANC RA practices and expectations regarding transmission, deliverability, and reliance on spot market purchases or short-term duration bilateral firm energy contracts should balance resource needs and goals with the realities of market conditions, external system operator tariffs, and system capabilities.

## **2.2 Draft Resource Adequacy Best Practices**

The suggestions for draft BANC RA best practices are outlined in addition to the RA principles included above. The intent of developing these BANC RA best practices is to position the BANC BAA for potential organized market participation and to ensure adequate planning and operations practices are maintained in the face of changing resource mix and more extreme weather and climate conditions. Additionally, establishing these best practices will position the BANC BAA for possible participation in a more formal RA program in the future, should it decide to pursue such a path forward at a later time.

It is important to note that the following suggested BANC RA best practices should be considered aspirational at this point in the development of broader evolving BANC RA efforts and considerations. Due to the aspirational nature these RA best practices may potentially be limited in their effectiveness or applicability due to the lack of a more formalized RA program being pursued at this time; however, it is intended that they will still serve as a foundation for reliable and consistent planning and operations practices, and possibly for the future development of more specific approaches under a more formalized RA program.

#### **E. Planning and Operational Assessments and RA Metrics**

1. Each BANC RA Participant is encouraged to conduct planning and operational assessments that identify individual resource needs and risks.
2. The BANC BAA shall collectively meet a 1-day-in-10 years (i.e., 1-in-10) Loss of Load Expectation (LOLE) generation adequacy criteria in its planning assessments and procurement levels. (See Attachment A for further explanation of LOLE considerations).<sup>2</sup>
3. The BANC BAA and BANC RA Participants will individually and collectively utilize operational assessments of different horizons (i.e., seasonal, monthly, weekly, daily, and hourly, etc.) to ensure that resource needs and applicable market participation requirements are met, including resource sufficiency capacity and flexibility requirements.

#### **F. Resource Counting and Capacity Accreditation**

1. The BANC BAA and BANC RA participants will utilize historical forced outage rates and/or ambient temperature derates for evaluating the capacity contributions of thermal resources in planning assessments.
2. The BANC BAA and BANC RA participants may utilize a combination of forced outage rates, actual known forced outages, and planned outages in operational assessments.
3. The BANC BAA and BANC RA participants will utilize Effective Load Carrying Capability (ELCC) for evaluating the capacity contributions of VER resources in planning assessments.<sup>3</sup>
4. The BANC BAA and BANC RA participants may utilize a combination of ELCC, historical output profiles and capacity factors, or other approaches for VER counting in operational assessments.
5. The BANC BAA and BANC RA participants will utilize historical performance, potential storage capability, current and expected hydrological impacts, and environmental and operational constraints for evaluating the capacity contributions of hydroelectric resources in planning and operational assessments.<sup>4</sup>

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<sup>2</sup> Note: More formalized RA counting may be a prerequisite for accuracy and certainty in related LOLE analysis. Analyzing if BANC meets a 1-in-10 LOLE criteria for the footprint and individual BANC RA Participants is relatively difficult to achieve with a degree of certainty unless there is a collective BANC BAA-wide PRM or RA requirements and associated standardized BANC BAA-wide RA counting rules/capacity accreditation. This is an issue identified for further discussion.

<sup>3</sup> The RA Sub-Committee discussion recommended use of the CPUC/CAISO ELCC values for wind and solar could be utilized as an approach to standardize the use of ELCC counting across participants and to also coordinate expectations of what can reasonably be relied upon from wind and solar resources exported from the CAISO market footprint – this approach may provide a conservative baseline for the capacity value of these resources.



6. The BANC BAA and BANC RA participants will utilize a “stated capacity value” approach based on the reasonably expected capabilities during critical time-periods as shown in annual testing results or actual historical dispatch performance for evaluating the capacity contribution of demand response resources in planning and operational assessments.
7. The BANC BAA and BANC RA participants will utilize a “four-hour continuous output capability” (i.e., four-hour duration) approach for evaluating the capacity contribution of storage resources in planning assessments.

#### **G. Transmission Certainty and Resource Deliverability**

1. BANC RA Participants will attempt to establish contractual arrangements or ownership rights for long-term (monthly or longer duration) Firm transmission service (i.e., NERC Priority 6 or 7) for a significant portion of identified RA planning capacity needs.<sup>5</sup>
2. BANC and BANC RA Participants will assess the need for long-term Firm transmission service arrangements for capacity resources and Firm energy contract deliveries from external areas to support RA resource and Firm energy contract deliverability.<sup>6</sup>
3. BANC and BANC RA Participants will consider the extent of reliance on short-term and Non-Firm transmission service for resource and energy delivery from external areas on a regular basis to assess potential delivery risks focused on higher risk operating conditions.

#### **H. Market Participation and Operational Requirements**

1. BANC RA Participants will make reasonable efforts to secure enough capacity resources, firm energy contracts, and flexibility to meet resource needs and applicable resource sufficiency requirements for any prospective markets in which BANC may participate.

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<sup>4</sup> The RA Sub-Committee recommended that BANC should coordinate the use of assumptions on the overall hydro conditions amongst membership to the extent practicable.

<sup>5</sup> The RA Sub-Committee recommended against assigning a specified limitation or requirement regarding the use of firm or non-firm transmission. This recommendation reflects the view that BANC members rely on a significant utilization of WSPP Schedule C Firm Energy contracts that generally include firm transmission delivery secured following the monthly timeframe (i.e., weekly, daily, or hourly). BANC should also consider this best practice in the context of being situated within and adjacent to the CAISO BAA and its transmission provision rules and scheduling prioritization.

<sup>6</sup> The RA Sub-Committee recommended against a requirement to secure firm transmission arrangements further in advance to reflect the fact that BANC must secure CAISO market-based transmission arrangements and WSPP Schedule C Firm Energy contracts that oftentimes utilize shorter horizon firm transmission arrangements for delivery but are considered highly reliable in historic practice. In the future BANC could consider adding additional more specific requirements for forward firm transmission in addition to the firm energy components of these contracts if circumstances and experience suggests it would be necessary.

## Attachment A: Review of Best Practices Policy Design Considerations

A review of RA best practices and related design considerations is provided in the following section to help inform BANC and its members regarding potential RA best practices or minimum standards that could be adopted. It is also important to consider how RA best practices for forward planning requirements and assessment mechanisms that reflect BANC RA Participants' reliability needs and policy goals can help to assure that reliability and fairness can be maintained in the presence of uncertain supply conditions and developing market participation provisions. These aspects should also reflect the BANC BAAs' reliability needs and policy goals, as well as those of the individual BANC RA Participants.

The following section includes discussion of fundamental RA design issues and related considerations on the following areas: RA metrics and assessments; resource counting and capacity accreditation; transmission certainty and resource deliverability; and market participation and operational requirements.

### Resource Adequacy Metrics and Assessments

#### RA Metrics and Targets

Utilities and regional regulatory bodies use a variety of metrics to determine the level of RA that is sufficient and to track the actual status of RA of a system. RA metrics can be used as a RA target that an entity must meet or exceed, or to describe the status of a system or outcome of the planning process. Assessing whether a system would achieve a desired reliability target is inherently a probabilistic problem due to the uncertainty of complex systems, but RA targets are often determined based on deterministic metrics which are more easily interpreted by utilities and monitored by regional entities like ISO/RTOs and regulators. Some commonly applied probabilistic RA metrics include the following:

- **Loss of Load Probability (LOLP)** – The probability of system daily peak or hourly demand exceeding the available generating capacity during a given period. The probability can be calculated either by using only the daily peak loads (or daily peak variation curve) or all the hourly loads (or the load duration curve) in each study period.
- **Loss of Load Expectation (LOLE)** – The expected number of days per time period (usually a year) for which the available generation capacity is insufficient to serve the demand at least once per day. LOLE counts the days having loss of load events, regardless of the number of consecutive or nonconsecutive loss of load hours in the day. Industry experts utilize various techniques from evaluating only the daily peak hour, subset of daily hours, or all daily hours
- **Loss of Load Hours (LOLH)** – The expected number of hours per time period (often one year) when a system's hourly demand is projected to exceed the generating capacity. This metric is calculated using each hourly load in the given period (or the load duration curve).

- **Expected Unserved Energy (EUE)** – The summation of the expected number of megawatt hours of demand that will not be served in a given time period as a result of demand exceeding the available capacity across all hours. EUE is an energy-centric metric that considers the magnitude and duration for all hours of the time period and is calculated in megawatt hours (MWh).

It is important to note that while LOLE is often referred to as the standard for RA, it is generally used only to establish RA criteria. Most of the emerging issues surrounding a changing resource mix need answers to questions regarding energy loss, loss of load duration and frequency, as well as shifts in hourly LOLP from the historical peak time periods. These additional challenges may give rise to new approaches that focus more on EUE and LOLH metrics that are being explored by some utilities and regulators in RA assessments.

Utilities, system operators, and regulators across North America have relied on variations of the 1-in-10 LOLE standard for many decades. In most U.S. power systems, this standard is interpreted to mean that reserve margins, or the level of procurement of capacity resources, will be enough to ensure that involuntary load shedding due to inadequate generation supply would occur only once in ten years. One event in ten years is also expressed as 0.1 LOLE per year, regardless of the magnitude or duration of the anticipated individual involuntary load shed events. Alternatively, one day in ten years translates to 2.4 LOLH per year, regardless of the magnitude or number of such outages.

As noted in the introductory section, RA metrics and targets generally include the resources required to serve load reliably including required reserves. Reserves are typically categorized as planning reserves and operating reserves.

- **Planning Reserves:** The additional capacity procured beyond the amount required to satisfy the expected peak demand. In other words, the planning reserve represents a system design buffer that allows the system to cope with unexpected, adverse conditions, generally on a seasonal, annual, or longer timescale.
- **Operating Reserves:** The additional supply that provides various ancillary services that operators procure during daily operations on timescales of minutes to hours. For example, these services can be called upon to respond to load variations (regulating reserves) or short-term, unforeseen events such as the forced outage of a generating unit (contingency reserves, i.e., spinning, and non-spinning reserves).

The concept of a Planning Reserve Margin (PRM) is the predominant deterministic metric approach used to ensure that sufficient resources are available to meet projected load obligations over the course of a determined timeframe. Generally, the PRM measures the percentage by which generation capacity exceeds the forecasted peak demand. For example, a 15% PRM target means that the system available capacity at the time of peak demand should be 15% higher than the peak demand.

The use of PRM is popular among electric system planners because it is intuitive to interpret and easily incorporated into capacity planning models. However, PRM has its limitations as a metric to measure the RA of a system since it is not connected to the underlying system risks unless it is derived from probabilistic models to be consistent with probabilistic metrics such as LOLE or other related metrics, as discussed further below. This is especially important for electricity systems with considerable uncertain generation due to substantial VERTs that have capacity factors during peak load periods that can be uncertain.

Comparing the PRM targets of utilities that are not part of the same RA program is difficult because the exact meaning of each PRM depends on the definitions and assumptions. These assumptions can differ considerably, and in fact, standardizing assumptions and practices is an important role of a regional RA program. Some utilities may forecast their peak demands conservatively (i.e., project higher peaks), which would lead to relatively lower PRMs. Others may deal with load forecast uncertainty by specifying a higher PRM rather than building more conservative assumptions into the load forecast itself. Some utilities may include forced outages in their PRM calculations, while others consider them through other means.

The main benefit of establishing a consensus minimum PRM target across members of an RA program is that there are no potential conflicts over some members leaning on others and members cross subsidizing the RA of others in the footprint. When a minimum PRM target is met, all members know they are contributing their fair share to the footprint's RA needs.

### **RA Planning and Operational Assessments**

The ability to accurately forecast, monitor, and maintain RA and operational reliability is becoming increasingly complex and challenging due to several factors, including planned and unplanned resource retirements, higher penetrations of variable energy and distributed energy resources, extreme weather and wildfire impacts, and the increasing uncertainty in market-based transactions and overall supply conditions. To address these uncertainties, LSEs and ISO/RTOs conduct several types of RA assessments. Depending on the jurisdiction, these assessments may or may not fall under the jurisdiction of a state regulatory agency or regional RA program that coordinates RA planning among multiple utilities comprising a broader footprint.

For individual regulated utilities subject to Integrated Resource Planning (IRP) requirements, RA assessments are typically part of IRP processes. Many independent member-owned municipal and co-operative utilities also conduct forms of IRP planning that may include RA assessments, or they may also conduct standalone RA assessments over various time horizons. A thorough RA assessment is fundamental because it ensures that utilities resource portfolios satisfy the necessary reliability standards and maintain safe reliable service for its customers.

There are two general approaches to traditional RA assessments, probabilistic (stochastic) and deterministic. Stochastic RA assessments are probability based and review thousands of scenarios covering wide ranges of inputs on load and resource outcomes during all hours of a year using robust modeling approaches. Deterministic RA assessments are generally simpler and more direct, providing a single point estimate of individual risks that generally do not account for interactive risks inherent in complex systems. Deterministic RA assessments can be conducted on various potential scenarios to provide a wider range of assessment. Different needs and use cases can drive the need for both types of assessments to be conducted.

BANC conducts a Summer Loads and Resource Assessment that includes both deterministic approaches and a probabilistic analysis simulating 2,000 cases for a subset of hours over the day focused on the critical net load peak hours. This assessment is a similar approach to the CAISO's Summer Loads and Resource Assessment but is somewhat more limited in the period the probabilistic assessment covers, with the CAISO assessment modeling all hours stochastically. An additional example of deterministic RA assessments is the 2022 Summer Stack Analysis developed by the California Energy Commission (CEC) in response to the 2020 rotating outages experienced in the CAISO footprint. The CEC established this hourly stack analysis to evaluate whether there are potential shortfalls that

could occur should another extreme heat event ensue, and to encompass the largest risks associated with ongoing drought conditions and wildfire risks. This CEC outlook provides an hourly stack of available supply given projected hourly demand for the peak day of each month. It is also important to note that these examples of assessments are operational assessments in the mid-term horizon and are not utilized for long-term planning.

These examples illustrate the different time periods and horizons that can be assessed and that different approaches can be utilized for various needs. A combination of RA and operations assessments over different time periods and study horizons may be needed to ensure RA in long-term and mid-term, and to assess reliability risk in the shorter-term. RA program design should consider the type of RA assessments that may be necessary to provide insights into future supply and reserve margin conditions and to assess if member utilities are meeting RA needs and/or requirements.

## **Resource Counting and Capacity Accreditation**

A significant consideration in RA program design are the decisions regarding establishing resource counting approaches, which is also referred to as capacity accreditation. Capacity accreditation establishes the capacity value of resources to be used in RA assessments and to meet RA requirements. Capacity value refers to the ability of resources to contribute towards meeting reliability needs, and this can be measured in several different ways. One longstanding approach to establishing a capacity value is to determine resources' ability to reliably meet peak demand, however as the resource mix continues to evolve, more sophisticated approaches are increasingly being utilized.

Because utilities must build enough capacity to meet peak load plus reserve needs, it is critical to know how much capacity value to assign to resources that could be called upon to satisfy load and reserve obligations. A high penetration of renewable generation complicates a utility's RA assessment, since wind and solar PV have lower capacity values than conventional resources due to the variations of available power which cannot be perfectly forecasted. In response many regions and utilities have sought to develop credible methods to estimate the capacity values of renewable resources, with some focusing especially their capacity values during peak hours or hours that cover times of critical reliability needs.

This resource counting aspect of RA design can be a difficult issue for regional entities and footprints with different member utilities to address because different capacity accreditation can drastically change resource planning and procurement and related RA assessment outcomes. A potential key issue is that the capacity contributions of resources depend on their system penetration levels and the overall system peak demand, neither of which can be determined within a single utility's planning. In addition, different states and utilities have historically assigned different capacity credit factors for similar resources (especially for wind, solar, hydro, storage, and demand response), which may create friction among different members if some wish to recognize much different capacity than others for similar resources. If a single utility and regional RA capacity accreditation for the same resource differ, there is a risk that an LSE would be adequate in its own planning but not at the regional-level and could result in the need to justify additional procurement to comply with RA requirements. For example, if a resource type's contribution towards meeting RA requirements were adjusted from 80% of its installed capacity down to 40% it would require twice the level of investment in that resource type to meet the same RA contribution. This adjustment would certainly affect the relative economic performance of resources in analysis and alter the utility's resource

portfolio planning and RA assessment outcomes. There are at least four resource types that present challenges in reaching consensus for establishing their capacity accreditation methodology: VERs, demand-response, energy storage, and energy supply contracts.

The capacity accreditation for VERs is a particular challenge because the capacity contributions of wind and solar decrease when their penetration increases, and a system-wide portfolio assessment can be considered a best practice. For example, in the SPP RTO region, states reach consensus on capacity accreditation for renewable resources and the LSEs' IRPs incorporate these assumptions into their analyses.

### **Use of Effective Load Carrying Capability in Resource Accreditation**

Effective Load Carrying Capability (ELCC) is a measurement of resources' ability to produce energy when the grid is most likely to experience electricity shortfalls. ELCC measurements for resource accreditation measures a resource's ability to prevent power outages due to supply inadequacy. ELCC is typically expressed as a percentage of a resource's capacity, for example, a 100 MW solar plant that has an ELCC of 30% could provide a 30 MW contribution towards reliability requirements. Calculating ELCC values requires probabilistic grid modeling and there are different methods for performing ELCC calculations. Generally, ELCC modeling involves determining how much "perfect capacity" would be required to replace a resource (or group of resources) in meeting load needs across the study period, usually performed annually. Perfect capacity is a resource that never has any outages, can ramp up and down instantly, and can operate 24/7/365.

There are two overarching factors affecting ELCC calculations. The first factor is the resource's abilities, which determines when a resource generates electricity. The second factor is supply shortages, and more specifically, when shortfalls are most likely to occur, triggering a loss of load event. Because energy usage patterns and the resources already on the system can significantly influence the likely timing of shortages, they can also heavily impact the outcome of ELCC calculations. While ELCC is a useful method being adopted more and more, there are other causes of power outages and other facets of grid reliability that ELCC does not really address. Further, because the system portfolio mix of changing resource types can have significant impacts on the timing of potential shortfalls, ELCC can also have a considerable impact on capacity resource accreditation. This is evidenced in the recent CAISO experience, with solar ELCC-based values dropping significantly as the penetration of solar grows in its footprint. These portfolio effects can result in some concerns about the impacts on investment decisions and planning outcomes, and some areas have sought to stabilize their VER's resource accreditation to insulate from these impacts. Such approaches may be necessary for some utilities, but RA assessments and LOLE modeling should be used to understand the related reliability impacts.

### **Capacity Accreditation Approaches**

As discussed above, because the capacity accreditation of various resource types has been approached differently in various regions, and even differently by various utilities within the same region, this issue can be a challenging one to address in RA design. Although different approaches have been applied over time there are some different regional counting rule practices that are worth noting for future BANC consideration and discussion. The following section lists different regions and their approaches for some of the different resource types.

- **WPP WRAP Resource Counting Approaches**

- Variable Energy Resources: ELCC analysis;
- Run of River Hydro: historical data and ELCC analysis;
- Thermal: Unforced Capacity (UCAP) method;
- Energy Storage (standalone and hybrid): Operational testing until higher penetrations show a need for a performance-based methodology; and
- Demand Response: Operational testing and historical performance.

- **MISO Resource Counting Approaches**

- Thermal, Hydro: UCAP based on a rolling three-year Equivalent Forced Outage Rate on Demand (EFORd) that excludes causes outside of management control, planned outages, and de-rates;
- Wind: Based on annual system-wide ELCC analysis, with allocations of overall system-wide value to individual wind resources based on performance over the highest gross peaks in the prior 15 years;
- Solar: New solar resources receive class average capacity credit of 50% for their first year in operation while existing solar resources will continue to be accredited based on historical summer performance during predefined peak need hours (MISO is currently considering alternative ELCC-based assessment);
- Energy Storage: UCAP based on EFORd with a 4-hour minimum output duration requirement; and
- Demand Response: Accredited based on adding transmission losses and the load's share of the PRM requirement to their verified curtailment capacity.

- **SPP Resource Counting Approaches**

- Thermal, Hydro: UCAP based on EFORd, to be transitioned starting with implementation in 2024;
- Wind, Solar: ELCC methodology based on historical performance and capacity to be applied for the 2023 summer season;
- Energy Storage: ELCC methodology with tiered approach, with a minimum 4-hour duration and sub-tiers based on 8-, 6-, and 4-hour durations; and
- Demand Response: Treated as a load-modifiers and SPP validates the level of reduction, but not accredited to count towards meeting RA requirements.

## Hydroelectric Resources

Hydroelectric resources are generally regarded as an energy-constrained resource that can supply most of its capacity as firm. As noted above a common methodological practice for valuing hydroelectric is the UCAP historical performance-based approach used by MISO and SPP, which are areas that rely less on energy-limited hydro units and are less often impacted by extreme drought conditions. However, in extreme drought conditions some hydroelectric capacity may not be available and can present similar challenges as VERCs in that there will need to be some more advanced modeling approaches used in some regions such as the western U.S. that rely more heavily on hydroelectric resources that can be severely impacted by drought conditions. The WPP has indicated the WRAP program will utilize an approach to model the ELCC value of hydroelectric that also utilized historic performance and

blends the probabilistic analysis to provide more certainty in resulting values covering a wide range of potential scenarios.

### **Purchases and Contracts from Non-Market Areas and Organized Markets**

Utilities generally rely on owned resources or long-term firm capacity contracts to meet their capacity requirements. Some utilities rely less on market transactions because of the difficulty analyzing future regional market conditions to determine whether sufficient capacity will be available to purchase. Beyond the potential for a shortfall in regional supply conditions, there could also be hidden problems due to constraints in the regional transmission network that prevent transfers of excess capacity from being delivered. Utilities generally use firm capacity contracts as substitutes for their own capacity additions, however, the future availability of market transactions is less certain than that of utility-owned resources that are under the control of the utility for development and operations.

The capacity contributions of bilateral and market transactions in different utilities planning may vary. This feature may make contracts the more challenging resource to standardize in a RA program. The treatment of market transactions within utility planning can impact RA assessments and reliability outcomes if the provisions allow impacts to reliability or economics, such as an over-reliance on non-firm, non-capacity backed purchases that can result in double-counting or leaning on other utilities or regions capacity that may be oversubscribed. The treatment of market-based energy contracts and bilateral capacity exchanges from non-market areas could both require consideration of provisions or requirements to avoid double counting of capacity resources backing contracts or other approaches to assess and verify the capacity contributions of contracts.

The overall supply mix and deliverability of resources outside of the BAA is not always explicitly considered in some utilities planning and could be a critical component in discussions for an RA program that relies on imports and market transactions in addition to utility owned resources. Some utilities, including BANC members, also rely on purchases from long term contracts with specified resources located in organized market areas, or spot market purchases in organized markets, namely from the CAISO for the purposes of this discussion. These purchases and contracts source from organized markets can economically displace the need for specified capacity-backed resources to be procured to meet all load and reserve needs but are also subject to some amount of uncertainty. The rules for spot market purchases may have significant impacts on the ability for utilities to meet RA obligations under more formalized RA programs. Further, the issues arising from the treatment of transmission firmness and reservation prioritization related to market-based transactions are explored further in section 3.3 on transmission considerations.

In the western U.S. many utilities also rely on firm bilateral energy contracts to meet planning needs and displace more costly resource based on economics to some extent. Many utilities and resource owners often offer surplus energy for various length commitments through Western Systems Power Pool (WSPP) Schedule C contracts, which are generally considered firm and backed with reserves, supported by liquidated damages provisions for non-delivery. Due to the long history of reliable delivery of WSPP Schedule C and similar firm energy contracts, and the protections built into these contractual obligations, there is a relative comfort around relying on some amount of bilateral firm energy contracting to meet planning needs. In the future as the resource mix continues to evolve and resource retirements impact supply margins, it may become more important to assess the ability for these



arrangements to assure reliability and avoid double counting of supply resources backing them. This dynamic should be further discussed in any BANC RA design developments.

### **Transmission Certainty and Resource Deliverability**

Utilities develop and rely on transmission systems to enable the delivery of power from resources to loads. Excess generation capacity in one location cannot address a capacity deficit in another location if there is insufficient transmission capacity linking the two points. Some utilities perform detailed analyses of future transmission needs and typically find that existing transmission systems are not binding constraints on reliability in the present and immediate future. In some instances, during the review of resource deliverability and transmission availability, utilities find that transmission constraints or a lack of firm available transfer capability can limit the amount they can rely on supply sources to be imported from certain areas. In these cases, it can become important to assess these constraints and attempt to secure transmission rights with a high degree of certainty, or firmness.

RA programs also generally include a regional analysis to assess the deliverability of resources outside of the BAA footprint and provisions for the qualification of import resources to count towards meeting RA requirements. These rules tend to be more onerous in some regions that rely on more centralized capacity procurement and on other neighboring organized markets. Import rules are usually more flexible in non-market areas and in the western U.S. that has relied on large volumes of seasonal transfers and other firm energy contract arrangements, such as those WSP Schedule C arrangements noted above.

The following table provides a summary of the rules that apply to imports to qualify for meeting RA requirements in different organized market regions across the U.S. The table notes if the imports must be source specific, i.e., required to make a demonstration that the import is backed by a physical resource. The table also describes if the region requires firm transmission for RA imports. RA import rules in organized market areas also include market participation requirements such as offer obligations that can vary over different regions.

#### **Summary of Other ISO/RTO Rules for Imports Used to Meet Capacity Requirements**

ISO/RTO	Must be backed by physical resource	Firm Transmission requirement	Qualifications to be an import capacity resource
CAISO	No	No	<ol style="list-style-type: none"> <li>1. Provide contract terms for delivery period for CPUC compliance with Maximum Cumulative Capability categories</li> <li>2. Delivery to a specified import intertie point with LSE Maximum Import Capability (MIC) allocation</li> </ol>
ISO-NE	Yes	No	<ol style="list-style-type: none"> <li>1. Provide proof that contract covers the capacity period</li> <li>2. Provide proof of ownership or direct control of external resource(s) used to back the import resource</li> <li>3. Demonstrate capacity will be supported by the control area and that energy from the external resource will be afforded the same curtailment priority as the control area native load</li> </ol>
MISO	Yes	Yes	<ol style="list-style-type: none"> <li>1. Demonstrate firm transmission service from the external resource(s) to the MISO border</li> </ol>

			2. Attest that capacity is not sold to another balancing area or in any other RA construct
<b>NYISO</b>	Yes	Yes	<ol style="list-style-type: none"> <li>1. Certify that capacity sold to NYISO has not been sold elsewhere</li> <li>2. Demonstrate deliverability to the NYISO</li> <li>3. Demonstrate that capacity will not be recalled or curtailed by an external control area and NYISO load is afforded the same curtailment priority as the control area native load</li> </ol>
<b>SPP</b>	Yes	Yes	<ol style="list-style-type: none"> <li>1. Attest that capacity is not sold to another BAA or in any other RA construct</li> <li>2. Demonstrate ownership or contractual rights to external resources</li> <li>3. Demonstrate firm transmission service from external resource to load</li> </ol>

While these organized market regions’ RA import provisions are relatively stringent, there are some areas that allow for some additional flexibility. Specifically, in the CAISO area the CPUC has adopted more flexible RA import rules that allow for non-specified firm energy contracts to count towards meeting RA requirements in recognition of the historical reliance on WSPP Schedule C contracts and other similar firm energy arrangements and their generally reliable nature.

The issue of purchases from organized market areas is also interrelated to these transmission and deliverability considerations. As noted in the section on market purchases above, the ability to ensure priority exports from organized markets is a key consideration. Even if a BANC RA Participant has secured a firm capacity contract with a specified source located in an organized market area like the CAISO, the market rules surrounding transmission provision and curtailment priority are potential challenges that need to be evaluated and considered in planning.

Any RA program design should consider the requirements and rules for import resources and their reliance on transmission and deliverability. The ability to rely on imports and transmission to meet RA needs may be vital BANC members and this topic should be further discussed.

### **Market Participation and Operational Requirements**

The impact of market participation requirements and reliability standards for operations also play a role in the needs addressed by forward planning and RA program design. Requirements to adhere to NERC and WECC reliability standards drive the need for adequate forward planning that is currently addressed and well developed by individual utilities and BAAs.

In addition to meeting reliability standards, existing and future potential market participation may also drive additional considerations for RA requirements and forward planning. Many utilities in the western U.S., including those within the BANC BAA, are currently considering participation in the developing CAISO Extended Day-Ahead Market or SPP Markets Plus day-ahead market. These potential market offerings will have associated RA or resource sufficiency obligations and requirements to enable participation, therefore it will be critical to evaluate how these markets would influence or change the need for additional RA provisions to ensure adequate reserves, energy sufficiency, flexibility, and transmission requirements are met and maintained under these more complex market-based requirements.

As these market designs evolve and begin potential implementation it will become more important to evaluate the impacts of potential market rules on operations and planning. It may be important for BANC to contemplate how its RA principles and potential RA program design can be developed to encourage and enable BANC members to secure adequate resources and capabilities, and necessary transmission, in order to ensure that the BANC footprint as a whole can meet its overall obligations under potential market participation requirements.

## Attachment B: Review of Western Power Pool WRAP Goals and Objectives

### WPP Western RA Program Background

Since 2019, the Northwest Power Pool (NWPP), subsequently renamed the Western Power Pool (WPP), has been engaging with participants to develop a Western Resource Adequacy Program (WRAP). CES understands that BANC was interested in potential participation in the WRAP, but that some of the program requirements may conflict with BANC's ability to comply in a reasonable and cost-effective manner. CES also recognizes this was primarily due to requirements for the forward showing of firm transmission and related inability to access WRAP-selected western market trading hubs that would require transmission across the California ISO (CAISO) system, and the lack of any current CAISO tariff provisions for forward transmission reservation provisions. The following review of the goals of the WRAP design is intended to provide background that can inform the development of BANC's own RA principles.

### RA Program Development Conceptual Design Goals

During its preliminary design phase, the WPP's RA program steering committee agreed to build a regional RA program supporting the following overall goals:

- **Reliability:** Ensure the footprint has enough resources installed and committed to reliably serve demand, including during stressed grid and market conditions, with a high degree of confidence.
- **Improve Effectiveness and Efficiency:** Enable member entities to take advantage of the benefits associated with diversity in demand and supply across the footprint and better utilization of transmission infrastructure, in an equitable way, using a robust and dependable analytical approach.
- **Improved Visibility and Coordination:** Through a centralized RA program, establish full visibility for the members and program administrator into the combined capabilities and requirements of the footprint. This will enable member entities and their stakeholders to make fully informed RA planning and procurement decisions, using collaboratively established common best practice approaches, so that RA needs are met in the most reliable, efficient, and economical way.
- **Fair and Unbiased:** The RA program will develop rules, procedures and business practices that are fair and unbiased to all members with respect to member type and size, resource make-up, and capacity surplus or deficit.

### WRAP Design Objectives

During 2019 the RA program steering committee developed a list of design objectives for the WRAP. These design objectives, listed below, served as the foundational principles that shaped the initial design of the program. Some of these WRAP program design goals and objectives are potentially applicable to the BANC membership needs while others may not.

- Ensure that BAAs and LSEs can continue to operate safely, efficiently, and reliably.

- Ensure that the recommended RA program and its components deliver investment savings through diversity benefits.
- Ensure RA program respects local autonomy over investment decisions and operations and continues to respect the rights and characteristics of individual utilities, transmission service providers, BAs and other entities through program design.
- Make recommendations that are acceptable within the current and evolving regulations and requirements of each applicable federal, state, and local jurisdiction.
- Ensure that the participation, evaluation, and qualification of resources is technology neutral.
- Ensure that all products and services transacted to meet the requirements of the RA program are well defined, voluntarily transacted through existing competitive market frameworks and accurately tracked.
- Ensure that the proposed RA program can be extended to other regions in the West.
- Ensure that entities that voluntarily choose to participate in the RA program equitably pay and receive benefits for services provided by the program.
- Ensure the RA program provides efficient long-term investment signals as well as a process for exit and entry of resources.

## Summary of WRAP Program Design Elements

The RA program design contains the several foundational elements, described below, that can be considered in the development of BANC's RA principles and potential future RA program design if pursued. The RA program design and implementation includes two main components: a forward showing program and an operational program.

The forward showing program establishes regional metrics for the footprint, the Qualified Capacity Contribution (QCC) and ELCC of various resources, deliverability expectations, and determines the periods for demonstrating adequacy. The forward showing program ensures the footprint has enough demonstrated capacity, well in advance of required performance, to meet the established reliability metrics.

The operations program creates a framework to provide WRAP participants with pre-arranged access to capacity resources in the program footprint during times when a WRAP participant is experiencing an extreme event. An extreme event could be when a WRAP participant's load is in excess of their forward showing forecast or resources (generation and transmission) are experiencing unexpected outages; this portion of the program unlocks the footprint's load and resource diversity. The WRAP program seeks to achieve a balance between planning in a reasonably conservative manner but also to provide flexibility in order to protect customers from unreasonable costs.

- **Market Structure:** Bilateral. Entities will continue to be responsible for determining what resources and products to procure and from where.
- **Participation:** Voluntary to join. Joining commits participants to meeting established requirements and potentially incurring penalties (i.e., not "voluntary" to comply once committed), and to an operational

program where they are obligated to deliver diversity benefits when called upon. Process will be established to join or leave the program.

- **Administration Program:** The program administrator will likely have to be a FERC jurisdictional entity to the extent that it administers program elements that are subject to FERC jurisdictions, which means it will also have to meet federal “public utility” standards for neutrality. Phase 2B will also consider multiple layers of program administration that may not require FERC jurisdiction.
- **Compliance Period(s):** Two binding seasons: Summer and Winter. Fall and Spring seasons are advisory (no penalties for non-compliance, but metrics would be provided).
- **Forward Showing Program Period:** The forward showing program establishes regional metrics and requires that entities prove they meet the regional metrics months in advance of a season. Forward showings will occur 7 months in advance of binding seasons, with a 2-month cure period.
- **Planning Reserve Margin:** Seasonal PRMs will be determined for summer and winter periods and will be expressed as a percentage of the 1-in-2-year seasonal peak load forecast. The PRM is a percentage of dependable capacity needed above the 1-in-2 peak load forecast to meet unforeseen increases in demand and other unexpected conditions.
- **Reliability Metric:** The forward showing program is designed to identify the capacity needed to meet a 1-day-in-10 years LOLE target.
- **Resource Capacity Accreditation:** Resource Capacity Accreditation will be based on methodologies appropriate to resource type, including:
  - Variable Energy Resources: ELCC analysis;
  - Run of River Hydro: historical data and ELCC analysis;
  - Storage Hydro: Common hydro model that considers appropriate set of water conditions allowing program administrator to verify data;
  - Thermal: UCAP method;
  - Energy Storage Resources (standalone and hybrid): Determined by operational testing until higher penetrations show a need for a performance-based methodology; and
  - Demand Side Resources: Operational testing and historical performance.
- **Resource Eligibility and Qualification:** Resource eligibility will require a registration and certification process for all resources; in other RA programs, eligibility and qualification often include operational and/or capacity tests. Certain resource types may require special consideration and requirements, such as import resources.
- **Load Forecasting:** Participating entities (BAAs or LSEs) will provide the program administrator historical load data (currently suggested as 5-years of hourly data, adjusted for curtailed loads, demand response, and known incremental energy efficiency measures not already captured). There will be an established process for participating entities to resolve disputes/discrepancies with the program administrator’s load forecast. RA requirements for each participating entity (BAA or LSE) will be based on the entity’s applicable peak load forecast. To derive a participating entity’s RA requirements for the season, their applicable peak load forecast will be multiplied by (100% + the PRM for the season). Entities will forecast their own loads, working with the

program administrator to use acceptable forecasting methodologies. The program administrator will use load forecasts and historical data to identify a P50 (1-in-2) peak load for each month in the binding season; the highest monthly P50 will be used for all months of that season.

- **Transmission and Deliverability:** Transmission requirements will rely on existing Open Access Transmission Tariff (OATT) frameworks to facilitate transmission-related requirements in the forward showing and operations programs. Will not infringe on Transmission Service Providers' and BAAs' responsibilities, nor diminish participants' OATT responsibilities. Requirement to demonstrate deliverability of resources claimed in the forward showing on NERC priority 6 or 7 transmission (firm, conditional firm, network service – in some conditions); demonstrate at forward showing deadline having procured or contracted for transmission rights to deliver **at least 75%** of the resources (or contracts) claimed in the forward showing portfolio from source to load. When sharing is forecasted in the operations program, participants must prepare to demonstrate firm transmission for resources not previously shown to have NERC priority 6/7 transmission.
- **Operational Program:** The operational RA program is expected to coordinate with on-going regional wholesale power initiatives and other current market requirements such as the EIM. The NWPP region does not currently operate within an organized day-ahead market, which presents a unique situation, as this RA program would be stand-alone, likely necessitating coordination with the ahead market and/or real time markets (e.g., EIM). In other RA programs (integrated with markets), must-offer requirements obligate resources providing RA to offer that capacity into the market. Absent an organized day-ahead or common real time market, the NWPP region will need to identify alternative means accessing pooled regional RA resources in the operational time horizon to unlock the diversity benefit. As regional alternatives and market designs mature, the steering committee will evaluate the preferred operational implementation in the next phases of the program's development.
- **Payment for Noncompliance:** Deficiency payment based on Cost of New Entry (CONE) for a new peaking gas plant.
- **Governance:** The steering committee has developed a straw proposal to address governance of the future RA Program, which it has identified as critical for successfully launching the binding stages of the program.

## WRAP Regional RA Metrics

The WRAP design documents include some further relevant discussion on regional RA metrics and notes the RA program is designed to achieve a target LOLE on a forward basis. The program administrator will perform LOLE analysis to determine the amount of capacity that needs to be available to meet desired reliability targets at any time during the day, over a ten-year period. The steering committee recommended a LOLE objective of 1-day-in-10 years when capacity is expected to be insufficient to meet load plus contingency reserves. Seasonal LOLE objectives will be determined for summer and winter periods. The probabilistic analysis to measure where the region stands for meeting its LOLE adequacy objective is the same analysis that will determine the PRM and capacity contribution of resources and will be performed by the program administrator prior to determining the regional and individual requirements on a seasonal basis.

For the RA program, a PRM is a key component in determining the necessary amount of capacity needed to meet the agreed upon adequacy objective for each applicable season. The program administrator will identify the total MW capacity required to meet the 1-in-10 LOLE adequacy objective for the WRAP footprint; this will serve as the load side of the RA evaluation. Using this convention ensures that the PRM is driven by load and is independent of the types of resources in the footprint and their characteristics. The PRM is the output of a probabilistic analysis. This same type of analysis is used to assess capacity contribution and the ability to meet the adequacy objective. It includes contingency reserves but regulating reserves and other BAA-specific reserves will not be included in the PRM calculation. The program administrator will also establish the necessary requirements for contingency reserves, regulating reserves, load following requirements, VERs uncertainty, etc.

Seasonal PRMs will be determined for summer and winter periods and will be expressed as a percentage of the 1-in-2 seasonal peak of the aggregated load across the footprint of participants. The PRM will be calculated for the entire region and each responsible entity (BAA or LSE) is required to “show” sufficient available capacity, to meet its own P50 load forecast plus the PRM target. Due to the bilateral nature of the existing market, the program administrator will need to make data-driven assumptions regarding the magnitude of imports and exports to appropriately set the PRMs; this is especially true in initial seasons in order to arrive at metrics and program rules which will compel WRAP participants to provide additional insight into planned firm interchange. The program administrator also intends to include the results from this analysis as an input into the LOLE/PRM assessments to set an appropriate PRM for the initial start of the RA program and will re-evaluate as the program obtains more operating experience.



## Attachment C: Review of Other Regional RA Programs

CES also includes a high-level review of additional RA program designs in the other regions. These regional RA programs include organized markets with bilateral RA program designs to illustrate the application of best practices discussed in Section 3 and inform future BANC RA discussions.

### Midcontinent ISO (MISO)

The Midcontinent Independent System Operator, (MISO) formerly named Midwest Independent Transmission System Operator is an Independent System Operator (ISO) and Regional Transmission Organization (RTO) providing open-access transmission service and monitoring the high-voltage transmission system in the Midwest United States and Manitoba, Canada and a southern United States region which includes much of Arkansas, Mississippi, and Louisiana. MISO also operates one of the world's largest real-time energy markets.

Under MISO's RA construct, LSEs are responsible for demonstrating or procuring sufficient resources with oversight by States and their relevant electric retail regulators. MISO's RA construct recognizes and supports the independent authority of state regulators for RA. States have the authority to determine how RA needs are met by LSEs within their state and maintain decision-making authority over the amount and types of resources that are necessary to accomplish these objectives. MISO's role is to provide transparency and to support and facilitate shared RA goals through its processes.

MISO and LSEs ensure the footprint is resource adequate by establishing requirements to meet a reserve margin above peak load expectations. LSEs demonstrate sufficient resources for the coming planning year by either a fixed RA plan or by purchasing from the annual MISO planning resource auction. Reserve margin requirements consider both: (1) a regional requirement (i.e., the total amount of capacity needed to meet the reliability standard); and (2) a local requirement (i.e., the amount of the total capacity that must be located within each local resource zone).

MISO works with market participants to establish a PRM, which defines the quantity of resources required by each LSE above its peak load to reliably meet demand when considering risk factors such as generator forced outages and weather uncertainty. MISO's PRM is a percentage of the forecast coincident peak load and is based on a loss-of-load expectation (or LOLE) of 1 day in 10 years. This percentage is then used to determine how much capacity (in megawatts) each LSE needs to meet its regional needs. This is how each LSE's PRM requirement (or PRMR) is established.

The locational component of MISO's RA construct is addressed through the identification of local resource zones, which are then used to define local resource requirements throughout the footprint. For each of these zones, a local clearing requirement is defined and accounts for limits on the transmission system's ability to reliably import capacity from other zones to ensure sufficient resources are available within each zone to meet its demand at noncoincident peak conditions.

MISO determines the capacity value of resources using different methods. Under the current annual construct, most resources are accredited using unforced capacity based on a rolling three-year equivalent demand forced outage rate

that excludes causes outside of management control, planned outages, and de-rates. Wind resources are accredited using annual systemwide ELCC analysis and allocating a value to individual wind resources based on their performance over the 8 highest gross peaks in the prior 15 years. Demand resources are accredited based on adding transmission losses and the load's share of the PRM requirement to their verified curtailment capacity with a recent enhancement in 2020 to better align demand resource accreditation with availability by reflecting number of calls and lead-time attributes. All resources must demonstrate their effective deliverability in order to achieve their full accredited value.

For LSEs that choose to demonstrate RA by voluntarily participating in MISO's annual planning resource auction, the auction is conducted each April for the planning year that starts the subsequent June 1. The auction selects the least-cost set of planning resources necessary to meet both regional and local requirements for each locational resource zone, considering transmission limits, to provide price signals that reflect the location of resources. For LSEs that choose not to use the auction process, they may demonstrate RA through submission of a fixed RA plan or paying a capacity deficiency charge to "buy out" of their obligations.

Owing to the largely vertically integrated nature of MISO and state RA processes, a significant portion of the total regional requirements are met through fixed RA plans and self-schedules (e.g., 95 percent in the 2020/21 Planning Year). Hence, MISO's capacity auction is often described as a "residual auction." In addition, MISO partners with the Organization of MISO States (OMS) to conduct a survey to provide a view into the region's supply and demand balance in future years. The results of each annual OMS-MISO survey reflect a 5-year point-in-time forecasted range of supply/demand balance outcomes that may occur based on potential actions taken by MISO states, LSEs, and independent resources owners to retire, suspend, or build generation resources.

Since 2017, MISO has been working to better align capacity and planning requirements with operations. Early efforts focused on improving situational awareness by improving transparency and refining resource availability requirements. MISO and its stakeholders have been considering design changes to its a RA construct that increases granularity from a summer-based annual construct to a seasonal construct so that MISO can better account for and mitigate availability risks that occur throughout the year. Enhanced LOLE modeling methods are being used to better reflect seasonality of resources in developing seasonal requirements. The auction process would also be modified to align with the seasonal approach, combined with seasonal day-ahead performance obligations to enable flexibility of seasonal operations of resources. Many factors impact resources' availability and the ability to accurately forecast availability, especially with the increasing complexity of the evolving resource portfolio. Realizing this limitation, MISO is pursuing improvements to pair improved LOLE modelling assumptions with resource accreditation that is based primarily on historical availability during times of greatest need. Under a potential MISO proposal, a resource's accreditation would be based primarily on its real-time offers during identified RA hours in the same season, averaged across the previous three years. This approach creates incentives for resources to be available when needed the most.

## Southwest Power Pool (SPP)

SPP is an RTO that oversees the bulk electric system and administers a wholesale power market on behalf of a diverse group of electric utilities. SPP manages the electric grid across 17 central and western U.S. states and provides energy services on a contract basis to customers in both the Eastern and Western Interconnections. SPP and

its member companies coordinate the flow of electricity across approximately 60,000 miles of high-voltage transmission lines. SPP has many of the high voltage direct current (DC) ties which connect the Eastern interconnection to the Western Interconnection and both of the DC ties to ERCOT Texas Interconnection. SPP also provides services in the Western Interconnection in Colorado, New Mexico, Wyoming, Arizona, Montana, and Utah and operates an Energy Imbalance Service Market in the West as well.

Under the SPP RA construct LSEs must have enough capacity available for SPP to serve peak demand and enough reserves to maintain a predefined PRM. The RA construct includes conditions and responsibilities for each LSE as well as the transmission provider, market participants, and generator owners and specifies an annual “workbook submission” as a means for market participants to submit their relevant information in a standardized format.

LSE’s RA requirements in SPP are calculated by augmenting the summer or winter season net peak demand by the target PRM. The target PRM is the result of a LOL study performed by SPP at least every two years that employs criteria and assumptions agreed upon by the SPP members. In this particular case, the LOLE is based on the typical criterion of a 1-day-in-10-years expected outage time.

SPP determines its PRM through a probabilistic LOLE study. The LOLE study calculates SPP’s ability to reliably serve its balancing authority area’s forecasted peak demand, and it is based on inputs and assumptions SPP develops with input from stakeholders. SPP performs a LOLE study at least every two years, although it may do so more often if it determines additional studies are needed. Currently, SPP ensures the applicable planning year’s LOLE does not exceed one day in 10 years, or 0.1 day per year. SPP assigns its PRM to every LSE in its BAA and does not apply zonal or local requirements. SPP is implementing new accreditation policies for wind, solar and storage resources that will go into effect in the 2023 summer season, based on an ELCC methodology. There is also an effort underway to define a methodology that accredits conventional resources based on past performance. Demand response resources are treated as load modifiers, and SPP validates the level of reduction, but they cannot be used to meet RA requirements.

Market participants that are responsible to comply with RA requirements must do so by annually reporting the amount of deliverable and firm capacity available to them to meet their winter and summer net peak demand obligations. The peak demand obligations are based on load forecasts that are developed by each LSE, which are typically based on their resource planning reports. SPP does not impose any methodological constraint on the forecasts but does require that it is a 50/50 or one-in-two forecast. SPP does not develop its own forecast for each LSE, but for LOLE Study purposes aggregates the peak demand forecasts assuming certain levels of load diversity to account for their non-coincident nature. SPP conducts a post-season validation where the load forecast is trued up with the actual outcome; the results of this exercise are analyzed by its Supply Adequacy Working Group to identify potential issues associated with over- or under-forecasting.

SPP market participants can meet their RA requirement with deliverable and firm capacity resources. SPP conducts an annual deliverability study for the summer season to determine how much capacity a given resource can deliver within the SPP balancing authority area. Firm capacity is determined by each LSE based on the financial commitments as well as the deliverability of its resources. This means that an LSE can meet its RA requirement with owned resources as well as supply- and demand-side contracted resources. In these cases, the LSE submits the standardized “workbook” with detailed information of the deliverability and firmness of each owned and contracted resources

that will be used to meet RA requirements for the next season. SPP neither facilitates the LSEs' meeting their RA obligations nor does it evaluate the economic decisions to meet those obligations

SPP does not attempt to calculate the coincident peak demand among its member LSEs for RA purposes but aggregates the individual non-coincident forecasts to produce a regional estimate. This approach may produce a slightly higher regional peak demand, but it has three benefits. First, this approach ensures that each member LSE maintains local RA by requiring them to meet their own peak demand. Second, it avoids the complexity of allocating fractions of a regional coincident peak demand to each member LSE, which may result in a contentious process. Third, it reduces the potential cross-subsidization that may arise when a regional peak demand is not coincident with an LSE's local peak demand. The obvious drawback of a simple aggregation of peak demands is that it does not account for the temporal diversity in load profiles. A regional coincident peak demand would probably be lower than the sum of all individual peak demands. It follows that savings accruing from using a coincident peak demand approach could be substantial if there is enough temporal diversity, which is not likely in smaller BAAs.



## Attachment D: References

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