

Balancing Authority of Northern California

Regular Meeting of the Commissioners of BANC

**2:00 P.M.
Tuesday, May 24, 2022
Teleconference Meeting**

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 **May 24, 2022 at 2:00 p.m.** **This meeting will be conducted pursuant to the provisions of Assembly Bill 361. Some, or all, of the Commissioners may attend the meeting electronically or telephonically.**

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

Phone number: 1-253-215-8782

Meeting ID: 859 1419 2202

Passcode: 758452

Meeting Link: <https://us06web.zoom.us/j/85914192202?pwd=bXRCZHBQc1JBaTZ1bm9sSXFPMEhCZz09&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. Resolution 22-05-01 *Determination that Meeting in Person Would Present Imminent Risks to the Health or Safety of Attendees as a Result of the Proclaimed State of Emergency.*
 - B. Minutes of the Regular Commission Meeting held on April 27, 2022.
 - C. BANC Operator Report (April).
 - D. Compliance Officer Report (May).
 - E. PC Committee Chair Report (May).
 - F. General Manager's Report and Strategic Initiatives Update.
- 5 Regular Agenda Items – Discussion and Possible Action.**
 - A. General Manager Updates.
 - i. EIM Update.
 - ii. EDAM Update.
 - iii. SB100 Update.
 - iv. Resource Procurement Update.
 - B. Consider and Possibly Approve Resolution 22-05-02 *Acknowledgement and Acceptance of the 2022 Summer Load & Resources Assessment of the Balancing Authority of Northern California.*
 - C. Consider and Possibly Approve Resolution 22-05-03 *Approval of Revised 2022 Annual Budget for BANC.*
 - D. Consider and Possibly Approve Resolution 22-05-04 *Authorization of Amended Legal Services Agreement with Braun Blasing Smith Wynne, P.C. and Approval of Legal Services Agreement with Western Energy Advocates, P.C.*
 - E. Consider and Possibly Approve Resolution 22-05-05 *Accepting and Adopting the BANC Member Participation Percentages for 2022.*
 - F. Consider and Possibly Approve Resolution 22-05-06 *Authorization for the General Manager to Enter into Contracts with Pacificorp and The Brattle Group to Participate in an EDAM Benefits Study.*
 - G. 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 95834 or to administrator@braunlegal.com.

Balancing Authority of Northern California

Consent Agenda Items

- A. **Resolution 22-05-01 *Determination that Meeting in Person Would Present Imminent Risks to the Health or Safety of Attendees as a Result of the Proclaimed State of Emergency.***
- B. **Minutes of the April 27, 2022 BANC Regular Meeting.**
- C. **BANC Operator Report (April).**
- D. **Compliance Officer Report (May).**
- E. **PC Committee Chair Report (May).**
- F. **General Manager Report and Strategic Initiatives Update.**

**Balancing Authority of Northern California
Resolution 22-05-01**

**DETERMINATION THAT MEETING IN PERSON WOULD PRESENT IMMINENT RISKS TO
THE HEALTH OR SAFETY OF ATTENDEES AS A RESULT OF
THE PROCLAIMED STATE OF EMERGENCY**

WHEREAS, on March 4, 2020 the Governor of California proclaimed a state of emergency in California as a result of the threat of COVID-19; and

WHEREAS, on March 17, 2020, the Governor issued Executive Order N-29-20 authorizing exemptions to certain notice requirements under the Ralph M. Brown Act to facilitate virtual meetings of a legislative body of a local agency; and

WHEREAS, on June 11, 2021, the Governor issued Executive Order N-08-12 extending the provisions of N-29-20 until September 30, 2021; and

WHEREAS, on September 16, 2021, the Governor of California signed Assembly Bill 361 which provides for the continued suspension of certain notice requirements for virtual meeting when a legislative body of a local agency holds a meeting during a declared state of emergency and either:

- (1) state or local officials have imposed or recommended measures to promote social distancing,
- or
- (2) the legislative body holds a meeting for the purpose of determining, by majority vote, whether as a result of the emergency, meeting in person would present imminent risks to the health or safety of attendees.

WHEREAS, pursuant to AB 361, a legislative body of a local agency must, not later than 30 days after teleconferencing for the first time pursuant to AB 361, and every 30 days thereafter, reconsider the circumstances of the state of emergency and determine that the state of emergency continues to directly impact the ability of the members to meet safely in person.

NOW, THEREFORE, BE IT RESOLVED that the Commissioners of the Balancing Authority of Northern California have reconsidered the state of emergency and hereby determine that meeting in person continues to present imminent risks to the health or safety of attendees as a result of the proclaimed state of emergency.

PASSED AND ADOPTED by the Commissioners of the Balancing Authority of Northern California this 24th day of May, 2022.

James McFall
Chair

Attest by: C. Anthony Braun
Secretary

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

April 27, 2022

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:

Member Agency	Commissioner
Modesto Irrigation District (MID)	James Mc Fall, Chair
City of Redding	Nathan Aronson, Alternate
City of Roseville	Dan Beans
Sacramento Municipal Utility District (SMUD)	Laura Lewis, Alternate
City of Shasta Lake	James Takehara
Trinity Public Utilities District (TPUD)	Paul Hauser

Other Participants:

Jim Shetler	General Manager
Tony Braun	General Counsel
Kevin Smith	General Counsel
Kris Kirkegaard	General Counsel Support
Jeanne Haas	Western Area Power Administration (WAPA)
Bryan Griess	WAPA

1. Call to Order: Mr. Shetler verified that there was a quorum to proceed; attendance is noted above. Commissioner Takehara joined the meeting for Closed Session. Chair McFall 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: Chair McFall invited comments from the Commission on the Consent Agenda, and there were none.

<p>ACTION: M/S (Lewis/Hauser) to approve the Consent Agenda. Motion carried by a unanimous roll call vote (Absent: Commissioner Takehara).</p>
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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. EIM Update:

Mr. Shetler noted that the 2022 CAISO Benefits Analysis had been released and provided an overview of recent EIM Committee activities, including implementation of the new Flex Ramp approach as of March 1, 2022.

ii. EDAM Update.

Mr. Shetler touched on the latest EDAM updates, along with updates related to other market options, including SPP Markets + and the Western Markets Exploratory Group (WMEG).

iii. SB 100 Update.

Mr. Shetler noted discussions among the POU BAAs have been initiated regarding what the modeling effort will look like.

iv. Resource Procurement Update.

Mr. Shetler briefly touched on updates related to Western Power Pool Western Resource Adequacy Program (WRAP), the status of contract selection for development of BANC RA principles, and ongoing efforts related to the evaluation of potential options for a down-sized project in response to BANC's Resources RFP.

B. Member Updates.

Mr. Shetler noted that a change in the date of the May Commission meeting may be required to accommodate those attending the CAISO EDAM meetings on May 25-26, 2022. He also mentioned that August/September may be a good time to plan this year's strategic planning session, noting that he may be somewhat unavailable in July. There were no updates provided by the Commission.

6. Closed Session: The Commission retired to closed session at 2:14 p.m. for conference with legal counsel in anticipation of litigation pursuant to subdivision (c) of Cal. Gov't Code § 54956.9; anticipated FERC litigation.

The Commission adjourned from Closed Session at 3:10 p.m., where no formal action was taken.

Minutes approved on May 24, 2022.

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 April 2022

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
 - 8 of 30 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: 2 Minutes
 - Number of BAAL exceedance >10 minutes: None
 - BAAL violation (BAAL exceedance >30 minutes): None
- Frequency Response (FR) Performance – Quarterly Metric:
 - 2022 Frequency Response Obligation (FRO): -18.8 MW/0.1Hz

Monthly Notes:

- No additional notes or impacts for April 2022

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

May 2022

The following summarizes 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.

BA Compliance Issues:

- No significant operational Balancing Authority compliance events occurred.
- All required BA compliance reports and operating data were submitted to WECC.
- Planning continues for the 2022 BANC/SMUD WECC Audit:
 - BANC/SMUD submitted the Internal Controls Data Collection Template and relevant controls documents to WECC.
 - The BANC/SMUD audit notice package was received on April 22nd, confirming the initial audit scope. A subsequent notice of audit scope reduction for BANC was received, removing requirements erroneously included in BANC's scope that only apply to SMUD.
 - RSAW and evidence reviews, along with CIP Evidence Request Tool (ERT) Level 1 responses, are in process for standards in scope. BANC/SMUD will submit these audit materials to WECC by the June 23rd due date.
 - The on-site portion of the audit is scheduled to take place the last two weeks in August 2022.

BANC MCRC:

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

PC Committee Chair Report

BANC Commission Meeting

May 2022

The following summarizes Planning Coordinator-related issues 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 or Issues:

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

- PRC-006-5 Underfrequency Load Shedding – The BANC PC Data request will be sent out by May 13th with data due back to BANC PC by May 30th.
- PRC-023-4 Transmission Relay Loadability – The study plan will be finalized and shared with the BANC PC Committee by May 13th. Staff will send out preliminary study results by June 3rd.
- PRC-026-1 Relay Performance During Stable Power Swings and FAC-014-2 System Operating Limits for the planning horizon– The study plans will be finalized and shared with the BANC PC Committee by May 13th.
- TPL-001-4 - Transmission System Planning Performance – Preliminary Steady State Results are set to be sent out on May 13th. Next, the stability portion of the study will be studied.
- MOD-033-2 – The dynamic portion of this study is complete. Data requests for the steady state data will be sent out in the latter half of the year.
- TPL-007-4 - Transmission System Planned Performance for Geomagnetic Disturbance Events. Ongoing, TPL-007-4 Annual GMD data submission to NERC for GMD events – SMUD has uploaded all 3 GMD events to NERC website prior to the June 30th deadline.

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

	PC Standard	Estimated % Complete	Notes
1	FAC-002-3 Interconnection Studies	100%	There are no new projects in BANC PC Participant area for 2022 which requires FAC-002 assessments. The BANC PC Qualified Changes document has been finalized and distributed as well as posted on the BANC PC member site.
2	FAC-010-3 SOL Methodology for Planning Horizon	100%	The finalized version was sent to external stakeholders and BANC PC Participants on 12/28/2020.
3	FAC-014-2 Establish and Communicate SOLs	10%	The study plan will be finalized and shared with BANC PC by 05/13/2022.
4	IRO-017-1 Outage Coordination	0%	Awaiting completion of TPL assessment by December to send out report.
5	MOD-031-2 Demand and Energy Data	100%	2022 Loads and Resources Parts One, Two, and Supplemental were completed and uploaded to the WECC EFT server.
6	MOD-032-1 Data for Power System Modeling & Analysis		Ongoing activity.
7	MOD-033-1 System Model Validation	60%	Dynamic portion of study is complete. Steady state data request will follow later this year.
8	PRC-006-5 Underfrequency Load Shedding	25%	BANC PC data request will be sent out by 05/13/22 and will be due back by 05/30/2022.
9	PRC-010-2 Undervoltage Load Shedding	100%	Study has been completed. The report was finalized on 12/30/2019.
10	PRC-012-2 Remedial Action Schemes	80%	New Standard to be effective on 1/1/2021. Study Plan has been finalized on 4/10/2020. Working on performing studies for each RAS scheme.

	PC Standard	Estimated % Complete	Notes
11	PRC-023-4 Transmission Relay Loadability	50%	The study plan will be finalized and shared with BANC PC by 05/13/2022. Staff will send out preliminary study results by 06/03/2022.
12	PRC-026-1 Relay Performance During Stable Power Swings	10%	The study plan will be finalized and shared with BANC PC by 05/13/2022.
13	TPL-001-4 Transmission System Planning Performance	30%	Steady state results will be sent out on 5/13/2022.
14	TPL-007-4 Transmission System Planned Performance for Geomagnetic Disturbance Events	90%	<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 is 07/01/2021.</p> <p>Ongoing, NERC has declared a GMD event (Kp>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 would be 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>

GM Report

BANC Commission Meeting

May 24, 2022

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. Based upon the group's discussions, we have agreed to 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 and to discuss potential summer heat wave impacts on EIM and EDAM design.

POU Western Markets Initiative

BANC continues to participate in this effort, which is being coordinated by APPA. The group has stepped back and is taking a less formal role with occasional update conference calls. The last call was on March 22, 2022.

Coronavirus Restrictions

With the recent lifting of restrictions, BANC has transitioned to using a hybrid meeting model, both for our own internal member meetings, as well as outside meetings. We anticipate that we will be moving to more in-person meetings over the next several weeks. In addition, the BANC BA Operator (SMUD) has instituted measures to reduce coronavirus risks, including stay at home for most employees with only essential staff working at the offices. The BANC Operator did start transitioning some senior staff back to the office in late March.

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 1st

Quarter 2022 report showing gross benefits of \$15.58 million for BANC, with a total of \$191.41 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.

EDAM Participation

The CAISO EDAM stakeholder process was relaunched in late 2021 with an initial working group formation meeting in December and kick-off detailed working group meetings in early January. The CAISO did wrap-up the work group meetings in late March and issued the initial straw proposal on April 28, 2022. The CAISO will host a stakeholder meeting on the straw proposal from May 25-26, 2022, with comments due by mid-June. The CAISO proposed schedule is to have a final EDAM design ready for EIM Governing Body/CAISO Board of Governors approval by 4th Quarter 2022, detailed implementation in 2023, and initial go live in 2024. With the completion of the work group efforts and the anticipation of an initial EDAM straw proposal in late April, BANC staff has initiated EDAM training sessions for the BANC EIM participants as part of the routine EIM Committee meetings. These are being held in March, April, and May.

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 has announced its “Markets +” effort to support utilities in the West with a range of market options from EIM to full RTO services. SPP held stakeholder information sessions on November 17, 2021, and December 1, 2021, to explain their initial concepts. Their stakeholder work group meetings were initiated in January 2022 seeking input on a final design. BANC staff attended a stakeholder market design update meeting in Phoenix on March 29-30, 2022. Market design is still being developed but SPP is forecasting a final design by late 2022. They would be looking for participant commitments in early 2023 with implementation in 2023-2024 and a go live in 2025. Staff will continue to monitor this market option.
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 a consultant to assist in this effort. BANC is also monitoring this group and has requested an opportunity for participation.

WAPA:

Market Engagement

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

WAPA-SNR and BANC continue to hold periodic calls with NCPA to help facilitate discussions on joint issues.

We have also held several discussions with WAPA-SNR, along with WAPA-DSW, on how staff could assist in their decision-making on EDAM participation.

San Luis Transmission Project

WAPA-SNR has announced its intent to work with the Bureau of Reclamation to construct the SLTP. The San Luis & Delta-Mendota Water Authority is moving forward with approving bonding authority to provide WAPA with funding for this project. We will keep the Commission informed as more information becomes available.

WECC

WECC Board Meetings

The last set of Board and committee meetings was held in March, which were virtual. WECC has indicated that they will be moving to a hybrid meeting format starting in May, which should allow for outside entities to attend meetings in person. The next set of Board and committee meetings is scheduled for early June.

WECC has issued an assessment of resource adequacy for the Western Interconnection. The report concludes that resource adequacy risks to reliability are likely to increase over the next 10 years, and based on current projections, by 2025, each subregion, and the interconnection, will be unable to meet the 99.98%—one-day-in-ten-year—reliability threshold.

WECC is also coordinating with NERC on a lessons-learned assessment of the ERCOT/SPP cold weather events this last winter. Preliminary results and recommendations were issued in September 2021.

NWPP

Resource Adequacy Project

As agreed at the September 2021 meeting, BANC has informed NWPP that it will not be participating in Phase 3 of the Western Resource Adequacy Project (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 will continue to monitor development of the WRAP and has initiated discussions with NWPP regarding our ability to participate in the future. SPP has indicated that they intend to use the WRAP as the model of a Resource Adequacy program for “Markets +” development.

RSG and FRSG Participation

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

WPP Transition

NWPP announced on February 7, 2022, that it will now be doing business as the Western Power Pool (WPP) to reflect its broader Western membership. In addition, as part of moving to a FERC approved tariff for the WRAP program, the WPP board will be transitioning from its current structure to a fully independent board. A nominating committee has been formed to assist in the selection of the new independent board members. The WPP members who are not in WRAP have been granted a seat on the nominating committee and the BANC General Manager was selected to fill that role. The nominating committee has held several meetings with a goal of having a slate of independent directors to present to the current board for approval by late this year. Outreach to potential candidates is expected to start in May 2022.

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.

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 scheduled for submittal to the Legislature in early January 2021; however, it was delayed and not issued until 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.

Western Electricity Industry Leaders (WEIL) Group

The WEIL CEOs last met on February 17, 2022. The next meeting of the WEIL group is being planned for May 20, 2022, in Salt Lake City, UT.

Strategic Initiatives

The 2021/2022 Strategic Initiatives updates are attached to this report.

BANC 2021/2022 Strategic Plan - Routine Initiatives May 2022 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	Revisit 3rd Qtr. 2022
3 Medium	OUTREACH	Engage in industry forums (WECC, Peak, NWPPA, etc.)	Jim Shetler	Ongoing	Attend RC West, WECC Board, WEIL, & NWPP Exec. Forum meetings
4 Medium		Coordinate with other POU BAs (Ca and regionally)	Jim Shetler	Ongoing	Coordinating with SCL/SRP/LA/TP/TID on EIM/EDAM & SB100
5 Medium		Outreach to regulatory and legislative bodies on key issues	Jim Shetler/BBSW	Ongoing as Necessary	Participating in WEIL group FERC staff update 5/9/22
6 Medium		More formal engagement with TID on BA/EIM/EDAM issues	Jim Shetler/BBSW	Ongoing	Continue periodic discussions on areas of collaboration
7 Medium	ASSETS	Evaluate establishing BANC criteria for RA resources	Resource Committee	4th Qtr. 2022	Finalizing contract with CES
8 Low	MEMBER SERVICES	Identify and outreach to potential new BANC members	Jim Shetler	Ongoing	

BANC 2021/2022 Strategic Plan - Focused Initiatives May 2022 Update

No./Priority	Focus Area	Initiative	Responsibility	Target Due Date	Status
9 High	INDEPENDENCE	Manage EIM Phase 2 Going Forward	Jim Shetler/SMUD	Ongoing	Manage Phase 2 operations including EIM, Tech Anal. & Settlements committees
10 High		EDAM evaluation effort ~ CAISO Stakeholder Process ~ CAISO Tariff Development	Jim Shetler/BBSW Jim Shetler/BBSW	Late 2021 - 2022 2022 - 2023	Initial Straw Proposal Issued
11 Medium	OUTREACH	Evaluate opportunities to engage other entities in market development	Jim Shetler	Ongoing	Coordinating with SCL, SRP, LADWP, TID, & Tacoma
12 Medium		Regional Policy Issues: Monitor/weigh-in where appropriate	Jim Shetler/Commission	Ongoing	Participating in WEIL effort on WIRED issues
13 High		Market Regionalization: ~Monitor ongoing discussions at WEIL & other venues	Jim Shetler/BBSW	4th Qtr. 2022	SPP Mkts+ Stklr Mtgs Mar. 29-30; Next Mtgs Jun 1-2
14 High		Coordinate with CA BAs on SB100 effort	Jim Shetler/BBSW	12/31/22	CEC issued report 3/15/21; Initiating coordination effort between CEC & BAAs
15 Medium	ASSETS	Evaluate resource criteria for BANC long-term needs ~ Issue solicitation for projects	Jim S./Res. Com.	4th Qtr. 2021	Continuing discussions with GSCE
16 Medium	MEMBER SERVICES	Evaluate possible support to participants for EIM operations	Jim S.	Ongoing	

Balancing Authority of Northern California

Agenda Item 5B

1. **2022 Summer Loads & Resources Assessment of the Balancing Authority of Northern California.**
2. ***Resolution 22-05-02 Acknowledgement and Acceptance of 2022 Summer Load & Resources Assessment of the Balancing Authority of Northern California.***

Braun Blaising Smith Wynne, P.C.

Attorneys at Law

5/19/22

To: BANC Commission
From: BANC Counsel
RE: Acknowledgment & Acceptance of 2022 BANC Summer Load & Resources Assessment

Included in the Commission packet for the May 24, 2022 BANC Commission meeting is the 2022 Summer Load and Resources Assessment. This document is produced by the Operating Committee. It includes a summary of expected conditions, including peak loads, generation availability, planned physical outages of generation and transmission, and other information. The information is included for individual members, each of the Sacramento Municipal Utility District and Western Area Power Administration sub-areas, as well as on a BANC-wide basis.

It should be noted that, similar to last year, the Operating Committee again developed a much more detailed evaluation looking at such issues as:

- Peak and Net Peak for both 1:2 and 1:10 load forecasts
- Reassessed both Effective Load Carrying Capability (ELCC) and Net Qualifying Capacity (NQC) based upon actual historical data
- Dependability of planned imports
- Various scenarios.

The Assessment concludes that BANC will be able to meet the load demand for the 2022 summer operating season. However, under certain assumptions the operating margin for BANC is narrower than we have seen in the past.

Because reliable grid operation is the central and paramount function of BANC, the Commission is requested to acknowledge receipt and accept the 2022 Summer Load and Resources Assessment by resolution.

2022 SUMMER

LOADS & RESOURCES ASSESSMENT



Balancing Authority of Northern California

May 2022

Balancing Authority of Northern California

*A Joint Powers Authority Among
Modesto Irrigation District, City of Redding, City of Roseville, City of Shasta Lake,
Trinity Public Utilities District, and Sacramento Municipal Utility District
www.thebanc.org*

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1. Executive Summary

The Balancing Authority of Northern California (BANC) is a Joint Powers Authority (JPA) consisting of the Sacramento Municipal Utility District (SMUD), Modesto Irrigation District (MID), City of Roseville (RSC), Redding Electric Utility (REU), City of Shasta Lake (CSL), and Trinity Public Utilities District (TPUD). BANC assumed the Balancing Authority (BA) responsibilities on May 1, 2011, from SMUD that include balancing the generation, load, and interchange, and coordinating system operations with neighboring BAs – Bonneville Power Administration (BPA), Turlock Irrigation District (TID), and California Independent System Operator (CAISO). There are two footprints within BANC – SMUD and Western Area Power Administration – Sierra Nevada Region (WAPA), which includes WAPA, MID, RSC, REU, CSL, and TPUD. The Figure 1-1 below shows the geographical map of BANC system.

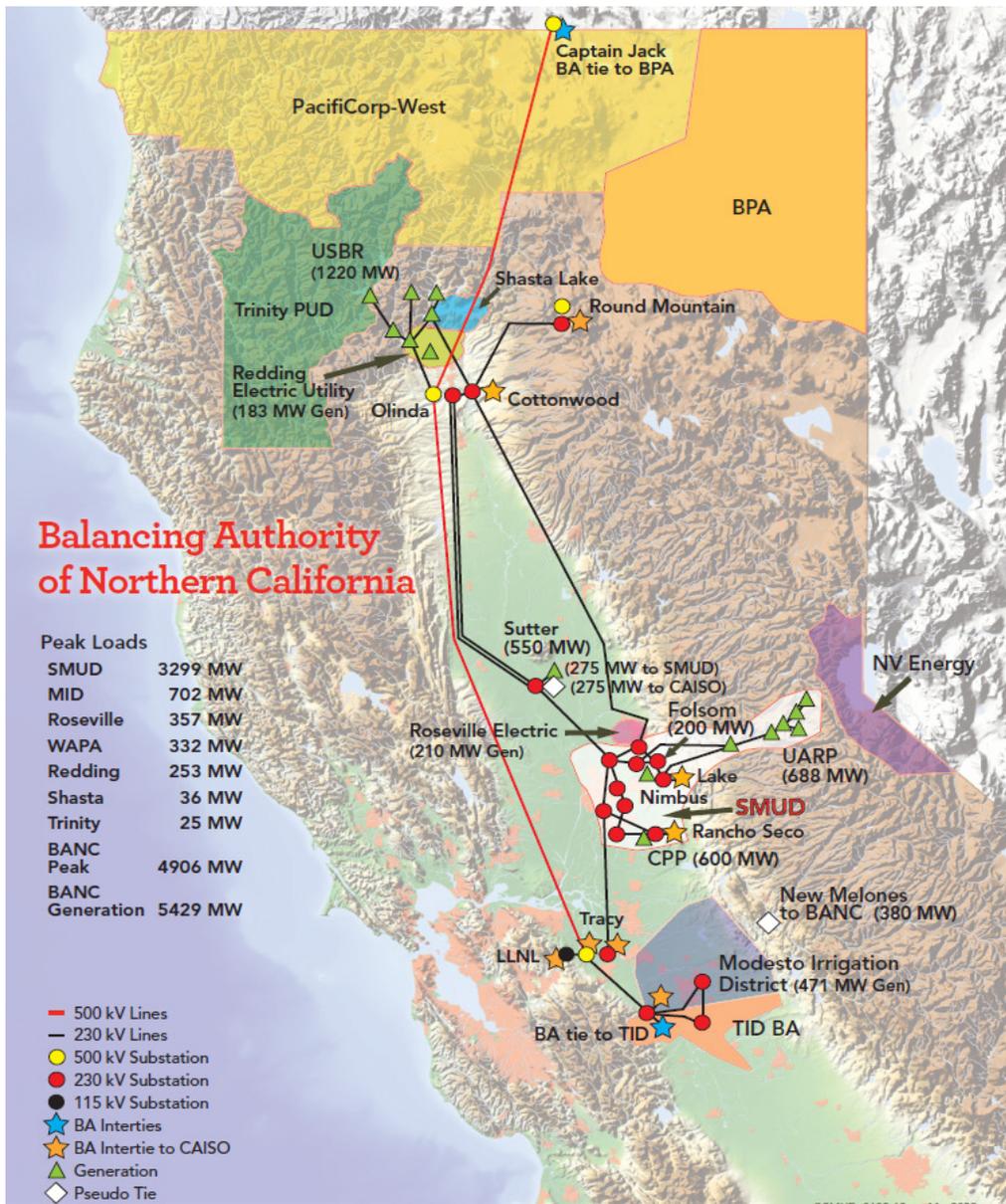


Figure 1-1: Geographical Map of BANC System

2022 BANC SUMMER LOADS & RESOURCES ASSESSMENT

This BANC summer loads and resources assessment report provides an assessment of the load forecast, resource supply, and energy imports in the 2022 summer operating season – June 1st, 2022, through October 31st, 2022, for the BANC Balancing Authority Area (BAA).

The forecasted BANC 1-in-2 peak load for 2022 summer is 4513 MW which is 29 MW or 0.6% higher than the actual 2021 BANC peak load of 4484 MW. The forecasted 1-in-2 peak loads for the SMUD and WAPA footprints are 2950 MW and 1563 MW, respectively.

The forecasted BANC 1-in-10 peak load for 2022 summer is 4840 MW which is 356 MW or 7.9% higher than the actual 2021 BANC peak load of 4484 MW. The forecasted 1-in-10 peak loads for the SMUD and WAPA footprints are 3176 MW and 1664 MW, respectively.

Considering the rotating outages within the CAISO BAA that occurred during the 2020 summer, the potential resource shortfalls in CAISO footprint and Western Power Pool (WPP) area, and the reliance of BANC entities on the imports from the CAISO and WPP areas, more thorough and detailed analyses are performed to assess BANC's load and resource outlook and evaluate BANC's risk of energy or capacity shortages either during normal or emergency conditions. The key analyses and studies that are performed are summarized as follows:

- (1) Assess the critical hours of the peak load day, i.e., Hour Ending (HE) 16 through HE 21, to cover both the gross peak load as well as the net peak load
- (2) Calculate the hourly Effective Load Carrying Capability (ELCC) and Net Qualifying Capacity (NQC) for all resources and imports, such as Hydro, Thermal, Solar, Wind, etc.
 - Hydro ELCC and NQC are calculated based on the historical hydro capacity in the past 3 similar water years.
 - Thermal ELCC and NQC are calculated based on the Ambient Temperature Derate and the forced outage data in the past 3 years.
 - Solar and Wind ELCC and NQC are calculated based on the actual output of the plants during the critical hours in the past 3 years.
- (3) Evaluate the detailed availability of import resources, including both the firm contracted resources and non-dependable import resources
- (4) Assess the availability of the Demand Response programs
- (5) Evaluate the Operating Margin for both the 1-in-2 peak load as well as the 1-in-10 peak load
- (6) Conduct Monte Carlo probability simulations to assess the Loss of Load Probability (LOLP) as follows:
 - Simulate 2,000 cases for each of the critical hours HE16 through HE21, representing 2,000 years of simulation
 - Simulate Thermal generator outages based on the actual outage data in the past 3 years
 - Simulate Hydro generator capacity based on the actual operating capacity in the past 3 similar water years
 - Simulate Solar and Wind generation output based on the historical data in the past 3 years
 - Simulate load beyond 1-in-10 peak load forecast
 - Simulate the reduction of non-dependable import when the load is higher than 1-in-10 load forecast, representing a West-Wide heat wave
- (7) Perform analysis to the special operating scenarios as listed below:
 - California Oregon Intertie (COI) derate due to wildfires
 - CAISO BAA is in an Energy Emergency Alert 3 (EEA 3)

2022 BANC SUMMER LOADS & RESOURCES ASSESSMENT

- West-Wide heat wave causing the reduction of non-dependable imports
- Impacts of wildfire smoke on the solar generation and system load

The assessment results show that

- BANC’s hourly gross peak load is forecasted to be at HE17 and BANC’s hourly net peak load is forecasted to be at HE18.
- The most stressed operating condition will be when BANC’s peak load occurs in August as the available Hydro generation and Solar generation in August is forecasted to be less than June and July.
- The base case assessment demonstrates that BANC has sufficient generation and transmission capacity to meet the forecasted 1-in-2 and 1-in-10 load for 2022 summer with sufficient operating margin (OM) as shown in Table 1-1 below.
- The Monte Carlo probability simulation results show that BANC has a low risk of 5.65% (or 1 day in 17 years) to be in an EEA 3 and an extremely low risk of 0.60% (or 1 day in 166 years) to shed firm load, both of which are lower than the industry LOLP benchmark of 1 day in 10 years.
- The analyses indicate that BANC would have sufficient operating margin for the special operating scenarios of wildfire smoke and the CAISO BA in an EEA 3.
- However, BANC would have risks of being in an EEA 3 when there is a West-Wide heat wave causing 1-in-20 load with no non-dependable import available or when the COI has a significant derate after losing two 500 kV lines due to wildfires under 1-in-10 load.

Table 1-1: 2022 Summer Base Case Supply & Demand Outlook at Gross & Net Peak Hours

	BANC BA		SMUD Footprint		WAPA Footprint	
	HE17	HE18	HE17	HE18	HE17	HE18
2021 Generation (MW)	5413		2607		2806	
Generation Outage (MW)	(35)		(0)		(35)	
Retired Generation (MW)	0		0		0	
New Generation (MW)	16		8		8	
2022 Generation (MW)	5394		2615		2779	
Peak Load Hour	HE17	HE18	HE17	HE18	HE17	HE18
Equivalent ELCC	79.5%	78.4%	83.2%	81.2%	75.9%	75.8%
Total Generation NQC (MW)	4286	4229	2176	2123	2110	2106
Forecasted Import (MW)	1828	1816	1451	1443	620	616
Forecasted Export (MW)	(342)	(353)	(0)	(0)	(585)	(595)
Demand Response (MW)	73	73	54	54	19	19
Total Supply (MW)	5844	5765	3680	3620	2164	2145
1-in-2 Load + Reserves (MW)	4816	4781	3115	3075	1701	1706
1-in-2 OM * (MW)	1028	984	565	544	463	439
1-in-2 OM * (%)	21.3%	20.6%	18.1%	17.7%	27.2%	25.7%
1-in-10 Load + Reserves (MW)	5164	5127	3354	3311	1810	1816
1-in-10 OM * (MW)	680	638	326	309	354	329
1-in-10 OM * (%)	13.2%	12.4%	9.7%	9.3%	19.6%	18.1%

* Operating Margin (OM) (MW) = Total Supply – (Load + Reserves)
 * Operating Margin (OM) (%) = (Total Supply – (Load + Reserves)) / (Load + Reserves)

2022 BANC SUMMER LOADS & RESOURCES ASSESSMENT

Water Conditions as of April 1, 2022:

- United States Bureau of Reclamation's (USBR) Central Valley Project (CVP) reservoir storage levels were at approximately 57% of historical average
- Northern Sierra snowpack was only at 30% of its historical average
- Northern California precipitation was at 75% of its historical average
- Forecasted statewide snowmelt runoff is at about 60% of an average water year
- SMUD's storage reservoirs were at 115% of historical average and the inflow to the storage reservoirs is projected to be 120% of median.
- With only 75% of precipitation and 30% snowpack, the 2021-2022 water season is classified as "Critically Dry" according to California Department of Water Resources' (CDWR's) Bulletin 120 released on March 8, 2022.

Resource Availability Forecasts as of April 1, 2022:

- Based on the current outage information, all SMUD and CVP hydro resources are expected to be available during the 2022 summer peak months.
- The total hydro power peak or energy production is projected to be significantly lower than the historical average based on water conditions.
- One-half of the Sutter Energy Center (SEC) or 275 MW will continue to be available to SMUD and the other half of the SEC or 275 MW is available to the CAISO BA.

California Oregon Intertie (COI) Import Capability:

- Based on the seasonal study performed by the California Operating Sub-Committee (OSS), the 2022 summer COI operating nomogram is similar to 2021.
- Wildfire threat continues to be a risk with the threat areas and fire-season period both expanding and increasing the risk of Public Safety Power Shutoff (PSPS) events or actual outages.
- The CAISO has committed to support BANC if a PSPS event on the CAISO controlled portion of COI should create resource shortage conditions for BANC.

2. 2021 Summer Review

2.1 System Load

The recorded BANC peak load for 2021 summer reached 4484 MW at 16:59:29 on June 18, 2021, which was 91 MW (or 2%) lower than BANC’s peak load in 2020 (4575 MW) due to a relatively mild summer temperature and the increased installations of the Behind-The-Meter (BTM) photovoltaic (PV) solar generation.

Because BANC entities are located in different geographical areas, they may not reach their peak loads at the same time or date. The BANC entities’ load levels at the time of the BANC peak load are defined as the Simultaneous Peak Load and their individual peak load levels are defined as the Non-simultaneous Peak Load.

On June 18, 2021, the BANC BA, SMUD footprint, and WAPA footprint all reached their peak loads on the same day but at different time stamps. The Simultaneous Peak Load for the WAPA footprint was 1464 MW and the Simultaneous Peak Load for the SMUD footprint was 3020 MW. The SMUD footprint reached its Non-simultaneous Peak Load of 3027 MW at 16:49:00 and the WAPA footprint reached its Non-simultaneous Peak Load of 1464 MW at 16:58:57. However, MID reached its Non-simultaneous Peak Load on 7/30/2021 while RSC and REU reached their Non-simultaneous Peak Load on 7/10/2021.

Table 2-1 below shows the Simultaneous Peak Loads and Non-simultaneous Peak Loads and a comparison of 2021 actual Non-simultaneous Peak Loads vs. 2021 forecasted Non-simultaneous Peak Loads for BANC and all BANC entities.

Table 2-1: 2021 Simultaneous and Non-simultaneous Peak Loads vs. 2021 Forecasts

	Non-simultaneous Peak Load Forecast (MW)	Actual Non-simultaneous Peak Load (MW)	Non-simultaneous Peak Load Forecast Error (MW)	Non-simultaneous Peak Load Forecast Error (%)	Actual Simultaneous Peak Load ¹ (MW)
BANC BA	4460	4547	-87	-1.9%	4484
SMUD	2938	3027	-89	-2.9%	3020
MID	684	680	4	0.6%	656
RSC	334	352	-18	-5.1%	341
REU	225	236	-11	-4.7%	221
CSL	32	37	-5	-13.5%	34
TPUD	25	25	0	0%	20
WAPA Footprint	1522	1520	2	0.1%	1464

¹ The Actual Simultaneous Peak Load values came from the PI historian data.

2022 BANC SUMMER LOADS & RESOURCES ASSESSMENT

2.2 System Generation

The Sutter Energy Center (SEC) continued to be available at 275 MW capacity (17 MW capacity increase from 258 MW in 2020) for summer 2021 as a part of generation for SMUD. In addition, 174 MW of utility-scaled solar and 3 MW of net metered solar generation went on-line in the BANC footprint in 2021. BANC's total generating capacity increased to 5413 MW. Table 2-2 shows generation levels of BANC entities collected in PI at the 2021 BANC peak load moment (16:59:29 on 6/18/2021).

Table 2-2: BANC Entities Generation Levels at 2021 BANC Peak Load Moment

	Generation (MW)	Simultaneous Peak Load (MW)	Generation Capacity (MW)	Generation Output %
BANC BA	2780	4484	5413	51.4%
SMUD	1378	3020	2607	52.9%
MID	222	656	469	34.5%
RSC	181	341	231	78.4%
REU	113	221	182	62.1%
CSL	0	34	0	N/A
TPUD	0	20	0	N/A
WAPA Footprint	1402	1464	2806	50.0%

2.3 System Import

With the completion of PG&E's Palermo-Rio Oso 115 kV reconductoring project in 2014, the transfer capability of COI has been greatly improved (up to 1175 MW increase under high Northern California Hydro condition). Table 2-3 shows BANC entities' simultaneous import levels at the 2021 peak load moment. The data shows BANC entities heavily relied on imports to serve load (approximately half of the load in SMUD, MID, RSC, and REU were served by imports).

Table 2-3: BANC Entities' Import Levels at 2021 Peak Load Moment

	Simultaneous Import (MW)	Simultaneous Peak Load (MW)	Import/Load Ratio
BANC BA	1704	4484	38.0%
SMUD	1642	3020	54.4%
MID	434	656	66.2%
RSC	160	341	46.9%
REU	108	221	48.9%
CSL	32	34	100%
TPUD	19	20	100%
WAPA Footprint	62	1464	4.2%

3. 2022 Summer Assessment

In light of the rotating outages within the CAISO BAA that occurred during the 2020 summer, the potential resource shortfalls in CAISO footprint and Western Power Pool (WPP) area, and the reliance of BANC entities on the imports from the CAISO and WPP areas, more thorough and detailed analyses are performed to assess BANC's load and resource outlook and evaluate BANC's risk of energy or capacity shortages either during normal or emergency conditions. The key analyses and studies that are performed are summarized as follows:

- (1) Assess the critical hours of the peak load day, i.e., Hour Ending (HE) 16 through HE 21, to cover both the gross peak load as well as the net peak load
- (2) Calculate the hourly Effective Load Carrying Capability (ELCC) and Net Qualifying Capacity (NQC) for all resources and imports, such as Hydro, Thermal, Solar, Wind, etc.
 - Hydro ELCC and NQC are calculated based on the historical hydro capacity in the past 3 similar water years.
 - Thermal ELCC and NQC are calculated based on the Ambient Temperature Derate and the forced outage data in the past 3 years.
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- (5) Evaluate the Operating Margin for both the 1-in-2 peak load as well as the 1-in-10 peak load
- (6) Conduct Monte Carlo probability simulation to assess the Loss of Load Probability (LOLP) as follows:
 - Simulate 2,000 cases for each of the critical hours HE16 through HE21, representing 2,000 years of simulation
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 - Simulate Solar and Wind generation output based on the historical data in the past 3 years
 - Simulate load demand beyond 1-in-10 peak load forecast
 - Simulate the reduction of non-dependable import when the load is higher than 1-in-10 load, representing West-Wide heat wave
- (7) Perform analysis to some special operating conditions as listed below:
 - California Oregon Intertie (COI) derate due to wildfires
 - CAISO BAA is in an Energy Emergency Alert 3 (EEA 3)
 - West-Wide heat wave causing the reduction of non-dependable import
 - Impacts of wildfire smoke to the solar generation and system load

3.1 Forecasted System Load

Due to the increase of the renewable generation within BANC footprint, BANC's summer assessment will need to cover both the gross peak load and the net peak load. The gross peak load is the conventional peak load that is served with all resources. The net peak load is defined as the peak load that is served with the dispatchable traditional resources, such as Hydro and Thermal, and is calculated as gross peak load less the non-dispatchable renewable generation.

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As shown in Table 3-1 below, the forecasted BANC 1-in-2 gross peak load for the 2022 summer is 4513 MW, which is 29 MW higher than the actual 2021 BANC peak load of 4484 MW. The forecasted BANC 1-in-10 gross peak load is 4840 MW, which is 356 MW higher than the actual 2021 BANC peak load of 4484 MW. For 2022 summer, the hourly load profiles for the critical hours (HE16 through HE21) are developed for all BANC entities based on the historical hourly load data to assess both the gross peak load and the net peak load. The load profiles showed that BANC's hourly gross peak load is at HE17 and the hourly net peak load is at HE18.

Table 3-1: 2022 Forecasted Peak Loads for BANC Entities

	Forecasted 1-in-2 Gross Peak Load (MW)	Forecasted 1-in-2 Net Peak Load (MW)	Forecasted 1-in-10 Gross Peak Load (MW)	Forecasted 1-in-10 Net Peak Load (MW)
SMUD	2950	2731	3176	2954
WAPA Footprint	1563	1549	1664	1650
MID	665	648	709	692
Roseville Electric	338	338	389	389
REU	236	236	238	238
Shasta Lake	36	36	37	37
Trinity PUD	25	25	28	28
Forecasted BANC Peak Load	4513	4280	4840	4604

Figure 3-1 below shows a comparison of forecasted 2022 non-simultaneous peak load with the historical peak load since 2006 (all-time peak load year) for BANC, SMUD, and WAPA footprint.

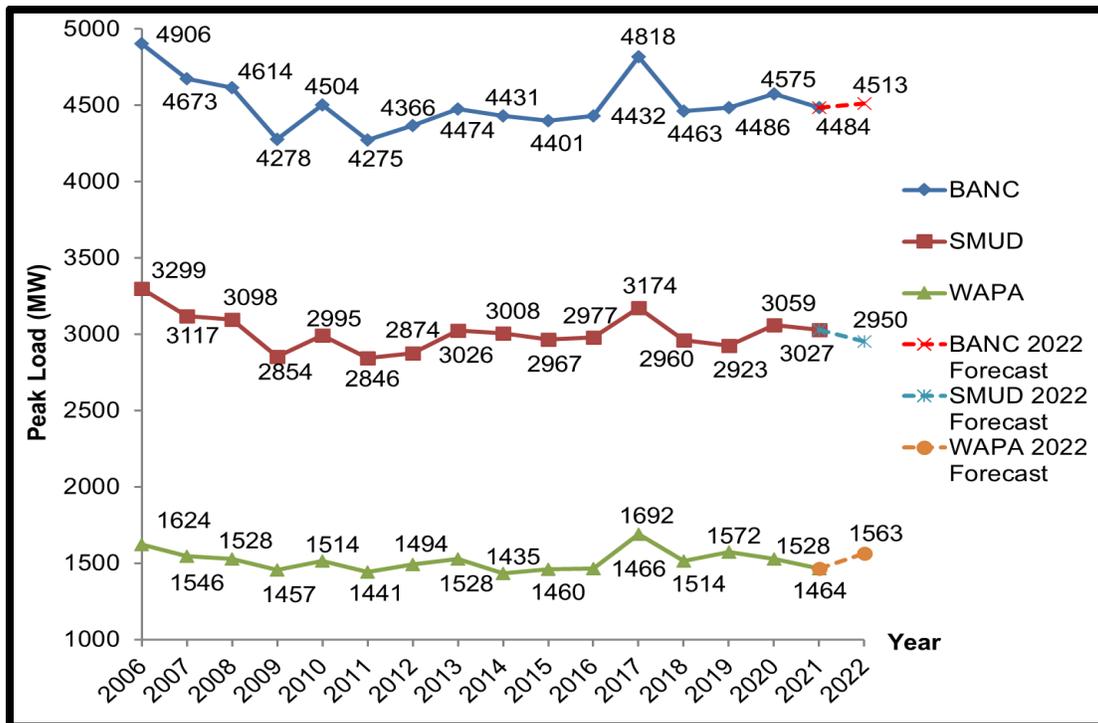


Figure 3-1: 2022 Forecasted Peak Load vs. Historical Peak Load

2022 BANC SUMMER LOADS & RESOURCES ASSESSMENT

Figure 3-1 shows that all BANC entities' peak loads declined significantly due to the economic recession after the all-time peak recorded during the 2006 multi-day heat wave. The subsequent peak load demands reached their lowest in 2011 and then started recovering. Due to the unusual heat waves and economic recovery from the recession, BANC's 2017 peak load reached the highest level since 2006, despite the increased installations of the behind-the-meter photovoltaic solar generation. Several BANC entities, such as MID, City of Roseville, City of Shasta Lake, and WAPA footprint, even set their new all-time peak load records in 2017. In 2018 and 2019, BANC entities peak loads have been fairly flat due to the increased installations of BTM solar and SMUD's implementation of the Time-Of-Day rates in 2019.

Two extreme heat waves hit California and the western U.S. in 2020 summer, the original day-ahead load forecast showed that the loads of BANC BA and all BANC entities might get close to or even higher than the all-time peak. However, the severe smoke and ash from the wildfires reduced sun radiation such that the forecasted loads did not materialize. Even though, MID and City of Shasta Lake still set the new peak load records of 702 MW and 37 MW in 2020.

The Figure 3-2 below shows the highest temperature in Sacramento area in recent years. BANC's peak load occurred either on these days or subsequent days due to the impact of holidays or weekends, except for 2017, where BANC's peak load occurred on 6/20/2017. The data also shows that the highest temperature day is moving towards August in recent years. In addition, considering that the hydro generator capabilities and solar generation in August are lower than June and July, it is assumed in this assessment that the 2022 BANC peak load day is in August as it will be the most severe operating condition.

Max °F	Date	Max °C
112	August 16, 2020	44
107	August 15, 2019	42
109	July 25, 2018	43
109	August 28, 2017	43
108	July 26, 2016	42
108	July 29, 2015 +	42
107	August 01, 2014 +	42
110	July 04, 2013	43
107	August 13, 2012	42

Figure 3-2: The Highest Sacramento Temperatures in Recent Years

3.2 Forecasted Resource Supply

In 2021, Roseville Energy Park (REP)'s capacity was increased by 8 MW after steam turbine upgrade and there will be another 8 MW of net metered solar generation in SMUD footprint coming on-line before the 2022 summer. In addition, one-half of SEC (275 MW) will continue to be available as a part of SMUD's generation. BANC's total installed generation capacity will increase to 5429 MW, of which, 2704 MW (49.8%) is hydro generation, 2323 MW (42.8%) is thermal generation, 16 MW (0.3%) is biogas generation, and 386 MW (7.0%) is solar generation. In total, 57.2% of the installed generation capacity within BANC is carbon-free.

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As half of BANC's generation capacity is Hydro, it is critical to forecast hydro generation availability based on the Water Conditions, including reservoir levels, snowpack levels, precipitations, and snowmelt runoffs. According to the CDWR's website, the 2022 Water Conditions as of April 1, 2022, are summarized as follows:

- USBR's CVP reservoirs were at approximately 57% of historical average (Figure 3-3)
- Northern Sierra snowpack was only at 30% of its historical average (Figure 3-4)
- Northern California precipitation was at 75% of its historical average (Figure 3-5)
- Forecasted statewide snowmelt runoff was at approximately 60% of an average water year (Figure 3-6)
- SMUD's storage reservoirs were at 115% of historical average and the inflow to the storage reservoirs is projected to be 120% of median.

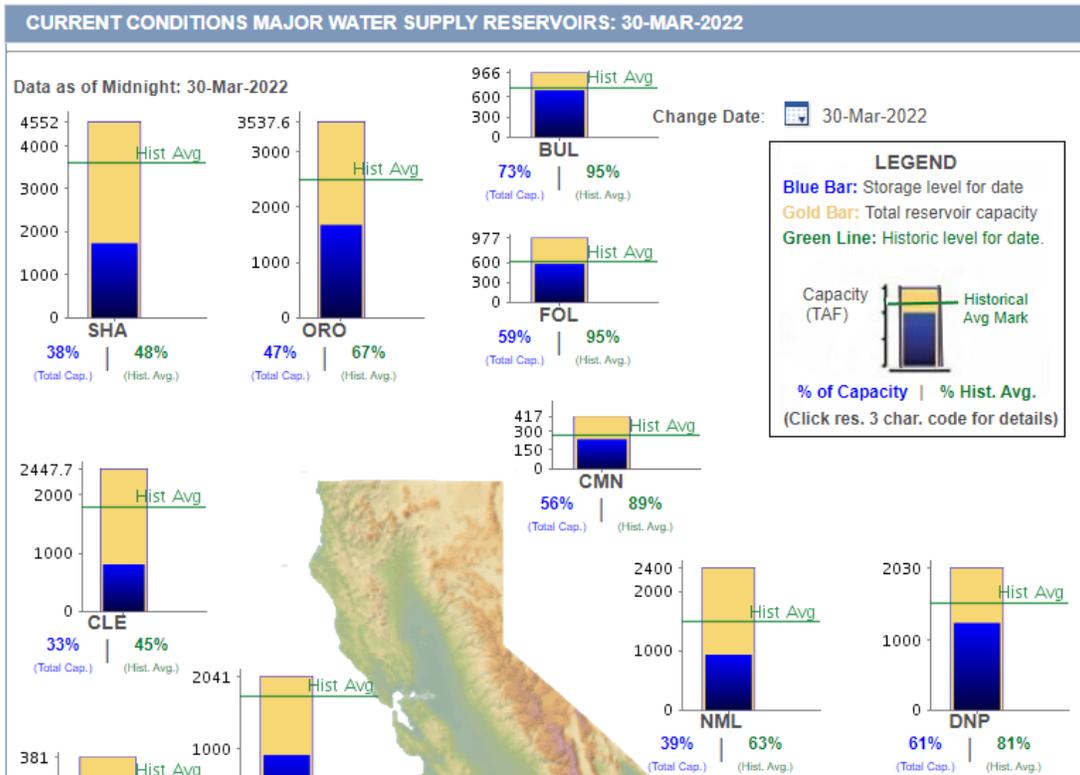


Figure 3-3: Northern California Major Reservoir Levels as of 4/1/2022

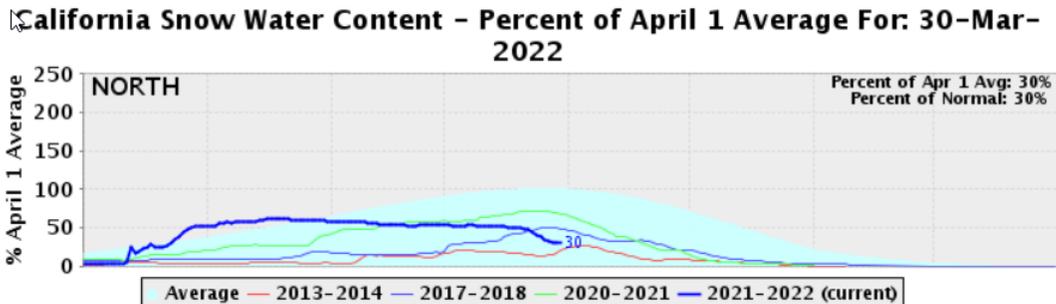


Figure 3-4: Northern Sierra Snowpack Level as of 4/1/2022

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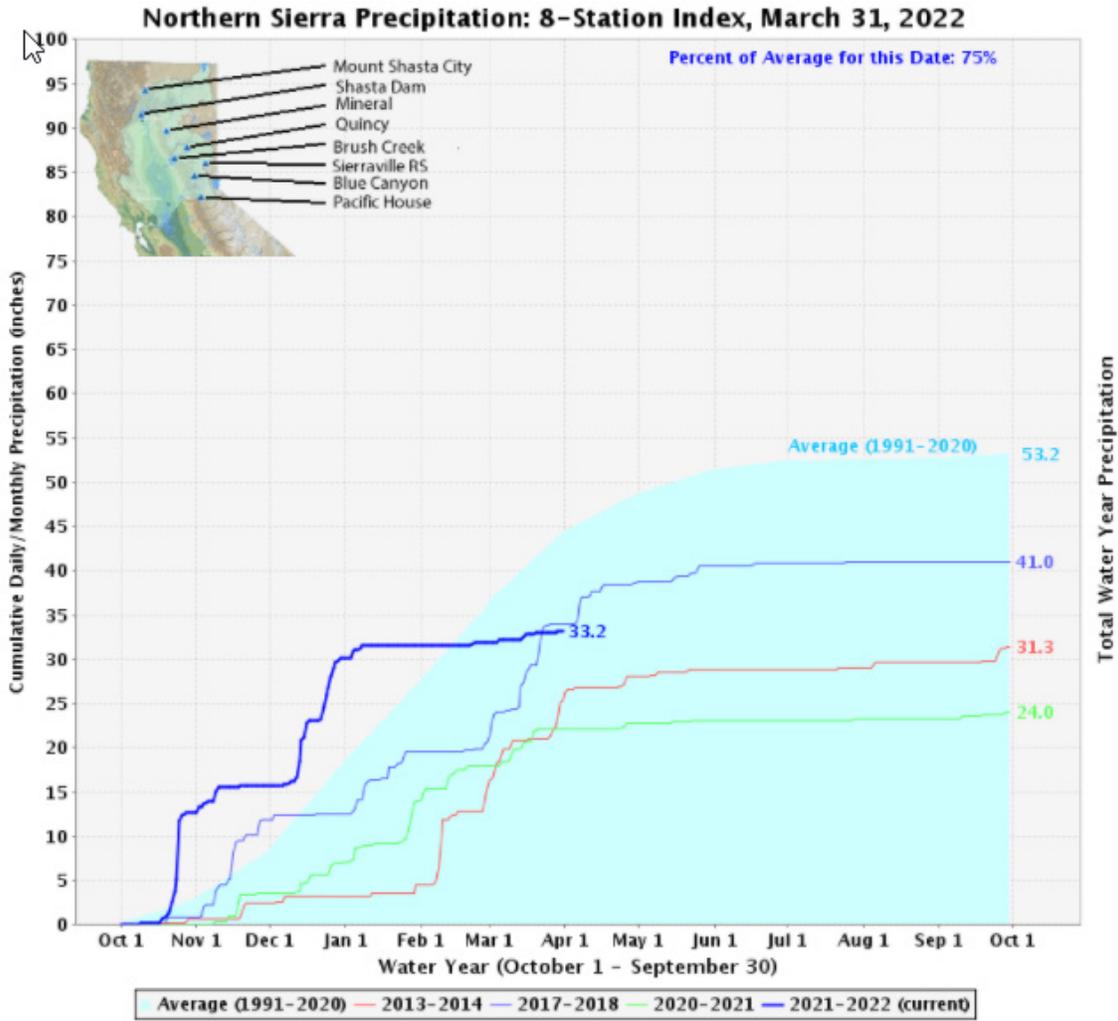


Figure 3-5: Northern Sierra Precipitation as of 4/1/2022

UNIMPAIRED FLOW FOR - MARCH 28, 2022
(Provisional data, subject to change)

Report generated: March 30, 2022 16:19

WATER YEAR FORECAST SUMMARY AND MONTHLY DISTRIBUTION (IN THOUSANDS OF ACRE-FEET)													
WATERSHED	OCT THRU JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	WATER YEAR TOTAL	80% PROBABILITY RANGE		WY % AVERAGE
									90%		10%		
Trinity, Lewiston	215	51	55	90	75	27	8	2	1	524	375	810	40
Inflow to Shasta	1,395	232	235	260	245	180	165	153	150	3,015	2,670	4,175	53
Sacramento, Bend	2,087	318	314	375	325	245	215	187	184	4,250	3,785	6,225	51
Feather, Oroville	1,331	256	347	245	155	95	75	65	56	2,625	2,300	4,085	60
Yuba, Smartville	654	105	145	205	178	48	19	11	11	1,375	1,165	1,970	61
American, Folsom	783	140	224	230	181	50	9	2	2	1,620	1,290	2,455	60

Figure 3-6: Forecasted Snowmelt Runoffs as of 4/1/2022

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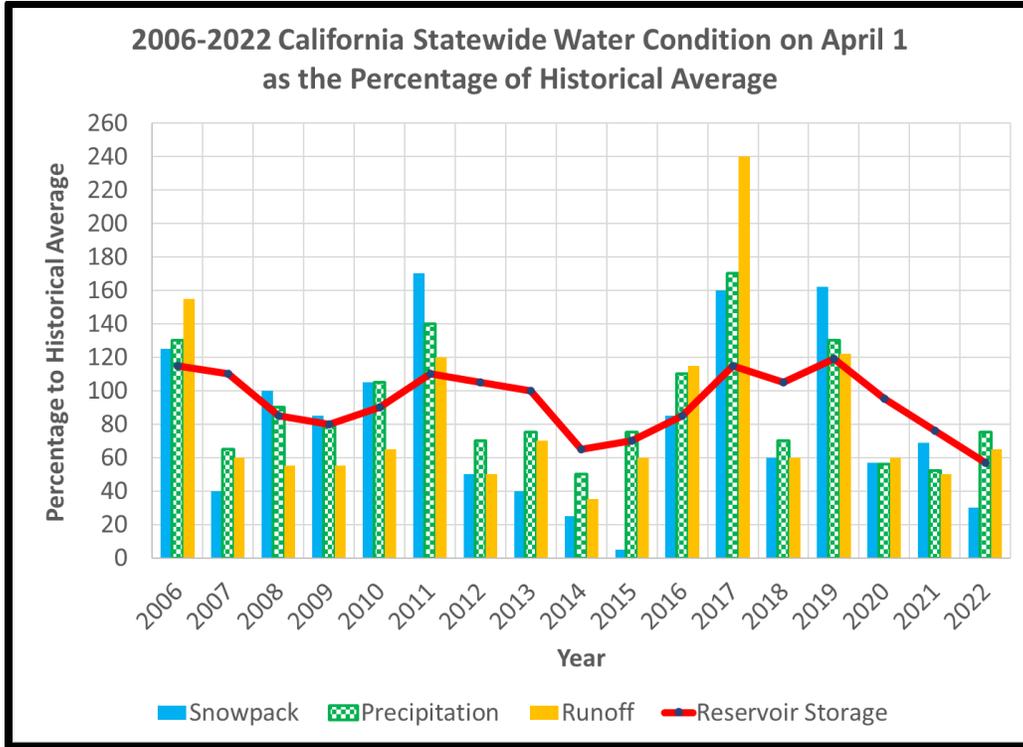


Figure 3-7: 2006-2022 California Statewide Water Condition on April 1

Based on the current outage information, all the SMUD and CVP hydro resources are expected to be available during the 2022 summer except Keswick Unit #3 (35 MW). However, the total hydro power production is projected to be lower than the historical average level due to the “Critically Dry” water condition.

Although BANC’s installed generation capacity will reach 5429 MW, not all this MW capacity can be available to serve load. There are several factors that will limit generator’s capacities, especially during the critical hours (HE16–HE21) of the peak load day. For example, thermal generators will be derated due to high ambient temperature, hydro generators will be derated due to lower reservoir levels, and solar generators will reduce output when sun sets.

To accurately assess BANC’s ability to serve load, more detailed studies are performed to calculate BANC generators’ Effective Load Carry Capability (ELCC) and Net Qualifying Capacity (NQC).

ELCC is a metric to evaluate how effective a generator can be to serve load for a given hour of the year and is defined as the percentage of a generator’s installed capacity (i.e., Pmax) in this assessment. ELCC can be calculated for each individual generator or for a group of generators with similar characteristics.

NQC is defined as the MW capacity of a generator that can be counted in the resource plan to serve the load for a given hour of the year and can be calculated as:

$$NQC = ELCC * Pmax$$

Different types of generators have different characteristics and therefore different ways of calculating the ELCC and NQC. In this summer assessment, the monthly ELCC and NQC are used and they are calculated as monthly values for each 24 hours of the day.

3.2.1 Hydro Generator ELCC and NQC

Within BANC footprint, there are storage hydro generators and run-of-river hydro generators but no pumped-storage hydro generators. For this summer assessment,

- Storage hydro generators’ monthly ELCC and NQC are calculated as the average of the hourly historical operating capacity in each summer month of the past 3 similar water years.
- Run-of-river hydro generators’ monthly ELCC and NQC are calculated as the average of the hourly actual output in each summer month of the past 3 similar water years.
- Based on the 2022 Water Conditions shown in Figure 3-3 through Figure 3-7, 2014, 2018, and 2021 are selected as the similar water years.

3.2.2 Thermal Generator ELCC and NQC

As shown in Figure 3-2, BANC entities’ peak load in recent years occurred on a hot summer day with temperature between 107 °F and 112 °F and the maximum capacities of thermal generators on the peak load day will be lower than their nameplate capacities. In this assessment, all BANC’s thermal generators will use their ambient temperature derated capacities at 112 °F.

In addition, although these thermal generators will normally not have planned outages during summer months, the unexpected, or forced outages do occur occasionally. To account for this impact, the Average Forced Outage Rates (AFORs) are calculated for all thermal generators using the historical forced outage data in the summer months of the past 3 years. Therefore, for thermal generators,

$$\text{Thermal ELCC} = 1 - \text{AFOR}$$

$$\text{Thermal NQC} = \text{ELCC} * P_{\text{max at 112 °F}}$$

3.2.3 Solar and Wind Generation ELCC and NQC

The hourly solar and wind generators’ ELCC are calculated as the average solar outputs for each hour for the days with temperature higher than or equal to 100 °F in the month of August of the past 3 years. The new solar generation will use the data of the nearby solar generation with similar solar panel technology.

3.3 Forecasted System Import

The COI is the major path for BANC entities to import capacity and energy from Pacific Northwest (Washington and Oregon) sources. Based on the study performed by the California OSS, the 2022 summer COI operating nomogram under all-line-in-service and normal hydro condition is

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similar to 2021. According to National Oceanic and Atmospheric Administration (NOAA), the water supply of the Columbia River – the major river runoff supporting hydroelectric power generation in Pacific Northwest (PNW), was forecasted to be 95% of the 30-year normal at the Dalles Dam as of April 1, 2022, which indicates a normal hydro energy supply from Pacific Northwest this summer.

In order to accurately assess the imports that BANC entities can obtain during the high load days, this assessment classifies BANC entities' imports into three categories:

- WAPA Base Resources (adjusted by WAPA's Hydro ELCC)
- Contracted Firm Imports from PNW or CAISO (adjusted by ELCC for Hydro, Solar, Wind)
- Non-Dependable Imports

The Non-Dependable Import is defined as the import which is expected to achieve in the week-ahead or day-ahead timeframe based on historical real-time import data. The Non-Dependable Import is not backed-up with long-term firm contracts and could come from the PNW and/or CAISO market with the risk that there may not be sufficient energy/capacity available in the week-ahead or day-ahead timeframe during a west-wide heat wave.

In order to calculate the hourly Expected Non-Dependable Import for each BANC entity, the Expected Max Import is calculated for each BANC entity as the average of the maximum hourly historical real-time import for the month of August in the past 3 years on high load days. Then, the equation is as follows:

$$\text{Expected Non-Dependable Import} = \text{Expected Max Import} - \text{Firm Import}$$

3.4 Forecasted System Export

All the BANC entities rely on imports to serve load on the high load days, except WAPA, which will export a portion of its Base Resources to the entities within CAISO BAA per contract. In this assessment, the hourly Expected Export is calculated for WAPA as the average of the hourly historical real-time export for the month of August in the past 3 years.

3.5 Forecasted Demand Response

Demand Response (DR) can reduce end-user loads in response to high prices, financial incentives, environmental conditions, or reliability issues. DR can play an important role to offset the need for more generation and provide grid operators with additional flexibility in operating the system during periods of limited supply. There are several DR programs available within BANC BAA with a maximum amount of 73 MW. However, these DR programs have different contracts to be available in different days and hours. Therefore, the hourly DR profiles are created for all BANC entities in this assessment.

2022 BANC SUMMER LOADS & RESOURCES ASSESSMENT

3.6 Forecasted Operating Reserves

Per NERC/WECC Reliability Standards, BANC shall maintain sufficient Regulating Reserve and Contingency Reserve during real-time operations. In this summer assessment, the amount of the Operating Reserves (Regulating Reserve plus Contingency Reserve) is calculated for each hour and is considered as a part of BANC’s load obligation.

3.7 Scheduled Generation/Transmission Outages

According to the current available information, there are no major transmission or generation outages scheduled within the BANC footprint during the summer peak months – June, July, and August, except that the Keswick Unit #3 (35 MW) will be out of service from mid-Jun to late-July. In early September, SMUD’s Consumnes Power Plant (CPP) plans to have some maintenance work. However, these CPP outages can be rescheduled if load is high. The Table 3-2 below lists the major transmission and generation outages within the BANC footprint and the surrounding areas for the 2022 summer.

Table 3-2: Scheduled Major Outages for 2022 Summer

Start Time	End Time	Outage Facility	Description	Outage Area	Outage Impact
5/2/2022	6/10/2022	Carr Unit #2	Maintenance	WAPA	86 MW generation outage
6/6/2022	6/9/2022	Robbs Peak Unit	Maintenance	SMUD	26 MW generation outage
6/6/2022	6/9/2022	Loon Lake Unit	Maintenance	SMUD	78 MW generation outage
6/13/2022	7/22/2022	Keswick Unit #3	Maintenance	WAPA	35 MW generation outage
9/3/2022	9/6/2022	Consumnes Power Plant CTG3	Maintenance	SMUD	298 MW generation outage
9/5/2022	9/16/2022	Folsom Unit #1	Maintenance	WAPA	71 MW generation outage
9/5/2022	9/16/2022	Nimbus Units #1 & 2	Maintenance	WAPA	17 MW generation outage
9/17/2022	9/20/2022	Consumnes Power Plant CTG2	Maintenance	SMUD	298 MW generation outage
9/26/2022	9/30/2022	Captain Jack-Olinda 500 kV Line	Switch Replacement	WAPA	COI derated to 3200 MW

Based on the monthly Hydro ELCC and Solar ELCC studies, the total available resources in July after deducting Keswick Unit #1 will still be higher than the total available resources in August.

3.8 Forecasted Base Case Supply & Demand Outlook

In the base case assessment, the average August ELCC are used for all resources – Hydro, Thermal, and Solar, and the Operating Margins (OMs) are calculated for BANC BA, and SMUD and WAPA footprints for both 1-in-2 and 1-in-10 forecasted peak loads as follows:

$$\text{Operating Margin} = \text{Generation NQC} - \text{Outages} + \text{Import} - \text{Export} + \text{DR} - \text{Load} - \text{Reserves}$$

The Operating Margin calculated in this assessment is different than the Planning Reserve Margin (PRM) that is used in the Resource Adequacy analysis as reserves are counted as a part of load obligation. The Table 3-3 defines the operating conditions for the BANC BA per NERC Reliability

2022 BANC SUMMER LOADS & RESOURCES ASSESSMENT

Standard EOP-011-1. As SMUD and WAPA will provide emergency assistance to each other, they would be in EEA conditions only when the BANC BA is in the EEA conditions.

Table 3-3: BANC Operating Condition Definitions

Operating Condition	BA Status	Note
OM >= DR	Sufficient OM	No need to utilize DR
0 <= OM < DR	EEA 2	BA relies on DR to maintain Reserves
OM < 0 & OM + Reserves >=0	EEA 3	BA unable to maintain Reserves
OM + Reserves < 0	Firm Load Shedding	BA unable to serve all load

The base case results show that BANC BA, SMUD footprint, and WAPA footprint all have sufficient resource supplies to meet the forecasted 1-in-2 and 1-in-10 load demands and reserve requirements for 2022 summer with sufficient Operating Margins (OMs) as shown in Table 3-4 below when counting the expected Non-Dependable Imports.

Table 3-4: 2022 Summer Base Case Supply & Demand Outlook at Gross & Net Peak Hours

	BANC BA		SMUD Footprint		WAPA Footprint	
	HE17	HE18	HE17	HE18	HE17	HE18
2021 Generation (MW)	5413		2607		2806	
Generation Outage (MW)	(35)		(0)		(35)	
Retired Generation (MW)	0		0		0	
New Generation (MW)	16		8		8	
2022 Generation (MW)	5394		2615		2779	
Peak Load Hour	HE17		HE17		HE17	
Equivalent ELCC	79.5%	78.4%	83.2%	81.2%	75.9%	75.8%
Total Generation NQC (MW)	4286	4229	2176	2123	2110	2106
Forecasted Import (MW)	1828	1816	1451	1443	620	616
Forecasted Export (MW)	(342)	(353)	(0)	(0)	(585)	(595)
Demand Response (MW)	73	73	54	54	19	19
Total Supply (MW)	5844	5765	3680	3620	2164	2145
1-in-2 Load + Reserves (MW)	4816	4781	3115	3075	1701	1706
1-in-2 OM * (MW)	1028	984	565	544	463	439
1-in-2 OM * (%)	21.3%	20.6%	18.1%	17.7%	27.2%	25.7%
1-in-10 Load + Reserves (MW)	5164	5127	3354	3311	1810	1816
1-in-10 OM * (MW)	680	638	326	309	354	329
1-in-10 OM * (%)	13.2%	12.4%	9.7%	9.3%	19.6%	18.1%
* Operating Margin (OM) (MW) = Total Supply – (Load + Reserves)						
* Operating Margin (OM) (%) = (Total Supply – (Load + Reserves)) / (Load + Reserves)						

The Figure 3-8 through Figure 3-10 show the charts of the resource stack vs. load + reserve on the forecasted peak load day over the critical hours of HE16–HE21 under the base case conditions for BANC BA, SMUD footprint, and WAPA footprint.

2022 BANC SUMMER LOADS & RESOURCES ASSESSMENT

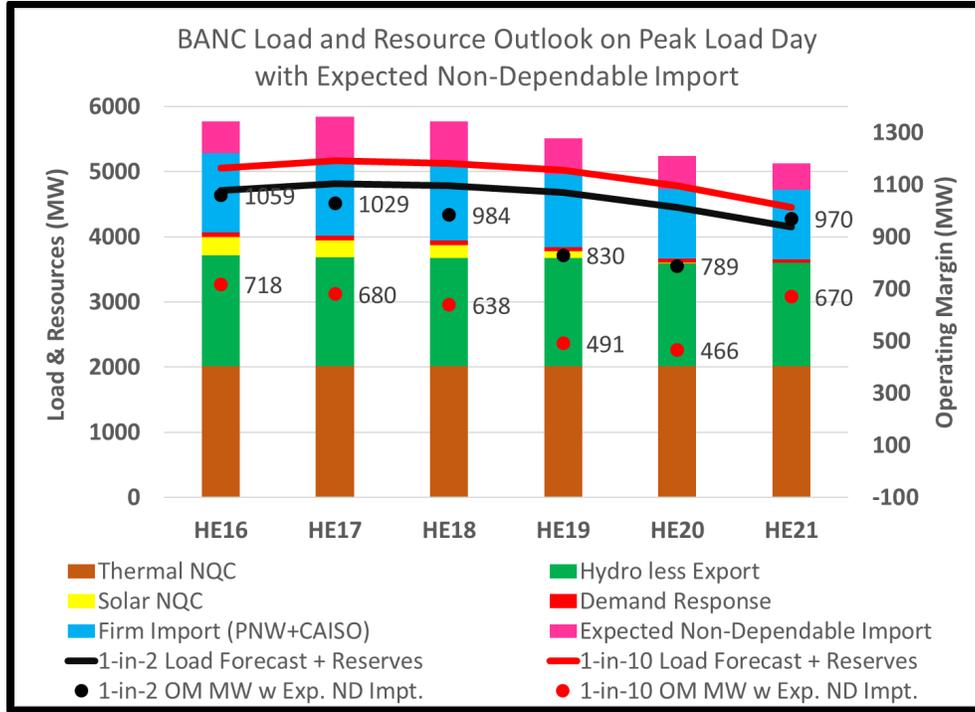


Figure 3-8: BANC Base Case Load and Resources Outlook on Peak Load Day

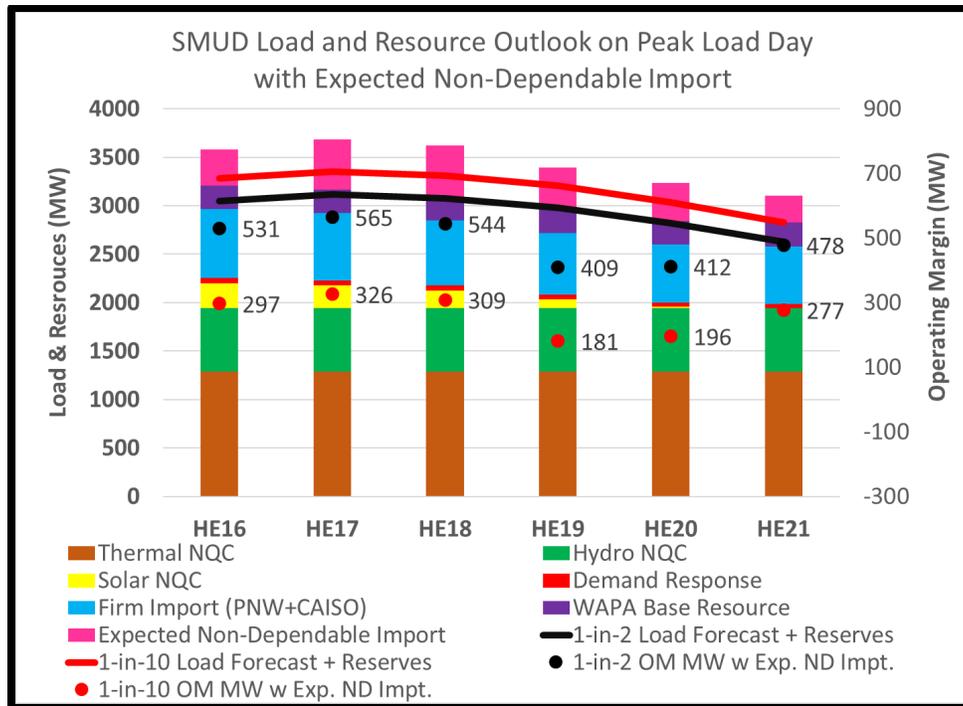


Figure 3-9: SMUD Base Case Load and Resources Outlook on Peak Load Day

2022 BANC SUMMER LOADS & RESOURCES ASSESSMENT

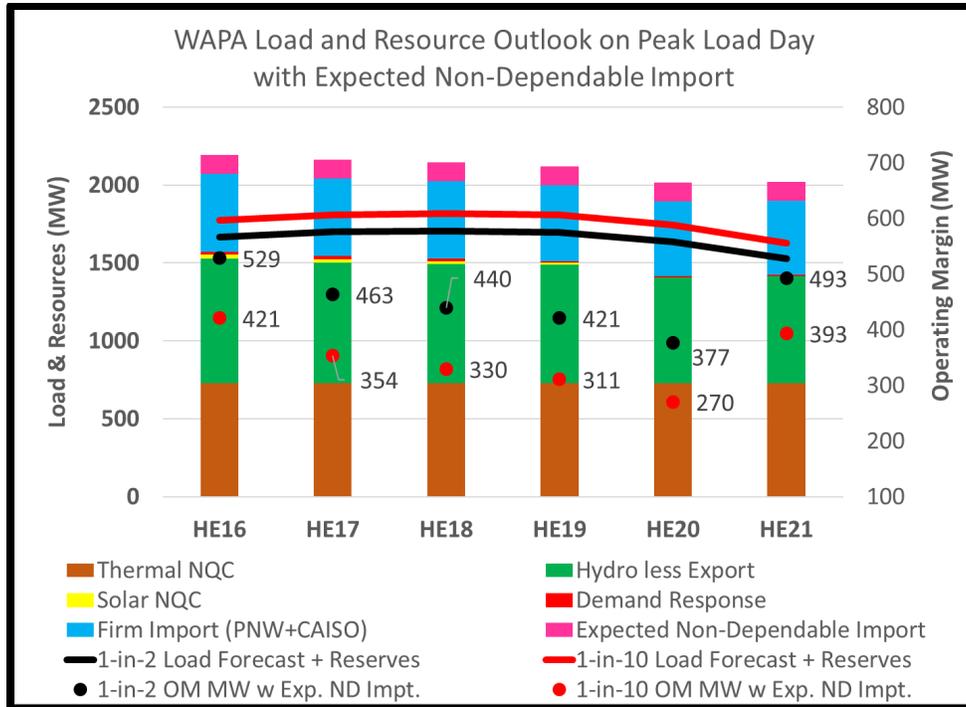


Figure 3-10: WAPA Base Case Load and Resources Outlook on Peak Load Day

The 2022 summer resource supply is similar to the 2021 summer resource supply:

- SMUD’s 2022 resource supply is at the same level as 2021 and is estimated to get more non-dependable import based on historical data. Therefore, SMUD’s 2022 operating margin is estimated to be higher than 2021 when counting the expected non-dependable import.
- WAPA’s 2022 CVP hydro capacity is estimated to be approximately 200 MW less than 2021 due to the worse water conditions. Therefore, WAPA’s 2022 operating margin is estimated to be less than 2021.
- Overall, from BANC BA’s perspective, the estimated 2022 operating margin is estimated to be at the same level as 2021.

3.9 Monte Carlo Probability Simulation

There are numerous uncertain factors that could affect the actual real-time operating conditions in the upcoming summer, such as unexpected generator outages may occur at any time, water conditions may still change, and extreme heat wave may cause load beyond the 1-in-10 forecast, etc. In order to further evaluate the risks that BANC BA and all BANC entities may encounter in the summer, the Monte Carlo probability simulation is conducted to assess BANC’s Loss of Load Probability (LOLP).

The Monte Carlo probability simulation produces a series of random sampling of data based on a mathematical distribution, such as Normal Distribution. Then, the operating conditions are developed based on the randomly sampled data to evaluate the operating risks. The simulated operating conditions are summarized as follows:

2022 BANC SUMMER LOADS & RESOURCES ASSESSMENT

- Simulate 2,000 cases for the critical hours HE16~HE21 of the peak load day, representing 2,000 years of simulation.
- Simulate thermal generator outages based on the Average Forced Outage Rate (AFOR) in the past 3 years, i.e., any thermal generator could be forced out of service based on AFOR.
- Simulate hydro generator capacity based on the actual operating capacity in the past 3 similar water years. The hydro generator capacity could be at any level between the minimum level and the maximum level that occurred during the past 3 similar water years.
- Simulate Solar and Wind generation output based on the historical data in the past 3 years. As the solar and wind generation are related to the temperature, solar and wind generation are simulated to be between the maximum and minimum levels in the past 3 years on the days when the temperature exceeded 100 °F.
- Simulate load demand beyond 1-in-10 peak load forecast.
- Simulate the reduction of non-dependable import when the load is higher than 1-in-10 forecast, indicating a West-Wide heat wave. The non-dependable import will be reduced to zero when the load reaches 1-in-20 forecast and beyond.
- The operating condition definitions in Table 3-2 are used to determine BANC BA status.

As shown in the Table 3-5 through Table 3-7 below, the LOLP study results indicate that

- (1) BANC BA has a low risk of 5.45% (or 1 day in 19 years) to be in EEA 3 and an extremely low risk of 0.55% (or 1 day in 182 years) with unserved energy, both of which are lower than the industry LOLP benchmark of 1 day in 10 years.
- (2) WAPA maintains sufficient Operating Margin in all 2000 cases
- (3) SMUD has a risk of 7.85% (or 1 day in 12 years) not being able to maintain positive Operating Margin. However, SMUD does not have unserved energy until BANC BA has unserved energy.

Table 3-5: BANC LOLP Study Results

BA Status	EEA 2	EEA 3	Unserved Energy
Number of Cases	119	109	11
Probability	5.95%	5.45%	0.55%
Number of Years	1 Day in 17 Years	1 Day in 19 Years	1 Day in 182 Years

Table 3-6: WAPA LOLP Study Results

WAPA Status	OM < DR	OM < 0	Unserved Energy
Number of Cases	0	0	0
Probability	0%	0%	0%
Number of Years	N/A	N/A	N/A

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Table 3-7: SMUD LOLP Study Results

SMUD Status	OM < DR	OM < 0	Unserviced Energy
Number of Cases	178	157	11
Probability	8.90%	7.85%	0.55%
Number of Years	1 Day in 11 Years	1 Day in 12 Years	1 Day in 182 Years

3.10 Wildfire Outlook

As California is becoming hotter and drier than recent history, these climate changes expand California's wildfire threat area and lengthen the fire season, increasing the risk and the impacts of the wildfires. The wildfire threat has become the No.1 risk to California utility operations. The Carr Fire and the Camp Fire in 2018 caused devastating impacts to people's lives. With a "Critically Dry" 2021-2022 water season, the dry vegetation may expand wildfire risk, potentially impacting the availability of transmission lines and generating units. Potential wildfires in or near the 500 kV line corridors pose a significant risk of derate to the COI (such as the Tucker Fire in July 2019 and the Bootleg Fire in July 2021), and potential wildfires in the mountain areas could affect the availability of hydro generating units (such as the King Fire in 2014 and the Carr Fire in 2018). Public Safety Power Shutdowns (PSPS) are now instituted by California utilities as a measure to mitigate wildfire risks. Under a program to coordinate impacts, the CAISO will provide emergency support to BANC entities in the event where a PSPS impacts the COI and reduces the availability of power to the point of threatening service to load.

According to the National Significant Wildland Fire Potential Outlook released by the Predictive Services National Interagency Fire Center on April 1, 2022, the wildfire risk for June and July is "Above Normal" for Northern California and "Normal" for Southern California as shown in the Figure 3-11 below. The wildfire outlook for August and September will be released on May 1, 2022.

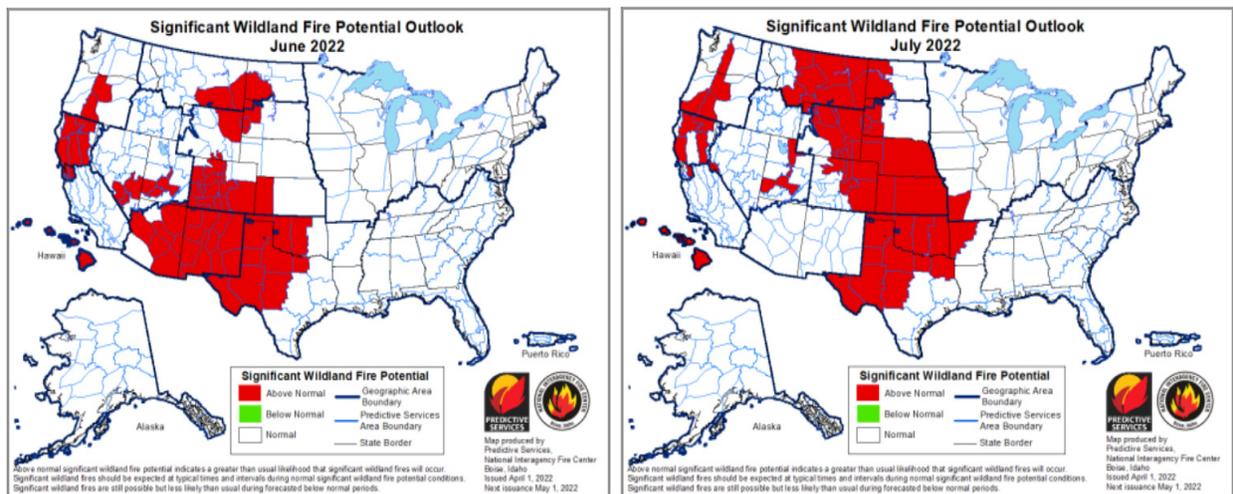


Figure 3-11: U.S. Significant Wildland Fire Potential Outlook for June and July 2022

3.11 Special Operating Scenarios

In addition to the base case analysis and LOLP study, four special operating scenarios are also simulated to assess the potential risks that BANC may face in the upcoming summer.

3.11.1 Loss of Two 500 kV Lines Due to Wildfires

With the “Above Normal” wildfire risk in 2022 summer as shown in Figure 3-11, there will be an above normal risk for COI to be derated due to wildfires. In the past 4 years, the wildfires created significant impacts to the California’s transmission grid, such as the Carr Fire in 2018 (taking out nine 230 kV lines), the Tucker Fire in 2019 (taking out two 500 kV lines), the Lake Fire in 2020 (taking out two 500 kV lines), and the Bootleg Fire in 2021 (taking out three 500 kV lines).

In order to capture the significant operational risk, the condition that two of the 500 kV lines in the COI transmission corridor trip due to wildfire is simulated to assess the impacts to BANC entities under both 1-in-2 and 1-in-10 load forecasts. The results are shown in the Figure 3-12 through Figure 3-14 and are summarized as follows:

- With the loss of two COI 500 kV lines, BANC would need to curtail more than 800 MW imports from Pacific Northwest (PNW) region which is approximately 70% of the total imports from PNW.
- Although BANC could still maintain sufficient operating margin under 1-in-2 load, BANC would have a risk of being in EEA 3 under 1-in-10 load.
- Although WAPA could maintain sufficient operating margin under both 1-in-2 load and 1-in-10 load, SMUD would not be able to maintain sufficient operating margin under either 1-in-2 load and 1-in-10 load.

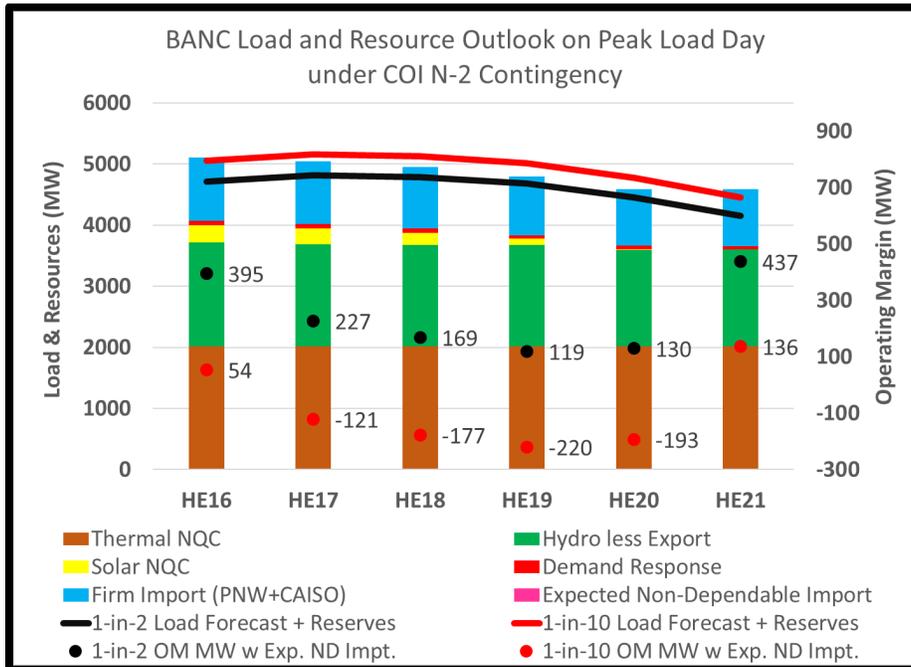


Figure 3-12: BANC Load & Resources Outlook under COI N-2 Contingency Due to Wildfires

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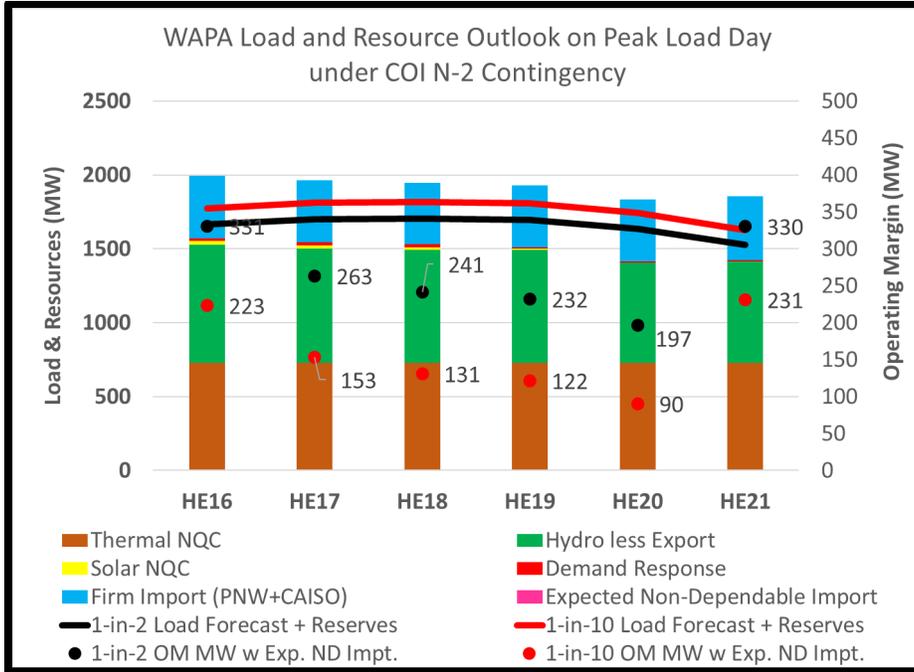


Figure 3-13: WAPA Load & Resources Outlook under COI N-2 Contingency Due to Wildfire

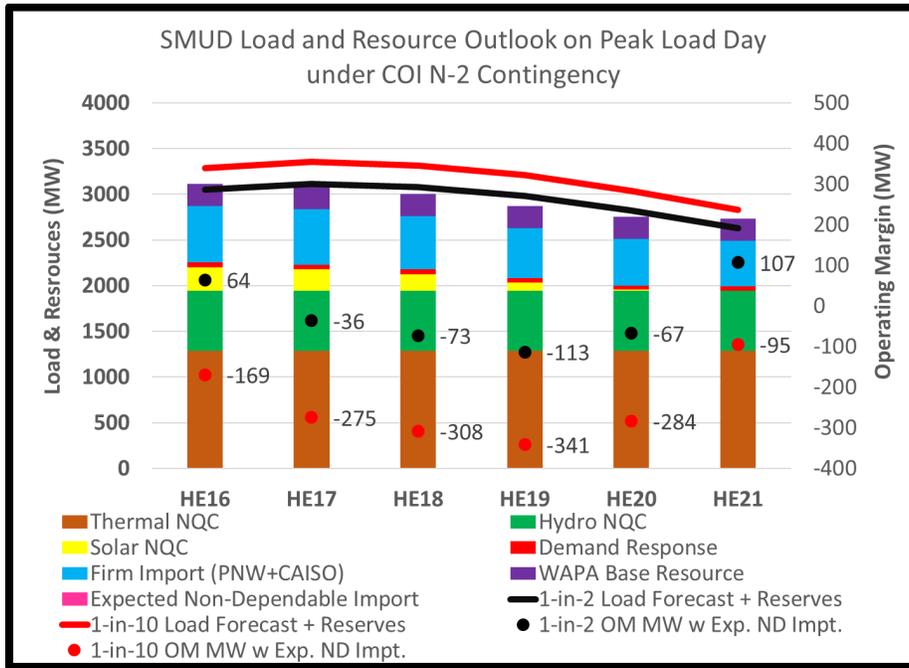


Figure 3-14: SMUD Load & Resources Outlook under COI N-2 Contingency Due to Wildfire

3.11.2 Extreme West-Wide Heat Wave

The BANC entities rely upon the energy and capacity that can be procured in the week-ahead and day-ahead timeframes from PNW and/or CAISO areas to serve load. These energy and capacity are normally available for BANC entities to import. However, they are non-dependable imports as they are not supported by long-term firm contracts. If an extreme west-wide heat wave

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causes high loads across the western U.S., those non-dependable energy and capacity may not be available to import.

A special operating scenario is evaluated in this assessment, where it is assumed that an extreme west-wide heat wave impacts the western U.S causing 1-in-20 load in BANC with no non-dependable imports available. The simulated 1-in-20 loads are listed in the Table 3-8 together with the 1-in-2 and 1-in-10 load forecasts as a comparison.

Table 3-8: Simulated 1-in-20 Peak Loads for BANC Entities

	Forecasted 1-in-2 Gross Peak Load (MW)	Forecasted 1-in-10 Gross Peak Load (MW)	Simulated 1-in-20 Gross Peak Load (MW)
SMUD	2950	3176	3240
WAPA Footprint	1563	1664	1693
MID	665	709	725
Roseville Electric	338	389	408
REU	236	238	239
Shasta Lake	36	37	37
Trinity PUD	25	28	29
BANC Total	4513	4840	4933

As shown in the Figure 3-15 through Figure 3-17, the analysis results indicate that SMUD would not be able to maintain sufficient Operating Margin for 1-in-20 load and BANC BA would also be in potential EEA 3 due to negative Operating Margin, although WAPA would still be able to maintain sufficient Operating Margin.

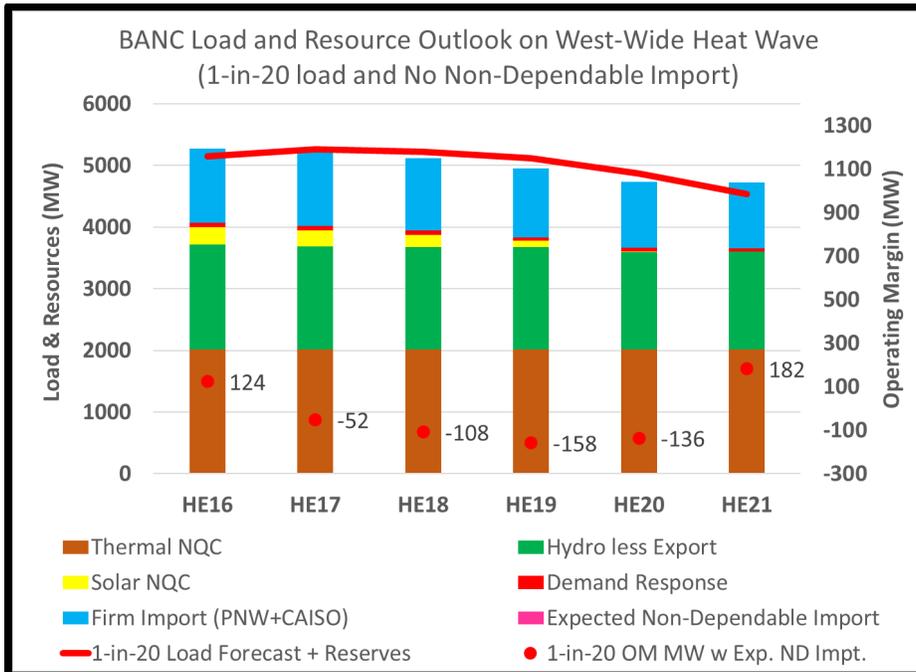


Figure 3-15: BANC Load & Resources Outlook with 1-in-20 Load and No ND Import

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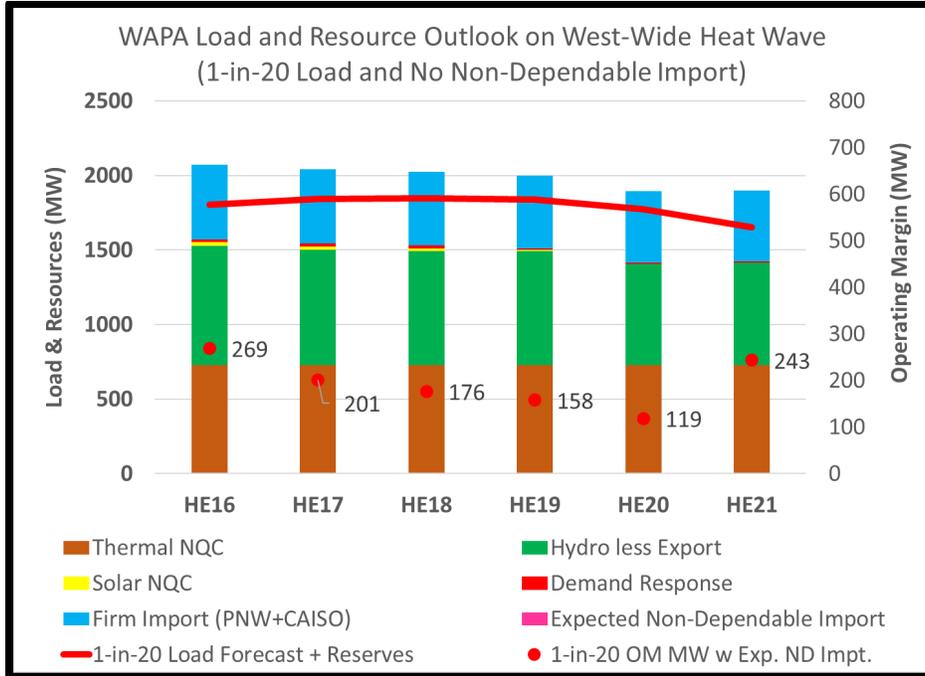


Figure 3-16: WAPA Load & Resources Outlook with 1-in-20 Load and No ND Import

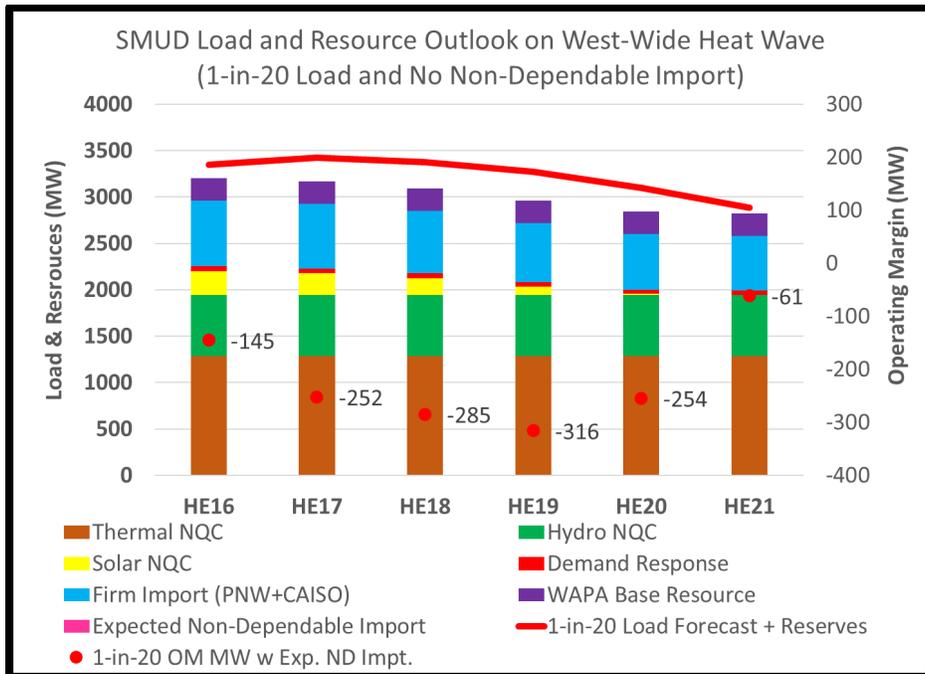


Figure 3-17: SMUD Load & Resources Outlook with 1-in-20 Load and No ND Import

3.11.3 CAISO in EEA 3

As the BANC entities also rely on importing the energy and capacity from the CAISO BAA, some of these imports may be subject to curtailment if the CAISO BA is in EEA 3. The current CAISO market rule is to treat the Price-Taker Exports, Price-Taker Wheels, and Self-Scheduled Load with the same priority in market optimization and they will be curtailed pro-rata if needed.

Therefore, if a rotating load shed event occurred again like August 2020, BANC entities' Price-Taker imports from CAISO would only be curtailed by a minimal amount of 1~4%. SMUD, WAPA, and BANC BA would still be able to maintain sufficient Operating Margins for both 1-in-2 and 1-in-10 load forecasts.

3.11.4 Smoke Impacts Due to Wildfires

During the Carr Fire and Camp Fire in 2018 and a series of wildfires in August 2020, the severe smoke and ash covered the central valley area for many days, reducing the output of solar generation. The analysis estimated that the solar generation could be reduced by 30~50% due to smoke, which would be approximately 90~150 MW reduction during the peak load hours.

However, further analysis showed that the smoke could also reduce the temperature and therefore reduce the load. In the heat wave of August 2020, the original weather forecast was above 110 °F for several consecutive days such that the original peak load forecast was above 4900 MW for BANC. However, due to the smoke cover and delta breeze, the original peak load forecast did not materialize. The estimated peak load reduction by smoke was approximately 3~5%, which was 140~230 MW.

Therefore, at the current solar generation level, the impact of smoke on solar output is less than the reduction on load for BANC. With more and more solar integration within BANC footprint, the impact of smoke on solar output could be more than the reduction on load.

3.12 Engineering Studies

The BANC entities coordinated with the neighboring BAs, TOPs, and RC West and performed the following engineering studies for the 2022 summer:

- California Operating Study Sub-committee (OSS)
- Sacramento Valley Study Group (SVSG)
- Westley Transmission Study Group (WTSG)

The OSS study focuses on COI transfer capability and produces the COI operating nomogram. the SVSG study focuses on determining the Load Serving Capability (LSC) of Sacramento Valley area (SMUD and RSC) and developing associated operating nomograms, and the WTSG study focuses on identifying the import and export limits for MID and TID and developing associated operating nomograms. All studies concluded that BANC will be able to serve the forecasted 2022 summer 1-in-2 and 1-in-10 load demands while meeting NERC/WECC Reliability Standards.

3.13 Conclusions

The 2022 forecasted 1-in-2 and 1-in-10 peak loads for BANC BA are 4513 MW and 4840 MW respectively. Although the 2021-2022 water season is classified as "Critically Dry" due to the less-than-70% precipitation and the less-than-30% snowpack, the summer load and resources assessment and engineering studies show that BANC will be able to meet the forecasted 1-in-2

2022 BANC SUMMER LOADS & RESOURCES ASSESSMENT

and 1-in-10 peak loads for the 2022 summer operating season with sufficient Operating Margins and low risks of energy or capacity shortage.

The BANC/SMUD Power System Operators and the System Operators and Dispatchers of WAPA, MID, RSC, & REU have been provided summer readiness training on the updated Operating Procedures to prepare for the 2022 summer operations. Additionally, BANC has coordinated with the State and local agencies, RC West, and neighboring BAs and TOPs to ensure reliable operations for the 2022 summer under normal and emergency system conditions.

**Balancing Authority of Northern California
Resolution 22-05-02**

**ACKNOWLEDGEMENT AND ACCEPTANCE OF THE 2022 SUMMER LOAD & RESOURCES
ASSESSMENT OF THE BALANCING AUTHORITY OF NORTHERN CALIFORNIA**

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, in consultation with the Operating Committee, the BANC Operator has produced the 2022 Summer Load & Resource Assessment (“Assessment”), which describes expected loads, resources, and operating conditions for the coming summer season, and the Operating Committee has concurred with the inputs, assessments, and conclusions contained therein.

NOW, THEREFORE, BE IT RESOLVED that the Commissioners of the Balancing Authority of Northern California hereby acknowledge and accept the Assessment.

PASSED AND ADOPTED by the Commissioners of the Balancing Authority of Northern California this 24th day of May 2022, 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

Balancing Authority of Northern California

Agenda Item 5C

1. *Resolution 22-05-03 Approval of Revised 2022 Annual Budget for BANC.*

BALANCING AUTHORITY OF NORTHERN CALIFORNIA

P.O. Box 15830 • MS B305 • SACRAMENTO • CA 95852 -1830

5/20/22

To: BANC Commissioners
From: Jim Shetler, General Manager
RE: 2022 Budget Update and EDAM Benefit Analysis Contract

In past Commission meetings, staff has indicated a potential need for adjustments to the 2022 BANC Budget. Areas of focus for potential adjustment for the 2022 Budget include the following:

1. Base Budget
 - a. Resource Committee Support (Budget = \$100,000)
 - b. Contingency (Budget = \$100,000)
2. PA-4: EDAM and Other Markets Evaluation (Budget = \$364,000)

With respect to Base Budget, Resource Committee Support, BANC has identified the following activities for 2022:

- SB100 Support via contract with CMUA (includes program management through BBSW and technical support from Brattle) – forecasting \$~55,500 in 2022
- Development of BANC Resource Adequacy Principles – contract signed with Customized Energy Solutions (CES) for \$15,000 in 2022
- Negotiation of BANC resource project – Discussions have commenced with a potential seller counterparty proposed to be located within the BANC BAA. If we decide to move forward with negotiating a term sheet/contract for this project, the main costs will be legal support from BBSW and consultant support from Gridwell on BESS approach. We have been using the Base Budget legal retainer with BBSW for the minor legal support needed to date. We also have up to \$20,000 in contract support from Gridwell. Staff is not suggesting revising the budget to support negotiations for this project at this time. If the interested participants elect to go forward with the project, then staff would suggest we come back to the Commission with a Participation Agreement (PA) for this effort at that time with the estimated budget.

Thus, the current forecast for Resource Committee Support for 2022 is in the range of \$70,500-90,500, which is within the current budget.

A JOINT POWERS AUTHORITY AMONG

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

With respect to the Base Budget, Contingency, BANC has identified \$~40,000 in 2022 expenditures against the Contingency to cover the contract the Commission approved for our share of EIM Governance Review Committee (GRC) support from Therese Hampton. Thus, the current forecast is within the budget.

With respect to PA-4: EDAM and Other Markets Evaluation, staff is recommending a revision to the budget. When the budget was first proposed, we were not sure what the scope of EDAM reengagement would be for 2022, the effort involving SPP Markets+, or what the Western Market Evaluation Group (WMEG) might entail. The actual efforts for the first two initiatives are requiring more time from BBSW than originally budgeted for PA-4 (\$200,000). With the current plans outlined by CAISO for EDAM and SPP for Markets+, BBSW was requested to provide a revised estimate for their support for 2022. This increase is largely driven by the increased cadence of CAISO engagement, as well as the other relevant work on related market development efforts, which is now forecasted to be \$(265,000), which is a \$(65,000) increase over the current budget. We currently believe the WMEG effort will mainly involve the General Manager and there are remaining contingency dollars to cover any minor support from BBSW. We understand that there will be a share of consultant costs that we will be asked to fund, which is estimated at \$~100,000 and we recommend adding to the PA-4 estimate. In addition, we had assumed that a minor review of the original benefits study conducted by Brattle for EDAM would be necessary as we considered EDAM participation, which was budgeted at \$20,000. However, with the split in EIM Entity interest in EDAM vs. SPP Markets+ and the further definition of the market design for EDAM, it is expected that the benefits update will be somewhat more complicated and with less likely EIM Entity participants to share in the costs. BANC was recently approached by Pacificorp regarding a benefits update study that they have initiated with Brattle. Pacificorp has suggested that they would be willing to share the update effort with both BANC and Idaho Power. The scope for this study effort is attached to this letter. Based upon discussions among the three entities, we have identified BANC's share for this effort to be \$~100,000, which includes our share (based upon NEL) of the overall study plus efforts to provide initial BANC specific results. We have also held sidebar discussions with Brattle regarding potential sensitivity work we might want to have performed, including an estimate of individual BANC participant benefits and an option to add COTP transfers into the market. The scope of this additional work is also attached to this letter. The initial estimate from Brattle for this additional scope is \$75,000. This brings the total estimate for the EDAM benefits analysis to \$175,000, which we would offset in part by the original budget estimate of \$20,000. The result would be a \$155,000 increase.

Therefore, staff is recommending an overall increase in the PA-4 budget of \$320,000 to a new amount of \$684,000, including contingency, as shown in the revised PA-4 attached. We would request Commission approval of this budget amendment and approval to authorize the General Manager to enter into a joint contract with Pacificorp and Idaho Power for an updated EDAM benefits analysis and with Brattle for the additional BANC specific scope of work for the benefits analysis, and other agreements as necessary consistent with budget parameters and the scope of work described above.

Attachment 1: Scope of Work for Updated EDAM Benefits Analysis

1. Study Overview

PacifiCorp, together with BANC and Idaho Power (collectively the Study Participants or Study Group) propose to hire the Brattle Group (the Consultant) to complete an EDAM Benefit Refresh Study (the Study). Unlike the Consultant's previous EDAM feasibility study, where it was assumed that all EIM participants would be part of the EDAM footprint, the primary goal of this study will be to quantify the incremental cost and benefits related to more limited EDAM participation consisting of the Study Participants plus NV Energy, LADWP and CAISO.). This new EDAM analysis would also be based on the revised EDAM market design (to be published end of April 2022) and produce results for the individual Study Participants under this new design. For the purpose of this study, NV Energy and LADWP will only be modeled (passively) as part of the EDAM footprint and neither party will be a formal Study Participant. To maintain the independence of the study results, CAISO will not be a formal Study Participant but has agreed to provide the Study Group and the Consultant with data and support, as needed. The study is scoped to be completed within four months from notice to proceed.

The Study will leverage the Consultant's existing WECC-wide EDAM feasibility study¹ model as well as the large number of data updates, refinements, and feature extensions developed as part of a 2022 transmission study commissioned by PacifiCorp. The Consultant will build on detailed EIM participant data collected for the initial EDAM feasibility study (under the original NDA) and utilize the model features developed during this effort—which include the representation of WECC trading hubs and day-ahead block-trading, transmission rights and contract paths across the WECC footprint, hourly trading options, and the day-ahead, intra-day, EIM unit commitment, dispatch, and trading cycles and functionality. In addition to this functionality of the original EDAM feasibility model, the Study will be able to build on (a) updated resource plans for PacifiCorp, CAISO, and other utilities; (b) capture and model real-world challenges such as heat waves, cold snaps, and wildfire-related transmission outages modeled based on actual historical events; (c) capture and quantify the challenges of day-ahead renewable forecasting uncertainties; and (d) reflect a possible future consolidation of PacifiCorp's balancing areas (if desired).

The current study design assumes that the Consultant will work with each Study Participant to collect and update the Model with the information and data deemed most relevant to be impactful to the Study results. Once the proposed EDAM market design is known, the Consultant will implement and test any needed model adaptations. Depending on the proposed elements of the new EDAM market design, and already accounted for in the study budget, the Consultant may partner with E3 to re-estimate each Study Participant's resource sufficiency requirements or conduct the needed analyses in house.

In addition to estimates of EDAM-related benefits, the study results will include: projected future market prices (with and without EDAM) for WECC trading hubs and study participants' balancing areas; changes in projected trading patterns (block trades, bilateral trades, EIM and EDAM transactions); EDAM footprint-wide and participant-specific changes in generation commitment and dispatch, generation and costs, purchased power volumes and costs, off-system sales volumes and revenues, as well as changes in wheeling revenues and trading margins. Similar to the results from the initial EDAM study, each Study

¹ The EDAM feasibility study model is available for follow-on studies to PAC and other EDAM feasibility study participants (which included all EIM participants at the time of the EDAM feasibility study) under the confidentiality agreement signed for the EDAM feasibility study.

Participant will receive both general study results for the assumed EDAM footprint as well as confidential company-specific results. As specified, the Consultant will model NV Energy as being part of the EDAM study footprint (without NV Energy being a Study Participant).

The preliminary estimate of the total project budget for the study is \$533,000 for which PacifiCorp would hold the contract. The Consultant will be engaged collectively by all the Study Participants. To streamline contracting and administrative burden, PacifiCorp will function as the contract holder. PacifiCorp will staff the Project Director who will work closely with all Study Participants to facilitate an efficient, collaborative and outcome-oriented study process including one to two individuals dedicated by each Study Participant.

2. Scope of Services

Task 1. Kick-off Meeting & Data Collection

Kick-off Meeting

Consultant will hold a 2-hour study kick off meeting to finalize reviewed approach, agree on communication and data collection processes, project schedule, and identify what data/updates will be required for each Study Participant and which of these data will be available within the required timeline. Within 3 business days of the kickoff meeting, Consultant will provide the Project Director with a summary of any process or study approach refinements and/or schedule updates that will be required to accommodate the Study Group's needs or objectives.

Data Collection

Consultant will provide each Study Participant with a data collection list needed to complete all key model data input updates as well as instructions on how to facilitate the data transfers. Consultant will engage with each Study Participant to collect the required data within a period not to exceed 3 weeks.

Deliverables and Timeline:

1. Kick-off meeting: Within 1 week of notice to proceed (NTP)
2. Kick-off meeting summary and refinements: Kick-off meeting + 3 business days
3. Data collection lists by Study Participant: Kick-off meeting + 5 business days
4. Complete collection and initial review of data for all Study Participants: Kick-off meeting + 6 weeks

Task 2. Update Existing EDAM Model

Consultant will complete the following model updates:

- Add Bonneville Power Administration (BPA) and Avista to the modeled EIM footprint
- Adjust the EDAM footprint to only include Study Participants, NVE, LADWP and CAISO

- For CAISO, NVE and LADWP, collect required data regarding resource mix and/or other relevant data
- For each Study Participant
 - Refresh resource mix based on most recent (and completed) IRP
 - Integrate most recent resource plans, load forecasts, fuel price forecasts, transmission plans, etc.
 - Collect any other data needs identified prior to and during the kickoff meeting
- Initiate all testing to ensure model is operational.

Deliverables and Timeline:

1. Complete specified model updates: NTP + 8 weeks

Task 3. Review and Model Proposed EDAM Design

Consultant will review proposed EDAM design and host a working session with Study Participants to present an overview of the modeling changes required to implement the specific design as well as any relevant implications or considerations. Following the working session, the Consultant will update the model in accordance with the agreed approach. Consultant shall complete all needed testing to ensure model functions correctly and properly reflects the new EDAM market design.

Deliverables and Timeline:

1. Working Session: Knowledge of EDAM Market Design (when CAISO releases the design, or we can find out from CAISO) + 2 weeks
2. Update and test model to integrate new EDAM design: Knowledge of EDAM Market Design + 6 weeks

Task 4. Update EDAM Resource Sufficiency Analysis

Consultant will review the resource sufficiency requirement of the proposed EDAM design and assess the updates that need to be made to the EDAM feasibility study's estimates of resource sufficient requirements. Depending on the nature of the necessary updates, Consultant will either make these updates in house or subcontract with E3 (who estimated resource sufficiency requirements during the feasibility study in collaboration with the Consultant) to update these estimates. Consultant shall complete all needed testing to ensure the updated resource sufficiency requirement is implemented correctly in the simulations.

Deliverables and Timeline:

1. Update estimates of future resource sufficiency requirements for EDAM participants: Knowledge of EDAM Market Design + 6 weeks

2. Test model implementation of updated resource sufficiency requirements: Knowledge of EDAM Market Design + 8 weeks

Task 5. Simulate EIM+EDAM and EIM-only Cases to Estimate Incremental EDAM Benefits

Consultant shall simulate WECC-wide, EIM-wide, and EDAM-participant footprints for two cases: (1) an EIM-only “status quo” case; and (2) an EIM+EDAM case. The benefit of adding EDAM would then be estimated for these footprints based on the difference between the EIM+EDAM case and the EIM-only case.

Consultant will use the benefit metrics developed for the EDAM feasibility study, which included (a) adjusted production cost savings; (b) trading related impacts (such as congestion revenues, wheeling and other transmission revenues, and trading margins); (c) investment cost savings from reduced renewable curtailment; and (d) emissions impacts.

We will calculate and report benefits for the EDAM footprint as a whole and for each EDAM Study Participant individually.

Deliverables and Timeline:

1. Simulate EIM+EDAM and EIM-only cases: Knowledge of EDAM Market Design + 10 weeks
2. Determine WECC-wide, EIM-wide, and EDAM-participant impacts based on the difference between the two cases: Knowledge of EDAM Market Design + 12 weeks
3. Estimate EDAM benefits for the EDAM footprint and the individual EDAM participants: Knowledge of EDAM Market Design + 12 weeks

Task 6. Document Study Results

In order to document the study results, Consultant will create the following deliverables:

1. Detailed PowerPoint presentations documenting the overall study approach, assumptions, and results for the Participant Group. This presentation will be based on aggregated data and results, without disclosing the confidential data and results for each Study Participant). Consultant will present these results to the Study Participants in a joint meeting
2. For each Study Participant, the Consultant shall create a PowerPoint presentation summarizing company-specific results. These presentations will be for the Study Participant’s internal usage only and will not be shared with other Study Participants. Consultant will give a one-hour presentation to an audience specified by the Study Participant representative.

Deliverables and Timeline:

1. Draft and Final PowerPoint Presentation of Study Group result: NTP + 14 weeks (draft) and NTP + 15 weeks (final) (assuming the EDAM market design is released no later than 2 weeks after project start)
2. Final participant-specific study results (confidential) presentations: NTP + 16 weeks (assuming the EDAM market design is released no later than 2 weeks after the project start)

Task 7: Market Design Consulting

Consultant will provide up to 40 hrs. in strategic market design consulting to Study Partners to help inform/evaluate proposed market designs and/or formulate alternatives. Consultant needs to provide email proposal for proposed scope and hours before proceeding with any work.

Deliverables and Timeline:

1. On ad need basis, provide ad hoc market design consulting services.

Task 8: Additional EDAM Sensitivities

If requested, Consultant shall analyze up to 3 additional sensitivities covering topics such as different assumptions regarding EDAM participation (EDAM footprint) or different EDAM study assumptions (e.g., different EDAM design or different EDAM operational assumptions, such as amounts of transmission made available for EDAM). The consultant would provide a sensitivity-specific letter proposal to the Project Manager.

Deliverables and Timeline:

1. Up to three scenarios: The time to simulate the three sensitivities will depend on the complexity of sensitivities, but will likely require 3-4 weeks to complete.
2. Consultant to provide documentation and Study Group-level results for each scenario.

Budget: \$31,000 per scenario. Max of three scenarios for a total budget of \$118,000.

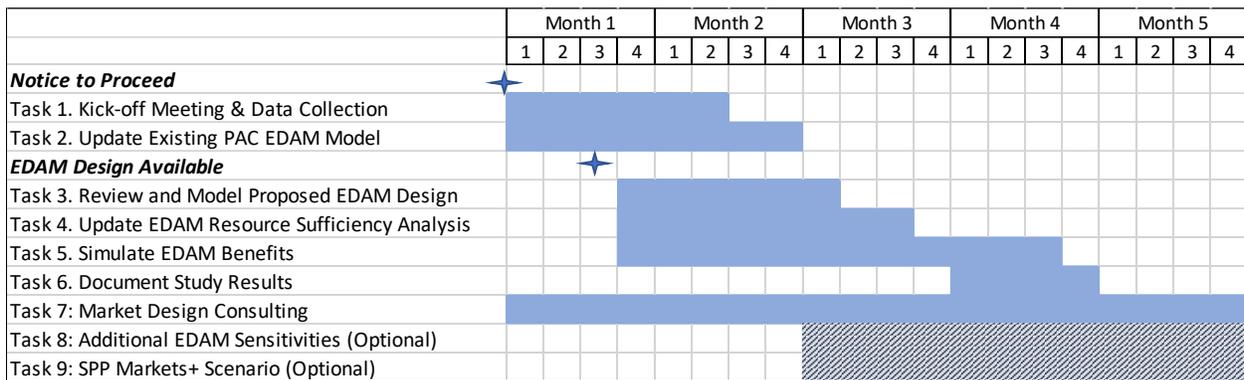
Task 9: (Optional): Additional EDAM Sensitivity with SPP Markets+ Footprint

If requested, Consultant shall analyze up to 3 additional sensitivities covering topics such as different assumptions regarding EDAM participation (EDAM footprint) or different EDAM study assumptions (e.g., different EDAM design or different EDAM operational assumptions, such as amounts of transmission made available for EDAM). The consultant would provide a sensitivity-specific letter proposal to the Project Manager.

Deliverables and Timeline:

1. Consultant will work with the Study Participants to determine which entities in the WECC will be modeled as participating in the SPP Markets+ footprint.
2. Consultant will simulate two, the EIM-only and EIM+EDAM Cases, with the SPP Markets+ footprint represented in the model.
3. Consultant to provide documentation, Study Group-level results, and individual Study Participant results.

3. Timeline and Budget



Task	Budget
1. Kick-off Meeting & Data Collection	\$ 20,000
2. Update Existing PAC EDAM Model	\$ 60,000
3. Review and Model Proposed EDAM Design	\$ 75,000
4. Update EDAM Resource Sufficiency Analysis	\$ 50,000
5. Simulate EDAM Benefits	\$ 100,000
6. Document Study Results	\$ 50,000
7. Market Design Consulting	\$ 25,000
8. Additional EDAM Sensitivities (Optional)	\$ 118,000
9. SPP Markets+ Scenario (Optional)	\$ 35,000

Total	\$ 533,000

4. Cost Sharing

PacifiCorp will hold the primary contract with the Consultant. However, given the value of the proposed study to all Study Participants, the following represent the agreed upon cost allocation percentages and related cost shares for the Study:

Entity	2021 Retail Sales (MWhs)	Allocation Percentage	Study Cost Share
PAC	56,274,000	63.1%	\$ 336,355.98
IPC	15,406,000	17.3%	\$ 92,083.38
BANC	17,493,506	19.6%	\$ 104,560.64
	-----	-----	-----
Total	89,173,506	100.0%	\$ 533,000

The Study Participants will execute a separate cost share letter.

Attachment 2: Additional Scope for BANC Specific EDAM Benefits Update

Task 1: Breakdown of BANC's benefits into five sub-areas:

- To complete this analysis, BANC will provide three pieces of information:
 1. The hourly load data for the five sub-areas,
 2. The share of generation resources owned or contracted by each of the five sub-areas, and
 3. The formula used to allocation market costs and revenues under EIM between the five sub-areas (we will assume that a similar formula will be used under EDAM, unless BANC provides a different formula)
- Brattle will calculate the APC metric for each of the five sub-areas of BANC using the simulated prices from our cases developed as part of the joint study with PAC and IPC.
- Brattle will determine how much of the additional market revenues (e.g., congestion costs and revenues) calculated from the simulation will be allocated to each of the five sub-areas based on the formula provided by BANC.
- Brattle will provide summary tables and description of the benefits in PowerPoint slides.
- Budget: \$30,000

Task 2: California-Oregon Transmission Project (COTP) Sensitivity

- This sensitivity will test the impact on benefits to BANC (and the five sub-areas) from adjusting how much transfer capability on the COTP is made available for use in the EDAM market.
- The sensitivity will start with EDAM market case developed as part of the joint study with PAC and IPC, and the Brattle team will adjust the assumption used in the case for much how transfer capability on COTP available for use in the EDAM market. BANC will provide the information used to develop the COTP transfer assumption.
- Brattle will re-simulate the EDAM market case with the new COTP transfer capability assumption and re-estimate all benefit metrics for BANC and for the five sub-areas based on the new simulation.
- Brattle will provide summary tables and description of the benefits in PowerPoint slides.
- Budget: \$45,000 (Assumes Task 1 is completed, and we have the information, data, and methodology in place for calculating benefits for the five sub-areas).

Attachment 3: Amended PA-4: EDAM and Other Markets Evaluation

1. Participation Agreement #4 (PA-4) – Extended Day-Ahead Market (EDAM) and Other Market Opportunities Evaluation - Amended

a. Assumptions

- i. In light of the issues coming out of the Summer 2020 Heat Wave Incidents and increased activity in the West regarding resource adequacy and possible West-wide RTO, the discussions on day-ahead market expansion have become more complicated. The EDAM effort was placed on hold for the Summer of 2021. Though there is still a level of interest in EDAM, there are also many of the EIM Entities that are discussing alternative day-ahead market options separate from the CAISO market. In addition, several states have either passed or are considering passing legislation mandating utility consideration of joining a West-wide RTO. Thus, it is difficult to project a schedule for a transition to a day-ahead market. However, it is assumed that it is in BANC's best interest to "stay at the table" in the various discussions.
 - ii. It is assumed that all Participating Resources (SMUD, MID, WAPA-SNR, Roseville, and Redding) participate in this effort. (NOTE: Shasta Lake loads assumed part of Redding load for this allocation). Cost allocation based upon 3-year rolling average NEL as follows:
 1. SMUD – 64.5%
 2. MID – 14.9%
 3. WAPA-SNR – 8.1%
 4. Roseville – 6.9%
 5. Redding – 5.6%
- b. Estimated costs for monitoring day-ahead market development, including EDAM continued engagement, under PA-4 are initial estimates based upon discussions among the EIM entities, CAISO, and BANC staff, including BBSW support and consultant support as noted.

IMPLEMENTATION CATEGORY	COST ESTIMATE	SMUD	MID	WAPA-SNR	ROSEVILLE	REDDING
Legal Support	\$ 265,000.00	\$ 170,925.00	\$ 39,485.00	\$ 21,465.00	\$ 18,285.00	\$ 14,840.00
Consultant Support						
~ Cost Eval. (Utilicast)	\$ 25,000.00	\$ 16,125.00	\$ 3,725.00	\$ 2,025.00	\$ 1,725.00	\$ 1,400.00
~ Update Ben. Study (Brattle)	\$ 175,000.00	\$ 112,875.00	\$ 26,075.00	\$ 14,175.00	\$ 12,075.00	\$ 9,800.00
~ Market Dev, Spt. (CES)	\$ 24,000.00	\$ 15,480.00	\$ 3,576.00	\$ 1,944.00	\$ 1,656.00	\$ 1,344.00
~ Market Eval. Spt. (TBD)	\$ 100,000.00	\$ 32,250.00	\$ 7,450.00	\$ 4,050.00	\$ 3,450.00	\$ 2,800.00
~ Total	\$ 374,000.00	\$ 241,230.00	\$ 55,726.00	\$ 30,294.00	\$ 25,806.00	\$ 20,944.00
Total Estimate	\$ 639,000.00	\$ 412,155.00	\$ 95,211.00	\$ 51,759.00	\$ 44,091.00	\$ 35,784.00
Contingency (~20%)	\$ 45,000.00	\$ 28,935.00	\$ 6,570.00	\$ 3,870.00	\$ 3,105.00	\$ 2,520.00
TOTAL for 2021	\$ 684,000.00	\$ 441,090.00	\$ 101,781.00	\$ 55,629.00	\$ 47,196.00	\$ 38,304.00

**Balancing Authority of Northern California
Resolution 20-05-03**

APPROVAL OF REVISED 2022 ANNUAL BUDGET FOR BANC

WHEREAS, the Balancing Authority of Northern California (“BANC”) Joint Powers Agreement (“JPA”) Section 11.4 describes both the responsibilities and the non-delegable duties of the BANC Commission which include approving an annual budget and approving assessments to each Member; and

WHEREAS, JPA Section 12 provides that the BANC Commission may assess each Member for its respective Participation Percentage share of funds required to carry out BANC’s purposes as specified in the annual budget; and

WHEREAS, BANC Resolution 12-02-03 established a process whereby Member assessments shall be required no less than two times per year; and

WHEREAS, the General Manager worked to develop a revised budget as a result of scope changes related to the Base Budget, Resource Committee Support, and PA-4: EDAM and Other Markets Evaluation; and

WHEREAS, the General Manager has prepared exhibits incorporating the revisions to PA-4: EDAM and Other Markets Evaluation for consideration and possible adoption by the Commission.

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

1. Approve the amended sections to the 2022 Annual Budget for BANC as described in the preceding memo and in the form attached to that memo as Attachment 3.
2. Directs the BANC Treasurer to assess each BANC Member in accordance with Resolution 12-02-03 and WAPA in accordance with the existing agreement (19-SNR-02253) between BANC and WAPA.

PASSED AND ADOPTED by the Commissioners of the Balancing Authority of Northern California this 24th day of May, 2022, 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

Balancing Authority of Northern California

Agenda Item 5D

1. ***Resolution 22-05-04 Authorization of Amended Legal Services Agreement with Braun Blaising Smith Wynne, P.C. and Approval of Legal Services Agreement with Western Energy Advocates, P.C.***

Braun Blaising Smith Wynne, P.C.

Attorneys at Law

5/19/22

To: BANC Commission

From: BANC Counsel

RE: BBSW Amendment(s) to Legal Services Agreement for PA-4 Budget Updates and WEA Contract

In March, Kevin Smith, currently a shareholder of Braun Blaising Smith Wynne, P.C. (“BBSW”) announced his intention to separate from BBSW and begin a solo practice (“Western Energy Advocates, P.C.”) effective July 1, 2022. Since then, the BANC General Manager, Mr. Smith, and BBSW have discussed evolution of work to continue services by Mr. Smith through WEA on behalf of the Balancing Authority of California (“BANC”), in a collaborative role along with BBSW.

It is anticipated that WEA will render services across a variety of BANC matters as Mr. Smith does today. For budgeting purposes, it is anticipated that Mr. Smith’s time will be accounted for in the PA-4 and under General Retainer Services.

This change has no budget impacts. Budget dollars will be allocated between BBSW and WEA. It is further worth clarifying that the budget increases in PA-4 are not driven at all by this revised legal structure, but by the increases work under PA-4.

This change does require modification to the existing BBSW contract to reflect changed total and individual budget amounts, as well as execution of a new contract with WEA. The WEA contract is beyond the delegated authority of the General Manager. Thus, the accompanying resolution requests authorization and direction from the Commission to the General Manager to execute a standard engagement agreement with WEA similar to the already-approved BBSW agreement, and to make consequent changes to the existing BBSW agreement.

**Balancing Authority of Northern California
Resolution 22-05-04**

**AUTHORIZATION OF AMENDED LEGAL SERVICES AGREEMENT
WITH BRAUN BLAISING SMITH WYNNE, P.C. AND
APPROVAL OF LEGAL SERVICES AGREEMENT WITH WESTERN ENERGY ADVOCATES, P.C.**

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 has worked with Braun Blaising Smith Wynne, P.C. ("BBSW") since BANC's formation; and

WHEREAS, BBSW currently services as General Counsel and also provides other project services; ; and

WHEREAS, one member of BBSW that works on BANC matters is moving to a separate legal practice, the Western Energy Advocates, P.C.; and

WHEREAS, the BANC General Manager, BBSW and WEA wish to commence a collaborative arrangement to continue legal services in an uninterrupted fashion for the benefit of BANC and its members; and

WHEREAS, the BANC General Manager recommends a new legal engagement agreement with WEA and an amended agreement with BBSW to effectuate this change; and

WHEREAS, the budget impacts are proposed or anticipated; and

WHEREAS, expenditures under the WEA agreement may exceed BANC General Manager's delegated contracting authority, which is limited to \$25,000.

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

1. Enter into a Legal Services Agreement with WEA, consistent with the existing form of the BBSW agreement; and
2. Enter into an amendment to the current agreement with BBSW to reflect this new arrangement.

**Balancing Authority of Northern California
Resolution 22-05-04**

PASSED AND ADOPTED by the Commissioners of the Balancing Authority of Northern California this 24th day of May 2022, 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 Takahara				
SMUD	Paul Lau				
TPUD	Paul Hauser				

James McFall
Chair

Attest by: C. Anthony Braun
Secretary

Balancing Authority of Northern California

Agenda Item 5E

1. **Resolution 22-05-05 *Accepting and Adopting the BANC Member Participation Percentages for 2022.***
2. **Attachment A to Resolution 22-05-05: Participation Percentages.**

**Balancing Authority of Northern California
Resolution 22-05-05**

**ACCEPTING AND ADOPTING THE BANC MEMBER
PARTICIPATION PERCENTAGES FOR 2022**

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

1. Accept the 2022 Participation Percentages, attached hereto as Exhibit A, to be effective January 1, 2022.

PASSED AND ADOPTED by the Commissioners of the Balancing Authority of Northern California this 24th day of May, 2022, 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

Attachment A to Resolution 22-05-05

2022 (based on 2020 numbers)

Member	2020 Retail		Final for 2021	Diff	Final for 2022
	2020 Retail Sales	Sales % (Rounded)			
MID	2588	16.90%	16.80%	0.10%	16.80%
Redding	737	4.90%	4.90%	0.00%	4.90%
Roseville	1150	7.60%	7.60%	0.00%	7.60%
SMUD	10415	68.60%	68.70%	-0.10%	68.70%
Trinity	108	0.70%	0.70%	0.00%	0.70%
Shasta	194	1.30%	1.30%	0.00%	1.30%
	15192	100.0%	100.00%		100.00%

Conclusion for 2022: because there was not a change of more than 0.2% in any Member's share from the 2021 participation percentages, the 2022 participation percentages will remain the same.

Balancing Authority of Northern California

Agenda Item 5F

1. **Resolution 22-05-06 *Authorization for the General Manager to Enter into Contracts with Pacificorp and The Brattle Group to Participate in an EDAM Benefits Study.***

Braun Blaising Smith Wynne, P.C.

Attorneys at Law

5/20/22

To: BANC Commission

From: BANC Counsel

RE: Authorization of Amendment to Contract for Services Related to EDAM & Approval of Contract with Pacificorp to Participate in EDAM Benefits Study Update

In a prior Commission meeting, the BANC Commission approved the engagement of The Brattle Group for consulting services associated with evaluation of the proposed Extended Day Ahead Market (EDAM) via Resolution 19-05-08 *Authorization of Contract for Services Related to EDAM Feasibility Assessment*. This was budgeted for and approved under task PA-4 in the 2019 BANC Budget.

The current agreement breaks the work into three (3) discreet phases:

- Phase I: Review EDAM Footprint-wide Feasibility Analysis
- Phase II: Review BANC/SMUD-specific Results
- Phase III: Sensitivity Analyses and Strategic Planning

The General Manager is requesting to add a Phase IV for potential ongoing analyses during EDAM market design that will occur as a part of the CAISO EDAM stakeholder process. The Scope of Work for this Phase IV is included as Attachment 1 to the revised 2022 budget in this packet. As described in the budget revisions materials, the evolution of EDAM, including the fact that it seems apparent EDAM will evolve and initially, at least, not include the totality of the EIM Entities, required a reassessment of the study scope and consequent cost and cost allocation among participants. The initial estimate from Brattle for the additional scope under their contract with BANC is \$75,000.

BANC was also recently approached by Pacificorp regarding a benefits update study that they have initiated with Brattle. Pacificorp has suggested that they would be willing to share the update effort with both BANC and Idaho Power. The scope for this study effort is included as Attachment 1 to the revised 2022 budget. Based upon discussions among the three entities, BANC's share for this effort is estimated to be \$~100,000, which includes BANC's share (based upon NEL) of the overall study plus efforts to provide initial BANC specific results.

The General Manager's delegated contracting authority is limited to \$25,000. As such, the General Manager is requesting Commission approval and authorization to increase the total

expenditure of the contract with The Brattle Group to accommodate the additional Phase IV change and to enter into a separate contract with Pacificorp and other study participants, as noted above.

Additional information regarding the budget changes associated with these two changes is included in the budget materials provided in this packet. The requested amounts are within the authorized budget approved by the Commission under budget item PA-4 (FA Consulting Services) and will be funded by all BANC EIM participants in accordance with previously approved allocation percentages.

**Balancing Authority of Northern California
Resolution 22-05-06**

**AUTHORIZATION FOR THE GENERAL MANAGER TO ENTER INTO CONTRACTS
WITH PACIFICORP AND THE BRATTLE GROUP TO PARTICIPATE IN AN EDAM BENEFITS STUDY**

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 participated in a Feasibility Assessment among the EIM Entities and the California Independent System Operator to evaluate whether a proposed Extended Day Ahead Market (“EDAM”) would have adequate benefits and would be otherwise feasible; and

WHEREAS, during that Feasibility Assessment process, BANC separately engaged The Brattle Group to gain a more specific understanding of results and sensitivities that would affect BANC and its members directly; and

WHEREAS, the EDAM development process at the CAISO has matured to a point where certain EIM Entities desire to refresh the early Feasibility Assessment to reflect changed circumstances since the initial and broader effort; and

WHEREAS, PacifiCorp is undertaking contract administration duties for those multi-party studies which necessitate an agreement for cost-sharing and other administrative matters with PacifiCorp; and

WHEREAS, BANC would benefit from further extending the relationship with Brattle to undertake a BANC-specific EDAM assessment; and

WHEREAS the BANC General Manager’s delegated contracting authority is limited to \$25,000;

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

Authorize the General Manager to enter into a contract with PacifiCorp in an amount not to exceed \$100,000, and separately to amend the current contract with The Brattle Group to increase the not to exceed amount from \$115,000 to \$190,000, which is within the amended PA-4 budget amounts approved by the Commission on May 24, 2022.

PASSED AND ADOPTED by the Commissioners of the Balancing Authority of Northern California this 24th day of May 2022, 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