

Balancing Authority of Northern California

Regular Meeting of the Commissioners of BANC

2:00 P.M.

Wednesday, July 24, 2019

915 L Street, Suite 1480

Sacramento, CA 95814

Balancing Authority of Northern California

NOTICE OF REGULAR MEETING AND AGENDA

Notice is hereby given that a regular meeting of the Commissioners of the Balancing Authority of Northern California (BANC) will be held on **July 24, 2019 at 2:00 p.m.**, at **915 L Street, Suite 1480, Sacramento, CA 95814**.

AGENDA

- 1 Call to Order.**
- 2 Matters subsequent to posting the Agenda.**
- 3 Public Comment** – any member of the public may address the Commissioners concerning any matter on the agenda.
- 4 Consent Agenda.**
 - A. Minutes of the Regular Commission Meeting held on May 15, 2019.
 - B. BANC Operator Reports (May and June).
 - C. Compliance Officer Reports (June and July).
 - D. PC Committee Chair Reports (June and July).
 - E. General Manager's Report and Strategic Initiatives Update.
- 5 Regular Agenda Items – Discussion and Possible Action.**
 - A. Appointment of Commission Chair in accordance with BANC JPA Section 11.4.
 - B. Operations Update.
 - C. EIM / RC Updates.
 - i. EIM Phase 2 Updates.
 1. Consider and Possibly Approve Resolution 19-07-09 *Authorization of Amendments to Energy Imbalance Market Phase 2 BANC Cost Sharing Agreement with WAPA-SNR*.
 2. BANC/SMUD EIM Benefits Analysis.
 - ii. RC Transition Update.
 - D. 2019 WECC/NERC BANC Audit Update.
 - E. Financial Updates.
 - i. 2018 BANC Budget to Actuals.
 - ii. EIM Phase 1 Budget to Actuals.
 - iii. 2020 Draft BANC Budget.
 - F. Strategic Planning Meeting – August 21, 2019.
 - i. EIM Phase 2 Discussion and Decisions.
 - ii. BANC Engagement Strategy.
- 6 Closed Session:** Conference with legal counsel in anticipation of litigation pursuant to subdivision (c) of Cal. Gov't Code § 54956.9; one case.
- 7 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, 915 L Street, Suite 1480, Sacramento, CA 95814 or to kirkegaard@braunlegal.com.

Balancing Authority of Northern California

Consent Agenda Items

- A. Minutes of the May 15, 2019 BANC Regular Meeting.**
- B. BANC Operator Reports (May and June).**
- C. Compliance Officer Reports (June and July).**
- D. PC Committee Chair Reports (June and July).**
- E. General Manager Report and Strategic Initiatives Update.**

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

May 15, 2019

On this date, a Regular Meeting of the Commissioners of the Balancing Authority of Northern California (BANC) was held at 915 L Street, Suite 1480, Sacramento, CA 95814.

Representatives Present:

Member Agency	Commissioner
Modesto Irrigation District	Greg Salyer, Chair
City of Redding	Nick Zettel
City of Roseville	Michelle Bertolino
Sacramento Municipal Utility District	Paul Lau
City of Shasta Lake	James Takehara
Trinity Public Utilities District	Paul Hauser

Agency	Liaison
Western Area Power Administration	Ray Ward

1. Call to Order: Chair Salyer called the meeting to order at 2:02 p.m.
2. Matters Subsequent to Posting the Agenda: None.
3. Public Comment: Chair Salyer invited comments from the public and none were given.
4. Consent Agenda: Mr. Hauser moved, Ms. Bertolino seconded, and the participating Commissioners unanimously approved the Consent Agenda items comprised of: (A) Minutes of the Regular Commission Meeting held on March 27, 2019. (B) BANC Operator's Reports for March and April; (C) Compliance Officer's Reports for April and May; (D) PC Committee Chair's Report for April and May; and (E) General Manager's Report and Strategic Initiatives Update.
5. Regular Agenda Items:
 - A. EIM/EDAM/RC Updates - Mr. Shetler and Mr. Mark Willis from SMUD gave an update regarding EIM Phase 1. On April 3, 2019, BANC/SMUD completed systems cutover and officially became the 8th EIM participant. No critical issues were encountered and all tests were passed successfully. BANC/SMUD was able to move to full EIM control faster than any previous entrant. Daily EIM Market Report calls w/ CAISO are being held, along with weekly/bi-weekly internal calls. The initial review of benefit data for April was in line with expectations. Another update will be provided at the July BANC Commission meeting, following the release of Q2 CAISO EIM Benefits.

Regarding EIM Phase 2, all potential Phase 2 participants have had the opportunity to participate in an initial gap analysis questionnaire and initial action items have been identified. WAPA-SNR and BOR are currently evaluating participation in Phase 2. In light

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

of this, several action items are required, including a change to the Utilicast contract, a cost sharing agreement between WAPA-SNR, and a BANC budget amendment. Ms. Bertolino moved, Mr. Zettel seconded, and the participating Commissioners unanimously approved 19-05-07 *Authorization of Amendment to Utilicast Contract for Services Related to Phase 2 of Energy Imbalance market to Include WAPA-SNR, Cost Sharing Agreement with WAPA-SNR, and Related 2019 BANC Budget Amendment*.

Also relative to Phase 2, the Commission previously approved a cost allocation methodology. Mr. Shetler indicated that he would be updating that to reflect changes related to WAPA-SNR's potential participation. In addition, a joint meeting with CAISO was held on April 23rd regarding the Phase 2 methodology, and a draft 'white paper' has been issued for review by the BANC members. A Phase 2 go-live decision is targeted for the August 21, 2019 BANC Commission meeting, with a targeted go-live date of April 2021.

As the EDAM Feasibility Assessment (FA) process continues, BANC/SMUD has expressed interest in contracting with the consultants (Brattle, E3) involved in the FA for assistance with entity-level assessment support. Mr. Shetler requested Commission approval for a formal contract with Brattle within the previously budgeted amount. In addition, a task order with E3 within the GM's delegated authority will likely be executed in the near future.

Mr. Lau moved, Ms. Bertolino seconded, and the participating Commissioners unanimously approved 19-05-08 *Authorization of Contract for Services Related to EDAM Feasibility Assessment*.

Regarding RC Services, Mr. Shetler reported that the RCs have been meeting twice per month to resolve outstanding issues related to the transition. The topic of data sharing in the West is still under discussion, and a proposed agreement (WIDSA) is under consideration. Currently, the primary risks related to the RC transition have not changed significantly since the last update, but a few have lessened, including Peak viability. RC West is currently in 'shadow operations' as of May 1, 2019. BANC and TOPs are required to certify readiness for the transition on July 1st by the end of May. CAISO has already issued its certification letter; WECC and NERC certification of CAISO as an RC is expected prior to July 1.

- B. Mr. Shetler provided a brief update on the upcoming 2019 WECC/NERC BANC Audit. SMUD is taking the lead, but BANC is actively coordinating with them on this effort. An internal operations readiness review and a third party CIP mock audit have already been completed. WECC has issued both an Inherent Risk Assessment and a Compliance Oversight Plan for both BANC and SMUD. While the maturity of our compliance program has been recognized, we currently expect that fewer standards will be reviewed but those that are reviewed will likely be looked at more deeply. Everything appears to be on track, and the audit is scheduled for the first half of September.
- C. Mr. Mark Willis reviewed the 2019 Summer Assessment with the group. Mr. Hauser moved, Mr. Lau seconded, and the participating Commissioners unanimously approved 19-05-06 *Acknowledgement and Acceptance of the 2019 Summer Load & Resources Assessment of the Balancing Authority of Northern California*.
- D. Mr. Shetler indicated that there may not be any agenda items necessitating a June meeting, but no final decision will be made until closer to the planned meeting date. At the July meeting, an update on EIM Phase 1 is currently expected to be an agenda item.

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

The August 21st BANC Commission Meeting will serve as this year's strategic planning session, where the focus is expected to be on EIM Phase 2 decision making. The meeting will be held at Scott's on the River.

6. Closed Session:

- A. The Commission retired to closed session for conference with legal counsel in anticipation of litigation pursuant to subdivision (c) of Cal. Gov't Code § 54956.9; one case.

After returning to open session, Mr. Braun reported that no action was taken in closed session.

The meeting was adjourned at 3:13 p.m.

Minutes approved on July 24, 2019.

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 May 2019

Operations:

- BA Operations: Normal
- Significant BA Issues: None
- 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
 - 0 of 31 days with instances of USF mitigation procedure utilized
 - 0 days on Path 66
 - No operational impact on BANC
- BAAL Operation:
 - Maximum duration of BAAL exceedance: 0 minutes
 - Number of BAAL exceedance >10 minutes: 0
 - BAAL violation (BAAL exceedance >30 minutes): None

Monthly Notes:

- No additional notes or impacts for May 2019

A JOINT POWERS AUTHORITY AMONG

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



BALANCING AUTHORITY OF NORTHERN CALIFORNIA

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

TO: BANC Commission

RE: BANC Operator Report for June 2019

Operations:

- BA Operations: Normal
- Significant BA Issues: None
- NWPP Reserve Energy Activations
 - 0 contingencies 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
 - 5 of 30 days with instances of USF mitigation procedure utilized
 - 4 days on Path 66
 - No operational impact on BANC
- BAAL Operation:
 - Data under evaluation

Monthly Notes:

- BANC EEA3 declaration on 6/10/19

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

June 2019

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

BA Compliance Issues:

- No significant operational Balancing Authority compliance events occurred.
- All required BA compliance reports and operating data were submitted to WECC.
- WECC issued BANC's Official Notice of Audit Package on 06/04. The audit is scheduled for **September 3 – 13, 2019**. As expected, BANC will be audited on a total of 19 requirements (12 CIP/7 O&P) addressing its compliance obligations as a BA/PC.
- On 05/31, BANC submitted Internal Controls information to WECC covering programmatic and entity-level controls, as well as specific controls information for BA/PC-applicable requirement. WECC will engage with subject matter experts throughout June and July to evaluate the information provided.
- BANC's transition from Peak Reliability Coordinator (PEAK) to CAISO as its Reliability Coordinator becomes effective on 07/01.

BANC MCRC:

- The next BANC MCRC teleconference is scheduled to be held at 10:00 AM on Monday, June 24, 2019.

Compliance Officer Report

BANC Commission Meeting

July 2019

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.
- BANC's RSAWs, evidence, and applicable pre-audit Data Request documentation will be submitted to WECC on July 31st (in advance of WECC's August 5th deadline). BANC will be audited on a total of 19 requirements (12 CIP/7 O&P) addressing its compliance obligations as a BA/PC.
- WECC Risk Analysis staff continues to engage with subject matter experts to evaluate internal controls information submitted for five applicable requirements.
- BANC's Q2, 2019 self-log was submitted to WECC on 07/09. There were no potential instances of non-compliance to report.
- BANC's transition from Peak Reliability Coordinator (PEAK) to CAISO as its Reliability Coordinator became effective on 07/01.

BANC MCRC:

- The next BANC MCRC teleconference is scheduled to be held at 10:00 AM on Monday, July 22, 2019.

BANC PC Committee Chair's Report

June 2019

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 a future Commission agenda for action.

BANC PC Committee Issues:

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

- TPL-001-4 (TPL) – Preliminary results for the steady-state analysis required for the BANC PC Area 2019 System Assessment are available, and study results will be finalized by 6/21/2019 (on time) for SMUD, MID, RE and REU. A draft version of the report is on track for 7/05/2019.
 - Fault impedance data from WAPA required to complete the stability analysis is pending.
- MOD -033-1 – Staff completed the R1.2 dynamic assessment. The BANC PC studied SMUD and Roseville dynamic models based on SMUD PMU (phasor measurement unit) data and found them to be within acceptable tolerances. BANC's validation requirements have been met prior to the NERC 7/01/2019 deadline.
 - MID and Redding are exempted under R1.2, as they do not have any real-time, dynamic recording devices (i.e. PMUs.)
 - The two-year renewal of BANC PC's steady-state assessment for R1.1 is due 10/01/2019.
- PRC-006-2 – Staff coordinated with BANC PC participants and submitted to WECC the required data for an updated Under-Frequency Load Shed (UFLS) scheme, which included GE-PSLF models and load shedding scheme data to demonstrate compliance for PRC-006-WECC-CRT-3. Staff also updated GE-PSLF models for SMUD to reflect the latest 2019 UFLS schedule.
 - Data from BANC PC participants was consolidated into a comprehensive BANC response on 5/30/2019, which met the 6/7/2019 deadline.
- FAC-014-2 – Staff has preliminary results for the steady-state analysis, which is required for the 2019 FAC-014-2 assessment of establishing and communication SOLs for the BANC PC Area. Study results will be finalized by 6/21/2019, and the draft report will be issued by end of June. Staff is currently working on the transient stability and voltage stability assessment portions of this study.

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

PC Standard	Estimated % Complete	Notes
FAC-002-2 Interconnection Studies	95%	Write RSAW at end of year
FAC-010-3 SOL Methodology for Planning Horizon	95%	Write RSAW at end of year
FAC-013-2 Transfer Capability for Near-Term Planning Horizon	75%	Coordinate with BANC PC participants to be consistent with operation SOLs
FAC-014-2 Establish and Communicate SOLs	70%	Transient stability & voltage study; write report Due at end of June
IRO-017-1 Outage Coordination	0%	Email TPL-001-4 Report
MOD-031-2 Demand and Energy Data	0%	2020 cycle starts in November
MOD-032-1 Data for Power System Modeling & Analysis	50%	Ongoing activity Write RSAW at end of year
MOD-033-1 System Model Validation	70%	BANC system validated for 7/01/2019 deadline for R1.2 R1.1 due 10/01/2019
PRC-006-2 Underfrequency Load Shedding	80%	Support WECC study Write RSAW at end of year
PRC-010-2 Undervoltage Load Shedding	0%	
PRC-023-3 Transmission Relay Loadability	0%	Dependent upon TPL study results
PRC-026-1 Relay Performance During Stable Power Swings	0%	Dependent upon TPL-001-4 study results
TPL-001-4 Transmission System Planning Performance	70%	Finalizing results; draft report to be sent out 7/05/2019
TPL-007-1 GMD Transmission Performance	95%	Write RSAW at end of year

BANC PC Committee Chair's Report

July 2019

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 Issues:

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

- TPL-001-4 (TPL) – A draft version of the report was sent out on July 5, 2019, and comments are due on July 26, 2019.
- FAC-014-2 – A draft report was sent out on June 28, 2019, and comments are due on July 12, 2019.
- PRC-010-2 Undervoltage Load Shedding – Staff is continuously working on the study, and the draft report will be sent out by the end of this year. The study and report is due on January 8, 2020.
- TPL-007-1 GMD Transmission Performance – Staff updated and completed the PC and TPs responsibilities (R1), which was effective on July 1, 2019.

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

PC Standard	Estimated % Complete	Notes
FAC-002-2 Interconnection Studies	95%	Write RSAW at end of year
FAC-010-3 SOL Methodology for Planning Horizon	95%	Write RSAW at end of year
FAC-013-2 Transfer Capability for Near-Term Planning Horizon	75%	Coordinate with BANC PC participants to be consistent with operation SOLs
FAC-014-2 Establish and Communicate SOLs	85%	Draft Report comments are due on 7/12/2019.
IRO-017-1 Outage Coordination	0%	Email TPL-001-4 Report
MOD-031-2 Demand and Energy Data	0%	2020 cycle starts in November
MOD-032-1 Data for Power System Modeling & Analysis	50%	Ongoing activity Write RSAW at end of year

PC Standard	Estimated % Complete	Notes
MOD-033-1 System Model Validation	70%	BANC system validated for 7/01/2019 deadline for R1.2 R1.1 due 10/01/2019
PRC-006-2 Underfrequency Load Shedding	80%	Support WECC study Write RSAW at end of year
PRC-010-2 Undervoltage Load Shedding	50%	Study/draft report will be done by the end of this year.
PRC-023-3 Transmission Relay Loadability	0%	Dependent upon TPL study results
PRC-026-1 Relay Performance During Stable Power Swings	0%	Dependent upon TPL-001-4 study results
TPL-001-4 Transmission System Planning Performance	80%	Draft Report comments are due on 7/26/2019.
TPL-007-1 GMD Transmission Performance	95%	Write RSAW at end of year

GM Report

BANC Commission Meeting

July 24, 2019

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 on the same page on EIM issues from a POU perspective. We are routinely holding bi-weekly calls to provide updates and discuss issues. To date, we have collaborated with the other POUs on joint language to use in the EIM Entity agreement that we will all need to sign for EIM operations, on how to address market-based rate authority with DMM, potential common language for OATT revisions, and joint comments on the EIM governance issues. We have also used this forum to discuss POU positions regarding the EDAM development. In addition we have worked with the other three entities to agree upon the joint funding of BBSW to monitor CAISO interfaces for us.

POU Western Markets Initiative

BANC continues to participate in this effort, which is being coordinated by APPA. The group continues to evaluate how best to represent the POUs in the ever-changing power markets in the West. The most recent face-to-face meeting was held on March 18, 2019, at SRP Offices in Phoenix. An update call was held on May 28, 2019. The calls are mainly used for updates on market developments and we also discussed possible comments on the CAISO governance review process. The next update call is being scheduled for late July, with a face-to-face meeting in mid-September.

Market Initiatives:

EIM Participation

The BANC EIM Phase 1 implementation effort was completed on April 3, 2019, with the successful go-live of BANC as the EIM Entity and SMUD as a Participating Resource. We are now monitoring EIM participation and anticipate having SMUD provide a benefits update at the July Commission meeting.

The BANC EIM Phase 2 effort was kicked off with a meeting of BANC, SMUD, the Phase 2 Entities (MID, Redding, and Roseville), WAPA-SNR, and the consultant (Utilicast) on 3/7/19. We are continuing with efforts to allow decision-making by the members that will support a Commission decision at the August 21st meeting regarding moving forward with Phase 2. Utilicast has initiated the EIM Phase 2 gap analysis work and is finalizing comments for the EIM Phase 2 participants. We held a follow-up discussion with the CAISO on the Phase 2 effort on July 2nd.

EDAM Participation

The CAISO has also announced the intent to allow EIM entities to participate in an extended Day-ahead Market (EDAM). Based upon the discussions among the EIM entities and the CAISO, we have agreed to perform a feasibility assessment of the proposed market design. The feasibility assessment was initiated in December 2018 and was planned for completion in June 2019. Initial model runs have been performed and the group is reviewing these initial results. As a result of the initial review the group is working with the consultants on refinements to the model and modeling assumptions. It is expected that if an EDAM looks feasible the CAISO would use late 2019 and early 2020 to conduct a formal stakeholder process followed by tariff filings at FERC. An EDAM go-live is currently estimated to be in the late 2021-early 2022 timeframe. In accordance with the BANC plan for this effort, we have executed contracts with the consultants for some additional BANC/SMUD focused work on the feasibility assessment.

WAPA:

Market Engagement

We are continuing to work with WAPA on integrating them in to the EIM implementation discussions. We have included WAPA-SNR in our Phase 2 planning efforts. As a result of the Commission approval of the amendment to the Utilicast contract, WAPA-SNR/Bureau has been included in the gap analyses efforts. BANC is also supporting WAPA-SNR in their customer meetings. WAPA-SNR has requested that we update the BANC/WAPA-SNR EIM Funding Agreement to include costs for EIM Phase 2 implementation, which will be on the agenda for the July 24, 2019, Commission meeting for discussion and possible action.

San Luis Transmission Project

WAPA-SNR has announced its intent to work with the Bureau of Reclamation and CDWR to construct the SLTP. BANC met with WAPA and the other parties to fully understand the implications of having this new transmission project in the BANC BA/WAPA-SNR sub-BA. There is a possibility that the DWR may also consider bringing some of the State Water Project in to the BANC through participation in the SLTP. We are participating in follow-up meetings with WAPA-SNR, DWR, and the State Water Contractors on this project. In December the State Water Contractors board voted to recommend that DWR participate in the SLTP with at least a 50 MW share. A follow-up meeting was held in mid-March. In addition, the SLTP developers (DATC) have completed the open season on the additional capacity for the project.

Peak Reliability:

Peak/PJM Connex Partnership

On July 18, 2018, Peak announced that it had terminated its partnership with PJM Connex as part of Peak's decision to wind down operations. There is a possibility that PJM Connex may still pursue market development in the West on its own; however, we have not seen any movement on this potential.

RC Services Alternatives

BANC and the three TOPs (SMUD, MID, and WAPA-SNR) in the BANC footprint submitted in late March their revocable notices of withdrawal from Peak. BANC has executed the CAISO RC Services Agreement. We have confirmed with the CAISO that the BANC footprint will move to what is now being called RC West for RC services by July 1, 2019. Activities are on track to support the July 1st transition. NERC and WECC conducted the onsite certification review of the CAISO in March and have approved RC West's certification as an RC. RC West initiated "shadow operations" with Peak on May 1, 2019. BANC provided its certification of readiness for commencement of RC West operations; RC West went live for the CA footprint successfully on July 1, 2019.

On July 18, 2018, Peak unilaterally made the decision to wind down its operations based upon the informal feedback it had been receiving from the Funding Parties. BANC is working with the other Funding Parties to coordinate on the wind down and closure efforts for Peak. At the April 30th Annual Meeting it was announced that the Peak membership had approved by an 81% majority the resolution to dissolve Peak effective in December.

Peak MAC and Board Meetings

The Peak MAC held a conference call on May 29, 2019. I participated as the Peak MAC Chair. The main focus was a general update of the RC transition from Peak. The next MAC call is scheduled for late August.

WECC

Electricity/Natural Gas Reliability Interface

WECC initiated its natural gas/electricity interface study in September 2017. WECC continues its outreach on this effort and is planning some next steps on industry coordination regarding follow-up actions.

WECC Board Meetings

The next WECC MAC and Board meetings will be September 10-11 in Seattle, which will also be the WECC Annual Meeting.

RC Services for the West

WECC and NERC are focused on the RC transition in the West and view it as a major reliability issue for the coming year. WECC/NERC are gearing up for the certification effort for the new RCs. They have determined that Peak will not require a formal recertification on each of the four RC transitions in 2019. WECC has posted a map on its website that shows the basic boundaries of the future four RC's in the Western Interconnection in 2019. WECC also held an RC Forum webinar on July 26, which was supported by the RC Transition Coordination Group.

NERC Section 1600 Data Request

WECC has initiated a Section 1600 data request process, under the NERC Rules of Procedure, as an alternative to participation in the Western Interconnection Data Sharing (WIDSA) agreement that is currently being negotiated by the RCs. Working with BBSW, BANC filed comments on the proposed process. These comments suggested that it would be preferred if WECC continued to participate in the WIDSA, but if they proceed with approval of the Section 1600 process that they provide assurances that data will be protected as outlined in Section 1500 of the NERC Rules of Procedure. The WECC Board approved the Section 1600 data sharing process at the June 19, 2019, meeting.

BANC/SMUD NERC/WECC Audit

Our triennial audit for NERC standards' compliance is scheduled for 9/3-13/19 this year. BANC is working with SMUD to coordinate this effort. To date SMUD has conducted an operations readiness review and brought in a third party to conduct a CIP mock audit. We have also been in discussions with WECC regarding the scope of the planned audit this fall.

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 recent announcement that the project will be downsized from two to one tunnel, CDWR announced that it will be

withdrawing the current applications and submitting revised environmental documentation. We expect at least a 2-3 year delay in any start to the project.

Strategic Initiatives:

An update of the 2018/2019 Strategic Initiatives is attached to this report.

BANC 2018/2019 Strategic Plan - Routine Initiatives - July 2019 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		Develop long-term succession plan and traits for General Manager	Jim Shetler/Commission	4th Qtr. 2019	
3 Low		Organizational Issues: ~ Develop BANC procedures & processes as appropriate	Jim Shetler/BBSW	4th Qtr. 2019	
4 Medium	OUTREACH	Engage in industry forums (WECC, Peak, NWPPA, etc.)	Jim Shetler	Ongoing	Continue attending Peak & WECC Board mtgs, WEIL, & NWPP Exec. Forum
5 Medium		Coordinate with other POU BAs (Ca and regionally)	Jim Shetler	Ongoing	Coordinating with SCL, SRP, LADWP, & TID on EIM
6 Medium		Outreach to regulatory and legislative bodies on key issues	Jim Shetler/BBSW	Ongoing as Necessary	Attend CREPC/WIRAB Mtg 4/17-18/19
7 Medium	ASSETS	Evaluate joint dispatch options	Resource Committee	4th Qtr. 2019	Based upon current EIM Phase 2 this has been put on hold.
8 Low	MEMBER SERVICES	Identify and outreach to potential new BANC members	Jim Shetler	Ongoing	Follow-on discussions with TID suspended

BANC 2018/2019 Strategic Plan - Routine Initiatives - July 2019 Update

No./Priority	Focus Area	Initiative	Responsibility	Target Due Date	Status
9 High	INDEPENDENCE	Manage implementation of EIM Phase 1 participation effort	Jim Shetler/SMUD	4/3/19	COMPLETE Go-live 4/3/19
10 High		Planning efforts for possible EIM Phase 2 ~ Gap analysis by Utilicast ~ Develop BANC processes ~ Finalize Phase 2 processes ~ Phase 2 EIM Impl. Agrmt.	Jim Shetler Jim Shetler/BBSW Jim S./BBSW/Mark W. Jim Shetler/BBSW	10/1/19 7/1/19 10/1/19 12/31/18 10/1/19	Initiated Phase 2 Effort Analyses underway On-going w/ CAISO
11 High		EDAM Phase 1 evaluation ~ Feasibility Assessment ~ CAISO Stakeholder Process	Jim Shetler/BBSW Jim Shetler/BBSW	2nd Qtr. 2019 4th Qtr. 2019	FA effort in refinement
12 Medium	OUTREACH	Evaluate opportunities to engage other entities in market development	Jim Shetler	4th Qtr. 2017	~ Continue coordination w/ LA, SCL, SRP ~TID discussions on hold
13 Medium		Regional Policy Issues: Monitor/ weigh-in where appropriate	Jim Shetler/Commission	Ongoing	Engaged in EIM GRC issue
14 High		Regionalization: ~Monitor CAISO governance ~EDAM discussions	Jim Shetler/BBSW Jim Shetler/BBSW	Ongoing	Reviewing EIM Gov. Prop. Active participation
15 High		Transition of RC Services ~Transfer from Peak to CAISO ~Coordinate Peak Wind Down to support transition	Jim Shetler Jim Shetler	7/1/19 12/31/19	Go-live successful 7/1/19 Participating in RCTCG
16 Medium	ASSETS	2018 IRP Review Issues ~SMUD UARP Capabilities ~WAPA/BOR CVP Capabilities ~Coordination w/ CAISO/TID ~Discuss DWR capabilities ~Coordinate on next IRPs	Jim S./Res. Com./SMUD Jim S./Res. Com./WAPA Jim S./Res. Com. Jim S./Res. Com. Jim S./Res. Com.	12/31/19 12/31/19 12/31/19 12/31/19 12/31/19	Discussions initiated Discussions initiated
17 Medium		Evaluate TP services for Redding & Roseville	Jim Shetler/J. Gillette	12/31/18	Direct between SMUD and Redding/Roseville

Balancing Authority of Northern California

Agenda Item 5C

1. **Resolution 19-07-09 *Authorization of Amendments to Energy Imbalance Market Phase 2 BANC Cost Sharing Agreement with WAPA-SNR.***
2. **Cost Sharing Agreement : First Amended BANC EIM Phase 2 Gap Analysis and Implementation Funding Agreement for WAPA-SNR's Participation in the CAISO EIM Market.**

Braun Blaising Smith Wynne, P.C.

Attorneys at Law

7/9/2019

To: BANC Commission

From: BANC Counsel

**RE: Authorization of Amendments to BANC Cost Sharing Agreement with WAPA-SNR
Related to Phase 2 of Energy Imbalance Market**

In January of 2019, the Balancing Authority of Northern California (BANC) Commission authorized the General Manager to enter into a contract with Utilicast to provide consulting services related to furthering participation in the Energy Imbalance Market (EIM). As the Commission will recall, “BANC EIM Phase 1” refers to the development and deployment of EIM within the BANC footprint, with the Sacramento Municipal Utility District (SMUD) as the sole participant. “BANC EIM Phase 2” generally refers to the incremental participation by other BANC members and/or the Western Area Power Administration – Sierra Nevada Region (WAPA-SNR).

Following execution of the original BANC EIM Phase 2 contract with Utilicast, WAPA-SNR subsequently determined that it would like to have an EIM Gap Analysis performed, along with the other BANC members. Given the integration of United States Bureau of Reclamation (USBR) generation within WAPA-SNR operations, USBR was also invited to participate in this analysis. Utilicast was therefore asked to provide a revised contract proposal to add WAPA-SNR and USBR resources into the EIM Phase 2 Gap Analysis.

In support of this contract revision, a cost sharing agreement between BANC and WAPA-SNR was drafted to set forth the terms and conditions for WAPA-SNR to reimburse BANC for the costs incurred from adding WAPA-SNR and USBR to the assessment. That contract was approved at the May 2019 BANC Commission meeting.

The Commission is now being asked to approve additional revisions to the BANC-WAPA-SNR cost sharing agreement to allow WAPA-SNR to add the costs associated with the potential EIM implementation of WAPA-SNR and USBR into the BANC EIM Entity footprint. For the purpose of access to funds, it is important that WAPA-SNR get these approved and budgeted as soon as possible. These costs are specified in Exhibit C to the attached BANC-WAPA-SNR cost sharing agreement and generally include support and software costs from SMUD, Utilicast and BBSW support, and WAPA-SNR’s expected share of CAISO implementation costs.

**Balancing Authority of Northern California
Resolution 19-07-09**

**Authorization of Amendments to Energy Imbalance Market Phase 2 BANC Cost Sharing
Agreement with WAPA-SNR**

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 determined using a phased approach through a BANC EIM Project would allow BANC and its members to proceed with participation in the EIM; and

WHEREAS, BANC has entered into a contract with Utilicast to provide consulting services related to furthering participation in the Energy Imbalance Market ("EIM"); and

WHEREAS, the Western Area Power Administration – Sierra Nevada Region (WAPA-SNR) – is considering entry into the CAISO EIM market in April of 2021; and

WHEREAS WAPA-SNR has been added, in addition to the United States Bureau of Reclamation (USBR) due to the integration of generation within WAPA-SNR operations, to the EIM Gap Analysis being performed under the Utilicast agreement via an amendment to the Utilicast agreement; and

WHEREAS, BANC has entered into a cost sharing agreement with WAPA-SNR to set forth the terms and conditions for WAPA-SNR to reimburse BANC for the costs incurred from adding WAPA-SNR and USBR to the Utilicast agreement; and

WHEREAS, WAPA-SNR has requested that the cost sharing agreement between BANC and WAPA-SNR be amended to allow WAPA-SNR to add the costs associated with the potential EIM implementation of WAPA-SNR and USBR into the BANC EIM Entity footprint to the cost sharing agreement; 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 revised cost sharing agreement with WAPA-SNR to add the costs associated with the potential EIM implementation of WAPA-SNR and USBR into the BANC EIM Entity footprint, as specified in Exhibit C to the attached BANC-WAPA-SNR cost sharing agreement.

**Balancing Authority of Northern California
Resolution 19-07-09**

PASSED AND ADOPTED by the Commissioners of the Balancing Authority of Northern California this 24th day of July 2019, by the following vote:

		Aye	No	Abstain	Absent
Modesto ID	Greg Salyer				
City of Redding	Dan Beans				
City of Roseville	Michelle Bertolino				
City of Shasta Lake	James Takehara				
SMUD	Arlen Orchard				
TPUD	Paul Hauser				

Greg Salyer
Chair

Attest by: C. Anthony Braun
Secretary

First Amended
BANC EIM Phase 2 Gap Analysis and Implementation Funding Agreement for
Western Area Power Administration – Sierra Nevada Region’s Participation in the
CAISO EIM Market

This Agreement (“Agreement”) is made this [date], between the Balancing Authority of Northern California, (“BANC”); and THE UNITED STATES OF AMERICA, Western Area Power Administration, Department of Energy, (“WAPA-SNR”), who may be referred to individually as a "Party" or collectively as the "Parties".

As California and other states in the Western Interconnection have moved to higher renewable portfolio standards and carbon reduction goals, the resulting increase in variable energy resources (“VERs”) has raised the concept of needing more real-time energy management capabilities. This in turn has led to the development of the Energy Imbalance Market (“EIM”) and expansion of the California Independent System Operator Corporation (“CAISO”) Real Time Market.

In response, BANC, certain of its members, and WAPA-SNR, commissioned studies to evaluate the pros and cons of participating in the CAISO EIM markets. Such studies supported the concept of a phased approach to BANC EIM participation, whereby BANC’s largest member, the Sacramento Municipal Utility District (“SMUD”), due to its existing infrastructure and higher net benefits, would participate in Phase 1 and the other BANC members and WAPA-SNR would continue to evaluate their participation after Phase 1.

On August 31, 2016, the BANC Commission approved the phased concept of EIM for BANC and authorized BANC to proceed with becoming an EIM Entity and for SMUD to join as an EIM Participating Resource.

On April 3, 2019, BANC and SMUD commenced operating in the CAISO EIM. Additionally, during this BANC EIM Phase 1 process, certain BANC members, including the Modesto Irrigation District, the City of Redding, and the City of Roseville made decisions to further study their participation in Phase 2 (“EIM Phase 2 BANC Members”). The EIM Phase 2 BANC Members therefore requested that BANC enter an arrangement with Utilicast LLC ("Consultant") to perform analyses to determine what gaps might exist in order for them to participate along with SMUD in EIM (“EIM Phase 2 Gap Analysis”).

Upon consideration, WAPA-SNR has determined that it, too, would like to have an EIM Gap Analysis performed for its footprint to determine what might be required for it to participate in BANC EIM Phase 2, along with SMUD and the EIM Phase 2 BANC Members.¹

WAPA-SNR also desires to address certain costs it may incur should it decide to participate in BANC EIM Phase 2.

¹ Due to the integrated nature of United States Bureau of Reclamation (USBR) generation within the WAPA-SNR portfolio, USBR will be consulted in this evaluation; however, USBR will be evaluated as part of the WAPA-SNR portfolio.

The purpose of this Agreement is to set forth the terms and conditions for WAPA-SNR to reimburse BANC for the costs it incurs from the Consultant to perform this Gap Study on WAPA-SNR's behalf and the costs to implement BANC EIM Phase 2, should WAPA-SNR determine to participate.

Upon execution of this Agreement by the Parties, the following provisions will constitute the agreement of the Parties.

1. BANC will conduct an EIM Phase 2 Gap Analysis utilizing Consultant(s). The Consultant(s) shall prepare said EIM Phase 2 Gap Analysis as outlined in the BANC EIM Phase 2 Gap Analysis: Western Area Power Administration – Sierra Nevada Region set forth in Exhibit A ("Scope of Work") to this Agreement. WAPA-SNR shall pay BANC WAPA-SNR's share of the study costs in accordance with the Scope of Work and the Fee Schedule set forth in Exhibit B ("Fee Schedule") to this Agreement. The Parties will coordinate scope changes and approvals by the Parties of additional expenditures, as necessary. In the event the costs will exceed the amount set forth in the Fee Schedule, BANC must obtain WAPA-SNR's prior written approval. WAPA-SNR will have no obligation to pay for any amounts above what is set forth in the Fee Schedule without its prior written approval.
2. Based upon the EIM Phase 2 Gap Analysis, should WAPA-SNR determine it will proceed with the implementation of BANC EIM Phase 2, it agrees to pay its share of costs in accordance with Exhibit C (EIM Implementation).
3. The Parties shall meet on a regular basis to assess the progress of all work described herein.
4. BANC will provide WAPA-SNR with a copy of the final report and associated work product(s).
5. In the case of WAPA-SNR proceeding with BANC EIM Phase 2 implementation, Parties will agree to develop a work plan following the principles contained in Exhibit C of this Agreement, any BANC EIM agreements adopted by the BANC Commission, and the BANC-California Independent System Operator EIM Implementation Agreement for BANC EIM Phase 2.
6. Billing and Payment: BANC shall invoice WAPA-SNR for its share of the costs incurred consistent with this Agreement. Invoices will be detailed in a manner that relates to the cost categories identified in Exhibits B and C. WAPA-SNR shall pay the invoice consistent with the Prompt Payment Act. BANC will invoice WAPA-SNR after the completion of the EIM study results. BANC will send invoices to SNRAccountsPayable@wapa.gov.

7. Authorized Representatives: Each Party designates the following representatives who are authorized to act on its behalf with respect to those matters contained in this Agreement, which are the functions and responsibilities of the authorized representatives of the Parties; provided, however, that the respective authorized representatives have no power or authority to alter any of the provisions of this Agreement. Each Party may change the designation of its authorized representatives upon oral notice given to the other, confirmed promptly by written notice.

For BANC:

Balancing Authority of Northern California
Attn: Jim Shetler
P.O. Box 15830
MS D109
Sacramento, CA 95852-1830

For Western:

Western Area Power Administration
Attn: Arun Sethi
114 Parkshore Dr
Folsom CA 95630

8. Effective Date and Term: This Agreement is effective upon the date written above and shall terminate on December 31, 2021, unless extended by mutual agreement of the Parties in writing.

9. Confidential Information:

9.1 Except as required by law, regulation or order, each Party agrees not to disclose Confidential Information without the other Party's prior written consent. Confidential Information must be marked clearly on each page with a designation such as "CONFIDENTIAL". Confidential Information may be provided by another Party in performance of the Studies. Confidential Information is defined as any information that discloses a Party's trading strategies, any information that will allow the Parties to harm the other Party's financial stability within the CAISO market participation, and any information that discloses a Party's customer information that could harm a Party's customer's financial stability. Confidential Information may be shared among a Party's employees, directors, officers, agents, affiliates, consultants, and legal counsel, (collectively, its "Representatives") where such Representatives have been informed of the confidential nature of the information and the obligations of confidentiality provided in this Agreement; provided that prior to disclosure to any consultant, such consultants must agree in writing to keep the Confidential Information confidential under terms equivalent to those set forth in this Section 9. As to each Party's respective obligations under this Section

9, Confidential Information does not include any information contained in the Studies or provided by another Party in performance of the Studies which (i) was in that Party's rightful possession prior to its receipt of such information as evidenced by tangible records and without an obligation of confidentiality; (ii) was or becomes generally available to the public other than as a result of a disclosure by that Party in breach of this Agreement; (iii) becomes available to that Party from a source not known by it to be bound by an obligation of confidentiality with respect to such information; or (iv) was or is independently developed by that Party without reliance upon the information.

9.2 In the event a Party ("Compelled Party") is required by applicable law, including but not limited to the Freedom of Information Act, judicial or regulatory authority to disclose any Confidential Information, such Compelled Party shall, to the extent practicable and to the extent permitted by law, regulation or legal, governmental or regulatory process, promptly notify the other Parties in writing of the existence, terms, and circumstances surrounding such requirement, so that other Parties may seek a protective order or other appropriate remedy, or waive compliance with the terms of this Agreement regarding such Confidential Information. If the Compelled Party is legally required to disclose any Confidential Information, or if the other Party waives compliance with the terms hereof, the Compelled Party will furnish only that portion of the Confidential Information as it reasonably determines, in consultation with legal counsel, that it is legally required to disclose.

9.3 The Parties agree that money damages may not be a sufficient remedy for breach of this Agreement as it relates to the release of Confidential Information, and the non-breaching Parties shall be entitled to seek any available remedy, including, but not limited to, injunctive relief or specific performance.

9.4 Notwithstanding anything herein to the contrary, the rights and obligations of the Parties under this Section 9 will survive termination of this Agreement. Upon termination of this Agreement, all Confidential Information shall be either returned or destroyed. A Party is not required to immediately remove or destroy Confidential Information stored in electronic backup, provided the Confidential Information on such electronic back up is not used after the termination of this Agreement and the Confidential Information will be removed or destroyed under a Party's normal record retention policies.

10. Entire Agreement: This Agreement, including its attached Exhibits A and B (Gap Analysis) and Exhibit C (EIM Implementation),² constitutes the entire agreement among the Parties and supersedes all previous communications, representations, or

² Exhibit C will only be invoked if WAPA-SNR determines to proceed with EIM implementation.

agreements, either oral or written, with respect to the subject matter of this Agreement.

11. Amendments: The Parties may amend this Agreement only in a writing signed by the Parties.
12. Relationship Between the Parties: The Parties are separate entities, and nothing in this Agreement shall be construed to create a joint venture, trust, partnership, or other fiduciary or agency relationship among the Parties. The Parties' obligations under this Agreement are several and not joint.
13. Severability: In the event that a provision of this Agreement, in whole or in part, or the application of such provision, is held invalid by any court or administrative body having jurisdiction, all other provisions of this Agreement and their application will remain in force and effect unless such court or administrative body also holds that the provision is not severable from all other provisions of this Agreement.
14. Governing Law: Federal law shall control the obligations and procedures established by this Agreement.
15. Contingent Upon Appropriations and Authorization: Where activities provided for in this Agreement extend beyond the current fiscal year, continued expenditures by the United States are contingent upon Congress making the necessary appropriations required for the continued performance of the United States' obligations under this Agreement. In case such appropriation is not made, BANC hereby releases Western from its contractual obligations and from all liability due to the failure of Congress to make such appropriation.
16. Covenant Against Contingent Fees: BANC warrants that no person or selling agency has been employed or retained to solicit or secure this Agreement upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee, excepting bona fide employees or bona fide established commercial or selling agencies maintained by BANC for the purpose of securing business. For breach or violation of this warranty, Western shall have the right to annul this Agreement without liability or in its discretion to deduct from the contract price or consideration the full amount of such commission, percentage, brokerage, or contingent fee.
17. Contract Work Hours and Safety Standards: this Agreement, to the extent that it is of a character specified in Section 103 of the Contract Work Hours and Safety Standards Act (Act), 40 U.S.C. § 3701, as amended or supplemented, is subject to the provisions of the Act, 40 U.S.C. §§ 3701-3708, as amended or supplemented, and to regulations promulgated by the Secretary of Labor pursuant to the Act.

18. Equal Opportunity Employment Practices: Section 202 of Executive Order No. 11246, 30 Fed. Reg. 12319 (1965), as amended by Executive Order No. 12086, 43 Fed. Reg. 46501 (1978), as amended or supplemented, which provides, among other things, that BANC will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin, is incorporated herein by reference the same as if the specific language had been written into this Agreement, except that Indian Tribes and tribal organizations may apply Indian preference to the extent permitted by Federal law.
19. Use of Convict Labor: BANC agrees not to employ any person undergoing sentence of imprisonment in performing this Agreement except as provided by 18 U.S.C. § 3622(c), as amended or supplemented, and Executive Order No. 11755, 39 Fed. Reg. 779 (1973), as amended or supplemented.
20. Execution by Counterparts: The Parties may execute this Agreement in multiple counterparts, each of which is deemed an original and all of which constitute only one agreement. A Party may deliver an executed counterpart of this Agreement by facsimile or e-mail.

The Parties have executed this Agreement as of the date first written above.

BALANCING AUTHORITY OF NORTHERN CALIFORNIA

By _____
Name: James R. Shetler
General Manager

WESTERN AREA POWER ADMINISTRATION

By _____
Name: Arun K. Sethi
Vice President of Power Marketing

Exhibit A to Contract 19-SNR-002253
Scope of Work – Gap Analysis

This Exhibit A provides a description of the analyses and studies covered by the Agreement:

Task #2b: BANC EIM Phase 2 Gap Analysis: Western Area Power Administration – Sierra Nevada Region (WAPA-SNR)

- This task will be completed in the period between May 1, 2019 and August 31, 2019. It will be executed/supported in parallel with Task #1 (BANC/SMUD EIM Phase 1 Post Go-Live Support and Analysis) and #2a (BANC EIM Phase 2 Gap Analysis and Implementation Plan: BANC Members).
- This task is estimated to require 280 hours to complete:
 - 240 hours to assess WAPA-SNR systems, staffing, and capabilities against EIM requirements. Roughly 3 weeks on-site plus 3 weeks analysis and write-up.
 - 40 hours to include WAPA-SNR in the larger BANC-EIM ‘big picture’ participation options. Could include: discussions with other BANC EIM candidates; discussion with WAPA-SNR; discussion with CAISO SMEs; and discussions with SMUD SMEs.
- Consultant will perform an analysis of WAPA-SNR current state versus the desired EIM end-state, across software/telemetry systems, staffing, and business processes.
- Consultant will work with WAPA-SNR staff to clearly identify and define the functional gaps and requirements for EIM.
- Consultant will present identified gaps with options and recommendations for closure. The gap closure options will include making maximum effective use of existing BANC and WAPA-SNR systems (including SMUD’s systems), processes, and staff.
- Consultant will deliver an “EIM Phase 2 Gap Analysis Report,” which will identify critical gaps and how they can best be addressed in the BANC Phase 2 EIM Implementation Project. The EIM Gap Analysis Report deliverable for WAPA-SNR will include a review of at least the following areas for system and/or business process gaps:
 - Full Network Model
 - Merchant Generation/Trading Base Schedule and EIM Energy Bid Submissions
 - Outage Management
 - EIM Entity Intertie Schedule Creation, Management, and Submission
 - EIM Entity Desk and Situational awareness, Training & Testing
 - Generation Dispatch, EMS, and CAISO ADS system integration
 - CAISO EIM Metering
 - Demand & Variable Energy Resource Forecasting
 - EIM Market Settlement and Billing/Finance process
 - Open Access Transmission Tariff (OATT) Update for EIM Market Participation
 - User/Staff Training and Software System Testing
 - ICCP data provision/integration
 - Transmission paths for EIM participation
 - Existing Contracts

- The final BANC “EIM Phase 2 Gap Analysis Report” will present the EIM implementation gaps for WAPA-SNR and will include a written discussion of the options for bringing multiple BANC Members (inclusive of WAPA-SNR) into a coherent BANC EIM Entity, including a recommendation for project structure.
- Consultant will gather input from interviews with WAPA-SNR management, SMEs, and key personnel.
- Consultant will leverage BANC/SMUD Phase 1 EIM Implementation Project experience and the BANC/SMUD Phase 1 System and Process Gap Analysis Reports delivered in that project.
- Consultant will analyze the BANC BAA 'big picture' options - how best to organize and implement the expanded Phase 2 BANC EIM Entity to take advantage of the BANC scale; maintain accountability for balancing at the sub-BAA level; and produce greatest benefits to EIM members (inclusive of WAPA-SNR).
- Consultant will include WAPA-SNR tasks and goals in the BANC EIM Phase 2 Implementation Plan and Schedule identified above in Task #2a, which incorporates the EIM Gap Analysis Report findings; the CAISO's EIM Implementation Plan/Schedule; any required EIM software additions or extensions; and existing SMUD sub-BAA EIM participation into a coherent, executable plan.

To accommodate this additional scope and meet the overall task timeline, Utilicast may utilize an additional consultant to support the services provided in Tasks #2a and #2b.

Exhibit B to Contract 19-SNR-02253
Fee Schedule – Gap Analysis

FEE SCHEDULE					
Task	Start	End	Total Hours	Rate	Total \$
Task #2b: BANC EIM Phase 2 Gap Analysis: WAPA-SNR	5/1/2019	8/31/2019	280	\$215/hr	\$60,200

Exhibit C to Contract 19-SNR-02253
Scope of Work – EIM Implementation

This Exhibit C provides a description of the EIM implementation efforts that will be conducted for Phase 2 should WAPA-SNR determine to proceed with implementation. The details of EIM Phase 2 Implementation are provided in the EIM Phase 2 Implementation Plan that will be approved by the BANC Commission. The following summarizes the breakdown of major EIM Implementation activities and estimated WAPA-SNR costs for each over the ~19 month implementation schedule from September 2019 – March 2021:

• SMUD Support	
\$385,000	
○ PM Support @0.4 FTE	
○ OATI Software Upgrade	
○ Settlement Software Upgrade	
○ Miscellaneous labor support @ 3.0 FTE	
• Utilicast Project Oversight	\$500,000
• CAISO Fees	\$60,000
• Legal Support (BBSW)	\$21,000
• <u>Phase 1 Reimbursement</u>	<u>\$471,000</u>
TOTAL	\$1,437,000
• <u>10% Contingency</u>	<u>\$144,000</u>
TOTAL + Contingency	\$1,581,000