**Balancing Authority of Northern California**

**Energy Imbalance Market**

**Business Practices**

**Version 2.0**

# Energy Imbalance Market

## 1. General Provision - Purpose and Effective Date of BANC EIM Business Practices

The purpose of these Business Practices (BP) is to provide detailed descriptions of the business relationship between the Energy Imbalance Market (EIM) Entity, EIM Participants, and BANC EIM Transmission Providers within the EIM Entity footprint. It is intended to contain sufficient details to address day-to-day business activities, roles, and responsibilities related to BANC EIM operations. However, it is recognized that these business activities, roles, and responsibilities related to BANC EIM operations will evolve as the EIM Entity and EIM Participants gain market experience and the market evolves. Therefore, these BPs must also be able to adapt and change as necessary to address either unanticipated conditions or other circumstances. Thus, ease of amendment and revision is intended, subject to the amendment process adopted herein.

This BP should be read in conjunction with the BANC EIM Participation Agreement (EIM PA), the California Independent System Operator (CAISO)/Market Operator (MO) Tariff,[1] the Applicable Open Access Transmission Tariff (Applicable OATT) of BANC EIM Transmission Providers, Existing Agreements and any prescribed guidelines or protocols of the EIM Entity as adopted by the EIM Committee and provided to EIM Participants.

This BP shall work in concert with the provisions of the BANC agreements implementing EIM in the BANC Balancing Authority Area (BAA), Applicable OATTs, and the MO Tariff implementing the EIM to support operation of the EIM. To the extent that this BP is inconsistent with a provision in these other agreements, Applicable OATTs, or Existing Agreements, BANC shall work with EIM Participant(s) and BANC EIM Transmission Provider(s) to attempt to reconcile any conflicts. To the extent such conflicts cannot be reconciled within a reasonable time (as determined by the circumstances), such conflict shall be addressed in accordance with the Dispute Resolution process set forth in this BP.

This BP shall be in effect for as long as BANC implements the EIM and until all final settlements are reconciled in accordance with this BP and the EIM PA.

This BP shall apply to EIM Participants, BANC EIM Transmission Providers, and/or any EIM Participating Resources within the EIM Entity footprint.

## 2. Definitions

Capitalized terms not defined herein shall have the definitions used in the MO Tariff, Applicable OATTs or the EIM PA.

---

[1] CAISO and Market Operator Tariff are one and the same, however, we use Market Operator or "MO" herein to better signify CAISO role as operator, or MO, of the EIM.

**2.1** ***Applicable Open Access Transmission Tariff (Applicable OATT)*** shall mean the applicable Open Access Transmission Tariff of a BANC EIM Transmission Provider. Upon the Approval Date of Version 1.0 of this BP (contained in the Version History, Appendix 2, herein), there are two Applicable OATTs: that of WAPA and that of SMUD.

**2.2** ***BANC EIM Settlement Allocation Manual*** shall mean the detailed manual defining all of the charges and calculations used to calculate the EIM Participant's EIM settlements, as that document may be amended from time-to-time. The BANC EIM Settlements Allocation Manual is found in Attachment A (BANC EIM Settlement Allocation Manual) to this BP.

**2.3** ***BANC EIM Transmission Provider*** shall mean an entity which provides transmission services to an EIM Participant either through an OATT or an Existing Agreement, or other contractual arrangement that facilitates the use of an EIM Participant's transmission system for EIM transactions. A BANC EIM Transmission Provider may or may not be an EIM Participant.

**2.4** ***BANC BAA Transmission System*** shall mean the collection of transmission facilities inside the BANC BAA used for EIM participation by EIM Participants.

**2.5** ***BANC Unsecured Credit Pool (UCP)*** shall mean the pool of unsecured credit assigned to the EIM Entity by qualified EIM Participants, which serves in lieu of the cash collateral requirements imposed on the EIM Entity in accordance with the MO Tariff. The authorization of the UCP is set forth in Section 12.1.1.1 of the MO Tariff and is established herein in Section 5.2.5 (Credit and Collateral Requirements Related to EIM Participants) and Attachment B (BANC Unsecured Credit Pool).

**2.6** ***Base Schedule(s)*** shall have the same meaning as "EIM Base Schedule(s)," as used in the MO Tariff.

**2.7** ***Business Practice (BP)*** shall mean this document, as it may be amended from time-to-time.

**2.8** ***CAISO*** shall mean the California Independent System Operator, which currently serves as the EIM Market Operator.

**2.9** ***CAISO Tariff*** shall mean the CAISO's open access transmission tariff filed with, and approved by, FERC, as that tariff may be amended from time-to-time.

**2.10** ***Commission*** shall mean the "BANC Commission," as established in the BANC Joint Powers Agreement, as that agreement may be amended from time-to-time.

**2.11** ***EIM Committee*** shall mean the administrative committee established and described in the BANC EIM Participation Agreement.

**2.12** ***EIM Entity*** shall have the meaning set forth in the CAISO Tariff, as that tariff shall be amended from time-to-time.

**2.13**    ***EIM Entity Scheduling Coordinator*** shall mean the entity selected by the BANC EIM Entity who is certified by the MO and who enters into the MO's EIM Entity Scheduling Coordinator Agreement.

**2.14**    ***EIM Optimization*** shall mean the CAISO process whereby it runs its market software to determine the most efficient EIM solution, taking into account all resources and loads available for EIM dispatch/redispatch and while honoring system constraints. The EIM Optimization produces pricing and dispatch instructions for each EIM pricing interval.

**2.15**    ***EIM Participant*** shall mean an entity which has executed the EIM Participation Agreement with BANC.

**2.16**    ***EIM Participation Agreement (EIM PA)*** shall mean the agreement between BANC, as the EIM Entity, and each EIM Participant, which that establishes respective rights, obligations, and procedures related to EIM participation within the BANC BAA, as that agreement may be amended from time-to-time.

**2.17**    ***EIM Transfer Capability*** shall mean the transmission capacity available for EIM Transfers between the [BANC] EIM Entity Balancing Authority Area and other participating EIM Entity Balancing Authority Areas, as determined by BANC EIM Transmission Providers and communicated to the EIM Entity.

**2.18**    ***Energy Imbalance Market (EIM)*** shall have the meaning set forth in the CAISO Tariff, as that tariff shall be amended from time-to-time.

**2.19**    ***Existing Agreement(s)*** shall mean any pre-EIM agreements still in force and effect among any EIM Participant material to that EIM Participant's ability to transact in EIM.

**2.20**    ***FERC*** shall mean the "Federal Energy Regulatory Commission," or its successor.

**2.21**    ***Imbalance Energy*** shall mean the deviation of supply or demand from the EIM Base Schedule, positive or negative, as measured by Fifteen Minute Market Schedules, Real-Time Dispatch, metered generation, metered load, or real-time Interchange or Intrachange schedules.

**2.22**    ***Interchange*** shall mean the E-Tagged energy transfers from, to, or through BAAs not including EIM Transfers.

**2.23**    ***Intrachange*** shall mean the E-Tagged energy transfers within the BANC BAA, not including real-time actual energy flows associated with EIM Dispatch Instructions.

**2.24**    ***Manual Dispatch*** shall mean operating order issued by the EIM Entity or a BANC EIM Transmission Provider to a Transmission Customer with an EIM Participating Resource, outside of the EIM Optimization, when necessary to address reliability or operational issues on the EIM Transmission Provider's system or BANC EIM Entity BAA that the EIM is not able to address through economic dispatch and congestion management.

**2.25**    ***Market Operator (MO)*** shall mean the entity responsible for operation, administration, settlement, and oversight of the EIM.  The CAISO is the current Market Operator of the Western Energy Imbalance Market.

**2.26** *Market Operator Tariff (MO Tariff)* shall mean the CAISO Tariff, as such tariff may be modified from time to time. The primary MO Tariff sections are found in Section 29 of the CAISO Tariff.

**2.27** *NERC* shall mean the "North American Electric Reliability Corporation," or its successor.

**2.28** *Reliability Standards* shall mean those NERC Reliability Standards and WECC Regional Reliability Standards that have been approved by FERC under Section 215 of the Federal Power Act and WECC applicable Regional Criteria referenced in FERC-approved Reliability Standards.

**2.29** *WECC* shall mean the "Western Electricity Coordinating Council," or its successor.

# 3. Registration of EIM Participating Resources

Entities within the BANC BAA which own or control one or multiple resources are required to register their resources to become BANC EIM Participating Resources. An entity within the BANC BAA that is not a signatory to the EIM PA must make a request to the EIM Entity to become an EIM Participant (Requestor) concurrent with a request to register a BANC EIM Participating Resource, as described under Section 4.3.1 (Request to Become a BANC EIM Participating Resource). To become an EIM Participant an entity must enter into an EIM PA with BANC and/or any successor or additional agreement(s).

A Requestor seeking to register EIM Participating Resources and an EIM Participant with EIM Participating Resources must:

(1) Meet the requirements specified in Section 4 (BANC EIM Participating Resource Requirements) of this BP, as these BPs may be amended from time to time and any requirements set forth in the MO Tariff;

(2) Become or retain a MO-certified EIM Participating Resource Scheduling Coordinator;

(3) Follow the application and certification process specified in this BP and any successor or additional agreement(s) and/or guidelines or protocols as determined solely by BANC. It shall be the obligation of the Requestor or EIM Participant to make such a request from the EIM Entity and to negotiate any necessary changes in the EIM PA directly with the EIM Entity; and

(4) Meet all requirements prescribed under the Applicable OATT or Existing Agreements.

# 4. BANC EIM Participating Resource Requirements

## 4.1 *Internal Resources - Transmission Rights*

Dispatchable resources owned or controlled by Requestors or EIM Participants and located within the metered boundaries of the EIM Entity BAA are required to become EIM Participating Resources, unless agreed to otherwise in writing between the EIM Entity and the Requestor or EIM Participant. The Requestor or EIM Participant that owns or controls the resource(s) must have associated transmission rights based on its Transmission Owner status or rights obtained

through an Existing Agreement or the Applicable OATT.

## 4.2    *Resources External to BANC's BAA*

### 4.2.1    Use of Pseudo-Ties

Subject to agreements with other impacted BAAs, BANC EIM Transmission Providers or EIM Participants, a resource owned or controlled by a Requestor or EIM Participant that is not physically located inside the metered boundaries of the EIM Entity BAA may operate as a Pseudo-Tie resource within the EIM Entity BAA; however, the Pseudo-Tie resource must participate as an EIM Participating Resource. In order to do so, the Requestor or EIM Participant must: (1) obtain a written agreement from BANC specifying the roles and obligations of the parties entering into this agreement; (2) arrange firm transmission over any third-party transmission systems to the EIM Entity BAA intertie boundary equal to the amount of energy that will be Dynamically Transferred through a Pseudo-Tie into the EIM Entity BAA, consistent with a written agreement with BANC; (3) secure transmission service in accordance with the Applicable OATT, or under Existing Agreements, or other contractual arrangements that facilitate the use of an EIM Participant's transmission system for EIM transactions, as approved by the BANC EIM Transmission Provider; and (4) enter into any further agreement(s), if deemed necessary by any BANC EIM Transmission Provider, or as provided in any applicable business practices, guidelines, protocols or other requirements.

### 4.2.2    Pseudo-Tie Costs

Pseudo-Tie implementation costs shall be allocated in a manner specified in a written agreement with BANC in addition to any Applicable OATT, Existing Agreement, or other agreements as may be required by the BANC EIM Transmission Provider.

## 4.3    *Request and Certification of BANC EIM Participating Resources*

This section should be read in conjunction with the EIM PA and any other requirements as prescribed by BANC, as well as Applicable OATT(s), including business practices and guidelines or protocols, and the MO Tariff.

### 4.3.1    Request to Become a BANC EIM Participating Resource

**4.3.1.1** To register a resource to become an EIM Participating Resource, a Requestor must become an EIM Participant by entering into an EIM PA with BANC and/or any successor or additional agreement(s) and meet any requirements prescribed in this BP and/or any additional guidelines or protocols prescribed and provided by BANC, the MO Tariff and the Applicable OATT.

**4.3.1.1.1** An entity which is not currently an EIM Participant must make application in accordance with Section 4.3.2 (Processing the Request to Become an EIM Participant with an EIM Participating Resource) of this BP.

**4.3.1.1.2** An entity which is an EIM Participant and which has existing BANC EIM Participating Resources may add a new BANC EIM Participating Resource by meeting the applicable requirements under Section 4.3.3 (Confirmation Notice) and 4.3.4 (Notice and Obligation to Report a Change in Information) of this BP.

**4.3.1.2** At the time of application, any EIM Participating Resource applicant must elect to perform the duties of a CAISO Metered Entity or Scheduling Coordinator Metered Entity, consistent with the MO's requirements, as applicable, in addition to meeting any requirements prescribed in the MO Tariff for becoming an EIM Participating Resource, including those requirements pertaining to telemetry and metering requirements.

### 4.3.2 Processing the Request to Become an EIM Participant with an EIM Participating Resource

An entity not currently a signatory to the EIM PA and with no EIM Participating Resource must make a written request to the EIM Entity to become an EIM Participant with EIM Participating Resource(s) by sending a written request in accordance with Appendix 1 (Notices) to this BP, directed to the BANC General Manager.  Such request shall provide a full description of the Requestor's proposed EIM Participating Resource(s), including, at a minimum the: (a) type of resource (e.g., Combustion Turbine, Wind, etc.); (b) nameplate capacity of the resource; (c) point of interconnection; (d) applicable BANC EIM Transmission Provider and transmission rights (actual or proposed) to be used in support of the EIM Participating Resource(s); (e) Host BANC sub-Balancing Authority (SBA)[2]; and, (f) Host Balancing Authority of the EIM Participating Resource(s), if the Host Balancing Authority is different than BANC.

Such request will also require the Requestor to enter into an EIM PA with BANC to become an EIM Participant. The EIM Entity shall enter into negotiations with the Requestor to execute an EIM PA, but not prior to a decision as to whether to accept the request to register an EIM Participating Resource and a decision by the Requestor to proceed.

The BANC General Manager, in consultation with the EIM Committee, may

---

[2] For purposes of this BP, BANC hosts two SBAs, that of the Sacramento Municipal Utility District and that of the Western Area Power Administration – Sierra Nevada Region.

develop a written scope of work, list of technical requirements, associated milestones and costs, as deemed appropriate by BANC, required for the Requestor to become an EIM Participant with EIM Participating Resource(s). This written scope of work, list of technical requirements, associated milestones and costs shall form the basis of a letter of agreement between the EIM Entity and the Requestor, which shall be reviewed by the EIM Committee and approved by the Commission. Such Requestor shall be responsible for any coordination, transmission service or interconnection requirements under the Applicable OATT.

If the EIM Entity denies the request it shall send notification stating the grounds for the denial to the Requestor and shall provide guidance as to how the Requestor may cure the grounds for the denial. If the request is denied, the Requestor may resubmit the request in accordance with any BANC guidelines or protocols in place at the time of the resubmitted request. In the absence of BANC guidelines or protocols, resubmission shall be made in writing to the BANC General Manager to the address set forth in Appendix 1 (Notices) to this BP.

If the EIM Entity accepts the request and the Requestor affirms its intent to proceed, the EIM Entity will finalize and execute a letter of agreement with the Requestor, as approved by the Commission. BANC and the Requestor shall also negotiate and execute an EIM PA, as modified solely at the discretion of BANC. The EIM PA must be reviewed by the EIM Committee and approved by the Commission.

### 4.3.3 Confirmation Notice

Upon successful negotiation and approval by the Commission of the EIM PA with the new EIM Participant, and written acknowledgement by the EIM Entity of the EIM Participating Resource's eligibility to participate in the EIM, participation shall occur once the EIM Participant has demonstrated, and the MO or BANC EIM Transmission Provider have confirmed, as appropriate, that the EIM Participant has:

(1)     Met the MO's criteria to become an EIM Participating Resource and executed the MO's pro forma EIM Participating Resource Agreement;

(2)     Qualified to become or retained the services of a MO-certified EIM Participating Resource Scheduling Coordinator;

(3)     Met the necessary metering requirements of this BP, the BANC EIM Transmission Provider, and Section 29.10 of the MO Tariff, and the EIM Participating Resource Scheduling Coordinator has executed the MO's *pro forma* Meter Service Agreement for Scheduling Coordinators;

(4)     Met communication and data requirements of this BP, the BANC EIM

Transmission Provider, and Section 29.6 of the MO Tariff, and the operator of the plant(s) has the ability to receive and implement Dispatch Instructions every five minutes from the MO; and

(5)     Obtained written confirmation from the BANC EIM Transmission Provider that transmission service has been obtained in accordance with the Applicable OATT, or through an Existing Agreement associated with the EIM Participating Resource.

Upon receiving notice from the MO and BANC EIM Transmission Provider of the completion of the enumerated requirements by the EIM Participant, the EIM Entity shall provide notice to the EIM Participant with an EIM Participating Resource, the BANC EIM Transmission Provider, and the MO that the EIM Participating Resource is confirmed and therefore eligible to participate in the EIM.

For the avoidance of doubt, no newly-approved EIM Participant with EIM Participating Resources can commence operations within the BANC EIM footprint until it can operate in EIM as an EIM Participating Resource.

### 4.3.4   Notice and Obligation to Report a Change in Information

Each EIM Participant with a BANC EIM Participating Resource has an ongoing obligation to inform the EIM Entity and the BANC EIM Transmission Provider (if applicable) of any changes to any of the information submitted as part of the application process under this BP.

This information includes, but is not limited to:

(1)     Any change in the BANC EIM Participating Resource Scheduling Coordinator representing the resource;

(2)     Any change in the ownership or control of the resource;

(3)     Any change to the physical characteristics of the resource required to be reported to the MO in accordance with Section 29.4(c)(4)(C) of the MO Tariff;

(4)     Any addition of a new BANC EIM Participating Resource; and

(5)     If the MO terminates the participation of the EIM Participating Resource in the EIM, the EIM Participant has terminated the EIM Participating Resource's participation in the EIM, or the EIM Participant has lost eligibility under the Applicable OATT or an Existing Agreement, such matters shall be immediately brought to the attention of the EIM Committee and addressed in consultation with the Commission and General Counsel.

# 5.  Roles and Responsibilities

## 5.1  *EIM Entity and the EIM Entity Scheduling Coordinator*

### 5.1.1  Responsibilities

#### 5.1.1.1 Identification of EIM Entity Scheduling Coordinator

BANC can serve as the EIM Entity Scheduling Coordinator or retain a third party to perform such role. If BANC does not serve as the EIM Entity Scheduling Coordinator, BANC shall communicate to the EIM Entity Scheduling Coordinator any information required by the EIM Entity Scheduling Coordinator to fulfill its responsibilities in the EIM.

The EIM Entity Scheduling Coordinator shall coordinate and facilitate the EIM in accordance with the requirements of the MO Tariff. The EIM Entity Scheduling Coordinator must meet the certification requirements of the MO and enter into any necessary MO agreements.

#### 5.1.1.2 Processing EIM Participating Resource Applications

The EIM Entity shall be responsible for facilitating requests by EIM Participants seeking authorization to participate in the EIM with resources as EIM Participating Resources in accordance with Section 4.3 (Request and Certification of BANC EIM Participating Resources) of this BP.

#### 5.1.1.3 Determination of EIM Implementation Decisions for EIM Entity BAA

The EIM Entity is solely responsible for making any decisions with respect to EIM participation that the MO requires of EIM Entities. The EIM Entity, however, will coordinate with the BANC EIM Transmission Providers to the extent practicable. The EIM Entity has made the following determinations:

(1)  Eligibility Requirements for EIM Participating Resources: Eligibility requirements are set forth in Section 4 (BANC EIM Participating Resource Requirements) of this BP.

(2)  Load Aggregation Points: There shall be one LAP for the EIM Entity BAA and there will be a Custom Load Aggregation Point (CLAP) for each EIM Participant with Load.

(3)  MO Load Forecast(s): The EIM Entity shall utilize the MO load forecast(s) but shall retain the right to provide the load forecast(s) to the MO in accordance with the MO Tariff.

(4)  MO Metering Agreements: The EIM Entity and all EIM Participants with EIM Participating Resources shall have the

option to elect to be Scheduling Coordinator Metered Entities or CAISO Metered Entities in accordance with Section 29.10 of the MO Tariff.

(5)     EIM Transfer Capability: The EIM Entity coordinates with BANC EIM Transmission Providers to determine appropriate implementation methodologies for establishing EIM Transfer capability within the BANC EIM footprint.

### 5.1.1.4 EIM Entity Adopted Guidelines and/or Protocols

The EIM Entity may establish and revise, as necessary, guidelines or protocols to facilitate implementation and operation of the EIM within the EIM Entity BAA. The guidelines or protocols shall be discussed and developed in consultation with the EIM Committee, and with BANC EIM Transmission Providers to ensure alignment with their Applicable OATTs, contractual arrangements to facilitate use of an EIM Participant's transmission system for EIM transactions, business practices and procedures, as practicable. The guidelines or protocols shall either be added as an attachment to these BPs or otherwise made available to BANC EIM Transmission Providers and EIM Participants in a manner satisfactory to the EIM Committee.

### 5.1.1.5 Determination to Take Corrective Actions by the EIM Entity

The EIM Entity may take corrective actions in BANC's BAA in accordance with the requirements of Section 11 (Market Contingencies) of this BP.  The EIM Entity shall ensure coordination with any BANC EIM Transmission Provider(s) in any corrective action required on the BANC EIM Transmission Provider's systems.  Such coordination may be established in guidelines or protocols between the EIM Entity and BANC EIM Transmission Provider(s).

### 5.1.1.6 Determination to Permanently Terminate Participation in the EIM by the EIM Entity

The EIM Entity, in accordance with the requirements of Section 4.4 (Termination of this Agreement) of the EIM PA and Section 11 (Market Contingencies) of this BP, and in its sole and absolute discretion, may permanently terminate its participation in the EIM by providing notice of termination to the MO pursuant to applicable agreements and to EIM Participants and BANC EIM Transmission Providers, as applicable. Such decision to terminate by the EIM Entity shall be pursuant to Commission approval.

### 5.1.2   Responsibilities of the EIM Entity to Provide or Ensure the Provision of Required Information

For the avoidance of doubt, the EIM Entity is ultimately responsible to the MO

for the provision of all data under this section; however, the EIM Entity, in consultation with EIM Participants and BANC EIM Transmission Providers, may adopt guidelines or protocols for data exchanges which maximize efficiencies of such exchanges with the MO. Thus, the EIM Entity shall either directly provide data to the MO or, as agreed, ensure the provision of data directly to the MO from an EIM Participant or a BANC EIM Transmission Provider as such data is required by the MO under the terms of its tariff and/or business practice manuals, as that relates to the EIM Entity.

### 5.1.2.1 Provide Modeling Data to the MO

The EIM Entity shall provide, or ensure the provision of, information to the MO, associated with transmission facilities within BANC's BAA, including, but not limited to, network constraints and associated limits that must be observed in BANC's BAA network and interties with other BAAs. The EIM Entity shall establish and maintain EIM operating guidelines or protocols, with such guidelines or protocols to be coordinated with BANC EIM Transmission Providers, to ensure the most effective and timely communication of modeling data to the MO.

### 5.1.2.2 Provide Outage Data to the MO

The EIM Entity is responsible for providing Outage data for the BANC BAA to the MO. The EIM Entity shall establish and maintain EIM operating guidelines or protocols, with such guidelines or protocols to be coordinated with EIM Participants and BANC EIM Transmission Providers, to ensure the most effective and timely communication of Outage data to the MO. Thus, the EIM Entity shall either directly provide Outage data to MO or, as agreed, ensure the provision of Outage data directly to MO from an EIM Participant or a BANC EIM Transmission Provider as such data is required by the MO under the terms of its tariff and/or business practice manuals, as that relates to the EIM Entity.

### 5.1.2.3 Provision of Meter Data

The EIM Entity shall ensure, and the EIM Participant shall submit, load, resource, and Interchange meter data to the MO in accordance with the format and timeframes required in the MO Tariff.

The EIM Entity may establish and maintain EIM operating guidelines or protocols, with such guidelines or protocols to be coordinated with EIM Participants and BANC EIM Transmission Providers, to ensure the most effective and timely submission of meter data to the MO.

## 5.1.3 Day-to-Day EIM Operations

### 5.1.3.1 Submission of Base Schedule and Resource Plans

In accordance with Section 5.1.2 (Responsibilities of the EIM Entity to Provide or Ensure the Provision of Required Information) of this BP, the EIM Entity is responsible for ensuring the provision of the data required by the MO in accordance with Section 29.34 of the MO Tariff, including but not limited to: (1) hourly EIM Interchange Base Schedules; and (2) Resource Plans.

### 5.1.3.2 Communication of Manual Dispatch Information

The EIM Entity may issue Manual Dispatches in accordance with Section 7.3.2 (Manual Dispatch) of this BP. The EIM Entity shall ensure the MO is informed of any Manual Dispatch within the BANC BAA, including those initiated by BANC EIM Transmission Providers, by providing adjustment information for the affected resources in accordance with Section 29.34 of the MO Tariff. The EIM Entity and any BANC EIM Transmission Provider shall coordinate such communications with the MO through an operating procedure or other protocol to ensure the most effective and timely communication.

### 5.1.3.3 Confirmation of EIM Transfers

The MO shall calculate, and the EIM Entity shall confirm, actual values for Dynamic Schedules reflecting EIM Transfers to the MO within 60 minutes after completion of the Operating Hour to ensure the E-Tag author will be able to update these values in accordance with WECC policies and industry standards through an update to the E-Tag. If WECC policies and industry standards are modified such that the 60 minute time frame set forth in the preceding sentence is no longer sufficient to enable compliance with the WECC policies and industry standards, the BANC EIM Transmission Provider shall make any necessary adjustments to remain compliant with such industry standards and policy changes.

### 5.1.4 Credit and Collateral Requirements Imposed on the EIM Entity by the MO

It is the responsibility of the EIM Entity to ensure that all credit and collateral requirements imposed on the EIM Entity by the MO in accordance with the MO Tariff are passed through by the EIM Entity to EIM Participants or the BANC EIM Transmission Provider, to the extent permitted by applicable law, in accordance with Section 5.2.5 (Credit and Collateral Requirements Related to EIM Participants) of this BP. EIM Participants are required to use reasonable efforts to meet any timelines imposed by the MO Tariff in response to any credit and collateral requirements.

### 5.1.5 Settlement of MO Charges and Payments

The EIM Entity shall be responsible for financial settlement of all charges and

payments allocated by the MO to the EIM Entity. The EIM Entity shall allocate EIM charges and payments in accordance with Attachment A (BANC EIM Settlement Allocation Manual) to this BP, as applicable.

### 5.1.6 Dispute Resolution with the MO

The EIM Entity shall manage dispute resolution with the MO for the EIM Entity settlement statements consistent with Section 29.13 of the MO Tariff and Section 12 (EIM Disputes) of this BP. EIM Participants with EIM Participating Resources shall manage dispute resolution with the MO for any settlement statements they receive directly from the MO.

## 5.2 *EIM Participant Responsibilities*

Certain EIM Participants are also BANC EIM Transmission Providers, whose additional responsibilities are those set forth in Section 5.3 (BANC EIM Transmission Provider Responsibilities) of this BP. Such EIM Participants may choose coordinate under this dual role to ensure efficiency and avoid the duplication of responsibilities performed under this Section.

### 5.2.1 Initial Registration Data

#### 5.2.1.1 EIM Participants with an EIM Participating Resource

An EIM Participant with an EIM Participating Resource shall provide the EIM Entity with the data necessary to meet the requirements established by the MO to register all resources with the MO as required by Section 29.4(e)(4)(D) of the MO Tariff.

### 5.2.2 Responsibility to Update Required Data

#### 5.2.2.1 EIM Participants with a BANC EIM Participating Resource

Each EIM Participant with an EIM Participating Resource has an ongoing obligation to inform the MO and EIM Entity of any changes to any of the information submitted by the EIM Participant provided under Section 5.2.1 (Initial Registration Data) of this BP that reflects changes in operating characteristics as required by Section 29.4(e)(4)(D) of the MO Tariff.

### 5.2.3 Outages

EIM Participants with EIM Participating Resources shall be required to provide planned and unplanned outage information for their resources in accordance with Section 8 (Outages) of this BP and applicable guidelines or protocols.

### 5.2.4 Submission of EIM Participant Base Schedule

Every EIM Participant shall submit their resource Base Schedule(s) to the MO. This submission must balance the EIM Participant's resource Base Schedules, Interchange, Intrachange, and anticipated load each hour. The submissions shall

be in the format and within the timing requirements established by the MO and the EIM Entity as required in Section 5.2.4.4 (Timing for the Submission of EIM Participant Interchange and Intrachange Base Schedules Submission for EIM Participants with Resources or Load in the EIM Entity BAA) of this BP.

### 5.2.4.1 EIM Participants with a BANC EIM Participating Resource in the BANC BAA

An EIM Participant is not required to submit a Base Schedule for:

(1)    Non-dispatchable resources located in the EIM Entity BAA; or

(2)    behind-the-meter generation which is not contained in the MO's network model.

Each BANC EIM Participating Resource Scheduling Coordinator shall provide to the EIM Entity access to:

(3)    the energy bid range data of the respective resources it represents that are participating in the EIM; and

(4)    Dispatch Operating Target data of the respective resources it represents that are participating in the EIM.

(5)    Access to the MO Master File (as defined in the MO Tariff).

### 5.2.4.2 EIM Participants with Load and Load Aggregation Points

As set forth in Section 5.2.4 (Submission of EIM Participant Base Schedule) of this BP, an EIM Participant is required to submit resource Base Schedules on all resources which balance to the EIM Participant's EIM Load Forecast, Interchange and Intrachange, as applicable.

For purposes of settling Imbalance Energy pursuant to this BP, the EIM Entity shall calculate the EIM Participant load Base Schedule as the EIM Participating Resource Base Schedules net of its Interchange and net of its Intrachange, and net of expected system losses, as applicable. Any settlement is allocated in accordance with Attachment A (BANC EIM Settlement Allocation Manual) to this BP.

The EIM Participant shall coordinate with the EIM Entity and the MO to determine appropriate Load Aggregation Points.

### 5.2.4.3 EIM Participants with Interchange or Intrachange

The EIM Participant shall submit to the EIM Entity all Interchange Base Schedules, which the EIM Entity shall provide to the MO on the EIM Participant's behalf.

For purposes of settling Imbalance Energy for Interchange and Intrachange, the EIM Entity will calculate the Interchange and

Intrachange Base Schedule component as the schedules presented to EIM Entity at T-57 minutes. Any settlement is allocated in accordance with Attachment A (BANC EIM Settlement Allocation Manual) to this BP.

### 5.2.4.4 Timing for the Submission of EIM Participant Interchange and Intrachange Base Schedules Submission for EIM Participants with Resources or Load in the EIM Entity BAA

#### 5.2.4.4.1 Preliminary Submission of EIM Participant Interchange and Intrachange Base Schedules by EIM Participant with Resources or Load in the EIM Entity BAA

EIM Participants shall submit Interchange and Intrachange Schedules up to 7 days prior to each Operating Day ("T - 7 days"). EIM Participants may modify the proposed Interchange and Intrachange Base Schedules at any time.

#### 5.2.4.4.2 Final Submissions of EIM Participant Base Schedules

EIM Participants shall submit Interchange and Intrachange schedules at any time but no later than 57 minutes prior to each Operating Hour ("T-57"). EIM Participants may modify Interchange and Intrachange Base Schedules up to and until 57 minutes prior to the Operating Hour ("T-57"). As of 57 minutes prior to each Operating Hour ("T-57"), the EIM Participant Base Schedule data for the Operating Hour will be considered financially binding.

### 5.2.5 Credit and Collateral Requirements Related to EIM Participants

Each EIM Participant shall be responsible to meet the credit and collateral requirements imposed on the EIM Entity by the MO in accordance with the MO Tariff, inclusive of timelines thereto, as set forth in Section 5.1.4 (Credit and Collateral Requirements Imposed on the EIM Entity by the MO) of this BP, to the extent permitted by applicable law. Such collateral requirements may be met by any means permissible in accordance with the MO Tariff, including cash collateral or the assignment of unsecured credit in accordance with Attachment B (BANC Unsecured Credit Pool) to this BP.

### 5.2.6 EIM Resource Plan

The EIM Participant shall support the EIM Entity in the submission of a day ahead EIM Resource Plan in accordance with Section 29.34(e) of the MO Tariff. The EIM Entity will coordinate with EIM Participants on the manner which best supports this requirement.

### 5.2.6.1 EIM Resource Plan Components

(1) Participating Resources – EIM Participant with a PR submits generation resource plan directly to the MO.

(2) Interchange schedules – the EIM Entity submits all interchange schedules currently known directly to the MO.

(3) Load Forecast – Provided by MO.  No submission required.

### 5.2.7 Resource Sufficiency

It is the obligation of each EIM Participant serving load inside of the EIM Entity BAA to be resource sufficient (balancing of its relevant forecasted load with its supply) and to not intentionally lean on other EIM Participants or the broader EIM for its Energy Imbalance needs.  Therefore, each EIM Participant is responsible to ensure it has sufficient resources in each EIM interval in order for the EIM Entity to pass the MO EIM Resource Sufficiency tests in accordance with the MO Tariff.  EIM Participants which fail to meet this obligation will be allocated costs associated with such failure in accordance with Attachment A (BANC EIM Settlement Allocation Manual) to this BP.

### 5.2.8 Metering for EIM Participants

The EIM Participant, shall be responsible for the provision to the MO of timely and accurate meter data in compliance with applicable metering procedures/protocols for EIM Participants in accordance with BANC metering standards and, if applicable, metering standards of EIM Participant's Transmission Provider.

### 5.2.9 Termination by an EIM Participant

The EIM Participant, in accordance with the requirements of Section 4.3 (Termination by EIM Participants) of the EIM PA, may terminate its participation in EIM by providing at least one (1) year advance notice prior to such termination, as set forth in the EIM PA.  Notwithstanding the forgoing, any EIM Participant which is an EIM Participating Resource and/or an EIM Participating Resource Scheduling Coordinator is solely responsible for meeting any of its termination obligations set forth in the MO Tariff.

### 5.3 *BANC EIM Transmission Provider Responsibilities*

BANC EIM Transmission Providers may include both EIM Participants and non-EIM Participants. All  BANC EIM Transmission Providers are responsible for the following:

### 5.3.1 Eligibility Requirements

To ensure consistency with its tariff, if applicable, and to ensure the reliability of its system, the BANC EIM Transmission Provider may set any eligibility requirements for resources within the BANC EIM Transmission Provider's

system.  Such eligibility requirements shall be consistent with this BP and the MO Tariff and shall be coordinated with the EIM Entity to ensure consistency with this BP to the extent practicable.

### 5.3.2   Determination of EIM Transfer Capability

BANC EIM Transmission Providers shall provide the EIM Entity with amounts of transmission capacity on the BANC EIM Transmission Provider's system available for EIM Transfers consistent with the Applicable OATT and Section 6.2 (Provision of EIM Transfer Capability) of this BP.

### 5.3.3   Communication of Manual Dispatch Information

A BANC EIM Transmission Provider may take corrective actions within its transmission system, including issuing a Manual Dispatch to an EIM Participant with a BANC EIM Participating Resource in the BANC EIM Transmission Provider's transmission system, outside of the EIM Optimization to address reliability or operational issues in the BANC EIM Transmission Provider's transmission system, or due to disruption of EIM operations.

The BANC EIM Transmission Provider shall inform the EIM Entity of a Manual Dispatch within its transmission system as soon as possible, and in accordance with EIM Entity guidelines or protocols consistent with Section 5.1.3.2 (Communication of Manual Dispatch Information) of this BP.

The BANC EIM Transmission Provider and the EIM Entity shall follow the communication processes set forth in Section 5.1 (EIM Entity and the EIM Entity Scheduling Coordinator), Section 7.3 (Management of Contingencies and Emergencies – Normal and Emergency Conditions) or Section 11.3 (Management of Contingencies and Emergencies – Market Contingencies) of this BP, related to any corrective actions or Manual Dispatches taken by the BANC EIM Transmission Provider to preserve the reliability of its system. The EIM Entity and the BANC EIM Transmission Provider may adopt additional written communication guidelines or protocols outside of this BP to ensure reliable operations of the BANC BAA and to proper communication of events impacting EIM operations with the MO.

### 5.3.4   Providing Modeling Data

A BANC EIM Transmission Provider shall provide all relevant modeling data for its Transmission System in accordance with the guidelines or protocols for system modeling within the BANC BAA.

### 5.3.5   Providing Outage Data

A BANC EIM Transmission Provider shall provide all relevant planned and unplanned outage data to the MO for transmission facilities within its transmission system in accordance with Section 8 (Outages) of this BP, and applicable guidelines or protocols.

### 5.3.6 Providing Meter Data

A BANC EIM Transmission Provider shall ensure that all relevant meter data is provided in accordance with the requirements related to EIM Participants.

### 5.3.7 Ensuring Consistency Between its OATT and the EIM Entity BP and the MO Tariff

The BANC EIM Transmission Provider remains fully responsible for the development of its OATT, contractual arrangements to facilitate use of an EIM Participant's transmission system for EIM transactions, business practices, operating procedures, guidelines or protocols related to the operation of EIM in its system. The BANC EIM Transmission Provider shall coordinate with the EIM Entity to ensure consistency between its OATT, contractual arrangements to facilitate use of an EIM Participant's transmission system for EIM transactions, business practices, operating procedures, guidelines or protocols related to the operation of EIM in its system.

To the extent a conflict arises between any provision of the BANC EIM Transmission Provider's OATT or contractual arrangements to facilitate use of an EIM Participant's transmission system for EIM transactions, and any provision of the EIM Entity's business practices, operating procedures, guidelines or protocols related to the operation of EIM in its system such disputes will be addressed in accordance with Section 12 (EIM Disputes) of this BP.

## 6. Facilitation of Transmission Operations

BANC is not a Transmission Service Provider; however, as the EIM Entity, BANC is responsible for ensuring the MO is provided with available EIM Transfer Capability for the BANC BAA in accordance with this section. EIM Transfer Capability is determined by BANC EIM Transmission Providers in accordance with the Applicable OATT and communicated to the EIM Entity.

### 6.1 *Provision to MO of Information Regarding Real-Time Status of the BANC BAA Transmission System*

The EIM Entity provides the MO the following information:

(1)     real time data for the BANC BAA Transmission System and interties; and

(2)     any changes to transmission capacity and the BANC BAA Transmission System due to operational circumstances.

### 6.2 *Provision of EIM Transfer Capability*

### 6.2.1 Available Transfer Capability

The EIM Entity shall facilitate the provision of transmission capacity for EIM Transfers by ensuring the MO is provided with information about the amounts

available for EIM Transfers utilizing Available Transfer Capability (ATC) as determined by BANC EIM Transmission Providers.

The provision of EIM Transfer capability using ATC shall be implemented by 40 minutes prior to the Operating Hour ("T-40"). BANC EIM Transmission Providers shall create an E-Tag, with an OASIS identification reservation number(s) created for EIM Transfers utilizing ATC, and shall also include the EIM Entity, MO, all transmission providers, and path operators associated with the OASIS identification reservation number(s) identified in the E-Tag. The amount of ATC will be based upon the lower of the amount of ATC calculated by each EIM Entity at that interface. The ATC associated with the submitted E-Tag shall be available for the EIM, subject to approval of the E-Tag by all required E-Tag approval entities.

# 7. System Operations Under Normal and Emergency Conditions

## 7.1 *Compliance with Reliability Standards*

Participation in the EIM shall not modify, change, or otherwise alter the manner in which the EIM Entity, BANC EIM Transmission Providers, or EIM Participants operate their resources and/or transmission systems for purposes of reliability, consistent with applicable Reliability Standards, including adjustments.

Participation in the EIM shall not modify, change, or otherwise alter the obligations of the EIM Entity, BANC EIM Transmission Providers, or EIM Participants to comply with applicable Reliability Standards.

The EIM Entity, acting dually as Balancing Authority for the BANC BAA, shall remain responsible for:

(1)     ensuring appropriate operating reserves and for its obligations pursuant to any reserve sharing group agreements;

(2)     NERC and WECC responsibilities including, but not limited to, informing the Reliability Coordinator of issues within BANC's BAA;

(3)     ensuring the processing of E-Tags and managing schedule curtailments at the interties; and

(4)     monitoring and managing real-time flows within system operating limits on all transmission facilities within the EIM Entity BAA, including coordination with BANC EIM Transmission Providers for monitoring and management of facilities within the BANC EIM Transmission Provider's system. If requested by a BANC EIM Transmission Provider, the EIM Entity will provide additional information or data related to EIM operation as it may relate to facilities of the BANC EIM Transmission Provider.

**7.2** *Good Utility Practice*

The EIM Entity, BANC EIM Transmission Providers, and EIM Participants shall comply with Good Utility Practice with respect to this BP, Applicable OATTs, Existing Agreements, and the MO Tariff.

**7.3** *Management of Contingencies and Emergencies*

**7.3.1 EIM Disruption**

If the MO declares an EIM disruption in accordance with Section 29.7(j) (EIM Disruption) of the MO Tariff, the EIM Entity shall notify BANC EIM Transmission Providers, and in accordance with Section 29.7(j)(4) of the MO Tariff, ensure the MO is promptly informed of actions taken within the BANC BAA in response to the EIM disruption by providing adjustment information, updates to E-Tags, transmission limit adjustments, or Outage and de-rate information, as applicable. The EIM Entity and any BANC EIM Transmission Provider shall coordinate such communications with the MO through an operating procedure or other protocol to ensure the most effective and timely communication consistent with Section 5.3.3 (Communication of Manual Dispatch Information) of this BP.

**7.3.2 Manual Dispatch**

The EIM Entity may issue a Manual Dispatch to an EIM Participant with a BANC EIM Participating Resource in the BANC EIM footprint outside of the EIM Optimization to address reliability or operational issues in the BANC BAA. The EIM Entity coordinates with BANC EIM Transmission Providers prior to issuing Manual Dispatch instructions for resources within the BANC EIM Transmission Provider's transmission system. The EIM Entity also receives and processes Manual Dispatch information communicated to the EIM Entity from BANC EIM Transmission Providers for Manual Dispatches that are issued within the BANC EIM Transmission Providers' system in accordance with Section 5.3.3 (Communication of Manual Dispatch Information.)

The EIM Entity informs the Market Operator of any manual dispatch within the BANC BAA in accordance with BANC operating procedures or other guidelines or protocols of the EIM Entity.  The EIM Entity and any BANC EIM Transmission Provider shall coordinate such communications with the MO through an operating procedure or other protocol to ensure the most effective and timely communication consistent with Section 5.3.5 (Providing Outage Data) of this BP.

# 8.    Outages

For the avoidance of doubt, the EIM Entity is ultimately responsible to the MO for the provision of all Outage data under this section; however, for purposes of efficiency, it has been agreed upon among EIM Participants, BANC EIM Transmission Providers and the EIM Entity that the

primary interfaces with the MO for the provision of such data, unless agreed to otherwise between the EIM Entity and EIM Participants and BANC EIM Transmission Providers, shall be the EIM Participants and BANC EIM Transmission Providers.  The EIM Entity, in consultation with EIM Participants, including BANC EIM Transmission Providers, may adopt guidelines or protocols in support of such exchanges with the MO.  The originator of the Outage data is responsible for updates and changes to the Outage data regardless if the change is due to resource availability or a reliability issue.

## 8.1    *BANC Transmission Outages*

### 8.1.1    Planned Transmission Outages and Known Derates

The EIM Entity shall ensure the submission of Outage data regarding planned transmission outages and known derates to the MO's outage management system (OMS) in accordance with Section 29.9(b) of the MO Tariff.

Notwithstanding the foregoing, and unless agreed to otherwise, the BANC EIM Transmission Providers, or EIM Participants that are also Transmission Owners inside the EIM Entity BAA, as applicable, shall remain responsible for the actual submission to the MO of all Outage data required in this section. The EIM Entity's outage management integrates with the MO OMS.

### 8.1.2    Unplanned Transmission Outages

The EIM Entity shall ensure the submission of information as soon as possible regarding unplanned transmission outages or derates to the MO's OMS in accordance with Section 29.9(e) of the MO Tariff.

Notwithstanding the foregoing, and unless agreed to otherwise, the BANC EIM Transmission Providers, or EIM Participants that are also Transmission Owners inside the EIM Entity BAA, as applicable,  shall remain responsible for the actual submission to the MO of all Outage data required in this section.

## 8.2    *BANC EIM Participating Resource Outages*

### 8.2.1    Planned BANC EIM Participating Resource Outages and Known Derates

BANC EIM Participating Resource Scheduling Coordinators shall submit information regarding planned resource outages and known derates directly to the MO and communicate this information back to the EIM Entity, as well as providing any updates, on an ongoing basis, related to such relevant system changes impacting EIM Participating Resource availability. Planned outages and known derates shall be reported to the MO and communicated back to the EIM Entity. The BANC EIM Participating Resource Scheduling Coordinator shall submit this Outage data to the MO's OMS in accordance with Section 29.9(c) of the MO Tariff and communicate this information back to the EIM Entity. BANC EIM Participating Resource Scheduling Coordinators shall update the submittal if there are changes to the resource outage plan.

### 8.2.2 Unplanned BANC EIM Participating Resource Outages or Derates

In the event of an unplanned outage required to be reported under Section 29.9(e) of the MO Tariff, the BANC EIM Participating Resource Scheduling Coordinator is responsible for notifying the MO and communicating this information back to the EIM Entity of required changes. The BANC EIM Participating Resource Scheduling Coordinator shall submit this information to the MO's OMS and shall communicate this submission of information to the EIM Entity.

## 9. EIM Settlements and Billing

Attachment A (BANC EIM Settlement Allocation Manual) to this BP shall include information on the specific charges applicable to EIM settlement passed through by the EIM Entity to EIM Participants and BANC EIM Transmission Providers. The EIM Entity shall remain revenue neutral in all EIM payments and charges and shall allocate all payments and charges in accordance with Attachment A to this BP.

### 9.1 *MO Tax Liabilities*

Any charges to the EIM Entity pursuant to Section 29.22(a) of the MO Tariff for MO tax liability as a result of the EIM shall be sub-allocated to those EIM Participants triggering the tax liability.

### 9.2 *EIM Transmission Service Charges*

The EIM Entity is not a Transmission Provider or Transmission Owner at this time. However, for the avoidance of doubt and for purposes of EIM operations within the EIM Entity footprint, unless subsequently imposed by the MO as part of the MO Tariff, the EIM Entity and the BANC EIM Transmission Providers have agreed that there shall be no incremental transmission charge assessed for transmission use related to the EIM assessed by an EIM Participant. The EIM Entity and the EIM Participants will discuss any future EIM transmission charges imposed by a BANC EIM Transmission Provider with the EIM Committee in order to evaluate and address issues that could impact participation in the EIM under the MO Tariff.

### 9.3 *EIM Payment Calendar*

Pursuant to Section 29.11(l) of the MO Tariff, the EIM Entity shall be subject to the MO's payment calendar for issuing settlement statements, exchanging invoice funds, submitting meter data, and submitting settlement disputes to the MO. The EIM Entity shall process all payments and charges in accordance with Attachment A (BANC EIM Settlement Allocation Manual) to this BP, and Disputes process in Section 12 (EIM Disputes) of this BP.

### 9.4 *EIM Residual Balancing Account*

To the extent that MO EIM-related charges or payments to the EIM Entity are not

captured elsewhere in this BP, or this section, those charges or payments shall be placed in an interest-bearing account, with interest accruing until BANC develops an allocation methodology. Such account may include, but is not limited to, the EIM Participant Reserve Account, as created and set forth in the EIM Participation Agreement.

### 9.5 *Market Validation and Price Correction*

If the MO modifies the EIM Entity settlement statement in accordance with the MO's market validation and price correction procedures in the MO Tariff, the EIM Entity reserves the right to make corresponding or similar changes to the charges and payments sub-allocated under this BP.

## 10. Compliance

### 10.1 *Provision of Data*

An EIM Participant with EIM Participating Resources is responsible for complying with information requests they receive directly from the EIM market monitor or regulatory authorities concerning EIM activities.

An EIM Participant with EIM Participating Resources must provide the EIM Entity with all data necessary to respond to information requests received by the EIM Entity from the MO, the EIM market monitor, or regulatory authorities concerning EIM activities.

If the EIM Entity is required by applicable laws or regulations, or in the course of administrative or judicial proceedings, to disclose information concerning EIM activities that is otherwise required to be maintained in confidence, the EIM Entity may disclose such information; provided, however, that upon the EIM Entity learning of the disclosure requirement and, if possible, prior to making such disclosure, the EIM Entity shall notify any EIM Participant ("Affected Party") of the requirement and the terms thereof, providing a reasonable time for the Affected Party to be able to respond to such disclosure requirement. The Affected Party can, at its sole discretion and own cost, direct any challenge to or defense against the disclosure requirement. The EIM Entity shall cooperate with the Affected Party to obtain proprietary or confidential treatment of confidential information by the person to whom such information is disclosed prior to any such disclosure. It is acknowledged that the EIM Entity and EIM Participants may be subject to federal or state public disclosure laws.

The EIM Entity shall treat all EIM Participant data and information provided to it as market-sensitive and confidential, unless the EIM Entity is otherwise allowed or required to disclose.

### 10.2 *Rules of Conduct*

These rules of conduct are intended to provide fair notice of the conduct expected and to provide an environment in which all parties may participate in the EIM on a fair and equal basis.

All EIM Participants must:

(1)     Comply with Dispatch Instructions and operating orders of the EIM Entity or applicable BANC EIM Transmission Provider in accordance with Good Utility Practice. If some limitation prevents the EIM Participant from fulfilling the action requested by the MO, the EIM Entity, or the BANC EIM Transmission Provider, the EIM Participant must immediately and directly communicate the nature of any such limitation to the EIM Entity and, if applicable, the BANC EIM Transmission Provider;

(2)     Submit bids for resources that are reasonably expected to both be and remain available and capable of performing at the levels specified in the bid, based on all information that is known or reasonably should have been known at the time of submission;

(3)     Notify the MO, EIM Entity, and/or BANC EIM Transmission Provider, as applicable, of outages in accordance with Section 8 (Outages) of this BP;

(4)     Provide complete, accurate, and timely meter data in accordance with the metering and communication requirements of this BP, and Applicable OATTs, and maintain responsibility to ensure the accuracy of such data communicated by any customer-owned metering or communications systems. To the extent such information is not accurate or timely, the EIM Participant shall be responsible for any consequence on settlement and billing; and

(5)     Provide information to the EIM Entity, including the information requested in Sections 5.2.1 (Initial Registration Data), 5.2.2 (Responsibility to Update Required Data), 5.2.3 (Outages), 5.2.4 (Submission of EIM Participant Base Schedule) and 10.1 (Provision of Data) of this BP, by the applicable deadlines.

### 10.3   *Enforcement*

The EIM Entity may refer a violation of Section 10.2 (Rules of Conduct) of this BP to the EIM Committee, its Commission and/or its General Counsel and/or the MO for further action.

## 11.   Market Contingencies

### 11.1   *Temporary Suspension by the MO or by the EIM Entity*

In the event that the MO implements a temporary suspension ("Suspension Period") in accordance with Section 29.1 (d)(1) of the MO Tariff, including the actions identified in Section 29.1 (d)(5), the EIM Entity shall notify BANC EIM Transmission Providers and EIM Participants as soon as practicable and ensure any additional coordination deemed necessary with BANC EIM Transmission Providers. The EIM Entity shall settle all market and non-market energy charges in the most efficient manner as prescribed by BANC as approved by the EIM Committee.  Once transition from Market Operations to the Suspension Period is completed, it is expected that there will not be any charges imposed by the MO. EIM Participants will still be subject to paying their allocated share of ongoing BANC EIM costs required by the EIM Participation Agreement or these BPs

during the Suspension Period. This shall continue until the temporary suspension is no longer in effect or, if the MO determines to extend the suspension, for a period of time sufficient to process termination of the EIM Entity's participation in the EIM in accordance with Section 29.1(d)(2) of the MO Tariff.

In the event that the EIM Entity implements a temporary suspension, the same process shall apply.

## 11.2 *Termination of Participation in EIM by the EIM Entity*

If the EIM Entity, after approval by the Commission, submits a notice of termination of its participation in the EIM to the MO in accordance with Section 3.2.2 (Termination by the EIM Entity) of the Amended and Restated EIM Entity Agreement between the CAISO and BANC and Section 5.1.1.6 (Determination to Permanently Terminate Participation in the EIM by the EIM Entity) of this BP, in order to mitigate price exposure during the 180-day period between submission of the notice and the termination effective date, the EIM Entity will confirm with the MO that EIM Transfers shall cease on Day 1 of the notice of termination by the EIM Entity, and the EIM Entity is switched by the MO to "non-EIM Entity" on Day 2, in accordance with the MO Tariff and CAISO Business Practice Manual for EIM [11.4.1].

As such, this will ensure, as soon as practicable and in accordance with the MO obligations:

(1)     EIM Transfers will cease with the EIM Entity and the EIM Entity Balancing Authority Area will be separated the EIM operation; and

(2)     There will be a suspension of the settlement of EIM charges with respect to the EIM Entity.

If the EIM Entity takes action under this Section 11.2 (Termination of Participation in EIM by the EIM Entity) of this BP, the EIM Entity shall notify the MO, EIM Participants and BANC EIM Transmission Providers and shall develop a wind down process in consultation with the EIM Committee and approved by the Commission.

Notwithstanding the forgoing, EIM Participants and BANC EIM Transmission Providers shall remain obligated for any charges imposed by the MO on the EIM Entity subsequent to such notice of termination and for their allocated share of ongoing BANC EIM costs during the wind down period in accordance with Section 4.5 (Surviving Obligations) of the EIM PA.

## 11.3 *Management of Contingencies and Emergencies*

The EIM Entity or MO may declare a temporary contingency and invoke corrective actions for the EIM when in its judgment:

(1)     operational circumstances (including a failure of the EIM to produce feasible results in BANC's BAA) have caused or are in danger of causing an abnormal system condition in the BANC BAA that requires immediate action to prevent

loss of load, equipment damage, or tripping system elements that might result in cascading outages, or to restore system operation to meet the applicable Reliability Standards and reliability criteria established by NERC and WECC; or

(2)     communications between the MO and the EIM Entity are disrupted and prevent the EIM Entity, the EIM Entity Scheduling Coordinator, or a BANC EIM Participating Resource Scheduling Coordinator from accessing MO systems to submit or receive information.

The EIM Entity also takes corrective action for the EIM based on notice of need for corrective action received from BANC EIM Transmission Providers in accordance with Applicable OATTs.   The EIM Entity will coordinate with BANC EIM Transmission Providers and may jointly develop guidelines or protocols to address such actions.

### 11.3.1  Corrective Actions for Temporary Contingencies

If either of the above temporary contingencies occurs, the EIM Entity may invoke the following corrective actions by making an affirmative request to the MO that the MO immediately, or as soon as practicable:

(1)     prevent EIM Transfers and separate the EIM Entity's BAA from operation of the EIM in the EIM Area; and/or

(2)     suspend settlement of EIM charges with respect to the EIM Entity.

When corrective action under Section 11.3.1(2) of this BP is implemented, or if the MO, in accordance with the MO Tariff, including Section 29.7(j) (EIM Disruption), requires the use of temporary schedules to set an administrative price, imbalance services shall defer to the provisions of the BANC EIM Transmission Provider's Applicable OATT; however, the price used by the MO to settle such imbalance services shall be in accordance with Attachment C (EIM Entity Pricing During EIM Disruption or Suspension) to this BP.

If the EIM Entity takes action under this Section 11.3 (Management of Contingencies and Emergencies), the EIM Entity shall notify the MO, BANC EIM Transmission Providers, and EIM Participants. The EIM Entity, BANC EIM Transmission Providers, and the MO shall cooperate to resolve the temporary contingency event and restore full EIM operations as soon as is practicable.

Notwithstanding the forgoing, EIM Participants shall remain obligated for any charges imposed by the MO on the EIM Entity during any such suspension and/or contingency as may be imposed under the MO Tariff. The EIM Entity will coordinate with BANC EIM Transmission Providers and may jointly develop guidelines and/or protocols to address such actions.

## 12. EIM Disputes

**12.1 *Disputes between the EIM Entity and an EIM Participant or BANC EIM Transmission Provider Related to Allocation of Charges or Payments from the MO***

To the extent a dispute arises between the EIM Entity and an EIM Participant or BANC EIM Transmission Provider regarding the EIM Entity's implementation of this BP's provisions regarding the manner in which the EIM Entity allocates charges or payments from the MO, the parties shall follow the dispute resolution procedures in this Section 12.

**12.2 *Disputes between the MO and EIM Participating Resource Scheduling Coordinators Related to EIM Charges and Payments Directly With the MO***

Disputes involving settlement statements between the MO and EIM Participating Resource Scheduling Coordinators shall be resolved directly between the EIM Participating Resource Scheduling Coordinator and the MO in accordance with the dispute resolution process outlined in the MO Tariff. An EIM Participant with an EIM Participating Resource may choose to inform the EIM Entity if it raises a dispute with the MO, if that dispute may reasonably be expected to impact other EIM Participants or the EIM Entity.

**12.3 *Disputes between the MO and the EIM Entity***

The EIM Entity may raise disputes with the MO regarding the settlement statements it receives from the MO in accordance with the process specified in the MO Tariff.

**12.4 *Disputes Regarding MO Charges or Payments to the EIM Entity Raised by EIM Participants or BANC EIM Transmission Providers***

To the extent a dispute arises regarding a MO charge or a MO payment to the EIM Entity that is subsequently charged or paid by the EIM Entity to an EIM Participant or BANC EIM Transmission Provider, and such EIM Participant or EIM Transmission Provider wishes to raise a dispute with the MO, the EIM Entity shall file a dispute on behalf of such EIM Participant or BANC EIM Transmission Provider in accordance with the MO Tariff and work with the EIM Participant or BANC EIM Transmission Provider to resolve the dispute pursuant to the process specified in the MO Tariff.

**12.5 *Disputes among and between the EIM Entity and EIM Participants or BANC EIM Transmission Providers***

Any disputes between the EIM Entity, EIM Participants, and BANC EIM Transmission Providers, and/or between such parties, arising through participation in EIM shall be addressed in accordance with the Dispute Resolution procedures set forth in Section 14 of the EIM PA.

## 13. Attachments and Appendices Incorporated by Reference

All Attachments and Appendices hereto are made part of this BP and are hereby incorporated by reference.

## 14. Amendments

This BP, including its Attachments and Appendices, shall be initially coordinated with the BANC EIM Transmission Providers (which are also EIM Participants) and approved by the Commission. Subsequent amendments to this BP, Attachments and Appendices, may be made by the General Manager upon the unanimous concurrence by the EIM Committee, unless specified otherwise in the individual Attachments and/or Appendices. Such amendments and changes shall be coordinated with BANC EIM Transmission Providers to ensure alignment with Applicable OATTs, and contractual arrangements for use of an EIM Participant's transmission system, as reasonable, and to resolve any disputes between the EIM Entity and BANC EIM Transmission Providers that may arise from proposed changes to this BP. Absent unanimous concurrence by the EIM Committee with the General Manager, amendments to this BP must be approved by the Commission. Amendments and changes to this BP shall be reflected in updates to the Version History set forth in Appendix 2 (Version History) in accordance with the process prescribed in that appendix.

# Attachment A: BANC EIM Settlement Allocations Manual

# BANC
# EIM Settlement Allocations Manual

August 17, 2021

Version 1.2

# 1. BANC EIM Settlement Allocations Manual Overview

The California independent System Operator (CAISO) Energy Imbalance Market (EIM) allows Balancing Authority (BA) Areas (BAA) and transmission providers outside the CAISO BAA to efficiently and economically serve their imbalance energy needs through participation in the CAISO's real-time market.

As of April 2019, the Balancing Authority of Northern California (BANC) began "Phase 1" of participation in the CAISO EIM. Phase 1 involves a single Participating Resource Scheduling Coordinator (PRSC), the Sacramento Municipal Utility District (SMUD). On March 25, 2021, the additional participants inside the BANC BAA, including the Modesto Irrigation District, the Cities of Redding and Roseville and the Western Area Power Administration – Sierra Nevada Region (WAPA) commenced their participation under BANC EIM Phase 2. In its role as the EIM Entity for the BANC BAA, BANC receives settlement charges and credits from the CAISO (EIM Market Operator) related to:

- The overall BA participation in the EIM,
- Imbalance charges related to tag volume changes after 57-minutes before the start of each hour, and
- Load imbalance charges related to difference in each BANC EIM Participant load from energy base scheduled to actual meter data submitted after the fact.

This BANC EIM Settlement Manual (Manual) documents the processes for BANC/EIM Entity to:

- Allocate received CAISO imbalance charges/payments to EIM Participants,
- Detail the expected timing of the allocation process,
- Detail the timing permitted by EIM Participants to dispute potential allocation issues with the EIM Entity, and
- Describe the process whereby this Manual can be changed.

# 2.    BANC Settlement Process

## 2.1    *Special Definitions*

Capitalized terms not defined herein shall have the meaning(s) set forth in either the BANC EIM Business Practice (BP), the CAISO[1] Tariff, CAISO Business Practice Manuals or the CAISO Base Schedule Aggregator Portal (BSAP) Users Guide, as these documents may be amended from time-to-time.

**2.1.1**   *BANC Accounting* shall mean a service provided by the BANC Operator, as described in Section 5.3 of the Balancing Authority Operation Services Agreement between BANC and SMUD.

**2.1.2**   *BANC AP or AR Invoice Statement* shall mean a monthly statement produced by BANC Accounting in accordance with Section 2.3 (Invoice Process) of this Manual.

**2.1.3**   *BANC Balancing Account* shall mean an account set up by BANC Accounting to allow the periodic balancing of financial transactions that, in the normal course of business, do not result in a zero balance of cash inflows and outflows.

**2.1.4**   *BANC EESC* shall mean BANC EIM Entity Scheduling Coordinator, as the term EIM Entity Scheduling Coordinator is defined in the CAISO Tariff.

**2.1.5**   *BANC MEM (MEM)* shall mean the representation of an EIM Participant, as used in settlement allocation calculations.

**2.1.6**   *BANC Settlements* shall mean the actions and/or work performed by the BANC Settlements Services Provider.

**2.1.7**   *BANC Settlement Analyst(s)* shall mean the staff of the BANC Settlement Services Provider which support the execution of the processes defined in this Manual.

**2.1.8**   *BANC Settlement Services Provider* shall mean the entity with which BANC has executed a services agreement in order to carry out the processes set forth in this Manual.  Unless subsequently changed by BANC or SMUD, the BANC Settlement Services Provider shall be SMUD, as provided in the EIM Services Agreement between BANC and SMUD, as that agreement may be amended from time-to-time.

**2.1.9**   *Base Schedule Aggregator Portal (BSAP)* shall mean the system used by CAISO that allows Scheduling Coordinators to submit generation schedule forecast information to support Reliability Coordination Day-Ahead and Real-Time situational awareness and contingency analysis studies.

**2.1.10** *Business Practices (BP)* shall mean the business practices adopted by BANC to govern participation in EIM as these Business Practices may be amended from time-to-time in accordance with the procedures set forth therein.

**2.1.11** *CAISO Business Practice Manual (BPM)* shall mean a collection of documents made available on the CAISO Website that contain the rules, policies, procedures and guidelines established by the CAISO for operational, planning, accounting and settlement requirements of CAISO Market activities, including EIM, consistent with the CAISO Tariff.

---

[1] CAISO and Market Operator (MO) may be used interchangeably, as both are the same entity.

**2.1.12** *CAISO BPM Configuration Guide* shall mean the calculation rules executed within the CAISO Settlement system which are described in Section 8 (Understanding BPM Configuration Guides) of the CAISO BPM for Settlements and Billing, as that BPM may be amended from time-to-time

**2.1.13** *CAISO Settlement or Settlement* shall mean the process of financial settlement for products and services purchased and sold undertaken by the CAISO under Section 11 of the CAISO Tariff as supplemented by Section 29 of the CAISO Tariff. Each Settlement will involve a price and a quantity.

**2.1.14** *CAISO Settlement Statement* shall mean the Settlement documentation remitted by the CAISO to BANC as the EIM Entity in accordance with the CAISO Tariff and BPM for Settlements and Billing.

**2.1.15** *CAISO Tariff* shall mean the CAISO's open access transmission tariff filed with, and approved by the Federal Energy Regulatory Commission, as that tariff may be amended from time-to-time.

**2.1.16** *Commission* shall mean the BANC Commission.

**2.1.17** *Cost Allocation Ratio* shall mean the ratio of allocated costs among EIM Participants as determined by the Commission and described in Section 8 (EIM Participant and New EIM Participant Costs) of the EIM Participation Agreement and set forth in Exhibit A, Table 2 (EIM Participant Allocation Percentages based on 3-Year Average NEL) of that agreement, as the EIM Participation Agreement and Exhibit A, Table 2 may be amended from time-to-time.

**2.1.18** *Custom Load Aggregation Point (CLAP)* shall have the meaning set forth the CAISO Tariff.

**2.1.19** *Customer Inquiry, Dispute and Information (CIDI)* shall mean the CAISO system used to log and track market inquiries and settlement disputes.

**2.1.20** *Daily Load Ratio Share* shall have the meaning set forth in Section 7.4 (EIM Participant Load Ratio Share Precalculation) of this Manual.

**2.1.21** *EIM Participant Monthly Invoice Summary PDF* shall mean the monthly summary produced by BANC Accounting in accordance with Section 2.3 (Invoice Process) of this Manual.

**2.1.22** *EIM Participating Resource Scheduling Coordinator (PRSC)* shall mean an EIM Participant that has entered into an EIM Participation Resource Scheduling Coordinator Agreement with the CAISO in accordance with the requirements set forth in the CAISO Tariff.

**2.1.23** *EIM Entity Settlement* shall mean the normal EIM Settlement process which occurs between BANC, as the EIM Entity, and the CAISO, as set forth more fully in the BPM for Settlements and Billing.

**2.1.24** *EIM Entity Settlement Allocation* shall mean the allocation processes defined in this Manual, which is incorporated as Attachment A to the BP (BANC EIM Settlement Allocation Manual).

**2.1.25** *EIM Entity Settlement Allocation Adjustment* shall mean allocation amount adjustments which occur through the normal settlement reprocessing as described in this Manual.

**2.1.26** *Energy Imbalance Market Grid Management Charge for Market Services Charge (EIM GMC Market Services Charge)* shall mean the CAISO charge code set forth in the BPM for Settlements and Billing.

**2.1.27** *Energy Imbalance Market Grid Management Charge for Systems Operations Charge (EIM GMC Systems Operations Charge)* shall mean the CAISO charge code set forth in the BPM for Settlements and Billing.

**2.1.28** *Energy Transfer System Resource (ETSR)* shall mean an interconnection between EIM Entities, defined in the CAISO EIM. This typically is a virtual representation of multiple interconnections between EIM Entities.

**2.1.29** *Export TIE (ETIE)* shall mean an export Mirror System Resource.

**2.1.30** *FERC Annual Interest Rate* shall mean electric interest rates, published on a quarterly basis, which are calculated in accordance with Section 35.19a of the Federal Energy Regulatory Commission's regulations.

**2.1.31** *Instructed Imbalance Energy (IIE)* shall mean energy instructed by CAISO as part of its dispatch instructions.

**2.1.32** *Intertie* shall mean the point of interconnection between the BANC Balancing Authority Area and another Balancing Authority Area.

**2.1.33** *Intratie* shall mean the point or points of interconnection between EIM Participants within the BANC Balancing Authority Area.

**2.1.34** *Import TIE (ITIE)* shall mean an import Mirror System Resource.

**2.1.35** *Load Ratio Share* shall mean the allocated cost to each EIM Participant based on its respective load ratio percentage of overall EIM Participant load, and its application is more fully set forth in Section 7.4 (EIM Participant Load Ratio Share Precalculation) of this Manual.

**2.1.36** *Pacific Prevailing Time (PPT)* shall mean the time zone that will be used with Trade Dates.

**2.1.37** *Pass Through Bill (PTB)* shall mean the commonly found CAISO Market Settlements term used throughout the BPM for Settlements and Billing, which refers to a charge or credit that is applied in a charge code to a Scheduling Coordinator when adjustments to bill determinants are unable to accomplish the required adjustment.

**2.1.38** *Trade Date* shall have the same meaning as "Trading Day," as that term is used and defined in the CAISO Tariff.

## 2.2   *Allocation Process*

The BANC allocation process will be performed on BANC business working days. The allocation begins by the CAISO publishing settlement statements for BANC. CAISO only publishes settlement statements on CAISO defined working days. CAISO publishes statements late in the day and multiple statements are typically published on the first CAISO business day following holidays and weekends. For each Trade Date CAISO will publish an initial settlement statement several days after the day and then a series of scheduled resettlements over time. CAISO may invoke additional settlements other than the normal schedule to handle special circumstances. After the last day of every calendar month settlement is perform CAISO will produce a monthly settlement statement. The monthly statement is to calculate all monthly charges across the month. This unique process then results in every scheduling coordinator receiving two settlement statements when the last day of the month process, a daily and a monthly statement. For more information on the timing of CAISO settlement statements, please see the CAISO Business Practice Manual (BPM) for Settlements and Billing:  https://bpmcm.caiso.com/Pages/BPMLibrary.aspx.

The BANC Settlement Analyst(s) will review each BANC settlement statement from CAISO for completeness and thereafter will allocate that statement in accordance with the expectations published in this manual. BANC will allocate each statement in a standalone process. This means that BANC EIM Participants will receive two allocations when the last Trade Date of the month is processed, one for the daily settlement and one for the monthly settlement. As such the allocation rules in this manual will be applied to all settlement allocations. If a charge does not show up on the CAISO statement, it will not be processed by the BANC Allocation Process. The BANC Allocation Process will always process BANC Charge Code 100 since it is a rounding charge code. BANC Charge Codes 101 will only process when there is a PTB found in the charge codes being processed for the current CAISO settlement statement. BANC Charge Code 102 will only process when BANC Settlement Analyst initiates the charge code.

After the allocation process has completed for a settlement, BANC Settlement Analyst will review the results for accuracy and then will approve the results. EIM Participants will not be able to view any results until the BANC Settlement Analyst has approved the results. The allocation process is generally expected to take approximately two business days to complete after CAISO publishes settlement statements. If BANC is unable to complete an allocation after three business days, the BANC Settlement Analyst with provide notification to the EIM Participants informing them of the delay and any information as to when they may be able to expect the allocation to be completed.

Although never expected, it is foreseen that an approved allocation result may need to be rescinded. For these rare and unexpected occasions, the BANC Settlement Analyst will send a notification to the EIM Participants informing them that an allocation is being rescinded along with any information as to when they may be able to expect the allocation to be completed.

## 2.3    *Invoice Process*

On approximately the 3rd Wednesday of each of each month, BANC will invoice the EIM Participants for all net monthly incremental changes (both AR and AP) from all allocated settlements statements processed by BANC since the last BANC invoice issued the prior month. EIM participants will be invoiced from BANC's finance system, and invoices are due the $10^{th}$ day after the receipt of the invoices. The BANC allocation solution will net all allocation incremental statement totals by EIM Participant and for the Trinity Public Utilities District (TPUD) since the last processed monthly invoice and will send the information to BANC Accounting for issuance. The BANC allocation software will produce an EIM Participant Monthly Invoice Summary PDF of the allocation results for each EIM Participant as displayed in Appendix G which will be provided with the invoice. Along with the EIM Participant Monthly Invoice Summary PDF, each EIM Participant will receive either a BANC AP or AR Invoice Statement. Samples of the AP and AR invoices are provided in Appendix G. In the event an EIM Participant has no monthly charge or credit for an invoice, BANC Accounting will still issue a BANC AR Invoice Statement and the EIM Participant Monthly Invoice Summary PDF.

## 2.4    *Dispute Process*

### 2.4.1    Consistency between this BANC EIM Settlement Allocation Dispute Process and the BANC EIM Business Practice Section 12 (EIM Disputes)

This BANC EIM Settlement Allocation Dispute Process (ADP) provides the step-by-step details to be followed in a BANC EIM Settlement Allocation dispute with respect to application of the terms of this Manual.  Unresolved disputes will be subject to Section 12 (EIM Disputes) of the BANC

EIM Business Practices (BP), and nothing in this ADP shall be read inconsistent with the BP. Any conflicts between this ADP and the BP shall be construed in favor of the BP.

### 2.4.2 BANC/EIM Entity Settlement Allocation Disputes

2.4.2.1     It is expected that the EIM Entity may encounter errors in settlement charges and/or issues resulting in an incorrect charge amount. To remedy settlement issues, the EIM Entity will use a settlement dispute process, described further herein. The EIM Entity may broadly encounter two types of settlement or allocation disputes:

         2.4.2.1.1     An issue in the EIM Entity Settlement between itself and the CAISO.

         2.4.2.1.2     An issue in the EIM Entity Settlement Allocation between itself and an EIM Participant.

2.4.2.2     An EIM Participant, which is an EIM Participating Resource Scheduling Coordinator (PRSC), will settle directly with the CAISO. A settlement dispute could arise through that process and the PRSC shall follow the applicable procedures in the Tariff. However, the EIM Entity would not be a party to that dispute and therefore is not expected to be engaged in the PRSC settlement dispute process.

### 2.4.3 Identification of an issue in the CAISO EIM Entity Settlement between itself and the CAISO

This section shall be read and understood within the context of Section 12.3 (Disputes between the MO and the EIM Entity) and Section 12.4 (Disputes Regarding MO Charges or Payments to the EIM Entity Raised by EIM Participants or BANC EIM Transmission Providers) of the BP.

2.4.3.1     The BANC Settlement Analyst will validate the Statements and Invoices produced for the EIM Entity by the CAISO. When issues are identified which require formal dispute with the CAISO, the EIM Entity will open a CIDI settlement dispute directly with the CAISO. While a CAISO CIDI settlement dispute is pending for a Trade Date, BANC will allocate the Trade Date's Settlement and Invoice amounts as published by the CAISO.

2.4.3.2     When a CIDI settlement dispute is accepted by the CAISO, the updated EIM Entity Settlement Allocation impacts will be reflected in the normal reprocessing of the Trade Date where the dispute occurred. The CAISO's dispute adjustments will be reflected in the CAISO's resettlement of the Trade Date where the dispute occurred; and the EIM Entity Settlement Allocation Adjustments will be reflected in the EIM Entity allocation processing of the resettled Trade Date. Any CIDI settlement disputes which are rejected by the CAISO will not result in any EIM Entity Settlement Allocation Adjustments.

### 2.4.4 Identification of an issue in the EIM Entity Settlement Allocation between itself and an EIM Participant.

This section shall be read and understood within the context of Section 12.5 (Disputes among and between the EIM Entity and EIM Participants or BANC EIM Transmission Providers) of the BP.

2.4.4.1    An EIM Participant may encounter EIM Entity Settlement Allocation error and/or issue resulting in an incorrect allocation amount.  The EIM Participant will notify BANC Settlement Analyst of the allocation issue via email.  The BANC Settlement Analyst will review/analyze the reported issue, then provide an accepted or rejected answer to the disputing party on or before CAISOs Dispute Submittal Deadline, within the timelines set forth in Section 2.4.5 (BANC EIM Settlement Allocation Dispute Timeline/Deadline), below.  If the allocation dispute is accepted, the BANC Settlement Analyst will stage the appropriate corrections for the next scheduled reprocessing of the disputed Trade Date.  If the allocation dispute is rejected, no further action will be taken by the BANC Settlement Analyst unless further review is requested by the disputing party.

2.4.4.2    If the disputing party disagrees with the BANC dispute resolution, they are expected in good faith to continue to make every effort to resolve the disagreement with the BANC Settlement Analyst – providing additional evidence of the issue for example.  If the disputing party remains unsatisfied with the BANC Settlement Analyst's decision, they can make an appeal to the EIM Committee prior to initiating any further Dispute Resolution under Section 12 (EIM Disputes) of the BP.  This upwards appeal process to the EIM Committee should only be used when all other paths to resolution of the dispute have failed to reach an amicable settlement.  The BANC Settlement Analyst will notify the General Manager that an EIM Entity Settlement Allocation dispute remains unresolved/unaccepted.  The General Manager will determine if/when the EIM Committee will review the issue and provide the meeting date.  The disputing party will prepare a presentation outlining the exact issue and their proposed resolution.  The BANC Settlement Analyst may optionally prepare a presentation opposing the dispute.  The EIM Committee will make a final determination of the allocation dispute's merits, by a simple majority vote of its members.  In the event of a tie,  the General Manager shall cast the deciding vote.  The final dispute resolution option shall be provided in writing, if so requested.  If the disputing party is still in disagreement, it may avail itself of the provisions in Section 12.5 (Disputes among and between the EIM Entity and EIM Participants or BANC EIM Transmission Providers) of the BP.

2.4.4.3    In the event an allocation dispute brought by a BANC EIM Participant results in the discovery of a BANC EIM Entity settlement dispute with the CAISO, the BANC Settlement Analyst will open a CIDI settlement dispute and notify the disputing party that a dispute has been opened.  The CIDI settlement dispute process will proceed as described in the section "EIM Entity Settlement between itself and the CAISO" above.

### 2.4.5   BANC EIM Settlement Allocation Dispute Timeline/Deadline

2.4.5.1    The EIM Entity and EIM Participants recognize that the EIM Entity Settlement Allocation dispute deadlines are necessarily aligned with the CAISO's dispute deadlines.  Upon receipt of a dispute from an EIM Participant, the BANC Settlement Analyst must be allowed time to review the dispute and potentially open a corresponding dispute with the CAISO. The BANC Settlement Analyst must open the CIDI settlement dispute prior to the CAISO's dispute deadline for Trade Date.

2.4.5.2    Any EIM Participant allocation disputes which arrive after the Trade Date's EIM Participant's Dispute Submittal Deadline (see table in Section 6.4 below) will be

rejected by the BANC Settlement Analyst and there shall be no dispute recourse for the disputing party.

2.4.5.3    In accordance with the current CAISO BPM for Settlements and Billing, the CAISO allows ~22 business days (+22B) from the Statement Publication Date for an EIM Entity to file a dispute.  The EIM Entity and the EIM Participants agree that an EIM Participant has ~12 of those 22 business days to open a dispute with BANC.  This allows the BANC Settlement Analyst ~10 business days to analyze and file a corresponding dispute with the CAISO (if necessary).  In developing the BANC dispute deadlines, the parties recognize that the EIM Entity Settlement Allocation results would be posted about 2 business days after the  CAISO's Statement Publication date.

2.4.5.4    The BANC allocation dispute timeline is provided in the table below:

**New Market Settlement Timeline as of Trade Date 1/1/21**

| CAISO Statement Publication Date | Statement Type | Disputes Allowed | BANC Settlements Processing Time | BANC Participant's Dispute Submittal Deadline[1] | CAISO's Dispute Submittal Deadline[2] |
|---|---|---|---|---|---|
| T+9B | Initial | All Data | 2BD | T+21B | T+31B |
| T+70B | Recalculation | All Data | 2BD | T+82B | T+92B |
| T+11M (T+234B) | Recalculation | Incremental Changes Only | 2BD | T+246B | T+256B |
| T+21M (T+446B) | Recalculation | Incremental Changes Only | 2BD | T+458B | T+468B |
| T+24M (T+512B) | Recalculation | No disputes | 2BD | T+524B | T+534B |

[1]BANC's Dispute Submittal Deadline is CAISO Statement Publication Date plus 12 business days

[2]From the CAISO Payment Calendar

## 2.5    *Change Management Process*

### 2.5.1    Purpose and Scope of this Section and Role of the BANC EIM Settlements Working Group

The purpose of this change management section is to establish a process to support changes to the allocations and charges set forth in this Manual. For the avoidance of doubt, any changes to allocations and charges shall, in addition to being done in accordance with this process, be based upon an adherence, to the extent practicable, to the principles of cost causation among the EIM Participants.

This process shall be generally overseen by the BANC EIM Settlements Working Group (WG). The WG is an informal group of settlements subject matter experts which provides support to the EIM Committee.  Thus, the purpose of the WG is to provide EIM settlement expertise and general oversight and guidance with respect to the BANC EIM settlements process in support of the EIM Committee.  The WG will select an individual to serve as the chair of the WG (WG Chair), who will serve in this role at the will of the other WG members until that individual either decides to step down or another person is selected by unanimous approval of the WG.

EIM Settlement Charges (Settlement Charge(s)) can relate to charges imposed on the EIM Entity by the CAISO as the EIM Market Operator or those Settlement Charges allocated pursuant to formulas developed by EIM Entity under the supervision of the WG and subsequently approved by

the EIM Committee and/or the Commission.  All charges imposed on EIM Participants by the EIM Entity related to participation in EIM are set forth and described in the Manual.

### 2.5.2  Drivers of BANC EIM Settlement Allocation Changes

The following represent drivers for changes related to the Manual.  These include, but are not limited to:

2.5.2.1  Change(s) in the CAISO Settlement Charge(s).

2.5.2.2  New CAISO Settlement Charge.

2.5.2.3  EIM Participant or Commission-determined issue/dispute.

2.5.2.4  WG or EIM Committee requested change.

2.5.2.5  EIM Allocation formulation error or implementation error.

### 2.5.3  Proposing Changes to EIM Settlement Charges

Any WG member can propose a change to an EIM Settlement Charge (Settlement Charge). Changes that originate outside the WG (e.g., CAISO or EIM Committee-originated) would be brought forward by the WG Chair.

### 2.5.4  Work Group Change Management Process

The following step-by-step process will be generally followed by the WG when bringing forward a change to a Settlement Charge on its own initiative or in response to an external request.

2.5.4.1  Proposing party (Proponent) brings a Settlement Charge allocation change to the WG Chair, unless it is a change that originates outside the WG, in which case the WG Chair is the Proponent.

2.5.4.2  WG Chair reviews proposal, determines urgency, adds to next WG meeting agenda.

2.5.4.2.1  Urgent change requests could require an off-schedule meeting of the WG (via conference call).

2.5.4.3  Proponent provides written change proposal to WG members ahead of meeting.

2.5.4.4  Proponent presents change(s) to WG at subject WG meeting.

2.5.4.5  WG members who disagree with the change can make counter arguments or provide alternative approaches.

2.5.4.6  WG voting on change.

Proceeding with proposed changes to Settlement Charges shall first be determined by a vote of the WG in accordance with the following:

2.5.4.6.1  One vote per WG member.

2.5.4.6.2  Super majority vote by WG carries.

2.5.4.6.2.1  Notwithstanding the forgoing, to the extent a proposed change might impede or conflict with a federal obligation, such issues shall be described and discussed with the WG.  To the extent these issues cannot be resolved by the WG expeditiously and the WG still believes a change is needed, the matter shall be turned over to the EIM Committee for further discussion and deliberation.  The EIM Committee may consult the General Counsel and possibly submit the matter to the Commission for resolution, if necessary.

2.5.4.7  Disapproval by Vote

If change is denied by vote, no further action will be taken.  Notwithstanding the foregoing, the WG may request that Proponent provide more analysis or supporting data for reconsideration.

2.5.4.8  Approval by Vote of WG and Referral to EIM Committee

In the event that a change is approved, the WG shall forward its recommendation, along with the following, to the EIM Committee for either information or for full consideration, along with:

2.5.4.8.1  The Effective Date for Change, including the following Information:

2.5.4.8.1.1  The Trade Date such change becomes effective.

2.5.4.8.1.2  Specific Implementation Date.

2.5.4.8.1.3  Any Retro-active remediation (e.g., Resettlement, etc.) needed for change or changes to software and/or settlement processes.

2.5.4.8.1.4  Any further information deemed relevant by the WG in support of the proposed change.

2.5.4.8.1.5  Whether the WG believes that the change requires BANC EIM Committee review and approval or is just being provided on an informational basis.

2.5.4.8.1.5.1  All changes, except those proposing minor non-substantive changes with no cost impacts, shall be reviewed by the EIM Committee in accordance with Section 5 (EIM Committee Engagement) below.

2.5.4.8.1.5.1.1  Urgent change requests may require an off-schedule meeting of the EIM Committee (e.g., teleconference).

2.5.4.9  Non-Substantive Corrections and Minor Changes

Notwithstanding the process set forth in this Section 2.5.4 (Work Group Change Management Process), changes brought forward by recommendation of the General

Manager or upon recommendation to the General Manager by any other EIM Participant or WG member, which are either non-substantive corrections or other minor changes with no cost impacts, may be made by the General Manager without a formal process. Any such changes shall be communicated to the WG and reflected in the Manual as a minor, non-substantive changes as described in Section 2.5.7 (Change in Version History).

### 2.5.5 EIM Committee and Commission Engagement

2.5.5.1   Changes referred to by the WG which result in changes to cost allocation to any EIM Participant or among EIM Participants shall be reviewed by the General Counsel and, if so determined, provided to the Commission for review and approval.

    2.5.5.1.1   Notwithstanding the foregoing, changes which have an annual monetary impact equal to or below the delegated contractual threshold of the General Manager, as set by the Commission, shall not require Commission approval; provided, however, such change shall require the unanimous approval of the EIM Committee.

2.5.5.2   Changes which do not require Commission approval and which are approved by the EIM Committee will be implemented consistent with this procedure.

### 2.5.6 Change Implementation

2.5.6.1   Changes which are approved consistent with Section 4 (Work Group Change Management Process) or Section 5 (EIM Committee Engagement) shall be reflected in an update to the Manual, along with an appropriate change to the Version History as described in Section 2.5.7 (Change in Version History).

2.5.6.2   In addition to changes to the Manual, the General Manager, in coordination with the WG and/or the EIM Committee, shall initiate any further changes and/or testing required to implement the change, including, but not limited to ensuring the:

    2.5.6.2.1   Settlement Software vendor is engaged to design/implement change.

    2.5.6.2.2   BANC Settlement Analysts test change.

    2.5.6.2.3   Change is implemented in BANC production software on the effective date.

### 2.5.7 Change in Version History

Any changes will be reflected through a change in the Manual's Version History on the cover page and provided in Appendix H (Version History Table) of this Manual. Minor, non-substantive changes will be reflected in $1/10^{th}$ increments to the Version History (e.g., 1.1, 1.2, etc.). Substantive changes will be reflected as changes to the first digit (e.g., 1.0, 2.0, etc.).

# 3. Section Reserved for Future Use

[THIS SECTION INTENTIONALLY LEFT BLANK]

# 4.    Charges, Determinants and Calculation Summary

This Manual defines all the charges and calculations used to calculate EIM Participants' EIM settlement. The source of these charges and credits originates with the market settlement statement and resettlements that BANC receives from CAISO. BANC will allocate all charges and credits received based on the defined formulas in this Manual.

Any determinant or charge that has a red font is from CAISO settlement statement. CAISO settlements do not use the published BPM name but have their own defined acronym. This Manual provides the statement translation for every CAISO determinant. CAISO determinants have a unique and complex set of subscripts that are defined by the CAISO Business Practice Manuals. All determinants, charges and subscripts that are in blue or gold font are defined by this Manual. Gold font calculations are for BANC monitoring and may not be available to EIM Participants.

All BANC allocation calculations are written with a bottom up approach. This means for a simple formula that is only price times quantity, the manual will list the quantity determinant, then the price determinant and then at the end, the charge code total that is the product of price times quantity. All BANC allocation formulas display in a blue or gold font.

## 4.1    *Calculation Subscripts*

The following calculation subscripts are used in the BANC allocation calculation formulas:

*Time Subscripts:*

m – Identifies a calendar month interval.

d – Identifies a daily interval.

h – Identifies an hourly interval.

c – Identifies a 15-minute time interval.

f – Identifies a 5-minute time interval.

*All time intervals are in Pacific Prevailing Time zone.*

*A time subscript inherently assumes that all longer intervals are inclusive in the current interval. For example, the "h" interval also assumes for all hours of the day and month. The "f" interval assumes all intervals in the 15-minute interval, all hours, all days and months.*

*The time subscript will always be displayed as the last subscript in the series of subscripts so users can easily identify the time interval.*

*Entity and Asset Subscripts:*

B – Identifies a determinant at the *BANC* level.

P – Identifies a determinant by *EIM Participant*.

Q – CAISO Intertie Resource ID LMP. The Intertie Resource ID LMP is the price used for settling imbalance volumes for BANC imports and exports.

R – Registered resource location (generator, load, tie).

*The order of subscript display will always be listed in the preference listed in this section.*

*Tag Subscripts:*

S – POR/POD Segment found on the tag used as the Intertie price cross reference in Appendix D. This will be null on Intratie tags.

G – GCA on the tag.

E – PSE on the tag.

C – Tag Code on the tag.

L – LCA on the tag.

x – Energy schedule ultimate source location.

y – Energy schedule ultimate sink location.

z – A tagged energy schedule name.

*The order of subscript display will always be listed in the preference listed in this section.*

## 4.2   *Calculation Superscripts*

Superscripts will be used as a reference to identify rounding requirements.

## 4.3   *Calculation Annotations*

The following formula annotations are used in this manual:

$\sum$ - Means sum across some characteristic. The following formula, $\sum_{Bd}(BNC\_PPT\_LD\_HR\_QTY_{Ph})$ means:

- $BNC\_PPT\_LD\_HR\_QTY_{Ph}$ – This is the BNC_PPT_LD_HR_QTY billing determinant is by BANC by hour.
- $\sum_{Bd}$ – This means to sum across the billing determinant by *BANC* across the entire day.

## 4.4   *Determinant Precision*

All determinants pulled from CAISO Settlement Statements will be displayed in the precision provided from CAISO except for charge amounts. Charge amounts will be rounded to the nearest cent in the interval displayed. Note CAISO does not round quantities or amounts; these values can have up to 9 decimals of precision. Although CAISO may indicate in the BPM Configuration Guides that a determinant may have a precision of 9 decimals, this Manual identifies that actual precision found in the settlement statements.

All determinants pulled from non-CAISO data will be displayed in the precision they are received from the source system.

All determinants will retain the precision of their preceding determinants except as noted where rounding is applied. Rounding will be annotated with a superscript and will identify the level of rounding precision.

All amounts allocated to participants will be rounded to the nearest cent per data interval. All amount rounding will be captured in the BANC Balancing Account and allocated to participants per the allocation defined in that section.

# 5. EIM Entity Settlement Allocation Charge Summary

The allocation methodologies for each BANC charge code are summarized in the following table:

| BANC Allocation Charge Code | | Allocation Granularity | Allocation Basis | TPUD Suballocated to BANC |
|---|---|---|---|---|
| Precalculation | EIM Participant Cost Allocation | N/A | Set by BANC Commission | Yes |
| Precalculation | EIM Participant Fixed Cost Allocation | N/A | Evenly divided by number of EIM Participants | Yes |
| Precalculation | EIM Participant Tagging Precalculation | N/A | N/A | N/A |
| Precalculation | EIM Participant Load Ratio Share | N/A | Final EIM CAISO metered load value ratio share. | Yes |
| Precalculation | EIM Participant Load Base Schedule | N/A | (Scheds at T-40 plus net hourly tag scheds at T-57) * (1 - transmission loss factor) | No |
| Precalculation | EIM Participant Absolute Imbalance Ratio | N/A | Demand: ABS(5-min reported load aggregated hourly – hourly load Base Schedule) Generation: ABS(5 min gen meter hourly – hourly gen Base Schedules) Tags: ABS(tags at T-57 – 5 min sched ATF aggregated hourly) Sum of Demand, Generation and Tags | Yes |
| 100* | BANC Balancing Account | Daily | BANC Daily Load Ratio Share | Yes |
| 101* | BANC PTB Charge | Daily | Custom Allocated or by default, Daily Load Ratio Share. | Yes |
| 102* | BANC Miscellaneous Charge | Daily | Custom Allocated | Yes |
| 2999 | BANC Charge Code 2999 Default Invoice Interest Payment | Monthly | EIM Participant Cost Allocation Ratio | Yes |
| 3999 | BANC Charge Code 3999 Default Invoice Interest Charge | Monthly | EIM Participant Cost Allocation Ratio | Yes |
| 4564 | GMC-EIM Transaction Charge | Hourly | EIM Participant Hourly Load and Intertie Absolute Imbalance Ratio | Yes |
| 4575 | BANC Charge Code 4575 Scheduling Coordinator Identification Charge | Monthly | EIM Participant Fixed Cost Allocation Ratio | Yes |
| 5024 | BANC Charge Code 5024 Invoice Late Payment Penalty | Daily | EIM Participant Cost Allocation Ratio | Yes |
| 5025 | BANC Charge Code 5025 Collateral Late Payment Penalty | Daily | EIM Participant Cost Allocation Ratio | Yes |
| 5900 | BANC Charge Code 5900 Shortfall Receipt Distribution | Daily | EIM Participant Cost Allocation Ratio | Yes |
| 5901 | BANC Charge Code 5901 Shortfall Receipt | Daily | EIM Participant Cost Allocation Ratio | Yes |
| 5910 | BANC Charge Code 5910 Shortfall Allocation | Daily | EIM Participant Cost Allocation Ratio | Yes |
| 5912 | BANC Charge Code 5912 Default Allocation | Daily | EIM Participant Cost Allocation Ratio | Yes |
| 6045 | Over-scheduling and Under-scheduling Charge | Hourly | Hourly by Over/Under Scheduled Quantity | Yes |
| 6046 | BANC Charge Code 6046 Over and Under Scheduling Allocation | Daily | EIM Participant Daily Load Ratio Share | Yes |
| 6194 | Spin Reserve Obligation | Hourly | EIM Participant Hourly Load Ratio Share | Yes |
| 6196 | Spin Reserve Neutrality Allocation | Hourly | EIM Participant Hourly Load Ratio Share | Yes |
| 6294 | Non- Spin Reserve Obligation | Hourly | EIM Participant Hourly Load Ratio Share | Yes |
| 6296 | Non- Spin Reserve Neutrality Allocation | Hourly | EIM Participant Hourly Load Ratio Share | Yes |
| 66200 | RT Bid Cost Recovery EIM Settlement | Daily | EIM Participant Daily Load Ratio Share | Yes |

| BANC Allocation Charge Code | | Allocation Granularity | Allocation Basis | TPUD Suballocated to BANC |
|---|---|---|---|---|
| 64600 | FMM Instructed Imbalance Energy EIM Settlement | 5 Minute | Allocate per participant specific FMM Intertie activity | No |
| 64700 | Real Time Instructed Imbalance Energy EIM Settlement | 5 Minute | Allocate per participant specific RTM Intertie activity | No |
| 64740 | Real Time Unaccounted for Energy EIM Settlement | Hourly | Allocated hourly by Load Ratio Share. | Yes |
| 64750 | Real Time Uninstructed Imbalance Energy EIM Settlement | Hourly | Allocated per member based on difference between reported load meter data and individually calculated load Base Schedule. | No |
| 64770 | Real Time Imbalance Energy Offset EIM | Hourly | EIM Participant Hourly Absolute Imbalance Ratio | Yes |
| 6478 | RT System Imbalance Energy Offset | Hourly | EIM Participant Hourly Load Ratio Share | Yes |
| 66780 | Real Time Bid Cost Recovery Allocation EIM | Hourly | EIM Participant Hourly Load Ratio Share | Yes |
| 67740 | Real Time Congestion Offset EIM | Hourly | EIM Participant Hourly Absolute Imbalance Ratio | Yes |
| 69850 | Real Time Marginal Losses Offset EIM | Hourly | EIM Participant Hourly Absolute Imbalance Ratio | Yes |
| 7070 | BANC Charge Code 7070 Flexible Ramp Forecast Movement Settlement | Hourly | EIM Participant Hourly Load and Intertie Absolute Imbalance Ratio | Yes |
| 7076 | BANC Charge Code 7076 Flexible Ramp Forecast Movement Allocation | Hourly | EIM Participant Hourly Load Ratio Share | Yes |
| 7077 | BANC Charge Code 7077 Daily Flexible Ramp Up Uncertainty Award Allocation | Daily | EIM Participant Daily Load and Intertie Absolute Imbalance Ratio | Yes |
| 7078 | BANC Charge Code 7078 Monthly Flexible Ramp Up Uncertainty Award Allocation | Monthly | EIM Participant Monthly Load and Intertie Absolute Imbalance Ratio | Yes |
| 7087 | BANC Charge Code 7087 Daily Flexible Ramp Down Uncertainty Award Allocation | Daily | EIM Participant Daily Load and Intertie Absolute Imbalance Ratio | Yes |
| 7088 | BANC Charge Code 7088 Monthly Flexible Ramp Down Uncertainty Award Allocation | Monthly | EIM Participant Monthly Load and Intertie Absolute Imbalance Ratio | Yes |
| 7989 | BANC Charge Code 7989 Invoice Deviation Interest Distribution | Daily | EIM Participant Cost Allocation Ratio | Yes |
| 7999 | BANC Charge Code 7999 Invoice Deviation Interest Allocation | Daily | EIM Participant Cost Allocation Ratio | Yes |

*BANC defined charge codes

# 6.    EIM Entity Settlement Allocation Configuration

BANC will configure and maintain the settlement allocation solution. The solution will allocate CAISO charges and credits to EIM Participants based on the rules provided in this Manual. The allocation will be initiated with each settlement statement issued by CAISO and will be performed by Trade Date. CAISO resettles Trade Dates on a predetermined schedule and can add resettlements as their tariff dictates. BANC will fully allocate each first settlement from CAISO which will flow to the EIM Participant invoice. Thereafter with each CAISO resettlement statement, BANC will reallocate each resettled CAISO settlement statement whereby the difference in the allocations for each charge code will flow to the EIM Participant invoice.

## 6.1    *EIM Participants*

The solution will track the following information by *Trade Date*.

- *EIM Participant* name
- *EIM Participant* registered SCID with CAISO.
- *BANC* registered load location.
- *EIM Participant* scheduling points.

# 7.   BANC Allocation Precalculation

A Precalculation is a predefined mathematical formula that is used across multiple charges. In lieu of redefining the formula in each charge, the formula is defined once and each charge that uses the formula will reference.

## 7.1   *EIM Participant Cost Allocation Precalculation*

There are several CAISO charges which will be allocated according the EIM Participant Cost Allocation Ratio.  These EIM Participant Cost Allocation Ratios are determined and approved by the Commission early in each calendar year.  This preprocess defines the determinant which will be used to hold the EIM Participant Cost Allocation Ratio for each EIM Participant.  The new participant ratio values are deemed in effect by Trade Date until the Commission approves updated ratios. The total of all the EIM Participant Cost Allocation Ratios will equal 1 (one).

WAPA serves the TPUD load. TPUD will not be participating in the EIM. The Commission has agreed that any EIM charges and credits associated with TPUD will be subtracted from WAPA and will be reallocated to the other participants by BANC Accounting outside of this allocation process. To accommodate this requirement, the Cost Allocation for WAPA will be reduced by proportionally by percentage of their TPUD load compared to WAPA's total load and reallocated to separate determinants by charge code. WAPA will report both their total load that includes the TPUD load and will provide a separate TPUD load to the EIM Entity settlement allocation software for this allocation process.

The EIM Participant cost allocation percentage will be based on the approved percentage that is effective for the Trade Date being settled.

### 7.1.1   CAISO Determinants

| Determinants | Unit of Measure (UOM), Interval Length, Precision | Description | CAISO Statement Bill Determinant Name | CAISO Bill Determinant Attributes | CAISO BPM |
|---|---|---|---|---|---|
|  |  |  |  |  |  |

### 7.1.2   BANC Provided Determinants

| Determinants | UOM, Interval Length, Precision | Description |
|---|---|---|
| PPT_PRELIM_COST_ALLOC_RATIO$_{Pd}$ | Decimal Daily 5 Decimals | **EIM Participant Preliminary Cost Allocation Ratio** - The EIM Participant daily cost allocation ratio per participant. This percentage is expected to be defined annually by the Commission and it will be in effect by Trade Date until it is updated. All allocations including resettlements will use the allocation in effect for that Trade date. |
| TPUD_DLY_LD_QTY$_d$ | Decimal Daily 5 Decimals | **TPUD Daily Load Quantity** – The total daily megawatt-hour load for Trinity PUD in Prevailing Pacific Time Zone. |

| | MWh | **EIM Participant Hourly Load** Quantity - The total |
|---|---|---|
| $\text{PPT\_HRLY\_LD\_QTY}_{Ph}$ | Hourly | hourly megawatt-hour load for an EIM Participant. |
| | 4 Decimals | |
| $\text{PPT\_DLY\_LD\_QTY}_{Pd}$ | Decimal Daily 5 Decimals | **EIM Participant Daily Load Quantity** – the total daily megawatt-hour load for each EIM Participant in Prevailing Pacific Time Zone. |
| $\text{COST\_ALLOC\_RATIO\_ADJ}_{Pd}$ | Decimal Daily 5 Decimal | **Cost Allocation Ratio Adjustment** – The daily cost allocation ratio adjust for participants based on the impact of removing TPUD daily load ratio from the participants load for the day. |
| $\text{PPT\_COST\_ALLOC\_RATIO}_{Pd}$ | Decimal Daily 5 Decimals | **EIM Participant Cost Allocation Ratio** - The EIM Participant daily cost allocation ratio per participant. This percentage is expected to be defined annually by the Commission and it will be in effect by Trade Date until it is updated. All allocations including resettlements will use the allocation in effect for that Trade date. |
| $\text{TPUD\_COST\_ALLOC\_RATIO}_{Bd}$ | Decimal Daily 5 Decimals | **Trinity PUD Cost Allocation Ratio** – The ratio of WAPA's cost allocation that is attributable to TPUD load for the day. This determinant is associated with BANC. |
| $\text{TPUD\_MNLY\_LD\_QTY}_{m}$ | Decimal Monthly 5 Decimals | **TPUD Monthly Load Quantity** – The total monthly megawatt-hour load for Trinity PUD in Prevailing Pacific Time Zone. |
| $\text{PPT\_MNLY\_LD\_QTY}_{Pm}$ | Decimal Monthly 5 Decimals | **EIM Monthly Daily Load Quantity** – the total monthly megawatt-hour load for each EIM Participant in Prevailing Pacific Time Zone. |
| $\text{COST\_ALLOC\_MNLY\_RATIO\_ADJ}_{Pm}$ | Decimal Monthly 5 Decimal | **Cost Allocation Monthly Ratio Adjustment** – The monthly cost allocation ratio adjust for participants based on the impact of removing TPUD monthly load ratio from the participants load for the month. |
| $\text{PPT\_COST\_ALLOC\_MNLY\_RATIO}_{Pm}$ | Decimal Monthly 5 Decimals | **EIM Participant Cost Allocation Monthly Ratio** - The EIM Participant monthly cost allocation ratio per participant. This percentage is expected to be defined annually by the Commission and it will be in effect by Trade Date until it is updated. All allocations including resettlements will use the allocation in effect for that Trade date. |
| $\text{TPUD\_COST\_ALLOC\_MNLY\_RATIO}_{Bm}$ | Decimal Monthly 5 Decimals | **Trinity PUD Cost Allocation Monthly Ratio** – The ratio of WAPA's cost allocation that is attributable to TPUD load for the month. This determinant is associated with BANC. |

### 7.1.3   BANC Allocation Determinant

| Determinants | UOM, Interval Length, Precision | Description |
|---|---|---|
| | | |

**Formulas**

**7.1.4** The EIM Participant Cost Allocation Ratio is determined by the EIM Committee for a predetermine Trade Date range.

$PPT\_PRELIM\_COST\_ALLOC\_RATIO_{Pd}$[1] = The *BANC* approved Cost Allocation Ratio by EIM
Participant in effect for the Trade Date.

[1]Rounded to 5 decimal places.

**7.1.5** Calculate the cost allocation adjustment ratio for each participant to adjust for TPUD's daily load. Note the only participant that has a reduction is WAPA and the amount of reduction will change daily based on TPUD's daily load compared to WAPA's daily load.

$COST\_ALLOC\_RATIO\_ADJ_{Pd}$[1] =
    IF(P = WAPA
    THEN
          IF { $PPT\_DLY\_LD\_QTY_{Pd}$ = 0
          THEN 0
        ELSE [ 1 – ($TPUD\_DLY\_LD\_QTY_{d}$ / $PPT\_DLY\_LD\_QTY_{Pd}$) ]
          }
    ELSE 1
    )

[1]Rounded to 5 decimal places.

**7.1.6** Calculate the final Cost Allocation Ratio for the TPUD impact.

$PPT\_COST\_ALLOC\_RATIO_{Pd}$[1] = $PPT\_PRELIM\_COST\_ALLOC\_RATIO_{Pd}$ *
$COST\_ALLOC\_RATIO\_ADJ_{Pd}$

[1]Rounded to 5 decimal places.

**7.1.7** Calculate the TPUD cost allocation ratio. This ratio consists of the reduction in WAPA's load ratio share that was attributable to TPUD.

$TPUD\_COST\_ALLOC\_RATIO_{Bd}$[1] =
        IF { $PPT\_DLY\_LD\_QTY_{Pd}$ = 0
        THEN 0
        ELSE [ ($TPUD\_DLY\_LD\_QTY_{d}$ / $PPT\_DLY\_LD\_QTY_{Pd}$) *
           $PPT\_PRELIM\_COST\_ALLOC\_RATIO_{Pd}$]
        }
        where P = WAPA

[1]Rounded to 5 decimal places.

**7.1.8** Calculate the monthly load for each participant by summing the daily values in the month.

$PPT\_MNLY\_LD\_QTY_{Pm} = \sum_{Pm} (PPT\_DLY\_LD\_QTY_{Pd})$

**7.1.9** Calculate the monthly load for TPUD by summing the daily values in the month.

$TPUD\_MNLY\_LD\_QTY_{m} = \sum_{m} (TPUD\_DLY\_LD\_QTY_{m})$

**7.1.10** Calculate the monthly cost allocation adjustment ratio for each participant to adjust for TPUD's daily load. Note the only participant that has a reduction is WAPA and the amount of reduction will change monthly based on TPUD's monthly load compared to WAPA's monthly load.

$COST\_ALLOC\_MNLY\_RATIO\_ADJ_{Pm}$[1] =
    IF(P = WAPA
    THEN

$$IF \{ PPT\_MNLY\_LD\_QTY_{Pm} = 0$$
$$THEN\ 0$$
$$ELSE\ [\ 1 - (TPUD\_MNLY\_LD\_QTY_m / PPT\_MNLY\_LD\_QTY_{Pm})\ ]$$
$$\}$$
$$ELSE\ 1$$
$$)$$

[1]Rounded to 5 decimal places.

**7.1.11** Calculate the monthly final cost allocation ratio for the TPUD impact.

$$PPT\_COST\_ALLOC\_MNLY\_RATIO_{Pm}{}^{[1]} = PPT\_PRELIM\_COST\_ALLOC\_RATIO_{Pd}{}^{[2]}\ *$$
$$COST\_ALLOC\_MNLY\_RATIO\_ADJ_{Pm}$$

[1]Rounded to 5 decimal places.

[2]Where the date is equal to first day of the calendar month.

**7.1.12** Calculate the TPUD monthly cost allocation ratio. This ratio consists of the reduction in WAPA's load ratio share that was attributable to TPUD.

$$TPUD\_COST\_ALLOC\_MNLY\_RATIO_{Bm}{}^{[1]} =$$
$$IF \{ PPT\_MNLY\_LD\_QTY_{Pm} = 0$$
$$THEN\ 0$$
$$ELSE\ [\ (TPUD\_MNLY\_LD\_QTY_m / PPT\_MNLY\_LD\_QTY_{Pm})\ *$$
$$PPT\_PRELIM\_COST\_ALLOC\_RATIO_{Pd}]$$
$$\}$$
$$where\ P = WAPA$$

[1]Rounded to 5 decimal places.

## 7.2 *EIM Participant Fixed Cost Allocation Precalculation*

There are EIM charges which will be divided equally across the EIM Participants. This pre-process determinant defines the allocation percentage that will be used for all EIM Participants. The allocation percentage will be equal to the number one divided by the number of EIM Participants for the Trade Date being settled.

### 7.2.1 CAISO Determinants

| Determinants | UOM, Interval Length, Precision | Description | CAISO Statement Bill Determinant Name | CAISO Bill Determinant Attributes | CAISO BPM |
|---|---|---|---|---|---|
| | | | | | |

### 7.2.2 BANC Provided Determinants

| Determinants | UOM, Interval Length, Precision | Description |
|---|---|---|
| BNC_DLY_NUM_MEM$_{Bd}$ | Integer Daily Integer | **BANC Daily Number of EIM Participants** - The number of *EIM Participants* for the *Trade Date*. |

### 7.2.3 BANC Allocation Determinant

| Determinants | UOM, Interval Length, Precision | Description |
|---|---|---|
| PPT_DLY_LD_QTY$_{Pd}$ | Decimal<br>Daily<br>5 Decimals | **EIM Participant Daily Load Quantity** – the total daily megawatt-hour load for each EIM Participant in Prevailing Pacific Time Zone. |
| TPUD_DLY_LD_QTY$_d$ | Decimal<br>Daily<br>5 Decimals | **TPUD Daily Load Quantity** – The total daily megawatt-hour load for Trinity PUD in Prevailing Pacific Time Zone. |
| PPT_FIXED_COST_ALLOC_RATIO$_{Pd}$ | Decimal<br>Daily<br>5 Decimals | **EIM Participant Fixed Cost Allocation Ratio** - The fixed cost allocation ratio for each EIM Participant by Trade Date. |
| TPUD_FIXED_COST_ALLOC_RATIO$_{Bd}$ | Decimal<br>Daily<br>5 Decimals | **TPUD Fixed Cost Allocation Ratio** - The fixed cost allocation ratio for TPUD by Trade Date. |
| TPUD_MNLY_LD_QTY$_m$ | Decimal<br>Monthly<br>5 Decimals | **TPUD Monthly Load Quantity** – The total monthly megawatt-hour load for Trinity PUD in Prevailing Pacific Time Zone. |
| PPT_MNLY_LD_QTY$_{Pm}$ | Decimal<br>Monthly<br>5 Decimals | **EIM Monthly Daily Load Quantity** – the total monthly megawatt-hour load for each EIM Participant in Prevailing Pacific Time Zone. |
| PPT_MNLY_FIXED_COST_ALLOC_RATIO$_{Pm}$ | Decimal<br>Monthly<br>5 Decimals | **EIM Participant Monthly Fixed Cost Allocation Ratio** - The Monthly fixed cost allocation ratio for each EIM Participant. |
| TPUD_MNLY_FIXED_COST_ALLOC_RATIO$_{Bm}$ | Decimal<br>Daily<br>5 Decimals | **TPUD Monthly Fixed Cost Allocation Ratio** - The monthly fixed cost allocation ratio for TPUD. |

**Formulas**

**7.2.4** The EIM Participant Fixed Cost Allocation Ratio evenly splits any value between all participants for a Trade Date. The proportional amount allocated to WAPA will be reduced by the proportion of TPUD's load to WAPA's total. WAPA's reduction will be assigned to a TPUD specific determinant.

PPT_FIXED_COST_ALLOC_RATIO$_{Pd}$[1] =
        (1 / BNC_DLY_NUM_MEM$_{Bd}$) *
        IF [ P = WAPA,
        THEN (
            IF { PPT_DLY_LD_QTY$_{Pd}$ = 0
            THEN 0
            ELSE [ ( PPT_DLY_LD_QTY$_{Pd}$ – TPUD_DLY_LD_QTY$_d$) /
                PPT_DLY_LD_QTY$_{Pd}$]
            }
        ELSE 1
        ]
[1]Rounded to 5 decimal places.

**7.2.5**   The proportional percentage of WAPA's fixed cost allocation is assigned to TPUD based on TPUD's load ratio compared to WAPA's load.

$TPUD\_FIXED\_COST\_ALLOC\_RATIO_{Bd}{}^{1} =$

$\quad\quad\quad (1 / BNC\_DLY\_NUM\_MEM_{Bd})$ *

$\quad\quad\quad\quad\quad$ IF { $PPT\_DLY\_LD\_QTY_{Pd} = 0$

$\quad\quad\quad\quad\quad$ THEN 0

$\quad\quad\quad\quad\quad$ ELSE ( $TPUD\_DLY\_LD\_QTY_d / PPT\_DLY\_LD\_QTY_{Pd}$)

$\quad\quad\quad\quad\quad$ }

$\quad\quad\quad$ where P = WAPA

[1]Rounded to 5 decimal places.

**7.2.6**   Calculate the monthly load for each participant by summing the daily values in the month.

$PPT\_MNLY\_LD\_QTY_{Pm} = \sum_{Pm} (PPT\_DLY\_LD\_QTY_{Pd})$

**7.2.7**   Calculate the monthly load for TPUD by summing the daily values in the month.

$TPUD\_MNLY\_LD\_QTY_m = \sum_m (TPUD\_DLY\_LD\_QTY_m)$

**7.2.8**   Calculate the monthly EIM Participant Fixed Cost Allocation Ratio for all participants. The proportional amount allocated to WAPA will be reduced by the proportion of TPUD's load to WAPA's total. WAPA's reduction will be assigned to a TPUD specific determinant.

$PPT\_MNLY\_FIXED\_COST\_ALLOC\_RATIO_{Pm}{}^{1} =$

$\quad\quad\quad (1 / BNC\_DLY\_NUM\_MEM_{Bd})$ *

$\quad\quad\quad$ IF [ P = WAPA,

$\quad\quad\quad$ THEN (

$\quad\quad\quad\quad\quad$ IF { $PPT\_MNLY\_LD\_QTY_{Pm} = 0$

$\quad\quad\quad\quad\quad$ THEN 0

$\quad\quad\quad\quad\quad$ ELSE [ ( $PPT\_MNLY\_LD\_QTY_{Pm} - TPUD\_MNLY\_LD\_QTY_m$) /

$\quad\quad\quad\quad\quad\quad\quad PPT\_MNLY\_LD\_QTY_{Pm}$]

$\quad\quad\quad\quad\quad$ }

$\quad\quad\quad$ ELSE 1

$\quad\quad\quad$ ]

[1]Rounded to 5 decimal places.

**7.2.9**   Calculate the TPUD monthly Fixed Cost Allocation Ratio. This ratio consists of the reduction in WAPA's load ratio share that was attributable to TPUD.

$TPUD\_MNLY\_FIXED\_COST\_ALLOC\_RATIO_{Bm}{}^{1} =$

$\quad\quad\quad (1 / BNC\_DLY\_NUM\_MEM_{Bd})$ *

$\quad\quad\quad\quad\quad$ IF { $PPT\_MNLY\_LD\_QTY_{Pm} = 0$

$\quad\quad\quad\quad\quad$ THEN 0

$\quad\quad\quad\quad\quad$ ELSE ( $TPUD\_MNLY\_LD\_QTY_m / PPT\_MNLY\_LD\_QTY_{Pm}$)

$\quad\quad\quad\quad\quad$ }

$\quad\quad\quad$ where P = WAPA

[1]Rounded to 5 decimal places.

### 7.3 *EIM Participant Tagging Precalculation*

The EIM Participant Tagging Precalculation calculates all the determinants needed to support the BANC settlement statement allocation process.

Tag values at three specific time interval will be needed to support the different charge allocations. All raw tag data will only be available to BANC staff and not EIM Participants. Only determinants that have a "P" in the determine subscripts will be provided to EIM Participants. EIM Participants will only be able to view tag related determinants related to for their own company (i.e. the tag sources our sinks at a location identified to that EIM Participant). The three time intervals and descriptions are:

- Tagged Base Schedule - The values of all tags pending and approved that import, export and are within BANC BAA at 57 minutes before the start of the Real-Time hour. These schedule values will be referred to as Tagged Base Schedules. Tags importing, exporting and within BANC's BAA will be used to calculate participant load Base Schedules, imbalance charges, EIM Participant Measured Demand Ratio and administrative (GMC) charges.
- Tagged FMM Schedule – The value of all approved tags that import or export related to the BANC BAA at 37.5-minutes before the start of each 15-minute market interval. No imbalance charges will be calculated on Intratie schedules so they will not be saved determinants.
- Tagged Final Schedules – The final tag values for all tagged imports or export related to the BANC BAA. No imbalance charges will be calculated on BANC BAA Intratie schedules so they will not be saved determinants.

In addition to tags values at specific times, the allocation process will need to assign tag values to participants. Tags will be associated by their source and sink locations of the EIM Participants. The BANC allocation software will track all scheduling locations within BANC by EIM Participant. The following conventions will apply:

- BANC Import Schedules – Schedules will be identified as BANC imports when the tagged source location is not a location within the BANC BAA and the sink location is in the BANC BAA. The import schedule will be associated to the EIM Participant that is registered to the schedule's sink location.
- BANC Export Schedules – Schedules will be identified as BANC exports when the tagged sink location is not a location within the BANC BAA and the source location is in the BANC BAA. The export schedule will be associated to the EIM Participant that is registered to the schedule's source location.
- EIM Participant Intratie Schedules – These schedules will only be used for calculating participant load Base Schedules. The tag source location will be associated with the selling participant and the tag sink location will be associated to the buying participant.

A single schedule between EIM Participants will be counted as an export for one participant and an import for another participant.

#### 7.3.1 CAISO Determinants

| Determinants | UOM, Interval Length, Precision | Description | CAISO Statement Bill Determinant Name | CAISO Bill Determinant Attributes | CAISO BPM |
|---|---|---|---|---|---|
| | | | | | |

### 7.3.2 BANC Provided Determinants

| Determinants | UOM, Interval Length, Precision | Description |
|---|---|---|
| PPT_5MIN_TAG_BASE_SCHD$_{RSGECLxyzf}$ | MWh<br>5 Min<br>8 Decimals | **EIM Participant 5-Minute Tagged Base Schedule** - A single 5-minute tagged Intertie or Intratie Base Schedule that is either approved or pending approval as seen by the BANC scheduling system at T-57 before the start of the next hour. This determinant will only be available to BANC staff. |
| PPT_5MIN_TAG_FMM_SCHD$_{RSGECLxyzf}$ | MWh<br>5 Min<br>8 Decimals | **EIM Participant 5-Minute Tagged 15-Minute Market Schedule** - The 5-minute tagged Intertie energy schedule from BANC's scheduling system. This determinant will only be available to BANC staff. |
| PPT_5MIN_TAG_FNL_SCHD$_{RSGECLxyzf}$ | MWh<br>5 Min<br>8 Decimals | **EIM Participant 5-Minute Tagged Final Schedule** - The final after the fact 5-minute tagged Intertie energy schedule from BANC's scheduling system. This determinant will only be available to BANC staff. |

### 7.3.3 BANC Allocation Determinant

| Determinants | UOM, Interval Length, Precision | Description |
|---|---|---|
| PPT_5MIN_TAG_BASE_SCHD_SNK$_{PRSGECLxyzf}$ | MWh<br>5 Min<br>8 Decimals | **EIM Participant 5-Minute Tagged Base Schedule at a Sink** - The 5-minute tagged Base Schedule that sinks at an EIM Participant location that is either approved or pending approval as seen by the BANC scheduling system at T-57 before the start of the next hour. |
| PPT_5MIN_TAG_BASE_SCHD_SRC$_{PRSGECLxyzf}$ | MWh<br>5 Min<br>8 Decimals | **EIM Participant 5-Minute Tagged Base Schedule at a Source** - The 5-minute tagged Base Schedule that sources at an EIM Participant location that is either approved or pending approval as seen by the BANC scheduling system at T-57 before the start of the next hour. |
| PPT_5MIN_TAG_FMM_BAA_IMP_SCHD$_{PRSGECLxyzf}$ | MWh<br>5 Min<br>8 Decimals | **EIM Participant 5-Minute Tagged 15-Minute Market BAA Import Schedule** - The 5-minute tagged energy BAA Import schedule snapshot at 37.5 minutes before the start of the 15-market window that sinks at an EIM Participant's load or resource registered location and imports from outside of BANC. |
| PPT_5MIN_TAG_FMM_BAA_EXP_SCHD$_{PRSGECLxyzf}$ | MWh<br>5 Min<br>8 Decimals | **EIM Participant 5-Minute Tagged 15-Minute Market BAA Export Schedule** - The 5-minute tagged energy BAA Export schedule snapshot at 37.5 minutes before the start of the 15-market window that sources at an EIM Participant's load or resource registered location and exports out of BANC. |
| PPT_5MIN_TAG_FNL_BAA_EXP_SCHD$_{PRSGECLxyzf}$ | MWh<br>5 Min | **EIM Participant 5-Minute Tagged Final Balancing Authority Area Export Schedule** - |

| | 8 Decimals | The final after the fact 5-minute tagged energy schedule that sources at an EIM Participant's load or resource registered location and exports out of BANC. |
|---|---|---|
| PPT_5MIN_TAG_FNL_BAA_IMP_SCHD$_{PRSGECLxyzf}$ | MWh<br>5 Min<br>8 Decimals | **EIM Participant 5-Minute Tagged Final Balancing Authority Area Import Schedule** - The final after the fact 5-minute tagged energy schedule that sinks at an EIM Participant's load or resource registered location and imports into BANC. |

## Formulas

### *Tags used in Base Schedules*

**7.3.4** From BANC energy schedules, select all the pending and approved tagged schedules in the BAA as of 57 minutes before the start of the hour (T-57) that sink at locations within BANC. Each tagging location in BANC will be assigned to a single EIM Participant. The tags will be separated based on the sink location by EIM Participant. Each participant will be presented with the 5-minute, un-ramped schedules for all sink locations registered to the participant and will include the tag identifier:

$$PPT\_5MIN\_TAG\_BASE\_SCHD\_SNK_{PRSGECLxyzf}{}^1 =$$
$$PPT\_5MIN\_TAG\_BASE\_SCHD_{RSGECLxyzf}$$
where y (sink) = EIM Participant load or resource registered location.

[1]Rounded to 4 decimal places.

**7.3.5** From BANC energy schedules, select all the pending and approved tagged schedules in the BAA as of 57 minutes before the start of the hour (T-57) that source from locations within BANC. Each tagging location in BANC will be assigned to a single EIM Participant. The tags will be separated based on the source location by EIM Participant. Each participant will be presented with the 5-minute, un-ramped schedules for all source locations registered to the participant and will include the tag identifier:

$$PPT\_5MIN\_TAG\_BASE\_SCHD\_SRC_{PRSGECLxyzf}{}^1 = PPT\_5MIN\_TAG\_BASE\_SCHD_{RSGECLxyzf}$$
where x (source) = EIM Participant load or resource registered location.

[1]Rounded to 4 decimal places.

### *15-Minute Market Tagged Schedules*

**7.3.6** From BANC energy schedules, select all tagged schedules at 37.5 minutes before the start of each 15-minute market period that sink at locations within BANC. Each sink tagging location in BANC will be assigned to a single EIM Participant. Each EIM Participant will be presented with the 5-minute, unramped schedule snapshot for all sink locations registered to the participant and will include the tag identifier:

$$PPT\_5MIN\_TAG\_FMM\_BAA\_IMP\_SCHD_{PRSGECLxyzf}{}^1 = PPT\_5MIN\_TAG\_FMM\_RSCHD_{RSGECLxyzf}$$
where y = EIM Participant load or resource registered location.

[1]Rounded to 4 decimal places.

**7.3.7** From BANC energy schedules, select all tagged schedules at 37.5 minutes before the start of each 15-minute market period that source at locations within BANC. Each source tagging location in BANC will be assigned to a single EIM Participant. Each EIM Participant will be presented with the 5-minute, unramped schedule snapshot for all source locations registered to the participant and will include the tag identifier:

$$PPT\_5MIN\_TAG\_FMM\_BAA\_EXP\_SCHD_{PRSGECLxyzf}{}^{1} = PPT\_5MIN\_TAG\_EXP\_SCHD_{RSGECLxyzf}$$

where x = EIM Participant load or resource registered location.

[1]Rounded to 4 decimal places.

### *Final Tagged Schedules*

**7.3.8** From BANC energy schedules, select all final tagged schedules that sink in locations within BANC where the source location is outside of BANC. Each sink tagging source location in BANC will be assigned to a single EIM Participant. Each EIM Participant will be presented with the 5-minute, final, un-ramped schedules for all source locations registered to the participant and will include the tag identifier:

$$PPT\_5MIN\_TAG\_FNL\_BAA\_IMP\_SCHD_{PRSGECLxyzf}{}^{1} = PPT\_5MIN\_TAG\_FNL\_SCHD_{RSGECLxyzf}$$

where x = source location outside of BANC and y = EIM Participant load or resource registered location.

[1]Rounded to 4 decimal places.

**7.3.9** From BANC energy schedules, select all final tagged schedules that source from locations within BANC where the sink location is outside of BANC. Each source tagging source location in BANC will be assigned to a single EIM Participant. Each EIM Participant will be presented with the 5-minute, final, un-ramped schedules for all source locations registered to the participant and will include the tag identifier:

$$PPT\_5MIN\_TAG\_FNL\_BAA\_EXP\_SCHD_{PRSGECLxyzf}{}^{1} = PPT\_5MIN\_TAG\_FNL\_SCHD_{RSGECLxyzf}$$

where x = EIM Participant load or resource registered location and y = sink location outside of BANC.

[1]Rounded to 4 decimal places.

## 7.4 *EIM Participant Load Ratio Share Precalculation*

EIM Entity Settlement Allocations will require hourly and daily load ratio share percentages for each EIM Participant. These EIM Participant load ratio share calculations will be based on the final EIM CAISO submitted metered value for each EIM Participant's load area (CLAP) and will not include any registered NGR load. A ratio will be calculated for each EIM Participant as the ratio of participant's (CLAP) metered load over the sum of all participant's CAISO submitted metered loads for the defined time interval. All submitted loads will include distribution losses but will not include transmission losses. The allocation formulas require daily and hourly load ratio share determinants.

WAPA serves the TPUD load. TPUD will not be participating in the EIM. The Commission has agreed that any EIM charges and credits estimated to be associated with TPUD will be subtracted from WAPA and will be reallocated to the other participants by BANC Accounting outside of this allocation process. To accommodate this requirement the Load Ratio Share allocations for WAPA will be reduced by proportionally by percentage of their TPUD load and reallocated to separate determinants by charge code. WAPA will report both their total load that includes TPUD and will provide to the EIM Entity settlement allocation software the hourly TPUD load.

| Determinants | UOM, Interval Length, Precision | Description | CAISO Statement Bill Determinant Name | CAISO Bill Determinant Attributes | CAISO BPM |
|---|---|---|---|---|---|
| BAResEntityDispatchIntervalMeteredQuantity$_{BrtuT'I'Q'M'AA'm'F'R'pPW'QS'd'Nz'VvHn'L'mdhcif}$ where $m'$ = 1 and t = 'Load' | MWh 5 Min 4 Decimals | Hourly settlement meter data submitted to *CAISO* in Channel ID = 1 by registered non-participating loads within *BANC*. This value is provided by *CAISO* as a negative value. Settlement allocation solution will convert the UDC_ID for this load into the *EIM Participant's* name. | BANC EESC Bill Determinant Statement: BA_5MIN_RSRC_METER_QTY | t = =RSRC_TYPE = 'LOAD' <br><br> m' = CHANNEL_ID = '1' <br><br> r = resource Id assigned to an EIM Participant | MSS Netting Pre-Calculation Version 5.8. |

### 7.4.2 BANC Provided Determinants

| Determinants | UOM, Interval Length, Precision | Description |
|---|---|---|
| TPUD_HRLY_LD_QTY$_h$ | MWH Hourly 4 Decimals | **TPUD Hourly Load Quantity** – TPUD Hourly Load as reported by WAPA. |
| TPUD_HRLY_LD_CHECKED_QTY$_h$ | MWH Hourly 4 Decimals | **TPUD Hourly Checked Load Quantity** – TPUD Hourly Load as reported by WAPA verified not to exceed the hourly load reported by WAPA to CAISO. |

### 7.4.3 BANC Allocation Determinant

| Determinants | UOM, Interval Length, Precision | Description |
|---|---|---|
| PPT_5MIN_LD_QTY$_{Pf}$ | MWH 5 Min 4 Decimals | **EIM Participant 5-Minute Load Quantity** - The EIM Participant 5-minute submitted load to CAISO. |
| PPT_HRLY_LD_QTY$_{Ph}$ | MWh Hourly 4 Decimals | **EIM Participant Hourly Load** Quantity - The total hourly megawatt-hour load for an EIM Participant. |
| BNC_HRLY_LD_QTY$_{Bh}$ | MWh Hourly 4 Decimals | **BANC Hourly Load Quantity** - The total hourly megawatt-hour load for all EIM Participants in the Prevailing Pacific Time Zone. |
| PPT_HRLY_LRS$_{Ph}$ | Decimal Hourly 5 Decimals | **EIM Participant Hourly Load Ratio Share** - The hourly percent in decimal of load for an EIM Participant to the total hourly BANC load. |
| TPUD_HRLY_LRS$_{Bh}$ | Decimal Hourly 5 Decimals | **TPUD Hourly Load Ratio Share** - The hourly percent in decimal of TPUD's load compared to the total hourly BANC load. |
| PPT_DLY_LD_QTY$_{Pd}$ | Decimal Daily 5 Decimals | **EIM Participant Daily Load Quantity** – The total daily megawatt-hour load for each EIM Participant in Prevailing Pacific Time Zone. |

| Determinants | UOM, Interval Length, Precision | Description |
|---|---|---|
| $TPUD\_DLY\_LD\_QTY_d$ | Decimal Daily 5 Decimals | **TPUD Daily Load Quantity** – The total daily megawatt-hour load TPUD in Prevailing Pacific Time Zone. |
| $BNC\_DLY\_LD\_QTY_{Bd}$ | Decimal Daily 4 Decimals | **BANC Daily Load Quantity** - The total daily megawatt-hour load for all EIM Participants in the Prevailing Pacific Time zone. |
| $PPT\_DLY\_LRS_{Pd}$ | Decimal Daily 5 Decimals | **EIM Participant Daily Load Ratio Share** - The daily percent in decimal of load for an EIM Participant to the total daily BANC load in the Pacific Prevailing Time zone. |
| $TPUD\_DLY\_LRS_{Bd}$ | Decimal Daily 5 Decimals | **TPUD Daily Load Ratio Share** - The daily percent in decimal of TPUD's load compared to the total daily BANC load. |
| $PPT\_MNLY\_LD\_QTY_{Pm}$ | Decimal Monthly 5 Decimals | **EIM Monthly Daily Load Quantity** – the total monthly megawatt-hour load for each EIM Participant in Prevailing Pacific Time Zone. |
| $TPUD\_MNLY\_LD\_QTY_m$ | Decimal Monthly 5 Decimals | **TPUD Monthly Load Quantity** – The total monthly megawatt-hour load for Trinity PUD in Prevailing Pacific Time Zone. |
| $BNC\_MNLY\_LD\_QTY_{Bm}$ | Decimal Monthly 5 Decimals | **BANC Monthly Load Quantity** - The total monthly megawatt-hour load for all EIM Participants in the Prevailing Pacific Time zone. |
| $PPT\_MNLY\_LRS_{Pm}$ | Decimal Monthly 5 Decimals | **EIM Participant Monthly Load Ratio Share** - The monthly percent in decimal of load for an EIM Participant to the total monthly BANC load in the Pacific Prevailing Time zone. |
| $TPUD\_MNLY\_LRS_m$ | Decimal Monthly 5 Decimals | **TPUD Monthly Load Ratio Share –** The monthly percent in decimal of load for Trinity PUD to the total monthly BANC load in the Pacific Prevailing Time Zone. |

## Formulas

**7.4.4** BANC allocations will use the BANC submitted meter data from the BANC EESC statement. CAISO displays load meter data as negative with up to four decimals of precision, so the calculation multiplies it by -1 to eliminate the negative values.

$PPT\_5MIN\_LD\_QTY_{Pf} = -1 *$ $(BAResEntityDispatchIntervalMeteredQuantity_{BrtuT'I'Q'M'AA'm'F'R'pPW'QS'd'Nz'VvHn}$ $_{'L'mdhcif}$ Where m' = 1 and t = 'Load' and r is assigned to an EIM Participant)

**7.4.5** EIM Participant 5-minute submitted load meter data will be summed to hourly values.

$PPT\_HRLY\_LD\_QTY_{Ph} = \sum_{Ph}(PPT\_5MIN\_LD\_QTY_{Pf})$

**7.4.6** Sum all the EIM Participant submitted hourly load meter data to a BANC hourly total.

$BNC\_HRLY\_LD\_QTY_{Bh} = \sum_{Bh}(PPT\_HRLY\_LD\_QTY_{Ph})$

**7.4.7**   Load the hourly load for TPUD.

$TPUD\_HRLY\_LD\_QTY_h$

**7.4.8**   Verify the TPUD reported hourly load does not exceed the load of the EIM Entity where it the load resides. This formula provides allocation protection if data is accidently submitted greater than the host EIM Participant.

$TPUD\_HRLY\_LD\_CHECKED\_QTY_h = MIN(TPUD\_HRLY\_LD\_QTY_h$ ,
$\quad\quad PPT\_HRLY\_LD\_QTY_{Ph})$
$\quad\quad\quad\quad$ where P = WAPA

### *Hourly Load Ratio Share*

**7.4.9**   To calculate the EIM Participant hourly load ratio share, the participant's hourly load will be divided by the sum of all participant hourly load and the result will be rounded to five decimal places. Prior to calculating WAPA's Participant Load Ratio Share, TPUD's load will be removed from the hourly WAPA load to reduce their share proportional to account for TPUD's non-participation volume.

$PPT\_HRLY\_LRS_{Ph}{}^1 =$
$\quad\quad$ IF ( $BNC\_HRLY\_LD\_QTY_{Bh} = 0$
$\quad\quad$ THEN 0
$\quad\quad$ ELSE
$\quad\quad\quad\quad$ IF { P = WAPA
$\quad\quad\quad\quad$ THEN [ $(PPT\_HRLY\_LD\_QTY_{Ph} – TPUD\_HRLY\_LD\_CHECKED\_QTY_h) /$
$BNC\_HRLY\_LD\_QTY_{Bh}$ ]
$\quad\quad\quad\quad$ ELSE ( $PPT\_HRLY\_LD\_QTY_{Ph} / BNC\_HRLY\_LD\_QTY_{Bh}$ ) ]
$\quad\quad\quad\quad$ }
$\quad\quad$ )
[1]Rounded to 5 decimal places.

**7.4.10**   Calculate TPUD hourly load ratio share.

$TPUD\_HRLY\_LRS_h{}^1 =$
$\quad\quad$ IF [ $BNC\_HRLY\_LD\_QTY_{Bh} = 0$
$\quad\quad$ THEN 0
$\quad\quad$ ELSE ( $TPUD\_HRLY\_LD\_CHECKED\_QTY_h / BNC\_HRLY\_LD\_QTY_{Bh}$ )
$\quad\quad$ ]
[1]Rounded to 5 decimal places.

### *Daily Load Ratio Share*

**7.4.11**   To support the EIM Participant Daily Load Ratio Share, the hourly load values will be summed to daily values by participant so a daily load ratio share can be calculated.

$PPT\_DLY\_LD\_QTY_{Pd} = \sum_{Pd} (PPT\_HRLY\_LD\_QTY_{Ph})$

**7.4.12**   Calculate TPUD's total daily load for use in calculating their daily load ratio share.

$TPUD\_DLY\_LD_d = \sum_d (TPUD\_HRLY\_LD\_CHECKED\_QTY_h)$

**7.4.13** To calculate the denominator for the daily load ratio share, sum the daily values of all participants into a daily BANC value.

$$BNC\_DLY\_LD\_QTY_{Bd} = \sum\nolimits_{Bd} (PPT\_DLY\_LD\_QTY_{Pd})$$

**7.4.14** To calculate the EIM Participant Daily Load Ratio Share, the participant's daily load will be divided by the sum of all participant daily load and the result will be rounded to five decimal places. Prior to calculating WAPA's Load Ratio Share, TPUD's load will be removed from the daily WAPA load to reduce their share proportional to account for TPUD's non-participation volume.

$PPT\_DLY\_LRS_{Pd}{}^{[1]} =$

       IF ( $BNC\_DLY\_LD\_QTY_{Bd} = 0$

       THEN 0

       ELSE

              IF { P = WAPA,

              THEN [ ($PPT\_DLY\_LD\_QTY_{Pd} - TPUD\_DLY\_LD\_QTY_{d}$) /

              $BNC\_DLY\_LD\_QTY_{Bd}$ ]

              ELSE ( $PPT\_DLY\_LD\_QTY_{Pd}$ / $BNC\_DLY\_LD\_QTY_{Bd}$ )

              }

       )

[1]Rounded to 5 decimal places.

**7.4.15** Calculate TPUD Daily Load Ratio Share.

$TPUD\_DLY\_LRS_{Bd}{}^{[1]} =$

       IF [ $BNC\_HRLY\_LD\_QTY_{Bh} = 0$

       THEN 0

       ELSE ( $TPUD\_DLY\_LD\_QTY_{d}$ / $BNC\_DLY\_LD\_QTY_{Bd}$ )

       ]

[1]Rounded to 5 decimal places.

### *Monthly Load Ratio Share*

**7.4.16** Calculate the monthly load for each participant by summing the daily values in the month.

$$PPT\_MNLY\_LD\_QTY_{Pm} = \sum\nolimits_{Pm} (PPT\_DLY\_LD\_QTY_{Pd})$$

**7.4.17** Calculate the monthly load for TPUD by summing the daily values in the month.

$$TPUD\_MNLY\_LD\_QTY_{m} = \sum\nolimits_{m} (TPUD\_DLY\_LD\_QTY_{m})$$

**7.4.18** To calculate the denominator for the monthly load ratio share, sum the daily values of all participants into a daily BANC value.

$$BNC\_MNLY\_LD\_QTY_{Bm} = \sum\nolimits_{Bm} (PPT\_MNLY\_LD\_QTY_{Pm})$$

**7.4.19** To calculate the EIM Participant Monthly Load Ratio Share, the participant's monthly load will be divided by the sum of all participant monthly load and the result will be rounded to five decimal places. Prior to calculating WAPA's Load Ratio Share, TPUD's load will be removed from the monthly WAPA load to reduce their share proportional to account for TPUD's non-participation volume.

$PPT\_MNLY\_LRS_{Pm}$[1] =

      IF ( $BNC\_MNLY\_LD\_QTY_{Bm}$ = 0

      THEN 0

      ELSE

           IF { P = WAPA,

           THEN [ ($PPT\_MNLY\_LD\_QTY_{Pm}$ – $TPUD\_MNLY\_LD\_QTY_{m}$) /

           $BNC\_MNLY\_LD\_QTY_{Bd}$ ]

           ELSE ( $PPT\_MNLY\_LD\_QTY_{Pm}$ / $BNC\_MNLY\_LD\_QTY_{Bm}$)

           }

      )

[1]Rounded to 5 decimal places.

**7.4.20** Calculate TPUD Daily Load Ratio Share.

$TPUD\_MNLY\_LRS_{m}$[1] =

      IF [ $BNC\_MNLY\_LD\_QTY_{Bm}$ = 0

      THEN 0

      ELSE ( $TPUD\_MNLY\_LD\_QTY_{m}$ / $BNC\_MNLY\_LD\_QTY_{Bm}$ )

      ]

[1]Rounded to 5 decimal places.

## 7.5 *EIM Participant Load Base Schedule Precalculation*

The load Base Schedule is a BANC mathematically calculated, hourly total energy supply prescheduled for each EIM Participant prior to the CAISO execution of the fifteen-minute and five-minute markets. The prescheduled supply can be provided by participant owned resources or scheduled into participant registered locations via approved and pending approved tagged energy scheduled at least 57 minutes before the start of the of the beginning of the hour when it is scheduled to flow. Likewise, energy scheduled out of any participant location prior to 57 minutes before the start of the beginning of the hour will reduce the participant's hourly Base Schedule volume.

The load Base Schedule is the market mechanism that identifies that a participant has scheduled energy to supply their non-participating load. The participant will only be billed imbalance energy on the difference between their final non-participating load and the load Base Schedule. EIM Participants will be charged their participant load LMP (CLAP) for any energy load imbalance based on the differences between their final 5-minute submitted non-participating meter volume and their hourly BANC calculated load Base Schedule volume.

One EIM Participant, WAPA, also supplies transmission losses for the California-Oregon Transmission Project (COTP) transmission line. The amount of transmission losses must be supplied by WAPA and not the overall CAISO market, must be included in WAPA's overall base scheduling supply, but cannot be counted to meet their non-participating load which does not include the additional transmission losses. CAISO's market solution will account for the losses of this line in the model even though they will be supplied by WAPA. WAPA will need to supply sufficient base scheduled energy to not only meet their

non-participating load, participating pumping load, and exports, but also the losses on this line. This unique situation requires WAPA to provide an hourly COTP loss forecast to CAISO which BANC will retrieve from BSAP. BANC will reduce WAPA's hourly load Base Schedule by the forecasted COTP loses. WAPA will also need to provide to BANC the actual losses measured on this transmission line so they can be accounted for when UFE is allocated by BANC to EIM Participants.

To calculate each EIM Participant hourly load Base Schedule, BANC will:

- Sum all the final resource submitted hourly Base Schedules at T-40 before the start of the hour by EIM Participant,
- Sum the net hourly impact of all approved and pending approved tagged energy schedules that source and sink from each EIM Participant scheduling points registered with BANC at T-57 before the start of the hour,
- Add the sum of the hourly total resource Base Schedule to the sum of the net hourly tag schedules, then
- Will reduce the hourly values by the BANC registered transmission loss factor with CAISO.

The total result will be the EIM Participant's hourly load Base Schedule quantity in megawatt-hours.

### 7.5.1 CAISO Determinants

| Determinants | UOM, Interval Length, Precision | Description | CAISO Statement Bill Determinant Name | CAISO Bill Determinant Attributes | CAISO BPM |
|---|---|---|---|---|---|
| BAResBaseLoadSchedule$_{BrtuT'I'Q'M'AA'R'W'F'S'VL'pmdh}$ | MWh Hourly 2 Decimals | The hourly final load Base Schedule calculated by CAISO for all of BANC's load. These values are displayed as a negative value. The hourly value should equal all the sum of all the resource Base Schedules in BANC plus the net of the ITIEs and ETIEs reduced by the BANC Transmission Loss Factor and the result multiplied by -1. | BANC EESC Bill Determinant Statement: BA_HRLY_RSRC_BASE_LOAD_SCHD_QTY | | Real Time Uninstructed Imbalance Energy EIM Settlement CC 64750 (Version 5.1) – Note this variable is listed as an input to this calculation, but CAISO doesn't define where it is sourced from). |

### 7.5.2 BANC Provided Determinants

| Determinants | UOM, Interval Length, Precision | Description |
|---|---|---|
| BNC_TX_LOSS_FCT$_{Bd}$ | Decimal N/A 4 Decimals | **BANC Transmission Loss Factor** - The BANC registered transmission loss factor in effect with CAISO for the Trade Date. |

| Determinants | UOM, Interval Length, Precision | Description |
|---|---|---|
| HRLY_COTP_FCST_LOSS_QTY$_h$ | MWh<br>Hourly<br>2 Decimals | **Hourly COTP Forecast Loss Quantity** – The hourly COTP forecasted loss quantity supplied by WAPA to CAISO and downloaded by BANC from BSAP. |

### 7.5.3 BANC Allocation Determinants

| Determinants | UOM, Interval Length, Precision | Description |
|---|---|---|
| PPT_5MIN_RSRC_BASE_SCHDPRf | MWh<br>5 Min<br>2 Decimals | **EIM Participant 5-Minute Resource Base Schedule** - EIM Participant generation resource 5-minute Base Schedule as presented in CMRI reports for Base Schedules. |
| PPT_5MIN_TOT_RSRC_BASE_SCHD$_{Pf}$ | MWh<br>5 Minute<br>2 Decimals | **EIM Participant 5-Minute Total Resource Base Schedule** - Total EIM Participant 5-minute resource Base Schedule. |
| PPT_HRLY_TOT_RSRC_BASE_SCHD$_{Ph}$ | MWh<br>Hourly<br>2 Decimals | **EIM Participant Hourly Total Resource Base Schedule** - Total EIM Participant hourly resource Base Schedule. |
| PPT_5MIN_TAG_BASE_SCHD_SNK$_{PRSGECLxyzf}$ | MWh<br>5 Min<br>8 Decimals | **EIM Participant 5-Minute Tagged Base Schedule at a Sink** - A single 5-minute tagged Base Schedule that sinks at an EIM Participant location that is either approved or pending approval as seen by the BANC scheduling system at T-57 before the start of the next hour. This determinant is calculated in the EIM Participant Tagging Precalculation. |
| PPT_5MIN_TAG_BASE_SCHD_SRC$_{PRSGECLxyzf}$ | MWh<br>5 Min<br>8 Decimals | **EIM Participant 5-Minute Tagged Base Schedule at a Source** - A single 5-minute tagged Base Schedule that sources at an EIM Participant location that is either approved or pending approval as seen by the BANC scheduling system at T-57 before the start of the next hour. This determinant is calculated in the EIM Participant Tagging Precalculation. |
| PPT_5MIN_NET_TAG_BASE_SCHD$_{Ph}$ | MWh<br>5 Minute<br>8 Decimals | **EIM Participant 5-Minute Net Tagged Base Schedule** - EIM Participant 5-minute total net tagged Base Schedule. |
| PPT_HRLY_NET_TAG_BASE_SCHD$_{Ph}$ | MWh<br>Hourly<br>8 Decimals | **EIM Participant Hourly Net Tagged Base Schedule** - EIM Participant hourly total net tagged Base Schedule. |
| PPT_5MIN_LD_BASE_SCHD$_{Pf}$ | MWh<br>5 Minute<br>2 Decimals | **EIM Participant 5-Minute Load Base Schedule** - EIM Participant total 5-minute load Base Schedule rounded to two decimal places. |
| PPT_HRLY_COTP_FCST_LOSS_QTY$_{Ph}$ | MWh<br>Hourly<br>2 Decimals | **EIM Participant COTP Forecasted Loss Quantity** – The hourly COTP forecasted loss quantity by participant. The only participant that will have a non-zero result will be WAPA. |
| PPT_HRLY_LD_BASE_SCHD$_{Ph}$ | MWh<br>Hourly<br>2 Decimals | **EIM Participant Hourly Load Base Schedule** - EIM Participant total hourly load Base Schedule rounded to two decimal places. |

| Determinants | UOM, Interval Length, Precision | Description |
|---|---|---|
| BNC_HRLY_LD_BASE_SCHD$_{Bh}$ | MWh Hourly 2 Decimals | **BANC Hourly Load Base Schedule** - The BANC total hourly load Base Schedule calculated by summing all EIM Participants' load Base Schedules. |
| CAISO_HRLY_LD_BASE_SCHD$_{Bh}$ | MWh Hourly 2 Decimals | **CAISO Hourly Load Base Schedule** - The total CAISO hourly calculated BANC load Base Schedule. |

**Formulas**

**7.5.4** Obtain all final (T-40), submitted participant resource Base Schedules from CMRI. Provide each 5-minute schedule by EIM Participant, resource and 5-minute interval. This value is reported as a positive value by CAISO.

$$PPT\_5MIN\_RSRC\_BASE\_SCHD_{PRf}[1]$$

where Resource type (t) = GEN and r is assigned to an EIM Participant
[1]Rounded to 4 decimal places.

**7.5.5** Sum all final, submitted EIM Participant resource Base Schedules to a 5-minute schedule by participant:

$$PPT\_5MIN\_TOT\_RSRC\_BASE\_SCHD_{Pf} = \sum\nolimits_{Pf}(PPT\_5MIN\_RSRC\_BASE\_SCHD_{PRf})$$

**7.5.6** Sum all final, submitted participant resource Base Schedules to an hourly schedule by participant:

$$PPT\_HRLY\_TOT\_RSRC\_BASE\_SCHD_{Ph} = \sum\nolimits_{Ph}(PPT\_5MIN\_TOT\_RSRC\_BASE\_SCHD_{Pf})$$

**7.5.7** For each EIM Participant, sum all tagged Base Schedules sinking at their locations to 5-minute totals and subtract from that the sum of all tagged Base Schedule sourcing at their locations. Each EIM Participant will have a 5-minute net tagged Base Schedule volume.

$$PPT\_5MIN\_NET\_TAG\_BASE\_SCHD_{Pf} = \sum\nolimits_{Pf}(PPT\_5MIN\_TAG\_BASE\_SCHD\_SNK_{PRSGECLxyzf})$$
$$+ [\ -1 * \sum\nolimits_{Pf}(PPT\_5MIN\_TAG\_BASE\_SCHD\_SRC_{PRSGECLxyzf})\ ]$$

**7.5.8** For each EIM Participant, sum the 5-minute net tagged Base Schedules to an hourly volume.

$$PPT\_HRLY\_NET\_TAG\_BASE\_SCHD_{Ph} = \sum\nolimits_{Ph}(PPT\_5MIN\_NET\_TAG\_BASE\_SCHD_{Pf})$$

**7.5.9** Calculate the total 5-minute load Base Schedule for each EIM Participant by: 1) summing the total of all the final submitted 5-minute resource Base Schedules and net 5-minute sum of the net tagged schedules sourcing and sinking at their locations, and then 2) reducing the 5-minute totals by the BANC transmission loss factor that CAISO is using for the Trade Date.

$$PPT\_5MIN\_LD\_BASE\_SCHD_{Pf}[1] = [\ (\ PPT\_5MIN\_TOT\_RSRC\_BASE\_SCHD_{Pf} +$$
$$PPT\_5MIN\_NET\_TAG\_BASE\_SCHD_{Pf}\ ) * (\ 1 - BNC\_TX\_LOSS\_FCT_{Bd})\ ]$$
[1]Rounded to 2 decimal places.

**7.5.10** Retrieve the transmission loss forecast for the COTP transmission line.

$$PPT\_HRLY\_COTP\_FCST\_LOSS\_QTY_{Ph} =$$
$$IF[\ M{=}WAPA\ THEN\ (HRLY\_COTP\_FCST\_LOSS\_QTY_h)\ ELSE\ 0\ ]$$

**7.5.11** Calculate the total hourly load Base Schedule for each EIM Participant by the volumes of the 5-minute calculation and remove the COTP loss forecast included in WAPA's load Base Schedule.

$$PPT\_HRLY\_LD\_BASE\_SCHD_{Ph} = \sum_{Ph}(PPT\_5MIN\_LD\_BASE\_SCHD_{Pf}) -$$
$$PPT\_HRLY\_COTP\_FCST\_LOSS\_QTY_{Ph}$$

[1]Rounded to 2 decimal places.

### *Allocations Monitoring*

**7.5.12** The following calculations will be performed to validate there are no significant volume discrepancies between CAISO and BANC calculations.

All EIM Participant hourly load Base schedules will be summed to the calculated CAISO load Base Schedule hourly total subject to tag rounding discrepancies.

BANC calculated total hourly load Base Schedule is equal to the sum of the EIM Participants' hourly load Base Schedules that was adjusted for transmission losses:

$$BNC\_HRLY\_LD\_BASE\_SCHD_{Bh} = \sum_{Bh}(PPT\_HRLY\_LD\_BASE\_SCHD_{Ph})$$

**7.5.13** The CAISO calculated load Base Schedule adjusted for the BANC transmission loss factor from the BANC bill determinant statement:

$$CAISO\_HRLY\_LD\_BASE\_SCHD_{Bh} = BAResBaseLoadSchedule_{BrtuT'I'Q'M'AA'R'W'F'S'VL'pmdh}$$

## 7.6    *EIM Participant Absolute Imbalance Ratio*

CAISO offset charge codes for energy, congestion and losses settle imbalance dollars that result from any difference between the model solution difference and the actual settled volume and price differences. The dollar imbalance is separated into energy, congestion and losses components in separate charge codes. Theoretically these dollar differences occur because CAISO's solution engine is calculating prices based on forecasted demand, expected generation demand and calculated losses and not actual results.

BANC will settle these differences to the EIM Participants based on their absolute volume difference as an hourly EIM Participant ratio share. The volume will be calculated as follows:

- Demand - The absolute volume difference of the actual 5-minute reported load aggregated hourly less the hourly load Base Schedule.
- Generation – The sum of all the absolute volume differences from the actual 5-minute reported generation meter data aggregated hourly less the hourly generation Base Schedules.
- Tags – The sum of the absolute volume difference from each BANC BAA Interchange schedule from EIM Participants importing or exporting energy. The absolute volume difference for each schedule will be difference between the tag schedule Base Schedule at 57 minutes before the start of the hour and the actual 5-minute schedule volume reported after the fact aggregated to an hourly value.

BANC will also use the load and Intertie absolute imbalance volumes to create an hourly ratio to allocate the CAISO EIM Administrative charge.

| Determinants | UOM, Interval Length, Precision | Description | CAISO Statement Bill Determinant Name | CAISO Bill Determinant Attributes | CAISO BPM |
|---|---|---|---|---|---|
| $\text{BAResEntityDispatchIntervalMeteredQuantity}_{BrtuT'I'Q'M'AA'm'F'R'p\ PW'QS'd'Nz'VvHn'L'mdhcif}$ where $m' = 4$ and $t = $ 'Gen' | MWh 5 Min 4 Decimals | Metered quantity (in MWh) of generator resources reporting Settlement Quality Metered Data to the CAISO. Settlement allocation solution will convert the resource Id (r) for this resource into the *EIM Participant's* name. | EIM Participant PRSC Bill Determinant Statement: BA_5M_RSRC_METER_QTY | t = =RSRC_TYPE = 'Gen' m' = CHANNEL_ID = '4' r is a resource assigned to an EIM Participant | MSS Netting Pre-Calculation Version 5.8. |

### 7.6.2  BANC Provided Determinants

| Determinants | UOM, Interval Length, Precision | Description |
|---|---|---|
|  |  |  |

### 7.6.3  BANC Allocation Determinants

| Determinants | UOM, Interval Length, Precision | Description |
|---|---|---|
| PPT_HRLY_LD_QTY$_{Ph}$ | MWh Hourly 4 Decimals | **EIM Participant Hourly Load** Quantity - The total hourly megawatt-hour load for an EIM Participant. This determinant is defined in the *EIM Participant Load Ratio Share Precalculation*. |
| PPT_HRLY_LD_BASE_SCHD$_{Ph}$ | MWh Hourly 2 Decimals | **EIM Participant Hourly Load Base Schedule** - EIM Participant total hourly load Base Schedule. This determinant is defined in the *EIM Participant Load Base Schedule Precalculation*. |
| PPT_HRLY_ABS_LD_IMB$_{Ph}$ | MWH Hourly 2 Decimals | **EIM Participant Hourly Absolute Load Imbalance** – EIM Participant absolute load imbalance as the difference between the 5-minute reported meter load summed to the hour and the hourly calculated load Base Schedule. Rounded to two decimal places. |
| TPUD_HRLY_LD_CHECKED_QTY$_{h}$ | MWH Hourly 4 Decimals | **Trinity PUD Hourly Checked Load Quantity** – Trinity Hourly Load as reported by WAPA verified not to exceed the hourly load reported by WAPA to CAISO. |

| Determinants | UOM, Interval Length, Precision | Description |
|---|---|---|
| TPUD_HRLY_ABS_LD_IMB$_{Bh}$ | MWH<br>Hourly<br>2 Decimals | **TPUD Participant Hourly Absolute Load Imbalance** – TPUD absolute load imbalance is the proportional portion of TPUD hourly load compared to WAPA's hourly load multiplied by the total hourly absolute load of WAPA. Rounded to two decimal places. |
| PPT_DLY_ABS_LD_IMB$_{Pd}$ | MWH<br>Daily<br>2 Decimals | **EIM Participant Daily Absolute Load Imbalance** – EIM Participant absolute hourly load imbalance summed to a daily value. |
| TPUD_DLY_ABS_LD_IMB$_{Bd}$ | MWH<br>Daily<br>2 Decimals | **BANC TPUD Daily Absolute Load Imbalance** – BANC TPUD absolute hourly load imbalance summed to a daily value. |
| TPUD_MNLY_ABS_LD_IMB$_{Bm}$ | MWH<br>Monthly<br>2 Decimals | **BANC TPUD Monthly Absolute Load Imbalance** – BANC TPUD absolute daily load imbalance summed to a monthly value. |
| PPT_5MIN_RSRC_QTY$_{PRf}$ | MWH<br>5 Minute<br>4 Decimals | **EIM Participant 5-Minute Resource Meter Quantity** – The reported 5-minute generation resource meter data in channel 4 to CAISO. |
| PPT_HRLY_RSRC_QTY$_{PRh}$ | MWH<br>Hourly<br>4 Decimals | **EIM Participant Hourly Resource Meter Quantity** – The reported resource meter data summed to an hourly value. |
| PPT_5MIN_RSRC_BASE_SCHD$_{PRf}$ | MWh<br>5 Min<br>2 Decimals | **EIM Participant 5-Minute Resource Base Schedule** - EIM Participant generation resource 5-minute Base Schedule as presented in CMRI. This determinant is defined in the *EIM Participant Load Base Schedule Precalculation*. |
| PPT_HRLY_RSRC_BASE_SCHD$_{PRh}$ | MWH<br>Hourly<br>2 Decimals | **EIM Participant Hourly Resource Base Schedule** - EIM Participant generation resource 5-minute Base Schedule summed to an hourly value. |
| PPT_HRLY_ABS_RSRC_IMB$_{PRh}$ | MWH<br>Hourly<br>2 Decimals | **EIM Participant Hourly Absolute Resource Imbalance** – EIM Participant absolute generation imbalance by resource as the difference between the hourly reported meter data and the hourly submitted resource Base Schedule. Rounded to two decimal places. |
| PPT_HRLY_TOT_ABS_RSRC_IMB$_{Ph}$ | MWH<br>Hourly<br>2 Decimals | **EIM Participant Hourly Total Absolute Resource Imbalance** – Total EIM Participant hourly generation absolute resource imbalance. |
| PPT_5MIN_TAG_FNL_BAA_IMP_SCHD$_{PRSGECLxyzf}$ | MWh<br>5 Min<br>8 Decimals | **EIM Participant 5-Minute Tagged Final Balancing Authority Area Import Schedule** - The final after the fact 5-minute tagged energy schedule that sinks at an EIM Participant's load or resource registered location and imports into BANC. |

| Determinants | UOM, Interval Length, Precision | Description |
|---|---|---|
| PPT_HRLY_TAG_BAA_IMP_SCHD$_{PRSGECLxyzh}$ | MWh<br>Hourly<br>8 Decimals | **EIM Participant Hourly Tagged BAA Import Schedule** – A single hourly tagged BAA import schedule that sinks at the participant's load or one of their resources. *This determinant is calculated in the EIM Participant Tagging Precalculation.* |
| PPT_5MIN_TAG_BASE_SCHD_SNK$_{PRSGECLxyzf}$ | MWh<br>5 Min<br>8 Decimals | **EIM Participant 5-Minute Tagged Base Schedule at a Sink** - A single 5-minute tagged Base Schedule that sinks at an EIM Participant location that is either approved or pending approval as seen by the BANC scheduling system at T-57 before the start of the next hour. *This determinant is defined in the EIM Participant Load Base Schedule Precalculation.* |
| PPT_HRLY_TAG_BASE_SCHD_SNK$_{PRSGECLxyzh}$ | MWh<br>Hourly<br>8 Decimals | **EIM Participant Tagged Base Schedule at a Sink -** A single hourly tagged Base Schedule that sinks at an EIM Participant location that is either approved or pending approval as seen by the BANC scheduling system at T-57 before the start of the next hour. |
| PPT_HRLY_TAG_BAA_IMP_ABS_IMB$_{PRGECLxyzh}$ | MWh<br>Hourly<br>8 Decimals | **EIM Participant Tagged BAA Import Absolute Imbalance** – A single hourly tagged BAA import schedule calculated absolute imbalance. |
| PPT_HRLY_TAG_BAA_EXP_SCHD$_{PRSGECLxyzh}$ | MWh<br>Hourly<br>8 Decimals | **EIM Participant Hourly Tagged BAA Export Schedule** - A single hourly tagged BAA export schedule that sources at the participant's load or one of their resources. |
| PPT_HRLY_TAG_BASE_SCHD_SRC$_{PRSGECLxyzh}$ | MWh<br>Hourly<br>8 Decimals | **EIM Participant 5-Minute Tagged Base Schedule at a Sink** - A single hourly tagged Base Schedule that sinks at an EIM Participant location that is either approved or pending approval as seen by the BANC scheduling system at T-57 before the start of the next hour. |
| PPT_HRLY_TAG_BAA_EXP_ABS_IMB$_{PRSGECLxyzh}$ | MWh<br>Hourly<br>8 Decimals | **EIM Participant Hourly Tagged Export Absolute Imbalance** - A single hourly tagged BAA export schedule calculated absolute imbalance. |
| PPT_HRLY_TOT_TAG_ABS_IMB$_{Ph}$ | MWh<br>Hourly<br>8 Decimals | **EIM Participant Hourly Tagged Absolute Imbalance** – The total hourly Intertie tagged import and export absolute imbalance for a participant. |
| PPT_DLY_TOT_TAG_ABS_IMB$_{Pd}$ | MWh<br>Daily<br>8 Decimals | **EIM Participant Daily Tagged Absolute Imbalance** – The total daily Intertie tagged import and export absolute imbalance for a participant. |

| Determinants | UOM, Interval Length, Precision | Description |
|---|---|---|
| PPT_HRLY_LD_INTERTIE_ABS_IMB$_{Ph}$ | MWh Hourly 8 Decimals | **EIM Participant Load and Intertie Hourly Absolute Imbalance** – The EIM Participant total hourly absolute imbalance from each load and BAA import/export tagged schedules. |
| BNC_HRLY_LD_INTERTIE_ABS_IMB$_{Bh}$ | MWh Hourly 2 Decimals | **BANC Hourly Load and Intertie Absolute Imbalance** – The BANC total hourly absolute imbalance from each load and BAA import/export tagged schedules. |
| PPT_HRLY_ABS_LD_INTERTIE_IMB_RATIO$_{Ph}$ | Decimal Hourly 5 Decimal | **EIM Participant Hourly Absolute Load and Intertie Imbalance Ratio** – The EIM Participant's hourly decimal ratio of the load and Intertie imbalance allocation share. Rounded to 5 decimals. |
| TPUD_HRLY_ABS_LD_INTERTIE_IMB_RATIO$_{Bh}$ | Decimal Hourly 5 Decimal | **TPUD Hourly Absolute Load and Intertie Imbalance Ratio** – The TPUD hourly decimal ratio of the load and Intertie imbalance allocation share. Rounded to 5 decimals. Note TPUD has no Interties, but the imbalance ratio calculation does include them for the EIM Participants. |
| PPT_DLY_LD_INTERTIE_ABS_IMB$_{Pd}$ | MWh Daily 2 Decimals | **EIM Participant Daily Absolute Load and Intertie Imbalance** - The EIM Participant total daily absolute imbalance from each load and BAA import/export tagged schedules. |
| BNC_DLY_LD_INTERTIE_ABS_IMB$_{Bd}$ | MWh Daily 2 Decimals | **BANC Daily Load and Intertie Absolute Imbalance** – The BANC total daily absolute imbalance from each load and BAA import/export tagged schedules. |
| PPT_DLY_ABS_LD_INTERTIE_IMB_RATIO$_{Pd}$ | Decimal Daily 5 Decimal | **EIM Participant Daily Absolute Load and Intertie Imbalance Ratio** – The EIM Participant's daily decimal ratio of the load and Intertie imbalance allocation share. Rounded to 5 decimals. |
| TPUD_DLY_ABS_LD_INTERTIE_IMB_RATIO$_{Bd}$ | Decimal Daily 5 Decimal | **TPUD Daily Absolute Load and Intertie Imbalance Ratio** – The TPUD daily decimal ratio of the load and Intertie imbalance allocation share. Rounded to 5 decimals. Note TPUD has no Interties, but the imbalance ratio calculation does include them for the EIM Participants. |
| PPT_MNLY_LD_INTERTIE_ABS_IMB$_{Pm}$ | MWh Monthly 2 Decimals | **EIM Participant Monthly Absolute Load and Intertie Imbalance** - The EIM Participant total monthly absolute imbalance from each load and BAA import/export tagged schedules. |
| BNC_MNLY_LD_INTERTIE_ABS_IMB$_{Bm}$ | MWh Monthly 2 Decimals | **BANC Monthly Load and Intertie Absolute Imbalance** – The BANC total monthly absolute imbalance from each load and BAA import/export tagged schedules. |

| Determinants | UOM, Interval Length, Precision | Description |
|---|---|---|
| PPT_MNLY_ABS_LD_INTERTIE_IMB_RATIO$_{Pm}$ | Decimal Monthly 5 Decimal | **EIM Participant Monthly Absolute Load and Intertie Imbalance Ratio** – The EIM Participant's Monthly decimal ratio of the load and Intertie imbalance allocation share. Rounded to 5 decimals. |
| TPUD_MNLY_ABS_LD_INTERTIE_IMB_RATIO$_{Bm}$ | Decimal Monthly 5 Decimal | **TPUD Monthly Absolute Load and Intertie Imbalance Ratio** – The TPUD monthly decimal ratio of the load and Intertie imbalance allocation share. Rounded to 5 decimals. Note TPUD has no Interties, but the imbalance ratio calculation does include them for the EIM Participants. |
| PPT_HRLY_TOT_ABS_IMB$_{Ph}$ | MWh Hourly 8 Decimals | **EIM Participant Total Hourly Absolute Imbalance** – The EIM Participant total hourly imbalance from each load, resource and BAA import/export tagged schedules. |
| BNC_HRLY_TOT_ABS_IMB$_{Bh}$ | MWh Hourly 2 Decimals | **BANC Hourly Total Absolute Imbalance** – The BANC total hourly imbalance from each load, resource and BAA import/export tagged schedules. |
| PPT_HRLY_ABS_IMB_RATIO$_{Ph}$ | Decimal Hourly 5 Decimal | **EIM Participant Hourly Absolute Imbalance Ratio** – The EIM Participant's hourly decimal ratio of the imbalance allocation share. Rounded to 5 decimals. |
| TPUD_HRLY_ABS_IMB_RATIO$_{Bh}$ | Decimal Hourly 5 Decimal | **TPUD Hourly Absolute Imbalance Ratio** – The TPUD hourly decimal ratio of the imbalance allocation share. Rounded to 5 decimals. |

### Formulas

#### *Hourly and Daily Load Imbalance*

**7.6.4** EIM Participant absolute load imbalance is the difference between their reported 5-minute reported load meter data summed to the hour less their calculated hourly load Base Schedule. The result is rounded to two decimal places based on the precision of the EIM Participant Hourly Load Base Schedule determinant.

The absolute load imbalance for WAPA will be reduced to the proportional load of WAPA without TPUD included. The remaining absolute imbalance related to TPUD will be assigned to BANC for later distribution.

$PPT\_HRLY\_ABS\_LD\_IMB_{Ph}$[1] $= ABS(PPT\_HRLY\_LD\_QTY_{Ph} -$
$PPT\_HRLY\_LD\_BASE\_SCHD_{Ph}) *$
      IF {P = WAPA
      THEN [
          IF ( $PPT\_HRLY\_LD\_QTY_{Ph} = 0$
          THEN 0

$$\text{ELSE} [ \text{MAX} \{ 0 , (PPT\_HRLY\_LD\_QTY_{Ph} - TPUD\_HRLY\_LD\_CHECKED\_QTY_h) / PPT\_HRLY\_LD\_QTY_{Ph} \} ]$$
$$)$$
$$]$$
$$\text{ELSE } 1$$
$$\}$$

[1]Rounded to 2 decimal places.

**7.6.5**  Calculate TPUD assigned absolute load imbalance portion.

$$TPUD\_HRLY\_ABS\_LD\_IMB_{Bh}{}^{1} = ABS(PPT\_HRLY\_LD\_QTY_{Ph} -$$
$$PPT\_HRLY\_LD\_BASE\_SCHD_{Ph}) *$$
$$IF [ PPT\_HRLY\_LD\_QTY_{Ph} = 0$$
$$\quad THEN 0$$
$$\quad ELSE (TPUD\_HRLY\_LD\_CHECKED\_QTY_h / PPT\_HRLY\_LD\_QTY_{Ph})$$
$$]$$
$$where P = WAPA.$$

[1]Rounded to 2 decimal places.

**7.6.6**  Sum each participant's hourly load imbalance to a daily load imbalance.

$$PPT\_DLY\_ABS\_LD\_IMB_{Pd} = \sum\nolimits_{Pd} (PPT\_HRLY\_ABS\_LD\_IMB_{Ph})$$

**7.6.7**  Sum TPUD's calculated prorate share of the hourly load imbalance to a daily load imbalance.

$$TPUD\_DLY\_ABS\_LD\_IMB_{Bd} = \sum\nolimits_{Bd} (TPUD\_HRLY\_ABS\_LD\_IMB_{Bh})$$

**7.6.8**  Sum TPUD's calculated prorate share of the daily load imbalance to a monthly load imbalance.

$$TPUD\_MNLY\_ABS\_LD\_IMB_{Bm} = \sum\nolimits_{Bm} (TPUD\_DLY\_ABS\_LD\_IMB_{Bd})$$

*Hourly Resource Imbalance*

**7.6.9**  The EIM Participant absolute generation imbalance is the total difference between all their reported 5-minute generation meter data reported in channel 4 summed to the hour less their hourly resource Base Schedule. The generation reported meter data is from the statement and the resource Base Schedule is from CAISO' CMRI.

$$PPT\_5MIN\_RSRC\_QTY_{PRf} =$$
$$BAResEntityDispatchIntervalMeteredQuantity_{BrtuT'I'Q'M'AA'm'F'R'pPW'QS'd'Nz'VvHn'L'mdhcif} \text{ where } _{m'} = 4$$
$$\text{and } t = \text{'Gen'}$$

**7.6.10**  The final reported resource meter data is summed by hour by resource.

$$PPT\_HRLY\_RSRC\_QTY_{PRh} = \sum\nolimits_{Rh} (PPT\_5MIN\_RSRC\_QTY_{PRf})$$

**7.6.11**  Sum each resource's 5-minute Base Schedule to an hourly value. Although resource Base Schedules are submitted as hourly values, CAISO provides them in CMRI in 5-minute MWh values, so they need to be summed to the hourly level for this calculation.

$$PPT\_HRLY\_RSRC\_BASE\_SCHD_{PRh} = \sum\nolimits_{PRh} (PPT\_5MIN\_RSRC\_BASE\_SCHD_{PRf})$$

**7.6.12** Each participant's generation resource absolute imbalance is calculated by taking the absolute result of their hourly resource meter data less the hourly resource Base Schedule quantity. The result is rounded to two decimal places based on the precision of the EIM Participant Hourly Resource Base Schedule determinant.

$$PPT\_HRLY\_ABS\_RSRC\_IMB_{PRh}[1] =$$
$$ABS(PPT\_HRLY\_RSRC\_QTY_{PRh} - PPT\_HRLY\_RSRC\_BASE\_SCHD_{PRh})$$

[1]Rounded to 2 decimal places.

**7.6.13** Each participant total absolute generation resource imbalance is totaled by hour all their resource imbalance by hour.

$$PPT\_HRLY\_TOT\_ABS\_RSRC\_IMB_{Ph} = \sum\nolimits_{Ph}(PPT\_HRLY\_ABS\_RSRC\_IMB_{PRh})$$

### *Hourly Intertie Imbalance*

**7.6.14** EIM Participant hourly absolute tag imbalance is the sum of the absolute difference between the summed hourly 5-minute final tag volume at 57 minutes before the start of the hour and the sum of the 5-minute tag volume reported after the fact for tags that source outside of the BANC BAA or sink outside of the BANC BAA. BANC BAA Intrachange schedules are excluded from this calculation.

Aggregate all BAA import schedules from 5-minute to hourly values by participant.

$$PPT\_HRLY\_TAG\_BAA\_IMP\_SCHD_{PRSGECLxyzh} =$$
$$\sum\nolimits_{PRGECLxyzh}(PPT\_5MIN\_TAG\_FNL\_BAA\_IMP\_SCHD_{PRSGECLxyzf})$$

**7.6.15** Identify the corresponding 5-minute Base Schedule for each of the import schedules and aggregate the schedule to hourly volumes. The 5-minute Base Schedule was previously defined in the EIM Participant Load Base Schedule Precalculation.

$$PPT\_HRLY\_TAG\_BASE\_SCHD\_SNK_{PRSGECLxyzh} =$$
$$\sum\nolimits_{PRGECLxyzh}(PPT\_5MIN\_TAG\_BASE\_SCHD\_SNK_{PRSGECLxyzf})$$

**7.6.16** Calculate for each imported schedule that sinks at an EIM Participant's location the absolute hourly imbalance.

$$PPT\_HRLY\_TAG\_BAA\_IMP\_ABS\_IMB_{PRGECLxyzh} =$$
$$ABS(PPT\_HRLY\_TAG\_BAA\_IMP\_SCHD_{PRSGECLxyzh} -$$
$$PPT\_HRLY\_TAG\_BASE\_SCHD\_SNK_{PRSGECLxyzh})$$

**7.6.17** Aggregate all BAA export schedules from 5-minute to hourly values by participant.

$$PPT\_HRLY\_TAG\_BAA\_EXP\_SCHD_{PRSGECLxyzh} =$$
$$\sum\nolimits_{PRGECLxyzh}(PPT\_5MIN\_TAG\_FNL\_BAA\_EXP\_SCHD_{PRSGECLxyzf})$$

**7.6.18** Identify the corresponding 5-minute Base Schedule for each of the export schedules and aggregate the schedule to hourly volumes. The 5-minute Base Schedule was previously defined in the EIM Participant Load Base Schedule Precalculation.

$$PPT\_HRLY\_TAG\_BASE\_SCHD\_SRC_{PRSGECLxyzh} =$$
$$\sum\nolimits_{PRSGECLxyzh}(PPT\_5MIN\_TAG\_BASE\_SCHD\_SRC_{PRSGECLxyzf})$$

**7.6.19** Calculate for each exported schedule that sources at an EIM Participant's location the absolute hourly imbalance.

$$PPT\_HRLY\_TAG\_BAA\_EXP\_ABS\_IMB_{PRSGECLxyzh} =$$
$$ABS(PPT\_HRLY\_TAG\_BAA\_EXP\_SCHD_{PRSGECLxyzh} -$$
$$PPT\_HRLY\_TAG\_BASE\_SCHD\_SRC_{PRSGECLxyzh})$$

**7.6.20** Add up all the tag absolute imbalances by hour by participant.

$$PPT\_HRLY\_TOT\_TAG\_ABS\_IMB_{Ph} =$$
$$\sum_{Ph}(PPT\_HRLY\_TAG\_BAA\_IMP\_ABS\_IMB_{PRGECLxyzh}) +$$
$$\sum_{Ph}(PPT\_HRLY\_TAG\_BAA\_EXP\_ABS\_IMB_{PRSGECLxyzh})$$

**7.6.21** Add up all the tag absolute imbalances by hour by participant.

$$PPT\_DLY\_TOT\_TAG\_ABS\_IMB_{Pd} = \sum_{Pd}(PPT\_HRLY\_TOT\_TAG\_ABS\_IMB_{Ph})$$

### *Load and Intertie Imbalance*

**7.6.22** Each participant's load and Intertie hourly absolute imbalance is the sum of the participant's absolute hourly load imbalance and the total absolute Interchange schedule imbalance. The result is rounded to two decimal places based on the precision of the EIM Participant Hourly Absolute Load Imbalance determinant.

$$PPT\_HRLY\_LD\_INTERTIE\_ABS\_IMB_{Ph}[1] = PPT\_HRLY\_ABS\_LD\_IMB_{Ph} +$$
$$PPT\_HRLY\_TOT\_TAG\_ABS\_IMB_{Ph}$$

[1]Rounded to 2 decimal places.

**7.6.23** Add up participant and TPUD hourly imbalance to calculate a BANC wide hourly imbalance volume.

$$BNC\_HRLY\_LD\_INTERTIE\_ABS\_IMB_{Bh} = \sum_{Bh}(PPT\_HRLY\_LD\_INTERTIE\_ABS\_IMB_{Ph}) +$$
$$TPUD\_HRLY\_ABS\_LD\_IMB_{Bh}$$

**7.6.24** Calculate each participant hourly load and Intertie absolute imbalance ratio. The result is a decimal value by hour that determines the participant's obligation for allocation charges/credits.

$$PPT\_HRLY\_ABS\_LD\_INTERTIE\_IMB\_RATIO_{Ph}[1] = PPT\_HRLY\_LD\_INTERTIE\_ABS\_IMB_{Ph}$$
$$/ BNC\_HRLY\_LD\_INTERTIE\_ABS\_IMB_{Bh}$$

[1]Rounded to 5 decimal places.

**7.6.25** Calculate TPUD's hourly absolute imbalance ratio. The result is a decimal value by hour that determines the EIM Participant's obligation for allocation charges/credits.

$$TPUD\_HRLY\_ABS\_LD\_INTERTIE\_IMB\_RATIO_{Bh}[1] = TPUD\_HRLY\_ABS\_LD\_IMB_{Bh} /$$
$$BNC\_HRLY\_LD\_INTERTIE\_ABS\_IMB_{Bh}$$

[1]Rounded to 5 decimal places.

**7.6.26** Calculate each EIM Participant's daily load and Intertie imbalance.

$$PPT\_DLY\_LD\_INTERTIE\_ABS\_IMB_{Pd}[1] = PPT\_DLY\_ABS\_LD\_IMB_{Pd} +$$
$$PPT\_DLY\_TOT\_TAG\_ABS\_IMB_{Pd}$$

[1]Rounded to 2 decimal places.

**7.6.27** Add up EIM Participant hourly imbalance to calculate a BANC wide hourly imbalance volume.

$$BNC\_DLY\_LD\_INTERTIE\_ABS\_IMB_{Bd} = \sum\nolimits_{Bd}(PPT\_DLY\_LD\_INTERTIE\_ABS\_IMB_{Pd}) + TPUD\_DLY\_ABS\_LD\_IMB_{Bd}$$

**7.6.28** Calculate each EIM Participant daily load and Intertie absolute imbalance ratio. The result is a decimal value by day that determines the participant's obligation for allocation charges/credits.

$$PPT\_DLY\_ABS\_LD\_INTERTIE\_IMB\_RATIO_{Pd}{}^1 = PPT\_DLY\_LD\_INTERTIE\_ABS\_IMB_{Pd} / BNC\_DLY\_LD\_INTERTIE\_ABS\_IMB_{Bd}$$

[1]Rounded to 5 decimal places.

**7.6.29** Calculate TPUD's daily absolute imbalance ratio. The result is a decimal value by day that determines the EIM Participant's obligation for allocation charges/credits.

$$TPUD\_DLY\_ABS\_LD\_INTERTIE\_IMB\_RATIO_{Bd}{}^1 = TPUD\_DLY\_ABS\_LD\_IMB_{Bd} / BNC\_DLY\_LD\_INTERTIE\_ABS\_IMB_{Bd}$$

[1]Rounded to 5 decimal places.

**7.6.30** Calculate each EIM Participant's monthly load and Intertie imbalance.

$$PPT\_MNLY\_LD\_INTERTIE\_ABS\_IMB_{Pm}{}^1 = \sum\nolimits_{Pm} ( PPT\_DLY\_LD\_INTERTIE\_ABS\_IMB_{Pd})$$

**7.6.31** Add up EIM Participant daily imbalance to calculate a BANC wide monthly imbalance volume.

$$BNC\_MNLY\_LD\_INTERTIE\_ABS\_IMB_{Bm} = \sum\nolimits_{Bm}(PPT\_MNLY\_LD\_INTERTIE\_ABS\_IMB_{Pm}) + TPUD\_MNLY\_ABS\_LD\_IMB_{Bm}$$

**7.6.32** Calculate each EIM Participant monthly load and Intertie absolute imbalance ratio. The result is a decimal value by month that determines the EIM Participant's obligation for allocation charges/credits.

$$PPT\_MNLY\_ABS\_LD\_INTERTIE\_IMB\_RATIO_{Pm}{}^1 = PPT\_MNLY\_LD\_INTERTIE\_ABS\_IMB_{Pm} / BNC\_MNLY\_LD\_INTERTIE\_ABS\_IMB_{Bm}$$

[1]Rounded to 5 decimal places.

**7.6.33** Calculate TPUD's monthly absolute imbalance ratio. The result is a decimal value by hour that determines the EIM Participant's obligation for allocation charges/credits.

$$TPUD\_MNLY\_ABS\_LD\_INTERTIE\_IMB\_RATIO_{Bm}{}^1 = TPUD\_MNLY\_ABS\_LD\_IMB_{Bm} / BNC\_MNLY\_LD\_INTERTIE\_ABS\_IMB_{Bm}$$

[1]Rounded to 5 decimal places.

### *Participant Hourly Total Imbalance – Generation, Load and Interties*

**7.6.34** Each EIM Participant's total hourly absolute imbalance is the sum of the absolute hourly load imbalance, total absolute hourly generation imbalance and the total absolute Interchange schedule imbalance. The result is rounded to two decimal places based on the precision of the EIM Participant Hourly Absolute Load Imbalance and the Participant Hourly Total Absolute Resource Imbalance determinants.

$$PPT\_HRLY\_TOT\_ABS\_IMB_{Ph}{}^1 = PPT\_HRLY\_ABS\_LD\_IMB_{Ph} + PPT\_HRLY\_TOT\_ABS\_RSRC\_IMB_{Ph} + PPT\_HRLY\_TOT\_TAG\_ABS\_IMB_{Ph}$$

[1]Rounded to 2 decimal places.

**7.6.35** Add up EIM Participant hourly imbalance to calculate a BANC wide hourly imbalance volume. TPUD allocated load imbalance must be included to calculate the accurate total imbalance in BANC.

$$BNC\_HRLY\_TOT\_ABS\_IMB_{Bh} = \sum\nolimits_{Bh}(PPT\_HRLY\_TOT\_ABS\_IMB_{Ph}) + TPUD\_HRLY\_ABS\_LD\_IMB_{Bh}$$

**7.6.36** Calculate each EIM Participant hourly absolute imbalance ratio. The result is a decimal value by hour that determines the EIM Participant's obligation for allocation charges/credits.

$$PPT\_HRLY\_ABS\_IMB\_RATIO_{Ph}{}^{1} = PPT\_HRLY\_TOT\_ABS\_IMB_{Ph} / BNC\_HRLY\_TOT\_ABS\_IMB_{Bh}$$

[1]Rounded to 5 decimal places.

**7.6.37** Calculate TPUD attributable imbalance ratio.

$$TPUD\_HRLY\_ABS\_IMB\_RATIO_{Bh}{}^{1} = TPUD\_HRLY\_ABS\_LD\_IMB_{Bh} / BNC\_HRLY\_TOT\_ABS\_IMB_{Bh}$$

[1]Rounded to 5 decimal places.

# 8. BANC Charge Code 100 - BANC Balancing Charge

The BANC Balancing Charge will allocate any rounding and allocation differences to EIM Participants on a daily load ratio share allocation for Daily Charge codes and monthly load ratio share allocation for Monthly Charge codes.

CAISO does not round any charge codes or their daily and monthly statements total value. CAISO's monetary values have five decimals of precision including their statement Trade Date billing amount. CAISO only rounds monetary values to a cent on their weekly invoice total, otherwise they carry fractional cents throughout their settlement statements.

BANC will round all allocation amounts to the nearest cent so participants will not need to track fractional cents. For each CAISO settlement, BANC will take the CAISO Trade Date settlement statement total, round it to the nearest cent and then subtract all the BANC allocated charges for that settlement. Any remaining amount will be allocated on a daily load ratio share basis.

The portion of the charge code estimated to TPUD will be held by BANC and reallocated by BANC Accounting to non-WAPA participants outside of this allocation process.

## 8.1 *CAISO Determinants*

| Determinants | UOM & Interval Length | Description | CAISO Statement Bill Determinant Name | CAISO Bill Determinant Attributes | CAISO BPM |
|---|---|---|---|---|---|
| TRADE_DATE$_{Bd}$ | $ Daily | The total settlement statement charge for BANC from CAISO. This value has up to five decimal places of precision. | BANC EESC Bill Determinant Statement: TRADE_DATE | | Configuration File |

## 8.2 *BANC Provided Determinants*

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| | | |

## 8.3 *BANC Allocation Determinants*

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| CAISO_DLY_STMT_TOT$_{Bd}$ | $ Daily 9 Decimals | **CAISO Daily Statement Total** – The total dollar amount of the CAISO settlement statement to be allocated. |
| BNC_DLY_ALLOC_TOT$_{Bd}$ | $ Daily 2 Decimal | **BANC Total Daily 101 Allocation Amount** – Total EIM Participant daily allocation of CAISO PTB charges across all charge codes. |
| BNC_MNLY_2999_ALLOC_AMT$_{Bm}$ | $ Monthly 2 Decimal | **BANC Total Monthly 2999 Allocation Amount** – Total EIM Participant monthly allocation of CAISO charge code 2999. |
| BNC_MNLY_3999_ALLOC_AMT$_{Bm}$ | $ Monthly 2 Decimal | **BANC Total Monthly 3999 Allocation Amount** – Total EIM Participant monthly allocation of CAISO charge code 3999. |

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| BNC_DLY_4564_ALLOC_AMT$_{Bd}$ | $<br>Daily<br>2 Decimal | **BANC Total Daily 4564 Allocation Amount** – Total EIM Participant daily allocation of CAISO charge code 4564. |
| BNC_MNLY_4575_ALLOC_AMT$_{Bm}$ | $<br>Monthly<br>2 Decimal | **BANC Total Monthly 4575 Allocation Amount** – Total EIM Participant monthly allocation of CAISO charge code 4575. |
| BNC_DLY_5024_ALLOC_AMT$_{Bd}$ | $<br>Daily<br>2 Decimal | **BANC Total Daily 5024 Allocation Amount** – Total EIM Participant daily allocation of CAISO charge code 5024. |
| BNC_DLY_5025_ALLOC_AMT$_{Bd}$ | $<br>Daily<br>2 Decimal | **BANC Total Daily 5025 Allocation Amount** – Total EIM Participant daily allocation of CAISO charge code 5025. |
| BNC_DLY_5900_ALLOC_AMT$_{Bd}$ | $<br>Daily<br>2 Decimal | **BANC Total Daily 5900 Allocation Amount** – Total EIM Participant daily allocation of CAISO charge code 5900. |
| BNC_DLY_5901_ALLOC_AMT$_{Bd}$ | $<br>Daily<br>2 Decimal | **BANC Total Daily 5901 Allocation Amount** – Total EIM Participant daily allocation of CAISO charge code 5901. |
| BNC_DLY_5910_ALLOC_AMT$_{Bd}$ | $<br>Daily<br>2 Decimal | **BANC Total Daily 5910 Allocation Amount** – Total EIM Participant daily allocation of CAISO charge code 5910. |
| BNC_DLY_5912_ALLOC_AMT$_{Bd}$ | $<br>Daily<br>2 Decimal | **BANC Total Daily 5912 Allocation Amount** – Total EIM Participant daily allocation of CAISO charge code 5912. |
| BNC_DLY_6045_ALLOC_AMT$_{Bd}$ | $<br>Daily<br>2 Decimal | **BANC Total Daily 6045 Allocation Amount** – Total EIM Participant daily allocation of CAISO charge code 6045. |
| BNC_DLY_6046_ALLOC_AMT$_{Bd}$ | $<br>Daily<br>2 Decimal | **BANC Total Daily 6046 Allocation Amount** – Total EIM Participant daily allocation of CAISO charge code 6046. |
| BNC_DLY_6194_ALLOC_AMT$_{Bd}$ | $<br>Daily<br>2 Decimal | **BANC Total Daily 6194 Allocation Amount** – Total EIM Participant daily allocation of CAISO charge code 6194. |
| BNC_DLY_6196_ALLOC_AMT$_{Bd}$ | $<br>Daily<br>2 Decimal | **BANC Total Daily 6196 Allocation Amount** – Total EIM Participant daily allocation of CAISO charge code 6196. |
| BNC_DLY_6294_ALLOC_AMT$_{Bd}$ | $<br>Daily<br>2 Decimal | **BANC Total Daily 6294 Allocation Amount** – Total EIM Participant daily allocation of CAISO charge code 6294. |
| BNC_DLY_6296_ALLOC_AMT$_{Bd}$ | $<br>Daily<br>2 Decimal | **BANC Total Daily 6296 Allocation Amount** – Total EIM Participant daily allocation of CAISO charge code 6296. |
| BNC_DLY_64600_ALLOC_AMT$_{Bd}$ | $<br>Daily<br>2 Decimal | **BANC Total Daily 64600 Allocation Amount** – Total EIM Participant daily allocation of CAISO charge code 64600. |
| BNC_DLY_64700_ALLOC_AMT$_{Bd}$ | $<br>Daily<br>2 Decimal | **BANC Total Daily 64700 Allocation Amount** – Total EIM Participant daily allocation of CAISO charge code 64700. |
| BNC_DLY_64740_ALLOC_AMT$_{Bd}$ | $<br>Daily<br>2 Decimal | **BANC Total Daily 64740 Allocation Amount** – Total EIM Participant daily allocation of CAISO charge code 64740. |

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| BNC_DLY_64750_ALLOC_AMT$_{Bd}$ | $ <br> Daily <br> 2 Decimal | **BANC Total Daily 64750 Allocation Amount** – Total EIM Participant daily allocation of CAISO charge code 64750. |
| BNC_DLY_64770_ALLOC_AMT$_{Bd}$ | $ <br> Daily <br> 2 Decimal | **BANC Total Daily 64770 Allocation Amount** – Total EIM Participant daily allocation of CAISO charge code 64770. |
| BNC_DLY_6478_ALLOC_AMT$_{Bd}$ | $ <br> Daily <br> 2 Decimal | **BANC Daily 6478 Allocated Amount** - The total CAISO charge code 6478 amount allocated to all EIM Participants for the Trade Date. |
| BNC_DLY_66200_ALLOC_AMT$_{Bd}$ | $ <br> Daily <br> 2 Decimal | **BANC Daily 66200 Allocated Amount** - The total CAISO charge code 66200 amount allocated to all EIM Participants for the Trade Date. |
| BNC_DLY_66780_ALLOC_AMT$_{Bd}$ | $ <br> Daily <br> 2 Decimal | **BANC Daily 66478 Allocated Amount** - The daily CAISO charge code 66478 amount allocated to all EIM Participants for the Trade Date. |
| BNC_DLY_67740_ALLOC_AMT$_{Bd}$ | $ <br> Daily <br> 2 Decimal | **BANC Total Daily 67740 Allocation Amount** – Total EIM Participant daily allocation of CAISO charge code 67740. |
| BNC_DLY_69850_ALLOC_AMT$_{Bd}$ | $ <br> Daily <br> 2 Decimal | **BANC Total Daily 69850 Allocation Amount** – Total EIM Participant daily allocation of CAISO charge code 698500. |
| BNC_DLY_7070_ALLOC_AMT$_{Bd}$ | $ <br> Daily <br> 2 Decimal | **BANC Daily 7070 Allocated Amount** - The total CAISO charge code 7070 amount allocated to all EIM Participants for the Trade Date. |
| BNC_DLY_7076_ALLOC_AMT$_{Bd}$ | $ <br> Daily <br> 2 Decimal | **BANC Daily 7076 Amount** - The total CAISO charge code 7076 amount allocated to all EIM Participants for the Trade Date. |
| BNC_DLY_7077_ALLOC_AMT$_{Bd}$ | $ <br> Daily <br> 2 Decimal | **BANC Daily 7077 Amount** - The total CAISO charge code 7077 amount allocated to all EIM Participants for the Trade Date. |
| BNC_MNLY_7078_ALLOC_AMT$_{Bm}$ | $ <br> Monthly <br> 2 Decimal | **BANC Monthly 7078 Allocated Amount** - The total CAISO charge code 7078 amount allocated to all EIM Participants for the Trade Date. |
| BNC_DLY_7087_ALLOC_AMT$_{Bd}$ | $ <br> Daily <br> 2 Decimal | **BANC Daily 7087 Allocated Amount** - The total CAISO charge code 7087 amount allocated to all EIM Participants for the Trade Date. |
| BNC_MNLY_7088_ALLOC_AMT$_{Bm}$ | $ <br> Monthly <br> 2 Decimal | **BANC Monthly 7088 Allocated Amount** - The total CAISO charge code 7088 amount allocated to all EIM Participants for the Trade Date. |
| BNC_DLY_7989_ALLOC_AMT$_{Bd}$ | $ <br> Daily <br> 2 Decimal | **BANC Daily 7989 Allocated Amount** - The total CAISO charge code 7989 amount allocated to all EIM Participants for the Trade Date. |
| BNC_DLY_7999_ALLOC_AMT$_{Bd}$ | $ <br> Daily <br> 2 Decimal | **BANC Daily 7999 Allocated Amount** - The total CAISO charge code 7999 amount allocated to all EIM Participants for the Trade Date. |
| BNC_DLY_100_AMT$_{Bd}$ | $ <br> Daily <br> 2 Decimal | **BANC Total Daily 100 Allocation Amount** – Total daily allocated balancing amount to all EIM Participants. |
| BNC_MNLY_100_AMT$_{Bm}$ | $ <br> Monthly <br> 2 Decimal | **BANC Total Monthly 100 Allocation Amount** – Total monthly allocated balancing amount to all EIM Participants. |

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| $PPT\_DLY\_LRS_{Pd}$ | Decimal<br>Daily<br>5 Decimals | **EIM Participant Daily Load Ratio Share** - The daily percent in decimal of load for an EIM Participant to the total daily BANC load in the Pacific Prevailing Time zone. This determinant is calculated in the Load Ratio Share Precalculation. |
| $BNC\_DLY\_BAL\_AMT_{Bd}$ | $<br>Daily<br>2 Decimal | **BANC Daily Balancing Amount** – The total unallocated remainder after allocating all BANC charges. This value represents rounding allocation error. |
| $PPT\_DLY\_100\_AMT_{Pd}$ | $<br>Daily<br>2 Decimal | **EIM Participant Daily 100 Amount** - EIM Participant daily allocation of CAISO charge code 100 rounded to two decimal places. |
| $TPUD\_DLY\_LRS_{Bd}$ | Decimal<br>Daily<br>5 Decimals | **TPUD Daily Load Ratio Share** - The daily percent in decimal of TPUD's load for compared to the total daily BANC load. |
| $TPUD\_MNLY\_100\_AMT_{Bm}$ | $<br>Monthly<br>2 Decimal | **BANC TPUD Monthly 100 Amount** – The amount of the overall CAISO charge that is attributable to TPUD that will be help by BANC until it is reallocated to non-WAPA participants by BANC outside of this allocation process. Th result is rounded to two decimal places. |
| $BNC\_DLY\_100\_ALLOC\_DIFF\_AMT_{Bd}$ | $<br>Daily<br>2 Decimal | **BANC Daily 100 Allocated Differential Amount** - The calculated daily difference between the entire daily CAISO settlement statement amount and the total of all allocations to EIM Participants |
| $BNC\_MNLY\_100\_ALLOC\_DIFF\_AMT_{Bd}$ | $<br>Daily<br>2 Decimal | **BANC Monthly 100 Allocated Differential Amount** - The calculated monthly difference between the entire monthly CAISO settlement statement amount and the total of all allocations to EIM Participants |

**Formulas**

### *Daily CC 100 EIM Sub-Allocation*

**8.4** The total CAISO settlement statement total for BANC.

$$CAISO\_DLY\_STMT\_TOT_{Bd} = TRADE\_DATE_{Bd}$$

$$where\ B = BANC$$

**8.5** Sum all the daily allocation charge code totals to the EIM Participants related to statement.

$$BNC\_DLY\_ALLOC\_TOT_{Bd} = BNC\_DLY\_101\_ALLOC\_AMT_{Bd} +$$
$$BNC\_DLY\_4564\_ALLOC\_AMT_{Bd} +$$
$$BNC\_DLY\_5024\_ALLOC\_AMT_{Bd} +$$
$$BNC\_DLY\_5025\_ALLOC\_AMT_{Bd} +$$
$$BNC\_DLY\_5900\_ALLOC\_AMT_{Bd} +$$
$$BNC\_DLY\_5901\_ALLOC\_AMT_{Bd} +$$
$$BNC\_DLY\_5910\_ALLOC\_AMT_{Bd} +$$
$$BNC\_DLY\_5912\_ALLOC\_AMT_{Bd} +$$
$$BNC\_DLY\_6045\_ALLOC\_AMT_{Bd} +$$

$$\text{BNC\_DLY\_6046\_ALLOC\_AMT}_{Bd} +$$
$$\text{BNC\_DLY\_6194\_ALLOC\_AMT}_{Bd} +$$
$$\text{BNC\_DLY\_6196\_ALLOC\_AMT}_{Bd} +$$
$$\text{BNC\_DLY\_6294\_ALLOC\_AMT}_{Bd} +$$
$$\text{BNC\_DLY\_6296\_ALLOC\_AMT}_{Bd} +$$
$$\text{BNC\_DLY\_64600\_ALLOC\_AMT}_{Bd} +$$
$$\text{BNC\_DLY\_64700\_ALLOC\_AMT}_{Bd} +$$
$$\text{BNC\_DLY\_64740\_ALLOC\_AMT}_{Bd} +$$
$$\text{BNC\_DLY\_64750\_ALLOC\_AMT}_{Bd} +$$
$$\text{BNC\_DLY\_64770\_ALLOC\_AMT}_{Bd} +$$
$$\text{BNC\_DLY\_6478\_ALLOC\_AMT}_{Bd} +$$
$$\text{BNC\_DLY\_66200\_ALLOC\_AMT}_{Bd} +$$
$$\text{BNC\_DLY\_66780\_ALLOC\_AMT}_{Bd} +$$
$$\text{BNC\_DLY\_67740\_ALLOC\_AMT}_{Bd} +$$
$$\text{BNC\_DLY\_69850\_ALLOC\_AMT}_{Bd} +$$
$$\text{BNC\_DLY\_7070\_ALLOC\_AMT}_{Bd} +$$
$$\text{BNC\_DLY\_7076\_ALLOC\_AMT}_{Bd} +$$
$$\text{BNC\_DLY\_7077\_ALLOC\_AMT}_{Bd} +$$
$$\text{BNC\_DLY\_7087\_ALLOC\_AMT}_{Bd} +$$
$$\text{BNC\_DLY\_7989\_ALLOC\_AMT}_{Bd} +$$
$$\text{BNC\_DLY\_7999\_ALLOC\_AMT}_{Bd}$$

**8.6** Calculate the BANC daily balancing amount for the current statement. The total CAISO settlement statement amount less all the allocated BANC charges to EIM Participants.

$$\text{BNC\_DLY\_BAL\_AMT}_{Bd} = \text{CAISO\_DLY\_STMT\_TOT}_{Bd} - \text{BNC\_DLY\_ALLOC\_TOT}_{Bd}$$

**8.7** Allocate the imbalance to EIM Participants on a daily load ratio share and round the amount to two decimal places.

$$\text{PPT\_DLY\_100\_AMT}_{Pd}{}^{1} = \text{BNC\_DLY\_BAL\_AMT}_{Bd} * \text{PPT\_DLY\_LRS}_{Pd}$$
[1]Rounded to 2 decimal places.

**8.8** Allocate the portion of daily load ratio share estimated to TPUD to BANC.

$$\text{TPUD\_DLY\_100\_AMT}_{Bd}{}^{1} = \text{BNC\_DLY\_BAL\_AMT}_{Bd} * \text{TPUD\_DLY\_LRS}_{Bd}$$
[1]Rounded to 2 decimal places.

### *Monthly CC 100 EIM Sub-Allocation*

**8.9** The total CAISO settlement statement total for BANC.

$$\text{CAISO\_MNLY\_STMT\_TOT}_{Bm} = \text{TRADE\_DATE}_{Bd}$$

$$\text{where B = BANC}$$

**8.10** Sum all the monthly allocation charge code totals to the EIM Participants related to statement.

$$\text{BNC\_MNLY\_ALLOC\_TOT}_{Bm} =$$
$$\text{BNC\_MNLY\_2999\_ALLOC\_AMT}_{Bm} +$$
$$\text{BNC\_MNLY\_3999\_ALLOC\_AMT}_{Bm} +$$
$$\text{BNC\_MNLY\_4575\_ALLOC\_AMT}_{Bm} +$$

$$\text{BNC\_MNLY\_7078\_ALLOC\_AMT}_{Bm} +$$
$$\text{BNC\_MNLY\_7088\_ALLOC\_AMT}_{Bm}$$

**8.11**    Calculate the BANC monthly balancing amount for the current statement. The total CAISO settlement statement amount less all the allocated BANC charges to EIM Participants.

$$\text{BNC\_MNLY\_BAL\_AMT}_{Bd} = \text{CAISO\_MNLY\_STMT\_TOT}_{Bm} - \text{BNC\_MNLY\_ALLOC\_TOT}_{Bm}$$

**8.12**    Allocate the imbalance to EIM Participants on a monthly load ratio share and round the amount to two decimal places.

$$\text{PPT\_MNLY\_100\_AMT}_{Pm}{}^{1} = \text{BNC\_MNLY\_BAL\_AMT}_{Bd} * \text{PPT\_MNLY\_LRS}_{Pm}$$
[1]Rounded to 2 decimal places.

**8.13**    Allocate the portion of monthly load ratio share estimated to TPUD to BANC.

$$\text{TPUD\_MNLY\_100\_AMT}_{Bm}{}^{1} = \text{BNC\_MNLY\_BAL\_AMT}_{Bm} * \text{TPUD\_MNLY\_LRS}_{Bm}$$
[1]Rounded to 2 decimal places.

## *Allocations Monitoring*

**8.14**    Sum the total daily allocated balancing amount to all EIM Participants.

$$\text{BNC\_DLY\_100\_AMT}_{Bd} = \sum\nolimits_{Bd} (\text{PPT\_DLY\_100\_AMT}_{Pd}) + \text{TPUD\_DLY\_100\_AMT}_{Bd}$$

**8.15**    The total daily allocation to EIM Participants is summed to a daily total. This is only used as a reference for monitoring purposes.

$$\text{BNC\_DLY\_100\_ALLOC\_DIFF\_AMT}_{Bd} = \text{BNC\_DLY\_100\_AMT}_{Bd} - \text{BNC\_DLY\_BAL\_AMT}_{Bd}$$

**8.16**    Sum the total monthly allocated balancing amount to all EIM Participants.

$$\text{BNC\_MNLY\_100\_AMT}_{Bm} = \sum\nolimits_{Bd} (\text{PPT\_MNLY\_100\_AMT}_{Pm}) + \text{TPUD\_MNLY\_100\_AMT}_{Bm}$$

**8.17**    The total monthly allocation to EIM Participants is summed to a monthly total. This is only used as a reference for monitoring purposes.

$$\text{BNC\_MNLY\_100\_ALLOC\_DIFF\_AMT}_{B,} = \text{BNC\_MNLY\_100\_AMT}_{Bd} - \text{BNC\_MNLY\_BAL\_AMT}_{Bd}$$

# 9. BANC Charge Code 101 PTB Charge

**CAISO Application**

CAISO has the ability to add Pass Through Bills (PTBs) to many charge codes. These are miscellaneous adders that can appear at different intervals for different charges. These charges are only used when there is a dollar addition or subtraction that cannot be made by changes in the billing determinants. These are more commonly used for regulatory mandated adjustments where resettlement is either over burdensome or will not produce the financial outcome required. PTBs can be charges or credits and are uncommon.

**BANC Application**

BANC removes all PTBs charge determinants from each charge code. This is done so that there are no unexpected charge imbalances during allocations. All PTBs are processed in this BANC Charge Code. When a PTB appears, the BANC Settlement Analyst will analyze the PTB and determine if there were any related activity attributable to either a single EIM Participant or a group of EIM Participants. If the BANC Settlement Analyst is unable to discern any specific cause and effect relationship, the BANC Settlement Analyst will allow the PTB to be distributed based on the default allocation of Daily Load Ratio Share for Daily PTB amounts and Monthly Load Ratio Share for Monthly PTB amounts.

If the BANC Settlement Analyst determines any PTB is attributable to one or more participants, the BANC Settlement Analyst will manually allocate the PTB charges by uploading to the allocation solution specific dollar allocation amounts for the Trade Date for each participant. The allocation will indicate through a flag whether the allocation has been manually allocated.

Whenever a PTB initially occurs for a Trade Date settlement, the BANC Settlement Analyst will provide a notice to EIM Participants as to the reason for the PTB.

The portion of the charge code estimated to TPUD will be held by the EIM Entity and reallocated by BANC Accounting to non-WAPA participants outside of this allocation process.

## 9.1 *CAISO Determinants*

| Determinants | UOM & Interval Length | Description | CAISO Statement Bill Determinant Name | CAISO Bill Determinant Attributes | CAISO BPM |
|---|---|---|---|---|---|
| | | | | | |

## 9.2 *BANC Provided Determinants*

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| PPT_DLY_MANUAL_PTB_ALLOC_AMT$_{Pd}$ | $ Daily 2 Decimal | **EIM Participant Daily Manual PTB Allocation Amount** – A manually allocation amount as calculated by BANC staff. |
| TPUD_DLY_MANUAL_PTB_ALLOC_AMT$_{Bd}$ | $ Daily 2 Decimal | **TPUD Daily Manual PTB Allocation Amount** – A manually allocation amount as calculated by BANC staff attributable to TPUD which will be held by BANC until it is distributed by BANC outside of this allocation process. |

## 9.3 *BANC Allocation Determinants*

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| CAISO_HRLY_6194_PTB_AMT$_{Bh}$ | $ Hourly 2 Decimal | **CAISO Hourly 6194 PTB Amount** - The CAISO CC6194 PTB amount to BANC on an hourly basis. This determinant is from charge code 6194. |
| CAISO_DLY_6194_PTB_AMT$_{Bd}$ | $ Daily 2 Decimal | **CAISO Daily 6194 PTB Amount** - The CAISO CC6194 PTB amount to BANC summed to a daily value. |
| CAISO_HRLY_6294_PTB_AMT$_{Bh}$ | $ Hourly 2 Decimal | **CAISO Hourly 6294 PTB Amount** - The CAISO CC6294 PTB amount to BANC on an hourly basis. This determinant is from charge code 6194. |
| CAISO_DLY_6294_PTB_AMT$_{Bd}$ | $ Daily 2 Decimal | **CAISO Daily 6294 PTB Amount** - The CAISO CC6294 PTB amount to BANC summed to a daily value. |
| CAISO_5MIN_64600_PTB_AMT$_{Bf}$ | $ 5 Minute 2 Decimal | **CAISO 5-Minute 64600 PTB Amount** - A 5-minute interval PTB amount when applicable related to CAISO Charge Code 64600. |
| CAISO_DLY_64600_PTB_AMT$_{Bd}$ | $ Daily 2 Decimal | **CAISO Daily 64600 PTB Amount** - The CAISO CC64600 PTB amount to BANC summed to a daily value. |
| CAISO_5MIN_64700_PTB_AMT$_{Bf}$ | $ 5 Minute 2 Decimal | **CAISO 5-Minute 64700 PTB Amount** - A 5-minute interval PTB amount when applicable related to CAISO Charge Code 64700. |
| CAISO_DLY_64700_PTB_AMT$_{Bd}$ | $ Daily 2 Decimal | **CAISO Daily 64700 PTB Amount** - The CAISO CC64700 PTB amount to BANC summed to a daily value. |
| CAISO_5MIN_64750_PTB_AMT$_{Bf}$ | $ 5 Minute 2 Decimal | **CAISO 5-Minute 64750 PTB Amount** - A 5-minute interval PTB amount when applicable related to CAISO Charge Code 64750. |
| CAISO_DLY_64750_PTB_AMT$_{Bd}$ | $ Daily 2 Decimal | **CAISO Daily 64750 PTB Amount** - The CAISO CC64750 PTB amount to BANC summed to a daily value. |
| CAISO_5MIN_7070_PTB_AMT$_{Bf}$ | $ 5 Minute 2 Decimal | **CAISO 5-Minute 7070 PTB Amount** - A 5-minute interval PTB amount when applicable related to CAISO Charge Code 7070. |
| CAISO_DLY_7070_PTB_AMT$_{Bd}$ | $ Daily 2 Decimal | **CAISO Daily 7070 PTB Amount** - The CAISO CC7070 PTB amount to BANC summed to a daily value. |
| CAISO_5MIN_7076_PTB_AMT$_{Bf}$ | $ 5 Minute 2 Decimal | **CAISO 5-Minute 7076 PTB Amount** - A 5-minute interval PTB amount when applicable related to CAISO Charge Code 7076. |
| CAISO_DLY_7076_PTB_AMT$_{Bd}$ | $ Daily 2 Decimal | **CAISO Daily 7076 PTB Amount** - The CAISO CC7076 PTB amount to BANC summed to a daily value. |
| CAISO_MNLY_4575_PTB_AMT$_{Bm}$ | $ Monthly 2 Decimal | **CAISO Monthly 4575 PTB Amount** - The CAISO CC4575 PTB amount to BANC. This determinant is from charge code 4575. |
| CAISO_DLY_7077_PTB_AMT$_{Bd}$ | $ Daily 2 Decimal | **CAISO Daily 7077 PTB Amount** - A daily statement BANC PTB value when applicable related to CAISO Charge Code 7077. This determinant is from charge code 7077. |

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| CAISO_MNLY_7078_PTB_AMT$_{Bm}$ | $<br>Monthly<br>2 Decimal | **CAISO Monthly 7078 PTB Amount** - A monthly statement BANC PTB value when applicable related to CAISO Charge Code 7078. This determinant is from charge code 7078. |
| CAISO_DLY_7087_PTB_AMT$_{Bd}$ | $<br>Daily<br>2 Decimal | **CAISO Daily 7087 PTB Amount** - A daily statement BANC PTB value when applicable related to CAISO Charge Code 7087. This determinant is from charge code 7087. |
| CAISO_MNLY_7088_PTB_AMT$_{Bm}$ | $<br>Monthly<br>2 Decimal | **CAISO Monthly 7088 PTB Amount** - A monthly statement BANC PTB value when applicable related to CAISO Charge Code 7088. This determinant is from charge code 7088. |
| BNC_DLY_PTB_AMT$_{Bd}$ | $<br>Daily<br>2 Decimal | **BANC Daily PTB Amount** – The daily total of all PTBs received by BANC for this settlement. |
| BNC_MNLY_PTB_AMT$_{Bm}$ | $<br>Monthly<br>2 Decimal | **BANC Monthly PTB Amount** – The monthly total of all PTBs received by BANC for this settlement. |
| BNC_DLY_PTB_MAN_ALLOC_FLAG$_{Bd}$ | Integer<br>Daily | **BANC Daily PTB Allocation Flag** – A daily flag of 1 or 0 to indicate when BANC has manually allocated the PTB amounts for the Trade Date. A value of 1 indicates there is a manual allocation by BANC staff. |
| BNC_MNLY_PTB_MAN_ALLOC_FLAG$_{Bm}$ | Integer<br>Monthly | **BANC Monthly PTB Allocation Flag** – A monthly flag of 1 or 0 to indicate when BANC has manually allocated the PTB amounts for the Trade Date. A value of 1 indicates there is a manual allocation by BANC staff. |
| PPT_DLY_LRS$_{Pd}$ | Decimal<br>Daily<br>5 Decimals | **EIM Participant Daily Load Ratio Share** - The daily percent in decimal of load for an EIM Participant to the total daily BANC load in the Pacific Prevailing Time zone. |
| PPT_MNLY_LRS$_{Pm}$ | Decimal<br>Monthly<br>5 Decimals | **EIM Participant Monthly Load Ratio Share** - The daily percent in decimal of load for an EIM Participant to the total monthly BANC load in the Pacific Prevailing Time zone. |
| PPT_DLY_101_AMT$_{Pd}$ | $<br>Daily<br>2 Decimal | **EIM Participant Daily 101 Amount** - EIM Participant daily allocation of CAISO PTB charges rounded to two decimal places. |
| PPT_MNLY_101_AMT$_{Pm}$ | $<br>Monthly<br>2 Decimal | **EIM Participant Monthly 101 Amount** - EIM Participant monthly allocation of CAISO PTB charges rounded to two decimal places. |
| TPUD_DLY_LRS$_{Bd}$ | Decimal<br>Daily<br>5 Decimals | **TPUD Daily Load Ratio Share** - The daily percent in decimal of TPUD's load for compared to the total daily BANC load. |
| TPUD_MNLY_LRS$_{Bm}$ | Decimal<br>Monthly<br>5 Decimals | **TPUD Monthly Load Ratio Share** - The monthly percent in decimal of TPUD's load for compared to the total monthly BANC load. |
| TPUD_MNLY_101_AMT$_{Bm}$ | $<br>Monthly<br>2 Decimal | **BANC TPUD Monthly 101 Amount** – The amount of the overall CAISO charge that is estimated to TPUD that will be help by BANC until it is reallocated to non-WAPA participants by BANC |

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| | | outside of this allocation process. Th result is rounded to two decimal places. |
| BNC_DLY_101_AMT$_{Bd}$ | $ Daily 2 Decimal | **BANC Daily 101 Amount** – Total EIM Participant daily allocation of CAISO PTB charges. |
| BNC_MNLY_101_AMT$_{Bm}$ | $ Monthly 2 Decimal | **BANC Monthly 101 Amount** – Total EIM Participant monthly allocation of CAISO PTB charges. |
| BNC_DLY_101_ALLOC_DIFF_AMT$_{Bd}$ | $ Daily 2 Decimal | **BANC Daily 101 Allocated Differential Amount** - The calculated daily difference between all CAISO PTB charges for the Trade Date and the total of all allocations to EIM Participants |
| BNC_MNLY_101_ALLOC_DIFF_AMT$_{Bd}$ | $ Monthly 2 Decimal | **BANC Monthly 101 Allocated Differential Amount** - The calculated monthly difference between all CAISO PTB charges for the Trade Date and the total of all allocations to EIM Participants |

**Formulas**

### *Daily CC 101 EIM Sub-Allocation*

**9.4** Sum the PTB for Charge Code 6194 to a daily total.

$$CAISO\_DLY\_6194\_PTB\_AMT_{Bd} = \sum\nolimits_{Bd}(CAISO\_HRLY\_6194\_PTB\_AMT_{Bh})$$

**9.5** Sum the PTB for Charge Code 6294 to a daily total.

$$CAISO\_DLY\_6294\_PTB\_AMT_{Bd} = \sum\nolimits_{Bd}(CAISO\_HRLY\_6294\_PTB\_AMT_{Bh})$$

**9.6** Sum the PTB for Charge Code 64600 to a daily total.

$$CAISO\_DLY\_64600\_PTB\_AMT_{Bd} = \sum\nolimits_{Bd}(CAISO\_5MIN\_64600\_PTB\_AMT_{Bf})$$

**9.7** Sum the PTB for Charge Code 64700 to a daily total.

$$CAISO\_DLY\_64700\_PTB\_AMT_{Bd} = \sum\nolimits_{Bd}(CAISO\_5MIN\_64700\_PTB\_AMT_{Bf})$$

**9.8** Sum the PTB for Charge Code 64750 to a daily total.

$$CAISO\_DLY\_64750\_PTB\_AMT_{Bd} = \sum\nolimits_{Bd}(CAISO\_5MIN\_64750\_PTB\_AMT_{Bf})$$

**9.9** Sum the PTB for Charge Code 7070 to a daily total.

$$CAISO\_DLY\_7070\_PTB\_AMT_{Bd} = \sum\nolimits_{Bd}(CAISO\_5MIN\_7070\_PTB\_AMT_{Bf})$$

**9.10** Sum the PTB for Charge Code 7076 to a daily total.

$$CAISO\_DLY\_7076\_PTB\_AMT_{Bd} = \sum\nolimits_{Bd}(CAISO\_5MIN\_7076\_PTB\_AMT_{Bf})$$

**9.11** The daily total of all PTBs for the Trade Date.

$$BNC\_DLY\_PTB\_AMT_{Bd} =$$

$$CAISO\_DLY\_6194\_PTB\_AMT_{Bd} +$$
$$CAISO\_DLY\_6294\_PTB\_AMT_{Bd} +$$
$$CAISO\_DLY\_64600\_PTB\_AMT_{Bd} +$$
$$CAISO\_DLY\_64700\_PTB\_AMT_{Bd} +$$
$$CAISO\_DLY\_64750\_PTB\_AMT_{Bd} +$$
$$CAISO\_DLY\_7070\_PTB\_AMT_{Bd} +$$
$$CAISO\_DLY\_7076\_PTB\_AMT_{Bd} +$$
$$CAISO\_DLY\_7077\_PTB\_AMT_{Bd} +$$
$$CAISO\_DLY\_7087\_PTB\_AMT_{Bd}$$

**9.12** The allocation solution will import any manual allocations from the BANC Settlement Analyst and assign them to each EIM Participant.

$$PPT\_DLY\_MANUAL\_PTB\_ALLOC\_AMT_{Pd}$$

**9.13** The allocation solution will set a manual allocation flag whenever the BANC Settlement Analyst provides a manual allocation override for this charge code. When the flag is equal to 1, then EIM Participants will know the amounts were manually allocated. A flag equal to zero indicates the default Daily Load Ratio Share allocation was used.

$$BNC\_DLY\_PTB\_MAN\_ALLOC\_FLAG_{Bd} =$$
$$IF\{ \ [ \ \textstyle\sum_{Bd}(PPT\_DLY\_MANUAL\_PTB\_ALLOC\_AMT_{Pd}) +$$
$$TPUD\_DLY\_MANUAL\_PTB\_ALLOC\_AMT_{Bd} = 0$$
$$THEN \ 0$$
$$ELSE \ 1$$
$$]$$

**9.14** Allocate any PTB to EIM Participants.

$$PPT\_DLY\_101\_AMT_{Pd}{}^{1} =$$
$$(PPT\_DLY\_MANUAL\_PTB\_ALLOC\_AMT_{Pd} * BNC\_DLY\_PTB\_MAN\_ALLOC\_FLAG_{Bd}) +$$
$$[ \ (1 - BNC\_DLY\_PTB\_MAN\_ALLOC\_FLAG_{Bd}) * BNC\_DLY\_PTB\_AMT_{Bd} *$$
$$PPT\_DLY\_LRS_{Pd}) \ ]$$
[1]Rounded to 2 decimal places.

**9.15** When the BANC Settlement Analyst determines there is a manual allocation of PTBs, the BANC Settlement Analyst will also need to import a manual allocation for TPUD.

$$TPUD\_DLY\_MANUAL\_PTB\_ALLOC\_AMT_{Bd}$$

**9.16** Allocate PTB to TPUD.

$$TPUD\_DLY\_101\_AMT_{Pd}{}^{1} =$$
$$(TPUD\_DLY\_MANUAL\_PTB\_ALLOC\_AMT_{Bd} * BNC\_DLY\_PTB\_MAN\_ALLOC\_FLAG_{Bd}) +$$
$$[ \ (1 - BNC\_DLY\_PTB\_MAN\_ALLOC\_FLAG_{Bd}) * BNC\_DLY\_PTB\_AMT_{Bd} *$$
$$TPUD\_DLY\_LRS_{Bd}) \ ]$$
[1]Rounded to 2 decimal places.

### _Monthly CC 101 EIM Sub-Allocation_

**9.17**   The monthly total of all PTBs for the Trade Date.

$BNC\_MNLY\_PTB\_AMT_{Bm} =$

$$CAISO\_MNLY\_4575\_PTB\_AMT_{Bm} +$$
$$CAISO\_MNLY\_7078\_PTB\_AMT_{Bm} +$$
$$CAISO\_MNLY\_7088\_PTB\_AMT_{Bm} +$$

**9.18**   The allocation solution will import any manual allocations from the BANC Settlement Analyst and assign them to each EIM Participant.

$PPT\_MNLY\_MANUAL\_PTB\_ALLOC\_AMT_{Pm}$

**9.19**   The allocation solution will set a manual allocation flag whenever the BANC Settlement Analyst provides a manual allocation override for this charge code. When the flag is equal to 1, then EIM Participants will know the amounts were manually allocated. A flag equal to zero indicates the default Daily Load Ratio Share allocation was used.

$BNC\_MNLY\_PTB\_MAN\_ALLOC\_FLAG_{Bm} =$
$\quad IF\{ \ [ \ \sum_{Bm}(PPT\_MNLY\_MANUAL\_PTB\_ALLOC\_AMT_{Pm}) +$
$\quad TPUD\_MNLY\_MANUAL\_PTB\_ALLOC\_AMT_{Bm} = 0$
$\qquad\quad THEN\ 0$
$\qquad\quad ELSE\ 1$
$\qquad\quad ]$

**9.20**   Allocate any PTB to EIM Participants.

$PPT\_MNLY\_101\_AMT_{Pm}{}^{1} =$
$\qquad (PPT\_MNLY\_MANUAL\_PTB\_ALLOC\_AMT_{Pm} \ *$
$\qquad\qquad\qquad BNC\_MNLY\_PTB\_MAN\_ALLOC\_FLAG_{Bm}) +$
$\qquad [ \ (1 - BNC\_MNLY\_PTB\_MAN\_ALLOC\_FLAG_{Bm}) * BNC\_MNLY\_PTB\_AMT_{Bm} \ *$
$\qquad PPT\_MNLY\_LRS_{Pm}) \ ]$
[1]Rounded to 2 decimal places.

**9.21**   When the BANC Settlement Analyst determines there is a manual allocation of PTBs, the BANC Settlement Analyst will also need to import a manual allocation for TPUD.

$TPUD\_MNLY\_MANUAL\_PTB\_ALLOC\_AMT_{Bm}$

**9.22**   Allocate PTB to TPUD.

$TPUD\_MNLY\_101\_AMT_{Pm}{}^{1} =$
$\qquad (TPUD\_MNLY\_MANUAL\_PTB\_ALLOC\_AMT_{Bm} \ *$
$\qquad\qquad\qquad BNC\_MNLY\_PTB\_MAN\_ALLOC\_FLAG_{Bm}) +$
$\qquad [ \ (1 - BNC\_MNLY\_PTB\_MAN\_ALLOC\_FLAG_{Bm}) * BNC\_MNLY\_PTB\_AMT_{Bm} \ *$
$\qquad TPUD\_MNLY\_LRS_{Bm}) \ ]$
[1]Rounded to 2 decimal places.

**9.23**   The daily allocation is summed to a daily total.

$$BNC\_DLY\_101\_AMT_{Bd} = \sum_{Bd} (PPT\_DLY\_101\_AMT_{Pd}) + TPUD\_DLY\_101\_AMT_{Pd}$$

**9.24**   The total daily difference between the charge the EIM Entity received and the allocated amount to EIM Participants is calculated and monitored.

$$BNC\_DLY\_101\_ALLOC\_DIFF\_AMT_{Bd} = BNC\_DLY\_PTB\_AMT_{Bd} - BNC\_DLY\_101\_AMT_{Bd}$$

**9.25**   The monthly allocation is summed to a monthly total.

$$BNC\_MNLY\_101\_AMT_{Bm} = \sum_{Bm} (PPT\_MNLY\_101\_AMT_{Pm}) + TPUD\_MNLY\_101\_AMT_{Pm}$$

**9.26**   The total monthly difference between the charge the EIM Entity received and the allocated amount to EIM Participants is calculated and monitored.

$$BNC\_MNLY\_101\_ALLOC\_DIFF\_AMT_{Bm} = BNC\_MNLY\_PTB\_AMT_{Bm} - BNC\_MNLY\_101\_AMT_{Bm}$$

# 10.    BANC Charge Code 102 Miscellaneous Charge

## CAISO Application

None.

## BANC Application

There could be instances where BANC will need to charge or credit EIM Participants for a Trade Date. This BANC specific charge code will allow authorized charges and credits to be processed through the allocation solution to participant invoices.

Whenever the charge code is used, the BANC Settlement Analyst will provide a notice to EIM Participants as to the reason for the associated charge or credit.

The portion of the charge code estimated to TPUD will be held by the EIM Entity and reallocated by BANC Accounting to non-WAPA participants outside of this allocation process.

### 10.1    *CAISO Determinants*

| Determinants | UOM & Interval Length | Description | CAISO Statement Bill Determinant Name | CAISO Bill Determinant Attributes | CAISO BPM |
|---|---|---|---|---|---|
|  |  |  |  |  |  |

### 10.2    *BANC Provided Determinants*

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| PPT_DLY_MISC_ALLOC_AMT$_{Pd}$ | $ Daily 2 Decimal | **EIM Participant Daily Miscellaneous Allocation Amount** – A authorized BANC miscellaneous allocation amount. |
| TPUD_DLY_MISC_ALLOC_AMT$_{Bd}$ | $ Daily 2 Decimal | **TPUD Daily Miscellaneous Allocation Amount** – A authorized BANC miscellaneous allocation amount. |

### 10.3    *BANC Allocation Determinants*

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| PPT_DLY_102_AMT$_{Pd}$ | $ Daily 2 Decimal | **EIM Participant Daily 102 Amount** - EIM Participant daily allocation of miscellaneous charges and/or credits rounded to two decimal places. |
| TPUD_DLY_102_AMT$_{Bd}$ | $ Daily 2 Decimal | **BANC TPUD Daily 102 Amount** - BANC EIM TPUD daily allocation of miscellaneous charges and/or credits rounded to two decimal places. |
| BNC_DLY_102_AMT$_{Bd}$ | $ Daily 2 Decimal | **BANC Daily 102 Amount** – Total EIM Participant daily allocation of miscellaneous charges. |

**Formulas**

**10.4**   The allocation solution will import any miscellaneous allocations from the BANC Settlement Analyst and assign them to each EIM Participant.

$PPT\_DLY\_MISC\_ALLOC\_AMT_{Pd}$

**10.5**   The allocation will be rounded for the day to two decimals.

$PPT\_DLY\_102\_AMT_{Pd}{}^{1} = PPT\_DLY\_MISC\_ALLOC\_AMT_{Pd}$
[1]Rounded to 2 decimal places.

**10.6**   The allocation solution will import any miscellaneous allocations from the BANC Settlement Analyst and assign them to TPUD.

$TPUD\_DLY\_MISC\_ALLOC\_AMT_{Bd}$

**10.7**   The allocation for TPUD will be rounded for the day to two decimals.

$TPUD\_DLY\_102\_AMT_{Bd}{}^{1} = TPUD\_DLY\_MISC\_ALLOC\_AMT_{Bd}$
[1]Rounded to 2 decimal places.

## *Allocations Monitoring*

**10.8**   The daily allocation is summed to a daily total.

$BNC\_DLY\_102\_AMT_{Bd} = \sum_{Bd} (PPT\_DLY\_102\_AMT_{Pd}) + TPUD\_DLY\_102\_AMT_{Bd}$

# 11.    BANC Charge Code 2999 Default Invoice Interest Payment

**CAISO Application**

Business Associates (as defined in the CAISO Tariff) who default on amounts due to the CAISO are charged interest on those unpaid amounts. The interest is charged monthly at the FERC published quarterly interest rate.   The Scheduling Coordinator shall pay interest on the CASIO Clearing Account, together with any related transaction costs incurred by the CAISO.  The CAISO shall apply all such interest payments on the Default Amount on a pro rata basis to CAISO Creditors in relation to amounts due in the order of the creation of such debts.

This monthly credit is paid on the last day of the month when it occurs.

There is a PTB amount in this charge code, but it represents the amount to be billed and is not a separate charge component.

**BANC Application**

When this charge appears, BANC will allocate the monthly charge using the EIM Participant Cost Allocation Ratio Precalculation.

The portion of the charge code estimated to TPUD will be held by the EIM Entity and reallocated by BANC Accounting to non-WAPA participants outside of this allocation process.

## 11.1   *CAISO Determinants*

| Determinants | UOM, Interval Length, Precision | Description | CAISO Statement Bill Determinant Name | CAISO Bill Determinant Attributes | CAISO BPM |
|---|---|---|---|---|---|
| DefaultInvoiceInterestPayment SettlementAmount$_{BmdV'U'U}$ | $ Monthly 9 Decimal | CAISO Charge Code 2999 credit to BANC, prorated by Scheduling Coordinator, on a monthly basis for any interest paid to CAISO for Scheduling Coordinator late payments when applicable. | BANC EESC Bill Determinant Statement: BA_MTH_DFLT_ INV_INT_PMT@ AMOUNT | | BPM Configuration Guide: Default Invoice Interest Payment CC2999 Version 5.0 |

## 11.2   *BANC Provided Determinants*

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| | | |

## 11.3   *BANC Allocation Determinants*

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| CAISO_MNLY_2999_AMT$_{Bm}$ | $ Monthly 2 Decimal | **CAISO Monthly 2999 Amount** - The CAISO CC2999 credit amount to BANC. |
| PPT_COST_ALLOC_MNLY_RATIO$_{Pm}$ | Decimal Monthly 5 Decimals | **EIM Participant Cost Allocation Monthly Ratio** - The EIM Participant monthly cost allocation ratio per participant. This percentage is expected to be |

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| | | defined annually by the Commission by EIM Participant, and it will be in effect by Trade Date until it is updated. All allocations including resettlements will use the allocation in effect for that Trade date. Refer to the EIM Participants Cost Allocation Precalculation. |
| $\text{PPT\_MNLY\_2999\_AMT}_{Pm}$ | $ Monthly 2 Decimal | **EIM Participant Monthly 2999 Amount** - EIM Participant monthly allocation of CAISO charge code 2999 rounded to two decimal places. |
| $\text{TPUD\_COST\_ALLOC\_MNLY\_RATIO}_{Bm}$ | Decimal Monthly 5 Decimals | **TPUD Cost Allocation Monthly Ratio** – The ratio of WAPA's cost allocation that is attributable to TPUD load for the month. This determinant is associated with BANC. |
| $\text{TPUD\_MNLY\_2999\_AMT}_{Bm}$ | $ Monthly 2 Decimal | **BANC TPUD Monthly 2999 Amount** – The amount of the overall CAISO charge that is estimated to TPUD that will be help by BANC until it is reallocated to non-WAPA participants by BANC outside of this allocation process. Th result is rounded to two decimal places. |
| $\text{BNC\_MNLY\_2999\_ALLOC\_AMT}_{Bm}$ | $ Monthly 2 Decimal | **BANC Total Monthly 2999 Allocation Amount** – Total EIM Participant monthly allocation of CAISO charge code 2999. |
| $\text{BNC\_MNLY\_2999\_ALLOC\_DIFF\_AMT}_{Bm}$ | $ Monthly 2 Decimal | **BANC Monthly 2999 Allocated Differential Amount** - The calculated difference between the CAISO rounded charge code to the total BANC allocation to its participants. |

## Formulas

**11.4** The monthly credit to BANC for charge code 2999 on the last day of the month when applicable.

$$\text{CAISO\_MNLY\_2999\_AMT}_{Bm}{}^{1} = \text{DefaultInvoiceInterestPaymentSettlementAmount}_{BmdV'U'U}$$
[1]Rounded to 2 decimal places.

**11.5** Allocate any monthly credit BANC received from CAISO in charge code 2999 to EIM Participants by each EIM Participant's specific Cost Allocation Ratio in the EIM Participants Cost Allocation Ratio Precalculation.

$$\text{PPT\_MNLY\_2999\_AMT}_{Pm}{}^{1} = \text{CAISO\_MNLY\_2999\_AMT}_{Bm} * \text{PPT\_COST\_ALLOC\_MNLY\_RATIO}_{Pm}$$
[1]Rounded to 2 decimal places.

**11.6** The monthly cost allocation estimated to TPUD.

$$\text{TPUD\_MNLY\_2999\_AMT}_{Bm}{}^{1} = \text{CAISO\_MNLY\_2999\_AMT}_{Bm} * \text{TPUD\_COST\_ALLOC\_MNLY\_RATIO}_{Bm}$$
[1]Rounded to 2 decimal places.

*Allocations Monitoring*

**11.7**    The monthly allocation on the last Trade Date of the month is summed to a daily total.

$$\text{BNC\_MNLY\_2999\_ALLOC\_AMT}_{Bm} = \sum\nolimits_{Bm}(\text{PPT\_MNLY\_2999\_AMT}_{Pm}) + \text{TPUD\_MNLY\_2999\_AMT}_{Pm}$$

**11.8**    The total daily difference between the charge the EIM Entity received and the allocated amount to EIM Participants is calculated and monitored.

$$\text{BNC\_MNLY\_2999\_ALLOC\_DIFF\_AMT}_{Bm} = \text{CAISO\_MNLY\_2999\_AMT}_{Bm} - \text{BNC\_MNLY\_2999\_ALLOC\_AMT}_{Bm}$$

# 12. BANC Charge Code 3999 Default Invoice Interest Charge

## CAISO Application

Scheduling Coordinators who default on amounts due to the CAISO are charged interest on those unpaid amounts. The interest is charged monthly at the FERC published quarterly interest rate. The Scheduling Coordinator shall pay interest on the CASIO clearing account, together with any related transaction costs incurred by the CAISO. The CAISO shall apply all such interest payments on the default amount on a pro rata basis to CAISO Creditors in relation to amounts due in the order of the creation of such basis. This monthly charge code billed on the last day of the month bills Scheduling Coordinators for the interest due CAISO on the defaulted amount.

There is a potential PTB amount with this charge code.

There is a PTB amount in this charge code, but it represents the amount to be billed and is not a separate charge component.

## BANC Application

When this charge appears, the EIM Entity will allocate the monthly charge using the EIM Participant Cost Allocation Ratio Precalculation.

The portion of the charge code estimated to TPUD will be held by BANC and reallocated by BANC Accounting to non-WAPA participants outside of this allocation process.

## 12.1 *CAISO Determinants*

| Determinants | UOM, Interval Length, Precision | Description | CAISO Statement Bill Determinant Name | CAISO Bill Determinant Attributes | CAISO BPM |
|---|---|---|---|---|---|
| DefaultInvoiceInterestChargeSettlementAmount$_{BJV'U'Um}$ | $ Monthly 9 Decimal | CAISO Charge Code 3999 Charge to BANC for interest on defaulted invoice payments on a monthly basis | BANC EESC Bill Determinant Statement: BA_MTH_DFLT_INV_INT_CHARGE@AMOUNT | | BPM Configuration Guide: Default Invoice Interest Charge CC3999 Version 5.0 |

## 12.2 *BANC Provided Determinants*

| Determinants | UOM, Interval Length, Precision | Description |
|---|---|---|
| | | |

## 12.3 *BANC Allocation Determinants*

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| PPT_COST_ALLOC_MNLY_RATIO$_{Pm}$ | Decimal Monthly 5 Decimals | **EIM Participant Cost Allocation Monthly Ratio** - The EIM Participant monthly Cost Allocation Ratio per participant. This percentage is expected to be defined annually by the Commission and it will be in effect by Trade Date until it is updated. All |

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| | | allocations including resettlements will use the allocation in effect for that Trade date. Refer to the EIM Participants Cost Allocation Precalculation. |
| CAISO_MNLY_3999_AMT$_{Bm}$ | $<br>Monthly<br>2 Decimal | **CAISO Monthly 2999 Amount** - The CAISO CC3999 credit amount to BANC. |
| PPT_MNLY_3999_AMT$_{Pm}$ | $<br>Monthly<br>2 Decimal | **EIM Participant Monthly 3999 Amount** - EIM Participant monthly allocation of CAISO charge code 3999 rounded to two decimal places. |
| TPUD_COST_ALLOC_MNLY_RATIO$_{Bm}$ | Decimal<br>Daily<br>5 Decimals | **Trinity PUD Cost Allocation Monthly Ratio** – The ratio of WAPA's cost allocation that is attributable to TPUD load for the month. This determinant is associated with BANC. |
| TPUD_MNLY_3999_AMT$_{Bm}$ | $<br>Monthly<br>2 Decimal | **BANC TPUD Monthly 3999 Amount** – The amount of the overall CAISO charge that is estimated to TPUD that will be held by BANC until it is reallocated to non-WAPA participants by BANC outside of this allocation process. The result is rounded to two decimal places. |
| BNC_MNLY_3999_ALLOC_AMT$_{Bm}$ | $<br>Monthly<br>2 Decimal | **BANC Total Monthly 3999 Allocation Amount** – Total EIM Participant monthly allocation of CAISO charge code 2999. |
| BNC_MNLY_3999_ALLOC_DIFF_AMT$_{Bm}$ | $<br>Monthly<br>2 Decimal | **BANC Monthly 3999 Allocated Differential Amount** - The calculated difference between the CAISO rounded charge code to the total BANC allocation to its participants. |

**Formulas**

**12.4** The monthly charge to BANC for charge code 3999 on the last day of the month when applicable.

$CAISO\_MNLY\_3999\_AMT_{Bm}{}^{1} = DefaultInvoiceInterestChargeSettlementAmount_{BJV'U'Um}$
[1]Rounded to 2 decimal places.

**12.5** Allocate any monthly charge BANC received from CAISO in charge code 3999 to EIM Participants by each EIM Participant's specific Cost Allocation Ratio in the EIM Participants Cost Allocation Ratio Precalculation.

$PPT\_MNLY\_3999\_AMT_{Pm}{}^{1} = CAISO\_MNLY\_3999\_AMT_{Bm} * PPT\_COST\_ALLOC\_MNLY\_RATIO_{Pm}$
[1]Rounded to 2 decimal places.

**12.6** The monthly cost allocation estimated to TPUD.

$TPUD\_MNLY\_3999\_AMT_{Bm}{}^{1} = CAISO\_MNLY\_3999\_AMT_{Bm} *$
$TPUD\_COST\_ALLOC\_MNLY\_RATIO_{Bm}$
[1]Rounded to 2 decimal places.

*Allocations Monitoring*

**12.7**   The monthly allocation on the last Trade Date of the month is summed to a daily total.

$$BNC\_MNLY\_3999\_ALLOC\_AMT_{Bm} = \sum\nolimits_{Bm} (PPT\_MNLY\_3999\_AMT_{Pm}) + TPUD\_MNLY\_3999\_AMT_{Bm}$$

**12.8**   The total daily difference between the charge BANC received and the allocated amount to EIM Participants is calculated and monitored.

$$BNC\_MNLY\_3999\_ALLOC\_DIFF\_AMT_{Bm} = CAISO\_MNLY\_3999\_AMT_{Bm} - BNC\_MNLY\_3999\_ALLOC\_AMT_{Bm}$$

# 13. BANC Charge Code 4564 GMC EIM Transaction Charge

**CAISO Charge Application**

The CAISO Charge Code 4564 charges EIM Participants an administrative charge based on market activity to recover the cost operating the market. CAISO collects this charge from three underlying components:

- System Operations Charge – CASIO charges Scheduling Coordinators for the absolute volume difference between their EIM Load Base Schedule and their submitted load meter data multiplied by the effective EIM GMC System Operations Charge rate published by CAISO for the Trade Date.
- Market Services Charge – CAISO charges Scheduling Coordinators the EIM GMC Market Services Charge Rate effective for the Trade Date multiplied by the absolute volume difference for each the resource and Intertie schedule between their hourly Base Scheduled volume and the 15-minute market volume, plus the absolute volume difference between the 15-minute market volume and the final reported tag or meter volume.
- PTB Charge Adjustment – CAISO has a miscellaneous adjustment they can use to charge or credit a Scheduling Coordinator if there is a dollar adjustment that is needed when changing determinants will not work. The use of this adjustment is seen as extremely rare.

There is a no PTB amount associated with this charge code.

The CAISO Systems Operations Charge and Market Services Charge rate codes can be found on CAISO's website at the following location:

CAISO.com > MARKET & OPERATIONS (tab) > Settlements (picklist selection) > Grid management charge (selection) > Grid management Charge Rates PDF file

**BANC Charge Application**

BANC will aggregate the 5-minute charge to an hourly value and will allocate the total via BANC Hourly Load and Interties Absolute Imbalance Ratio to each participant.

The portion of the charge code estimated to TPUD will be held by BANC and reallocated by BANC Accounting to non-WAPA participants outside of this allocation process.

## 13.1 *CAISO Determinants*

| Determinants | UOM, Interval Length, Precision | Description | CAISO Statement Bill Determinant Name | CAISO Bill Determinant Attributes | CAISO BPM |
|---|---|---|---|---|---|
| EIMAdministrativeCharge$_{BQ'mdhcif}$ | $ 5 Minute 9 Decimal | This formula conforms to the tariff requirement to assess System Operations and Market Services charges up until an EIM Entity notifies CAISO of its intent to terminate participation in EIM at which point the only charge assessed up to the end of the notice period (when EIM Entity SC is terminated in | BANC EESC Bill Determinant Statement: BA_5M_GMC_EIM_TRANSACTION_CHG@AMOUNT | | BPM Configuration Guide: GMC EIM Transaction Charge CC 4564 Version 5.3 |

| | | system) is the EIM Entity SC specific minimum EIM Administrative Charge | | |
|---|---|---|---|---|

## 13.2  *BANC Provided Determinants*

| Determinants | UOM, Interval Length, Precision | Description |
|---|---|---|
| | | |

## 13.3  *BANC Allocation Determinants*

| Determinants | UOM, Interval Length, Precision | Description |
|---|---|---|
| CAISO_5MIN_4564_AMT$_{Bf}$ | $ 5 Minute 2 Decimal | **CAISO 5-Minute 4564 Amount** - The CAISO 5-minute charge amount to BANC rounded to two decimal places. |
| CAISO_HRLY_4564_AMT$_{Bh}$ | $ Hourly 2 Decimal | **CAISO Hourly 4564 Amount** - The CAISO 5-minute rounded charge amount to BANC summed to an aggregated hourly amount. |
| PPT_HRLY_ABS_LD_INTERTIE_IMB_RATIO$_{Ph}$ | Decimal Hourly 5 Decimal | **EIM Participant Hourly Absolute Load and Intertie Imbalance Ratio** – The EIM Participant's hourly decimal ratio of the load and Intertie imbalance allocation share. Rounded to 5 decimals. |
| TPUD_HRLY_ABS_LD_INTERTIE_IMB_RATIO$_{Bh}$ | Decimal Hourly 5 Decimal | **TPUD Hourly Absolute Load and Intertie Imbalance Ratio** – The TPUD hourly decimal ratio of the load and Intertie imbalance allocation share. Rounded to 5 decimals. |
| PPT_HRLY_4564_AMT$_{Ph}$ | $ Hourly 2 Decimal | **EIM Participant Hourly 4564 Amount** - EIM Participant hourly allocation of CAISO charge code 4564 rounded to two decimal places. |
| TPUD_HRLY_4564_AMT$_{Bh}$ | $ Hourly 2 Decimal | **TPUD Hourly 4564 Amount** - BANC TPUD hourly estimate of CAISO charge code 4564 rounded to two decimal places. |
| PPT_DLY_4564_AMT$_{Pd}$ | $ Daily 2 Decimal | **EIM Participant Daily 4564 Amount** - EIM Participant daily allocation of CAISO charge code 4564 rounded to two decimal places. |
| TPUD_DLY_4564_AMT$_{Bd}$ | $ Daily 2 Decimal | **TPUD Daily 4564 Amount** - BANC TPUD daily estimate of CAISO charge code 4564 rounded to two decimal places. |
| BNC_HLY_4564_ALLOC_AMT$_{Bh}$ | $ Hourly 2 Decimal | **BANC Total Hourly 4564 Allocation Amount** – Total EIM Participant hourly allocation of CAISO charge code 4564. |
| BNC_DLY_4564_ALLOC_AMT$_{Bd}$ | $ Daily 2 Decimal | **BANC Total Daily 4564 Allocation Amount** – Total EIM Participant daily allocation of CAISO charge code 4564. |
| CAISO_DLY_4564_AMT$_{Bd}$ | $ Daily 2 Decimal | **CAISO Total Daily 4564 Amount** – The total daily charge from CAISO to BANC for charge code 4564. |
| BNC_HRLY_4564_ALLOC_DIFF_AMT$_{Bh}$ | $ Hourly | **BANC Hourly 4564 Allocated Differential Amount** - The calculated hourly difference |

| | 2 Decimal | between the aggregated hourly CAISO rounded charge code to the hourly BANC allocation to its participants. |
|---|---|---|
| BNC_DLY_4564_ALLOC_DIFF_AMT$_{Bd}$ | $ Daily 2 Decimal | **BANC Hourly 4564 Allocated Differential Amount** - The calculated daily difference between the aggregated daily CAISO rounded charge code to the daily BANC allocation to its participants. |

## Formulas

**13.4** The total daily charge to BANC for charge code 4564.

$$CAISO\_5MIN\_4564\_AMT_{Bf}[1] = EIMAdministrativeCharge_{BQ'mdhcif}$$
[1]Rounded to 2 decimal places.

**13.5** Aggregate the CAISO 5-minute charge to an hourly total.

$$CAISO\_HRLY\_4564\_AMT_{Bh} = \sum\nolimits_{Bh}(CAISO\_5MIN\_4564\_AMT_{Bf})$$

**13.6** Allocate any daily charge BANC received from CAISO in charge code 4564 to EIM Participants by hourly load/Intertie imbalance ratio share precalculation.

$$PPT\_HRLY\_4564\_AMT_{Ph}[1] = CAISO\_HRLY\_4564\_AMT_{Bh} *$$
$$PPT\_HRLY\_ABS\_LD\_INTERTIE\_IMB\_RATIO_{Ph}$$
[1]Rounded to 2 decimal places.

**13.7** Allocate any daily charge BANC received from CAISO in charge code 4564 to TPUD by hourly load/Intertie imbalance ratio share precalculation.

$$TPUD\_HRLY\_4564\_AMT_{Bh}[1] = CAISO\_HRLY\_4564\_AMT_{Bh} *$$
$$TPUD\_HRLY\_ABS\_LD\_INTERTIE\_IMB\_RATIO_{Bh}$$
[1]Rounded to 2 decimal places.

**13.8** Sum the hourly allocated amount to a daily total for each EIM Participant.

$$PPT\_DLY\_4564\_AMT_{Pd} = \sum\nolimits_{Bd}(PPT\_HRLY\_4564\_AMT_{Ph})$$

**13.9** Sum the hourly allocated TPUD amount to a daily total.

$$TPUD\_DLY\_4564\_AMT_{Pd} = \sum\nolimits_{Bd}(TPUD\_HRLY\_4564\_AMT_{Ph})$$

*Allocations Monitoring*

**13.10** The BANC hourly allocation to all EIM Participants is summed to an hourly.

$$BNC\_HRLY\_4564\_ALLOC\_AMT_{Bh} = \sum\nolimits_{Bh}(PPT\_HRLY\_4564\_AMT_{Ph}) + TPUD\_HRLY\_4564\_AMT_{Bh}$$

**13.11** The daily allocation to all EIM Participants is summed to a BANC daily total. This total along with all other charges is subtracted from the daily settlement total and any difference is distributed in the BANC Balancing Charge code.

$$BNC\_DLY\_4564\_ALLOC\_AMT_{Bd} = \sum\nolimits_{Bd}(PPT\_DLY\_4564\_AMT_{Pd}) + TPUD\_DLY\_4564\_AMT_{Pd}$$

**13.12** The total CAISO daily charge to BANC.

$$\text{CAISO\_DLY\_4564\_AMT}_{Bd} = \sum\nolimits_{Bd} (\text{CAISO\_HRLY\_4564\_AMT}_{Bh})$$

**13.13** The total hourly difference between the aggregated CAISO 5-minute charge to BANC and the total hourly allocated amount to EIM Participants is calculated and monitored.

$$\text{BNC\_HRLY\_4564\_ALLOC\_DIFF\_AMT}_{Bh} = \text{CAISO\_HRLY\_4564\_AMT}_{Bh} - \text{BNC\_HRLY\_4564\_ALLOC\_AMT}_{Bh}$$

**13.14** The total daily difference between the CAISO total daily charge to BANC and the total daily allocated amount to EIM Participants is calculated and monitored.

$$\text{BNC\_DLY\_4564\_ALLOC\_DIFF\_AMT}_{Bd} = \text{CAISO\_DLY\_4564\_AMT}_{Bd} - \text{BNC\_DLY\_4564\_ALLOC\_AMT}_{Bm}$$

# 14. BANC Charge Code 4575 Scheduling Coordinator Identification Charge

**CAISO Application**

Monthly CAISO assesses each Scheduling Coordinator a fixed monthly service fee that covers Settlements, Metering and Client Relations functions in the ISO. This CAISO fee assessed to BANC on the last day of the month and will be allocated to EIM Participants on the same day via the EIM Participant Fixed Cost Allocation Precalculation.

There is a potential PTB amount with this charge code.

**BANC Application**

When this charge appears, BANC will allocate the monthly charge using the EIM Participant Fixed Cost Allocation Ratio Precalculation.

If a PTB appears in this charge code, it will be allocated in BANC Charge Code 101 PTB Charge.

The portion of the charge code estimated to TPUD will be held by BANC and reallocated by BANC Accounting to non-WAPA participants outside of this allocation process.

## 14.1 *CAISO Determinants*

| Determinants | UOM, Interval Length, Precision | Description | CAISO Statement Bill Determinant Name | CAISO Bill Determinant Attributes | CAISO BPM |
|---|---|---|---|---|---|
| GMCSettlementsMeteringandClientRelationsSettlementAmount$_{Bm}$ | $ Monthly 9 Decimal | CAISO Charge Code 4575 monthly charge to BANC on the last day of the month. | BANC EESC Bill Determinant Statement: BA_MTH_GMC_STLMTS_MTR_CLIENT_RELATIONS@SUB_SUBTOT_PREVIOUS_AMOUNT | | BPM Configuration Guide: GMC – Scheduling Coordinator Identification (ID) Charge CC 4575 Version 5.0 |
| PTBChargeAdjustmentGMCSettlementsMeteringandClientRelationsSettlementAmount$_{BJm}$ | PTB adjustment variable for this Charge Code, amount per SC. ($) | PTB adjustment variable for this Charge Code, amount per SC. ($) | BANC EESC Bill Determinant Statement: PTB_BA_MTH_GMC_STLMTS_MTR_CLIENT_RELATIONS@PTB_SUBTOT_PREVIOUS_AMOUNT | | BPM Configuration Guide: GMC – Scheduling Coordinator Identification (ID) Charge CC 4575 Version 5.0 |

## 14.2 *BANC Provided Determinants*

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| | | |

## 14.3  *BANC Allocation Determinants*

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| CAISO_MNLY_4575_PTB_AMT$_{Bm}$ | $ Monthly 2 Decimal | **CAISO Monthly 4575 PTB Amount** - The CAISO CC4575 PTB amount to BANC. |
| CAISO_MNLY_4575_AMT$_{Bm}$ | $ Monthly 2 Decimal | **CAISO Monthly 4575 Amount** - The CAISO CC4575 charge amount to BANC for the month. |
| PPT_PRELIM_COST_ALLOC_RATIO$_{Pd}$ | Decimal Daily 5 Decimals | **EIM Participant Preliminary Cost Allocation Ratio** - The EIM Participant daily cost allocation ratio per participant. This percentage is expected to be defined annually by the BANC Commission and it will be in effect by Trade Date until it is updated. All allocations including resettlements will use the allocation in effect for that Trade date. |
| PPT_FIXED_COST_ALLOC_RATIO$_{Pd}$ | Decimal Daily 5 Decimals | **EIM Participant Fixed Cost Allocation Ratio** - The fixed cost allocation ratio for all EIM Participants by Trade Date. |
| PPT_MNLY_4575_AMT$_{Pm}$ | $ Monthly 2 Decimal | **EIM Participant Monthly 4575 Amount** - EIM Participant monthly allocation of CAISO charge code 4575 rounded to two decimal places. |
| TPUD_FIXED_COST_ALLOC_RATIO$_{Bd}$ | Decimal Daily 5 Decimals | **TPUD Fixed Cost Allocation Ratio** - The fixed cost allocation ratio for TPUD by Trade Date. |
| TPUD_MNLY_4575_AMT$_{Bm}$ | $ Monthly 2 Decimal | **TPUD Monthly 4575 Amount** - TPUD monthly allocation of CAISO charge code 4575 to TPUD rounded to two decimal places. |
| BNC_MNLY_4575_ALLOC_AMT$_{Bm}$ | $ Monthly 2 Decimal | **BANC Total Monthly 4575 Allocation Amount** – Total EIM Participant monthly allocation of CAISO charge code 4575. |
| BNC_MNLY_4575_ALLOC_DIFF_AMT$_{Bm}$ | $ Monthly 2 Decimal | **BANC Monthly 4575 Allocated Differential Amount** - The calculated monthly difference between the CAISO rounded charge code to the total BANC allocation to its EIM Participants. |

**Formulas**

**14.4**   The CAISO PTB determinant for this charge code will be processed in the BANC Charge Code 101, BANC PTB Allocation. Although unlikely, this guide will assume more than one can be given in a month.

CAISO_MNLY_4575_PTB_AMT$_{Bm}$[1] =
$\sum_{Bm}$(PTBChargeAdjustmentGMCSettlementsMeteringandClientRelationsSettlementAmount$_{BJm}$)
[1]Rounded to 2 decimal places.

**14.5**   The total daily charge to BANC for charge code 4575.

CAISO_MNLY_4575_AMT$_{Bm}$[1] = GMCSettlementsMeteringandClientRelationsSettlementAmount$_{Bm}$
[1]Rounded to 2 decimal places.

**14.6**    Allocate any daily credit BANC received from CAISO in charge code 4575 to EIM Participants by daily load ratio share Precalculation.

$$PPT\_MNLY\_4575\_AMT_{Pm}{}^{1} = CAISO\_MNLY\_4575\_AMT_{Bm} * PPT\_FIXED\_COST\_ALLOC\_RATIO_{Pd}$$
[1]Rounded to 2 decimal places.

**14.7**    Allocate any daily credit BANC received from CAISO in charge code 4575 to TPUD by daily load ratio share Precalculation.

$$TPUD\_MNLY\_4575\_AMT_{Bm}{}^{1} = CAISO\_MNLY\_4575\_AMT_{Bm} *$$
$$TPUD\_FIXED\_COST\_ALLOC\_RATIO_{Bd}$$
[1]Rounded to 2 decimal places.

*Allocations Monitoring*

**14.8**    The total daily allocation to EIM Participants is summed to a daily total.

$$BNC\_MNLY\_4575\_ALLOC\_AMT_{Bm} = \sum_{Bm}(PPT\_MNLY\_4575\_AMT_{Pm}) +$$
$$TPUD\_MNLY\_4575\_AMT_{Bm}$$

**14.9**    The total daily difference between the charge BANC received and the allocated amount to EIM Participants is calculated and monitored.

$$BNC\_MNLY\_4575\_ALLOC\_DIFF\_AMT_{Bm} = CAISO\_MNLY\_4575\_AMT_{Bm} -$$
$$BNC\_MNLY\_4575\_ALLOC\_AMT_{Bm}$$

# 15. BANC Charge Code 5024 Invoice Late Payment Penalty

## CAISO Application

The Invoice Late Payment Penalty will be assessed to Market Participants who are late in paying their invoices. This penalty applies to invoices that are governed by the ISO Tariff, except NERC/WECC invoice and invoices issued to bankrupt and inactive entities. This also excludes RMR invoices which are managed under unique contracts. This penalty is calculated as the greater of 2% of the invoiced amount or $1,000; not to exceed $20,000 per occurrence beginning with the third and subsequent occurrences in a rolling 12 month period.

There is a PTB amount in this charge code, but it represents the amount to be billed and is not a separate charge component.

## EIM Entity/BANC Application

When this charge appears, the EIM Entity will allocate the daily charge using the EIM Participant Cost Allocation Ratio Precalculation.

The portion of the charge code estimated to TPUD will be held by BANC and reallocated by BANC Accounting to non-WAPA participants outside of this allocation process.

## 15.1  *CAISO Determinants*

| Determinants | UOM, Interval Length, Precision | Description | CAISO Statement Bill Determinant Name | CAISO Bill Determinant Attributes | CAISO BPM |
|---|---|---|---|---|---|
| BAInvoiceLatePaymentPenalty SettlementAmount$_{BV'U'Ud}$ | $ Daily 9 Decimal | CAISO Charge Code 5024 is a charge BANC could receive upon late paying CAISO invoices. | BANC EESC Bill Determinant Statement: BA_DAY_INV_LATE_PMT_PENALTY_STLMT@AMOUNT | | BPM Configuration Guide: Invoice Late Payment Penalty CC 5024 Version 5.0 |

## 15.2  *BANC Provided Determinants*

| Determinants | UOM, Interval Length, Precision | Description |
|---|---|---|
| | | |

## 15.3  *BANC Allocation Determinants*

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| PPT_COST_ALLOC_RATIO$_{Pd}$ | Decimal Daily 5 Decimals | **EIM Participant Cost Allocation Ratio** - The EIM Participant daily cost allocation ratio per participant. This percentage is expected to be defined annually by the Commission and it will be in effect by Trade Date until it is updated. All allocations including resettlements will use the |

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| | | allocation in effect for that Trade date. Refer to the EIM Participant Cost Allocation Precalculation. |
| CAISO_DLY_5024_AMT$_{Bd}$ | $ Daily 2 Decimal | **CAISO Daily 5024 Amount** - The CAISO CC5024 charge amount to BANC. |
| PPT_DLY_5024_AMT$_{Pd}$ | $ Daily 2 Decimal | **EIM Particpant Daily 5024 Amount** - EIM Participant daily allocation of CAISO charge code 5024 rounded to two decimal places. |
| TPUD_COST_ALLOC_RATIO$_{Bd}$ | Decimal Daily 5 Decimals | **Trinity PUD Cost Allocation Ratio** – The ratio of WAPA's cost allocation that is attributable to TPUD load for the day. This determinant is associated with BANC. |
| TPUD_DLY_5024_AMT$_{Dd}$ | $ Daily 2 Decimal | **PUD Daily 5024 Amount** - TPUD daily estimate of CAISO charge code 5024 rounded to two decimal places. |
| BNC_DLY_5024_ALLOC_AMT$_{Bd}$ | $ Daily 2 Decimal | **BANC Total Daily 5024 Allocation Amount** – Total EIM Participant daily allocation of CAISO charge code 5024. |
| BNC_DLY_5024_ALLOC_DIFF_AMT$_{Bd}$ | $ Daily 2 Decimal | **BANC Daily 5024 Allocated Differential Amount** - The calculated difference between the CAISO rounded charge code to the total BANC allocation to its participants. |

## Formulas

**15.4** A daily possible charge to BANC for charge code 5024 when applicable.

$\text{CAISO\_DLY\_5024\_AMT}_{Bd}{}^{1} = \text{BAInvoiceLatePaymentPenaltySettlementAmount}_{BV'U'Ud}$
[1] Rounded to 2 decimal places.

**15.5** Allocate any charge BANC received from CAISO in charge code 5024 to EIM Participants by each participant's specific Cost Allocation Ratio in the EIM Participants Cost Allocation Ratio Precalculation.

$\text{PPT\_DLY\_5024\_AMT}_{Pd}{}^{1} = \text{CAISO\_DLY\_5024\_AMT}_{Bd} * \text{PPT\_COST\_ALLOC\_RATIO}_{Pd}$
[1] Rounded to 2 decimal places.

**15.6** The daily cost allocation estimated to TPUD.

$\text{TPUD\_DLY\_5024\_AMT}_{Bd}{}^{1} = \text{CAISO\_DLY\_5024\_AMT}_{Bd} * \text{TPUD\_COST\_ALLOC\_RATIO}_{Bd}$
[1] Rounded to 2 decimal places.

### *Allocations Monitoring*

**15.7** The allocation is summed to a daily total.

$\text{BNC\_DLY\_5024\_ALLOC\_AMT}_{Bd} = \sum_{Bd} (\text{PPT\_DLY\_5024\_AMT}_{Pd}) + \text{TPUD\_DLY\_5024\_AMT}_{Bd}$

**15.8** The total daily difference between the charge BANC received and the allocated amount to EIM Participants is calculated and monitored.

$\text{BNC\_DLY\_5024\_ALLOC\_DIFF\_AMT}_{Bd} = \text{CAISO\_DLY\_5024\_AMT}_{Bd} - \text{BNC\_DLY\_5024\_ALLOC\_AMT}_{Bd}$

# 16. BANC Charge Code 5025 Collateral Late Payment Penalty

## CAISO Application

This penalty will be assessed to Scheduling Coordinators who fail to post collateral within the prescribed timeframe when requested by CAISO. This penalty is calculated as the greater of 2% of the additional financial security amount or $1,000; not to exceed $20,000 per occurrence beginning with the third and subsequent occurrences in a rolling 12 month period.

There is a PTB amount in this charge code, but it represents the amount to be billed and is not a separate charge component.

## BANC Application

When this charge appears, the EIM Entity will allocate the daily charge using the EIM Participant Cost Allocation Ratio Precalculation.

The portion of the charge code estimated to TPUD will be held by BANC and reallocated by BANC Accounting to non-WAPA participants outside of this allocation process.

### 16.1 *CAISO Determinants*

| Determinants | UOM, Interval Length, Precision | Description | CAISO Statement Bill Determinant Name | CAISO Bill Determinant Attributes | CAISO BPM |
|---|---|---|---|---|---|
| BACollateralLatePaymentPenaltySettlementAmount$_{Bv'd}$ | $ Daily 9 Decimal | CAISO Charge Code 5025 is a charge BANC could receive upon late posting collateral to CAISO. | BANC EESC Bill Determinant Statement: BA_DAY_COLL_LATE_PMT_PENALTY_STLMT@AMOUNT | | BPM Configuration Guide: Collateral Late Payment Penalty CC 5025 Version 5.0 |

### 16.2 *BANC Provided Determinants*

| Determinants | UOM, Interval Length, Precision | Description |
|---|---|---|
| | | |

### 16.3 *BANC Allocation Determinants*

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| PPT_COST_ALLOC_RATIO$_{Pd}$ | Decimal Daily 5 Decimals | **EIM Participant Cost Allocation Ratio** - The EIM Participant daily cost allocation ratio per participant. This percentage is expected to be defined annually by the Commission and it will be in effect by Trade Date until it is updated. All allocations including resettlements will use the allocation in effect for that Trade date. Refer to the EIM Participants Cost Allocation Precalculation. |

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| CAISO_DLY_5025_AMT$_{Bd}$ | $ <br> Daily <br> 2 Decimal | **CAISO Daily 5025 Amount** - The CAISO CC5025 charge amount to BANC. |
| PPT_DLY_5025_AMT$_{Pd}$ | $ <br> Daily <br> 2 Decimal | **EIM Participant Daily 5025 Amount** - EIM Participant daily allocation of CAISO charge code 5054 rounded to two decimal places. |
| TPUD_COST_ALLOC_RATIO$_{Bd}$ | Decimal <br> Daily <br> 5 Decimals | **Trinity PUD Cost Allocation Ratio** – The ratio of WAPA's cost allocation that is attributable to TPUD load for the day. This determinant is associated with BANC. |
| TPUD_DLY_5025_AMT$_{Bd}$ | $ <br> Daily <br> 2 Decimal | **TPUD Daily 5025 Amount** - TPUD daily estimate of CAISO charge code 5054 rounded to two decimal places. |
| BNC_DLY_5025_ALLOC_AMT$_{Bd}$ | $ <br> Daily <br> 2 Decimal | **BANC Total Daily 5025 Allocation Amount** – Total EIM Participant daily allocation of CAISO charge code 5025. |
| BNC_DLY_5025_ALLOC_DIFF_AMT$_{Bd}$ | $ <br> Daily <br> 2 Decimal | **BANC Daily 5025 Allocated Differential Amount** - The calculated difference between the CAISO rounded charge code to the total BANC allocation to its participants. |

## Formulas

**16.4** A daily possible charge to BANC for charge code 5025 when applicable.

$CAISO\_DLY\_5025\_AMT_{Bd}{}^{1} = BACollateralLatePaymentPenaltySettlementAmount_{Bv'd}$
[1]Rounded to 2 decimal places.

**16.5** Allocate any charge BANC received from CAISO in charge code 5025 to EIM Participants by each participant's specific Cost Allocation Ratio in the EIM Participants Cost Allocation Ratio Precalculation.

$PPT\_DLY\_5025\_AMT_{Pd}{}^{1} = CAISO\_DLY\_5025\_AMT_{Bd} * PPT\_COST\_ALLOC\_RATIO_{Pd}$
[1]Rounded to 2 decimal places.

**16.6** The daily cost allocation estimated to TPUD.

$TPUD\_DLY\_5025\_AMT_{Bd}{}^{1} = CAISO\_DLY\_5025\_AMT_{Bd} * TPUD\_COST\_ALLOC\_RATIO_{Bd}$
[1]Rounded to 2 decimal places.

### *Allocations Monitoring*

**16.7** The allocation is summed to a daily total.

$BNC\_DLY\_5025\_ALLOC\_AMT_{Bd} = \sum_{Bd} (PPT\_DLY\_5025\_AMT_{Pd}) + TPUD\_DLY\_5025\_AMT_{Bd}$

**16.8** The total daily difference between the charge BANC received and the allocated amount to EIM Participants is calculated and monitored.

$BNC\_DLY\_5025\_ALLOC\_DIFF\_AMT_{Bd} = CAISO\_DLY\_5025\_AMT_{Bd} - BNC\_DLY\_5025\_ALLOC\_AMT_{Bd}$

# 17. BANC Charge Code 5900 Shortfall Receipt Distribution

## CAISO Application

When a CAISO debtor has made a shortfall payment, CAISO will calculate which Scheduling Coordinators will get credited from prior shortfalls any funds due in this charge code.

This charge code is extremely rare because CAISO requires credit and assurances to be posted by Scheduling Coordinators to insulate participants from any shortfall.

Although the CAISO BPM listed PTB determinants, these are only used in the calculation of the charge type. There are not PTB determinants that are in addition to the calculated charge amount.

## BANC Application

When this charge appears, BANC will allocate the daily charge using the EIM Participant Cost Allocation Ratio Precalculation.

The portion of the charge code estimated to TPUD will be held by BANC and reallocated by BANC Accounting to non-WAPA participants outside of this allocation process.

### 17.1 *CAISO Determinants*

| Determinants | UOM, Interval Length, Precision | Description | CAISO Statement Bill Determinant Name | CAISO Bill Determinant Attributes | CAISO BPM |
|---|---|---|---|---|---|
| BusinessAssociateShortfallReceiptDistributionSettlementAmount$_{BP'L}$ | $ Daily 9 Decimal | CAISO Charge Code 5900 is a credit BANC could receive if BANC had been short paid during a prior invoice and the debtor has paid all or some of those funds. The distribution is by Bill Period (P') start and end along with the Invoice Run Number (L). | BANC EESC Bill Determinant Statement: BA_MTH_SHORTFALL_RCPT_DIST@ AMOUNT | | BPM Configuration Guide: Shortfall Receipt Distribution CC 5900 Version 5.0 |

### 17.2 *BANC Provided Determinants*

| Determinants | UOM, Interval Length, Precision | Description |
|---|---|---|
| | | |

### 17.3 *BANC Allocation Determinants*

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| PPT_COST_ALLOC_RATIO$_{Pd}$ | Decimal Daily 5 Decimals | **EIM Participant Cost Allocation Ratio** - The EIM Participant daily cost allocation ratio per participant. This percentage is expected to be defined annually by the Commission and it will be in effect by Trade Date until it is updated. All |

| Determinants | UOM & Interval Length | Description |
|---|---|---|
|  |  | allocations including resettlements will use the allocation in effect for that Trade date. Refer to the EIM Participants Cost Allocation Precalculation. |
| CAISO_DLY_5900_AMT$_{Bd}$ | $ Daily 2 Decimal | **CAISO Daily 5900 Amount** - The CAISO CC5900 charge amount to BANC. |
| PPT_DLY_5900_AMT$_{Pd}$ | $ Daily 2 Decimal | **EIM Participant Daily 5900 Amount** - EIM Participant allocation of CAISO charge code 5900 rounded to two decimal places. |
| TPUD_COST_ALLOC_RATIO$_{Bd}$ | Decimal Daily 5 Decimals | **Trinity PUD Cost Allocation Ratio** – The ratio of WAPA's cost allocation that is attributable to TPUD load for the day. This determinant is associated with BANC. |
| TPUD_DLY_5900_AMT$_{Bd}$ | $ Daily 2 Decimal | **TPUD Daily 5900 Amount** - TPUD estimate of CAISO charge code 5900 rounded to two decimal places. |
| BNC_DLY_5900_ALLOC_AMT$_{Bd}$ | $ Daily 2 Decimal | **BANC Total Daily 5900 Allocation Amount** – Total EIM Participant daily allocation of CAISO charge code 5900. |
| BNC_DLY_5900_ALLOC_DIFF_AMT$_{Bd}$ | $ Daily 2 Decimal | **BANC Daily 5900 Allocated Differential Amount** - The calculated difference between the CAISO rounded charge code to the total BANC allocation to its participants. |

## Formulas

**17.4**   A daily possible credit to BANC for charge code 5900 when applicable.

$CAISO\_DLY\_5900\_AMT_{Bd}{}^{1} = BusinessAssociateShortfallReceiptDistributionSettlementAmount_{BP'L}$
[1]Rounded to 2 decimal places.

**17.5**   Allocate any credit BANC received from CAISO in charge code 5900 to EIM Participants by each participant's specific Cost Allocation Ratio in the EIM Participants Cost Allocation Ratio Precalculation.

$PPT\_DLY\_5900\_AMT_{Pd}{}^{1} = CAISO\_DLY\_5900\_AMT_{Bd} * PPT\_COST\_ALLOC\_RATIO_{Pd}$
[1]Rounded to 2 decimal places.

**17.6**   The daily cost allocation estimated to TPUD.

$TPUD\_DLY\_5900\_AMT_{Bd}{}^{1} = CAISO\_DLY\_5900\_AMT_{Bd} * TPUD\_COST\_ALLOC\_RATIO_{Bd}$
[1]Rounded to 2 decimal places.

### *Allocations Monitoring*

**17.7**   The allocation is summed to a daily total.

$BNC\_DLY\_5900\_ALLOC\_AMT_{Bd} = \sum_{Bd} (PPT\_DLY\_5900\_AMT_{Pd}) + TPUD\_DLY\_5900\_AMT_{Bd}$

**17.8**   The total daily difference between the credit BANC received and the allocated amount to EIM Participants is calculated and monitored.

$BNC\_DLY\_5900\_ALLOC\_DIFF\_AMT_{Bd} = CAISO\_DLY\_5900\_AMT_{Bd} - BNC\_DLY\_5900\_ALLOC\_AMT_{Bd}$

# 18.  BANC Charge Code 5901 Shortfall Allocation Reversal

## CAISO Application

Charge Code 5901 Shortfall Allocation Reversal reverses out each payment default amount that is allocated to ISO creditors through Charge Code 5910 Shortfall Allocation and remains unpaid by the defaulting Scheduling Coordinator. The subsequent allocation of these amounts will then occur in Charge Code 5912 Default Loss Allocation. This process is only used if a market participant is bankrupt or will default on the invoice on a long term basis.

Although the CAISO BPM lists a PTB determinant, this is only used in the calculation of the charge type. There are not a PTB determinant that are in addition to the calculated charge amount.

## BANC Application

When this charge appears, BANC will allocate the daily charge using the EIM Participant Cost Allocation Ratio Precalculation.

The portion of the charge code estimated to TPUD will be held by BANC and reallocated by BANC Accounting to non-WAPA participants outside of this allocation process.

## 18.1  *CAISO Determinants*

| Determinants | UOM, Interval Length, Precision | Description | CAISO Statement Bill Determinant Name | CAISO Bill Determinant Attributes | CAISO BPM |
|---|---|---|---|---|---|
| BusinessAssociateShortfallAllocationReversalAmount$_{BUU'L}$ | $ Daily 9 Decimal | CAISO Charge Code 5901 is a credit BANC may receive that reverses out any shortfall allocation they were previously assessed by CAISO. This is only performed when there is permanent default by a Scheduling Coordinator and the shortfall will never be recovered. When this credit happens then CAISO will reassess the shortfall in CC5901 through a different allocation method. | BANC EESC Bill Determinant Statement: BA_SHORTFALL_ ALLOC_REV@AM OUNT | | BPM Configuration Guide: Shortfall Allocation Reversal CC 5901 Version 5.0 |

## 18.2  *BANC Provided Determinants*

| Determinants | UOM, Interval Length, Precision | Description |
|---|---|---|
| | | |

## 18.3 *BANC Allocation Determinants*

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| PPT_COST_ALLOC_RATIO$_{Pd}$ | Decimal<br>Daily<br>5 Decimals | **EIM Participant Cost Allocation Ratio** - The EIM Participant daily cost allocation ratio per participant. This percentage is expected to be defined annually by the Commission and it will be in effect by Trade Date until it is updated. All allocations including resettlements will use the allocation in effect for that Trade date. Refer to the EIM Participants Cost Allocation Precalculation. |
| CAISO_DLY_5901_AMT$_{Bd}$ | $<br>Daily<br>2 Decimal | **CAISO Daily 5901 Amount** - The CAISO CC5901 credit amount to BANC. |
| PPT_DLY_5901_AMT$_{Pd}$ | $<br>Daily<br>2 Decimal | **EIM Participant Daily 5901 Amount** - EIM Participant allocation of CAISO charge code 5901 rounded to two decimal places. |
| TPUD_COST_ALLOC_RATIO$_{Bd}$ | Decimal<br>Daily<br>5 Decimals | **Trinity PUD Cost Allocation Ratio** – The ratio of WAPA's cost allocation that is attributable to TPUD load for the day. This determinant is associated with BANC. |
| TPUD_DLY_5901_AMT$_{Bd}$ | $<br>Daily<br>2 Decimal | **TPUD Daily 5901 Amount** - TPUD estimate of CAISO charge code 5901 rounded to two decimal places. |
| BNC_DLY_5901_ALLOC_AMT$_{Bd}$ | $<br>Daily<br>2 Decimal | **BANC Total Daily 5901 Allocation Amount** – Total EIM Participant daily allocation of CAISO charge code 5901. |
| BNC_DLY_5901_ALLOC_DIFF_AMT$_{Bd}$ | $<br>Daily<br>2 Decimal | **BANC Daily 5901 Allocated Differential Amount** - The calculated difference between the CAISO rounded charge code to the total BANC allocation to its participants. |

## Formulas

**18.4** A daily possible credit to BANC for charge code 5901 when applicable.

$\text{CAISO\_DLY\_5901\_AMT}_{Bd}{}^{1} = \text{BusinessAssociateShortfallAllocationReversalAmount}_{BUU'L}$
[1]Rounded to 2 decimal places.

**18.5** Allocate any credit BANC received from CAISO in charge code 5901 to EIM Participants by each participant's specific Cost Allocation Ratio in the EIM Participants Cost Allocation Ratio Precalculation.

$\text{PPT\_DLY\_5901\_AMT}_{Pd}{}^{1} = \text{CAISO\_DLY\_5901\_AMT}_{Bd} * \text{PPT\_COST\_ALLOC\_RATIO}_{Pd}$
[1]Rounded to 2 decimal places.

**18.6** The daily cost allocation estimated to TPUD.

$\text{TPUD\_DLY\_5901\_AMT}_{Bd}{}^{1} = \text{CAISO\_DLY\_5901\_AMT}_{Bd} * \text{TPUD\_COST\_ALLOC\_RATIO}_{Bd}$
[1]Rounded to 2 decimal places.

**18.7**   The allocation is summed to a daily total.

$$BNC\_DLY\_5901\_ALLOC\_AMT_{Bd} = \textstyle\sum_{Bd}(PPT\_DLY\_5901\_AMT_{Pd}) + TPUD\_DLY\_5901\_AMT_{Bd}$$

**18.8**   The total daily difference between the credit BANC received and the allocated amount to EIM Participants is calculated and monitored.

$$BNC\_DLY\_5901\_ALLOC\_DIFF\_AMT_{Bd} = CAISO\_DLY\_5901\_AMT_{Bd} - BNC\_DLY\_5901\_ALLOC\_AMT_{Bd}$$

# 19.    BANC Charge Code 5910 Shortfall Allocation

## CAISO Application

This charge occurs from CAISO when a defaulting Scheduling Coordinator does not remit their full payment and there is insufficient funds in CAISO's clearing account to cover the shortfall.  When a shortfall occurs, CAISO calculates the distribution shortfall for each Scheduling Coordinator and assess charges to cover the lack of funds. If the payments are remitted, the credit to Scheduling Coordinators occurs in Charge Code 5900.

Although the CAISO BPM listed PTB determinants, these are only used in the calculation of the charge type. There are not PTB determinants that are in addition to the calculated charge amount.

## BANC Application

When this charge appears, BANC will allocate the daily charge using the EIM Participant Cost Allocation Ratio Precalculation.

The portion of the charge code estimated to TPUD will be held by BANC and reallocated by BANC Accounting to non-WAPA participants outside of this allocation process.

## 19.1   *CAISO Determinants*

| Determinants | UOM, Interval Length, Precision | Description | CAISO Statement Bill Determinant Name | CAISO Bill Determinant Attributes | CAISO BPM |
|---|---|---|---|---|---|
| BusinessAssociateShortfallAllocationSettlementAmount$_{BUU'L}$ | $ Daily 9 Decimal | CAISO Charge Code 5910 is a charge BANC may receive whenever a Scheduling Coordinator short pays a CAISO invoice and there is insufficient funds in CAISO's clearing account for CAISO to remit all owed payments. When a shortfall occurs, CAISO will calculate each Scheduling Coordinator's share and will charge each sufficient to cover the shortfall. | BANC EESC Bill Determinant Statement: BA_MTH_SHORTFALL_ALLOC@AMOUNT | | BPM Configuration Guide: Shortfall Allocation Reversal CC5910 Version 5.3 |

## 19.2   *BANC Provided Determinants*

| Determinants | UOM, Interval Length, Precision | Description |
|---|---|---|
| | | |

## 19.3   *BANC Allocation Determinants*

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| CAISO_DLY_5910_AMT$_{Bd}$ | $ Daily | CAISO Daily 5910 Amount - The CAISO CC5910 credit amount to BANC. |

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| | 2 Decimal | |
| PPT_COST_ALLOC_RATIO$_{Pd}$ | Decimal Daily 5 Decimals | **EIM Participant Cost Allocation Ratio** - The EIM Participant daily cost allocation ratio per participant. This percentage is expected to be defined annually by the Commission and it will be in effect by Trade Date until it is updated. All allocations including resettlements will use the allocation in effect for that Trade date. Refer to the EIM Participants Cost Allocation Precalculation. |
| PPT_DLY_5910_AMT$_{Pd}$ | $ Daily 2 Decimal | **EIM Participant Daily 5910 Amount** - EIM Participant allocation of CAISO charge code 5910 rounded to two decimal places. |
| TPUD_COST_ALLOC_RATIO$_{Bd}$ | Decimal Daily 5 Decimals | **Trinity PUD Cost Allocation Ratio** – The ratio of WAPA's cost allocation that is attributable to TPUD load for the day. This determinant is associated with BANC. |
| TPUD_DLY_5910_AMT$_{Bd}$ | $ Daily 2 Decimal | **BANC TPUD Daily 5910 Amount** – The amount of the overall CAISO charge that is estimated to TPUD that will be help by BANC until it is reallocated to non-WAPA participants by BANC outside of this allocation process. Th result is rounded to two decimal places. |
| BNC_DLY_5910_ALLOC_AMT$_{Bd}$ | $ Daily 2 Decimal | **BANC Total Daily 5910 Allocation Amount** – Total EIM Participant daily allocation of CAISO charge code 5910. |
| BNC_DLY_5910_ALLOC_DIFF_AMT$_{Bd}$ | $ Daily 2 Decimal | **BANC Daily 5910 Allocated Differential Amount** - The calculated difference between the CAISO rounded charge code to the total BANC allocation to its participants. |

## Formulas

**19.4** A daily possible charge to BANC for charge code 5910 when applicable.

$$\text{CAISO\_DLY\_5910\_AMT}_{Bd}{}^{1} = \text{BusinessAssociateShortfallAllocationSettlementAmount}_{BUU'L}$$
[1]Rounded to 2 decimal places.

**19.5** Allocate any charge BANC received from CAISO in charge code 5910 to EIM Participants by each participant's specific Cost Allocation Ratio in the EIM Participants Cost Allocation Ratio Precalculation.

$$\text{PPT\_DLY\_5910\_AMT}_{Pd}{}^{1} = \text{CAISO\_DLY\_5910\_AMT}_{Bd} * \text{PPT\_COST\_ALLOC\_RATIO}_{Pd}$$
[1]Rounded to 2 decimal places.

**19.6** The daily cost allocation estimated to TPUD.

$$\text{TPUD\_DLY\_5910\_AMT}_{Bd}{}^{1} = \text{CAISO\_DLY\_5910\_AMT}_{Bd} * \text{TPUD\_COST\_ALLOC\_RATIO}_{Bd}$$
[1]Rounded to 2 decimal places.

## *Allocations Monitoring*

**19.7**  The allocation is summed to a daily total.

$$BNC\_DLY\_5910\_ALLOC\_AMT_{Bd} = \sum\nolimits_{Bd} (PPT\_DLY\_5910\_AMT_{Pd}) + TPUD\_DLY\_5910\_AMT_{Bd}$$

**19.8**  The total daily difference between the credit BANC received and the allocated amount to EIM Participants is calculated and monitored.

$$BNC\_DLY\_5910\_ALLOC\_DIFF\_AMT_{Bd} = CAISO\_DLY\_5910\_AMT_{Bd} - BNC\_DLY\_5910\_ALLOC\_AMT_{Bd}$$

# 20. BANC Charge Code 5912 Default Allocation

**CAISO Application**

This charge occurs from CAISO when a defaulting Scheduling Coordinator does not remit their full payment and there is insufficient funds in CAISO's clearing account to cover the shortfall. When a shortfall occurs, CAISO calculates the distribution shortfall for each Scheduling Coordinator and assess charges to cover the lack of funds. If the payments are remitted, the credit to Scheduling Coordinators occurs in Charge Code 5900.

Although the CAISO BPM listed PTB determinants, these are only used in the calculation of the charge type. There are not PTB determinants that are in addition to the calculated charge amount.

**BANC Application**

When this charge appears, BANC will allocate the daily charge using the EIM Participant Cost Allocation Ratio Precalculation.

The portion of the charge code estimated to TPUD will be held by BANC and reallocated by BANC Accounting to non-WAPA participants outside of this allocation process.

## 20.1 *CAISO Determinants*

| Determinants | UOM, Interval Length, Precision | Description | CAISO Statement Bill Determinant Name | CAISO Bill Determinant Attributes | CAISO BPM |
|---|---|---|---|---|---|
| DefaultLossBusinessAssociateActualDefaultLossPercentage$_{UU'B'L}$ | $ Daily 9 Decimal | CAISO Charge Code 5912 is a charge BANC may receive whenever a CAISO deems a defaulting Scheduling Coordinator will not pay. When CAISO determines this situation has occurred, they revers the short pay in CC5901 and reallocate it in this charge code. | BANC EESC Bill Determinant Statement: DEFAULT_SC _SHORTFALL _ALLOC | | BPM Configuration Guide: Shortfall Allocation Reversal CC5912 Version 5.0 |

## 20.2 *BANC Provided Determinants*

| Determinants | UOM, Interval Length, Precision | Description |
|---|---|---|
| | | |

## 20.3 *BANC Allocation Determinants*

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| CAISO_DLY_5912_AMT$_{Bd}$ | $ Daily 2 Decimal | **CAISO Daily 5912 Amount** - The CAISO CC5912 charge amount to BANC. |
| PPT_COST_ALLOC_RATIO$_{Pd}$ | Decimal Daily | **EIM Participant Cost Allocation Ratio** - The EIM Participant daily cost allocation ratio per |

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| | 5 Decimals | participant. This percentage is expected to be defined annually by the Commission and it will be in effect by Trade Date until it is updated. All allocations including resettlements will use the allocation in effect for that Trade date. Refer to the EIM Participants Cost Allocation Precalculation. |
| $PPT\_DLY\_5912\_AMT_{Pd}$ | $ Daily 2 Decimal | **EIM Participant 5912 Amount** - EIM Participant allocation of CAISO charge code 5912 rounded to two decimal places. |
| $TPUD\_COST\_ALLOC\_RATIO_{Bd}$ | Decimal Daily 5 Decimals | **Trinity PUD Cost Allocation Ratio** – The ratio of WAPA's cost allocation that is attributable to TPUD load for the day. This determinant is associated with BANC. |
| $TPUD\_DLY\_5912\_AMT_{Bd}$ | $ Monthly 2 Decimal | **BANC TPUD Daily 5912 Amount** – The amount of the overall CAISO charge that is estimated to TPUD that will be help by BANC until it is reallocated to non-WAPA participants by BANC outside of this allocation process. Th result is rounded to two decimal places. |
| $BNC\_DLY\_5912\_ALLOC\_AMT_{Bd}$ | $ Daily 2 Decimal | **BANC Total Daily 5912 Allocation Amount** – Total EIM Participant daily allocation of CAISO charge code 5912. |
| $BNC\_DLY\_5912\_ALLOC\_DIFF\_AMT_{Bd}$ | $ Daily 2 Decimal | **BANC Daily 5912 Allocated Differential Amount** - The calculated difference between the CAISO rounded charge code to the total BANC allocation to its participants. |

**Formulas**

**20.4**  A daily possible charge to BANC for charge code 5912 when applicable.

$CAISO\_DLY\_5912\_AMT_{Bd}{}^{1} = DefaultLossBusinessAssociateActualDefaultLossPercentage_{UU'B'L}$
[1]Rounded to 2 decimal places.

**20.5**  Allocate any charge BANC received from CAISO in charge code 5912 to EIM Participants by each EIM Participant's specific Cost Allocation Ratio in the EIM Participants Cost Allocation Ratio Precalculation.

$PPT\_DLY\_5912\_AMT_{Pd}{}^{1} = CAISO\_DLY\_5912\_AMT_{Bd} * PPT\_COST\_ALLOC\_RATIO_{Pd}$
[1]Rounded to 2 decimal places.

**20.6**  The daily cost allocation estimated to TPUD.

$TPUD\_DLY\_5912\_AMT_{Bd}{}^{1} = CAISO\_DLY\_5912\_AMT_{Bd} * TPUD\_COST\_ALLOC\_RATIO_{Bd}$
[1]Rounded to 2 decimal places.

*Allocations Monitoring*

**20.7**  The allocation is summed to a daily total.

$BNC\_DLY\_5912\_ALLOC\_AMT_{Bd} = \sum_{Bd} (PPT\_DLY\_5912\_AMT_{Pd}) + TPUD\_DLY\_5912\_AMT_{Bd}$

**20.8**   The total daily difference between the credit BANC received and the allocated amount to EIM Participants is calculated and monitored.

$$BNC\_DLY\_5912\_ALLOC\_DIFF\_AMT_{Bd} = CAISO\_DLY\_5912\_AMT_{Bd} - BNC\_DLY\_5912\_ALLOC\_AMT_{Bd}$$

# 21. BANC Charge Code 6045 Over and Under Scheduling EIM Settlement

## CAISO Application

On an hourly basis CAISO monitors that each EIM Entity provides sufficient generation to meet their forecasted load. An EIM Entity that provides too much generation in an hour, or too little, is seen as leaning on the market to resolve their capacity imbalance. The CAISO Over and Under Scheduling EIM Settlement charge code is used to financially disadvantage an EIM Entity that exceeds a given tolerance range. An EIM entity will avoid hourly penalties of this charge code provided they meet either of the following conditions:

1. The EIM Entity schedules generation and tie base schedules that when totaled are within one percent of CAISO Demand Forecast as provided at T-60 minutes prior to the start of each hour, or
2. When the EIM Entity total Base Schedules for an hour is not within one percent of the CAISO provided load forecast, then the actual reported meter load is within five percent of the total of all Base Schedules after it has been reduced by transmission losses.

When an EIM Entity fails to meet either criteria, and their uninstructed imbalance energy is at greater than 2 MWh, the EIM Entity will be charged as follows:

Overscheduling (Load Meter less than Load Base Schedule):

- When reported meter load data is more than 5% less, but not greater than 10% less than the EIM Entity's total load base schedule, then all uninstructed imbalance energy is charged a 25% LAP penalty price.
- When reported meter data is more than 10% less than the EIM Entities total load base schedule, then all uninstructed imbalance energy is charged at 50% LAP penalty price.

Under scheduling (Load Meter is greater than Load Base Schedule:

- When reported meter load data is more than 5% greater, but not larger than 10% greater than the EIM Entity's total load base schedule, then all uninstructed imbalance energy is charged a 25% LAP penalty price.
- When reported meter data is more than 10% greater than the EIM Entities total load base schedule, then all uninstructed imbalance energy is charged at 100% LAP penalty price.

Both over and under scheduling are not charged when the EIM Entity's LAP price is negative.

There is a no PTB amount with this charge code.

## BANC Application

BANC will only calculate participant over and under scheduling charges when BANC is assessed this hourly charge code.

Whenever BANC is assessed an over scheduling charge, BANC will allocate the hourly charge to all EIM Participants that were over scheduled during that hour proportionally by each EIM Participant's positive uninstructed imbalance energy quantity compared to all participant's total positive uninstructed imbalance energy quantity. Participant's that are under scheduled will not be charged nor will they receive any credit.

Whenever BANC is assessed an under scheduling charge, BANC will allocate the hourly charge to all EIM Participants that were under scheduled during that hour proportionally by each EIM Participant's

negative uninstructed imbalance energy quantity compared to all EIM Participant's total negative uninstructed imbalance energy quantity. EIM Participant's that are over scheduled will not be charged nor will they receive any credit.

Any charges allocated to WAPA will be prorated between WAPA and TPUD based on the hourly load ratio between them. The portion of the charge code estimated to TPUD will be held by BANC and reallocated by BANC Accounting to non-WAPA participants outside of this allocation process.

## 21.1  *CAISO Determinants*

| Determinants | UOM, Interval Length, Precision | Description | CAISO Statement Bill Determinant Name | CAISO Bill Determinant Attributes | CAISO BPM |
|---|---|---|---|---|---|
| BAHourlyLAPOverUnderScheduarlingAmount$_{BQ'AA'mdh}$ | $ Hourly 9 Decimal | Total of under and over scheduling charges per BAA and assigned to the relevant EIM Entity SC. | BANC EESC Bill Determinant Statement: BA_HRLY_EIM_BAA_APNODE_OVER_UNDER_SCHED_STLMT@AMOUNT | | BPM Configuration Guide: Over and Under Scheduling EIM Settlement CC 6045 Version 5.2 |
| BAHourlyLAPOverScheduling Amount$_{BQ'AA'mdh}$ | $ Hourly 9 Decimal | Over scheduling charges per BAA and assigned to the relevant EIM Entity SC. | BANC EESC Bill Determinant Statement: EIM_HRLY_APNODE_OVER_SCHED@AMOUNT | | BPM Configuration Guide: Over and Under Scheduling EIM Settlement CC 6045 Version 5.2 |
| BAHourlyLAPUnderScheduling Amount$_{BQ'AA'mdhA}$ | $ Hourly 9 Decimal | Under scheduling charges per BAA and assigned to the relevant EIM Entity SC. | BANC EESC Bill Determinant Statement: EIM_HRLY_APNODE_UNDER_SCHED@AMOUNT | | BPM Configuration Guide: Over and Under Scheduling EIM Settlement CC 6045 Version 5.2 |

## 21.2  *BANC Provided Determinants*

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| | | |

## 21.3  *BANC Allocation Determinants*

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| CAISO_HRLY_6045_AMT$_{Bh}$ | $ Hourly 2 Decimal | **CAISO Hourly 6045 Amount** - The CAISO CC6045 charge amount to BANC on an hourly basis. |
| CAISO_HRLY_6045_OVER_SCHD_AMT$_{Bh}$ | $ Hourly 2 Decimal | **CAISO Hourly 6045 Over Scheduled Amount** - The CAISO CC6045 over schedule charge amount to BANC on an hourly basis. |

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| CAISO_HRLY_6045_UNDER_SCHD_AMT$_{Bh}$ | $ Hourly 2 Decimal | **CAISO Hourly 6045 Under Scheduled Amount** - The CAISO CC6045 under schedule charge amount to BANC on an hourly basis. |
| PPT_HRLY_LOAD_UIE$_{Ph}$ | MWh Hourly 4 Decimals | **EIM Participant Hourly Load Uninstructed Imbalance Energy Quantity** – The hourly uninstructed energy at an EIM Participant's load in MWh. This determinant is calculated in the uninstructed imbalance energy section. |
| PPT_HRLY_OVER_SCHD_QTY$_{Ph}$ | MWh Hourly 4 Decimal | **EIM Participant Hourly Over Scheduled Quantity** – The EIM Participant's hourly over scheduled load quantity. The positive difference from reported load less the load Base Schedule. |
| BNC_HRLY_OVER_SCHD_QTY$_{Bh}$ | MWh Hourly 4 Decimal | **BANC Total Hourly Over Scheduled Quantity** – BANC's total hourly over scheduled load quantity for all participants. |
| PPT_HRLY_LD_QTY$_{Ph}$ | MWh Hourly 4 Decimals | **EIM Participant Hourly Load** Quantity - The total hourly megawatt-hour load for an EIM Participant. This determinant is defined in the *EIM Participant Load Ratio Share Precalculation*. |
| TPUD_HRLY_LD_CHECKED_QTY$_h$ | MWH Hourly 4 Decimals | **Trinity PUD Hourly Checked Load Quantity** – Trinity Hourly Load as reported by WAPA verified not to exceed the hourly load reported by WAPA to CAISO. |
| PPT_HRLY_OVER_SCHD_AMT$_{Ph}$ | $ Hourly 4 Decimal | **EIM Participant Hourly Over Scheduled Amount** – A EIM Participant's hourly allocated over schedule penalty amount. |
| TPUD_HRLY_OVER_SCHD_AMT$_{Bh}$ | $ Hourly 4 Decimal | **TPUD Hourly Over Scheduled Amount** – TPUD's hourly estimated over schedule penalty amount. |
| PPT_HRLY_UNDER_SCHD_QTY$_{Ph}$ | MWh Hourly 4 Decimal | **EIM Participant Hourly Under Scheduled Quantity** – The EIM Participant's hourly under scheduled load quantity. The negative difference from reported load less the load Base Schedule with the result multiplied by -1. |
| BNC_HRLY_UNDER_SCHD_QTY$_{Bh}$ | MWh Hourly 4 Decimal | **BANC Total Hourly Under Scheduled Quantity** – BANC's total hourly under scheduled load quantity for all participants. |
| PPT_HRLY_UNDER_SCHD_AMT$_{Ph}$ | $ Hourly 4 Decimal | **EIM Participant Hourly Under Scheduled Amount** – A EIM Participant's hourly allocated under schedule penalty amount. |
| TPUD_HRLY_UNDER_SCHD_AMT$_{Bh}$ | $ Hourly 4 Decimal | **TPUD Hourly Under Scheduled Amount** – TPUD's hourly estimated under schedule penalty amount. |
| PPT_HRLY_6045_AMT$_{Ph}$ | $ Hourly 2 Decimal | **EIM Participant Hourly 6045 Amount** – A EIM Participant's allocated hourly over and under schedule penalty amount. |
| TPUD_HRLY_6045_AMT$_{Bh}$ | $ Hourly 2 Decimal | **TPUD Hourly 6045 Amount** – TPUD estimated hourly over and under schedule penalty amount. |
| PPT_DLY_6045_AMT$_{Pd}$ | $ Daily 2 Decimal | **EIM Participant Daily 6045 Amount** - EIM Participant daily allocation of CAISO charge code 6045 rounded to two decimal places. |

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| TPUD_DLY_6045_AMT$_{Bd}$ | $ Daily 2 Decimal | **TPUD Daily 6045 Amount** - TPUD daily estimated CAISO charge code 6045 rounded to two decimal places. |
| BNC_HRLY_6045_AMT$_{Bh}$ | $ Hourly 2 Decimal | **BANC Hourly Allocated 6045 Amount** – The allocated hourly over and under schedule penalty amount. |
| BNC_DLY_6045_ALLOC_AMT$_{Bd}$ | $ Daily 2 Decimal | **BANC Total Daily 6045 Allocation Amount** – Total EIM Participant daily allocation of CAISO charge code 6045. |
| CAISO_DLY_6045_AMT$_{Bd}$ | $ Daily 2 Decimal | **CAISO Daily 6045 Amount** – The CAISO total daily CC6045 Amount to BANC. |
| BNC_HRLY_6045_ALLOC_DIFF_AMT$_{Bh}$ | $ Hourly 2 Decimal | **BANC Hourly 6045 Allocated Hourly Differential Amount** – The calculated hourly difference between the hourly CAISO rounded charge code to the total BANC allocation to EIM Participants. |
| BNC_DLY_6045_ALLOC_DIFF_AMT$_{Bd}$ | $ Daily 2 Decimal | **BANC Daily 6045 Allocated Differential Amount** - The calculated daily difference between the daily CAISO rounded charge code to the total BANC allocation to its EIM Participants. |

**Formulas**

**21.4**   The total hourly charge to BANC for charge code 6045.

CAISO_HRLY_6045_AMT$_{Bh}$[1] = BAHourlyLAPOverUnderSchedulingAmount$_{BQ'AA'mdh}$
[1]Rounded to 2 decimal places.

**21.5**   The hourly over scheduled charge to BANC for charge code 6045.

CAISO_HRLY_6045_OVER_SCHD_AMT$_{Bh}$[1] = BAHourlyLAPOverSchedulingAmount$_{BQ'AA'mdh}$
[1]Rounded to 2 decimal places.

**21.6**   The hourly under scheduled charge to BANC for charge code 6045.

CAISO_HRLY_6045_UNDER_SCHD_AMT$_{Bh}$ [1] = BAHourlyLAPUnderSchedulingAmount$_{BQ'AA'mdhA}$
[1]Rounded to 2 decimal places.

**21.7**   Calculate the number of mega-watt hours each participant over scheduled by hour.

PPT_HRLY_OVER_SCHD_QTY$_{Ph}$ = Min(0,PPT_HRLY_LOAD_UIE$_{Ph}$) * -1

**21.8**   Sum the total number of over scheduled megawatt hours by hour for all the participants.

BNC_HRLY_OVER_SCHD_QTY$_{Bh}$ = $\sum_{Bh}$(PPT_HRLY_OVER_SCHD_QTY$_{Ph}$)

**21.9**   Allocate each participant's hourly over scheduling charge amount.

PPT_HRLY_OVER_SCHD_AMT$_{Ph}$[1] =
　　　IF (CAISO_HRLY_6045_OVER_SCHD_AMT$_{Bh}$ = 0 OR BNC_HRLY_OVER_SCHD_QTY$_{Bh}$ = 0
　　　　THEN 0

ELSE (CAISO_HRLY_6045_OVER_SCHD_AMT$_{Bh}$ *

    (PPT_HRLY_OVER_SCHD_QTY$_{Ph}$ / BNC_HRLY_OVER_SCHD_QTY$_{Bh}$) *

        IF {P = WAPA AND PPT_HRLY_LD_QTY$_{Ph}$ $\neq$ 0

        THEN [ (PPT_HRLY_LD_QTY$_{Ph}$ − TPUD_HRLY_LD_CHECKED_QTY$_h$) /

            PPT_HRLY_LD_QTY$_{Ph}$) ]

        ELSE 1

        }

    )

[1]Rounded to 2 decimal places.

**21.10** Allocate any overscheduling amount that WAPA receives to TPUD.

TPUD_HRLY_OVER_SCHD_AMT$_{Bh}$[1] =

    IF (CAISO_HRLY_6045_OVER_SCHD_AMT$_{Bh}$ = 0 OR BNC_HRLY_OVER_SCHD_QTY$_{Bh}$ =

        0

    THEN 0

    ELSE (CAISO_HRLY_6045_OVER_SCHD_AMT$_{Bh}$ *

        (PPT_HRLY_OVER_SCHD_QTY$_{Ph}$ / BNC_HRLY_OVER_SCHD_QTY$_{Bh}$) *

      IF [ PPT_HRLY_LD_QTY$_{Ph}$ = 0

      THEN 0

      ELSE (TPUD_HRLY_LD_CHECKED_QTY$_h$ / PPT_HRLY_LD_QTY$_{Ph}$)

      ]

    where P = WAPA.

[1]Rounded to 2 decimal places.

**21.11** Calculate the number of mega-watt hours each EIM Participant under scheduled by hour.

PPT_HRLY_UNDER_SCHD_QTY$_{Ph}$ = Max[ 0, (PPT_HRLY_LOAD_UIE$_{Ph}$) ]

**21.12** Sum the total number of under scheduled megawatt hours by hour for all the EIM Participants.

BNC_HRLY_UNDER_SCHD_QTY$_{Bh}$ = $\sum_{Bh}$(PPT_HRLY_UNDER_SCHD_QTY$_{Ph}$)

**21.13** Allocate each EIM Participant's hourly over scheduling charge amount.

PPT_HRLY_UNDER_SCHD_AMT$_{Ph}$[1] =

    IF (CAISO_HRLY_6045_UNDER_SCHD_AMT$_{Bh}$ = 0 OR

        BNC_HRLY_UNDER_SCHD_QTY$_{Bh}$ = 0

    THEN 0

    ELSE (CAISO_HRLY_6045_UNDER_SCHD_AMT$_{Bh}$ *

      (PPT_HRLY_UNDER_SCHD_QTY$_{Ph}$ / BNC_HRLY_UNDER_SCHD_QTY$_{Bh}$) *

        IF {P = WAPA AND PPT_HRLY_LD_QTY$_{Ph}$ $\neq$ 0

        THEN [ (PPT_HRLY_LD_QTY$_{Ph}$ − TPUD_HRLY_LD_CHECKED_QTY$_h$) /

           PPT_HRLY_LD_QTY$_{Ph}$) ]

        ELSE 1

        }

    )

[1]Rounded to 2 decimal places.

**21.14**  Allocate any overscheduling amount that WAPA receives to TPUD.

$TPUD\_HRLY\_UNDER\_SCHD\_AMT_{Bh}{}^{1} =$
     IF (CAISO_HRLY_6045_UNDER_SCHD_AMT$_{Bh}$ = 0 OR
        BNC_HRLY_UNDER_SCHD_QTY$_{Bh}$ = 0
     THEN 0
     ELSE (CAISO_HRLY_6045_UNDER_SCHD_AMT$_{Bh}$ *
        (PPT_HRLY_UNDER_SCHD_QTY$_{Ph}$ / BNC_HRLY_UNDER_SCHD_QTY$_{Bh}$) *
       IF [ PPT_HRLY_LD_QTY$_{Ph}$ = 0
       THEN 0
       ELSE (TPUD_HRLY_LD_CHECKED_QTY$_{h}$ / PPT_HRLY_LD_QTY$_{Ph}$)
       ]
     where P = WAPA.
[1]Rounded to 2 decimal places.

**21.15**  Total each EIM Participant's hourly under and over scheduling allocated amount.

$PPT\_HRLY\_6045\_AMT_{Ph} = PPT\_HRLY\_OVER\_SCHD\_AMT_{Ph} +$
        $PPT\_HRLY\_UNDER\_SCHD\_AMT_{Ph}$

**21.16**  Total TPUD hourly under and over scheduling allocated amount.

$TPUD\_HRLY\_6045\_AMT_{Ph} = TPUD\_HRLY\_OVER\_SCHD\_AMT_{Bh} +$
        $TPUD\_HRLY\_UNDER\_SCHD\_AMT_{Bh}$

**21.17**  Sum the hourly allocate to a daily total for each EIM Participant.

$PPT\_DLY\_6045\_AMT_{Pd} = \sum_{Pd} (PPT\_HRLY\_6045\_AMT_{Ph})$

**21.18**  Sum the hourly allocate to a daily total for each EIM Participant.

$TPUD\_DLY\_6045\_AMT_{Bd} = \sum_{Bd} (TPUD\_HRLY\_6045\_AMT_{Bh})$

## *Allocations Monitoring*

**21.19**  Total BANC allocation by hour to all EIM Participants.

$BNC\_HRLY\_6045\_AMT_{Bh} = \sum_{Bd} (PPT\_HRLY\_6045\_AMT_{Ph}) + TPUD\_HRLY\_6045\_AMT_{Ph}$

**21.20**  The total daily allocation to EIM Participants is summed to a daily total.

$BNC\_DLY\_6045\_ALLOC\_AMT_{Bd} = \sum_{Bd} (PPT\_DLY\_6045\_AMT_{Bd}) + TPUD\_DLY\_6045\_AMT_{Bd}$

**21.21**  CAISO hourly charge to BANC summed to a daily amount.

$CAISO\_DLY\_6045\_AMT_{Bd} = \sum_{Bd} (CAISO\_HRLY\_6045\_AMT_{Bh})$

**21.22**  The differential from CAISO's charge code to BANC's allocated amount by hour.

$BNC\_HRLY\_6045\_ALLOC\_DIFF\_AMT_{Bh} = CAISO\_HRLY\_6045\_AMT_{Bh} - BNC\_HRLY\_6045\_AMT_{Bh}$

**21.23** The total daily difference between the charge BANC received and the allocated amount to EIM Participants is calculated and monitored.

$$BNC\_DLY\_6045\_ALLOC\_DIFF\_AMT_{Bd} = CAISO\_DLY\_6045\_AMT_{Bd} - BNC\_DLY\_6045\_ALLOC\_AMT_{Bd}$$

# 22. BANC Charge Code 6046 Over and Under Scheduling Allocation

## CAISO Application

The total daily revenues collected for by CAISO for over scheduling and under scheduling under Charge Code 6045 are allocated to each balancing authority area (BAA) in the EIM area that was not subject to over scheduling or under scheduling assessment charges. CAISO distributed the credits across BAAs based on daily load ratio share.

There is a no PTB amount with this charge code.

## BANC Application

Any funds received by BANC from CAISO from the other CAISO EESCs for being charged for over and under scheduling will be distributed to participants via EIM Participants Hourly Load Ratio Share Precalculation.

The portion of the charge code estimated to TPUD will be held by BANC and reallocated by BANC Accounting to non-WAPA participants outside of this allocation process.

## 22.1 *CAISO Determinants*

| Determinants | UOM, Interval Length, Precision | Description | CAISO Statement Bill Determinant Name | CAISO Bill Determinant Attributes | CAISO BPM |
|---|---|---|---|---|---|
| EIMEntityBAOUSAllocationAmount$_{BQ'AA'md}$ | $ Daily 9 Decimal | Total over and under scheduling allocation credit from CAISO in charge code 6046 on a daily basis. | BANC EESC Bill Determinant Statement: BA_DAILY_EIM_BAA_LAP_OUS_ALLOC@AMOUNT | | BPM Configuration Guide: Over and Under Scheduling EIM Allocation CC 6046 Version 5.1 |

## 22.2 *BANC Provided Determinants*

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| | | |

## 22.3 *BANC Allocation Determinants*

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| CAISO_DLY_6046_AMT$_{Bd}$ | $ Daily 2 Decimal | **CAISO Daily 6046 Amount** - The CAISO CC6046 charge amount to BANC on a daily basis. |
| PPT_DLY_LRS$_{Pd}$ | Decimal Daily 5 Decimals | **EIM Participant Daily Load Ratio Share** - The daily percent in decimal of load for an EIM Participant to the total daily BANC load in the Pacific Prevailing Time zone. |
| PPT_DLY_6046_AMT$_{Pd}$ | $ Daily 2 Decimal | **EIM Participant Daily 6046 Amount** - EIM Participant daily allocation of CAISO charge code 6046 rounded to two decimal places. |

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| $TPUD\_DLY\_LRS_{Bd}$ | Decimal Daily 5 Decimals | **TPUD Daily Load Ratio Share** - The daily percent in decimal of TPUD's load for compared to the total daily BANC load. |
| $TPUD\_DLY\_6046\_AMT_{Pd}$ | $ Daily 2 Decimal | **EIM Participant Daily 6046 Amount** - EIM Participant daily estimate of CAISO charge code 6046 rounded to two decimal places. |
| $BNC\_DLY\_6046\_ALLOC\_AMT_{Bd}$ | $ Daily 2 Decimal | **BANC Total Daily 6046 Allocation Amount** – Total EIM Participant daily allocation of CAISO charge code 6046. |
| $BNC\_DLY\_6046\_ALLOC\_DIFF\_AMT_{Bd}$ | $ Daily 2 Decimal | **BANC Daily 6046 Allocated Differential Amount** - The calculated daily difference between the daily CAISO rounded charge code to the total BANC allocation to its participants. |

**Formulas**

**22.4**    The total daily charge to BANC for charge code 6046.

$CAISO\_DLY\_6046\_AMT_{Bd}{}^{1} = EIMEntityBAOUSAllocationAmount_{BQ'AA'md}$
[1]Rounded to 2 decimal places.

**22.5**    Allocate any daily credit BANC received from CAISO in charge code 6046 to EIM Participants by daily load ratio share Precalculation.

$PPT\_DLY\_6046\_AMT_{Pd}{}^{1} = CAISO\_DLY\_6046\_AMT_{Bd} * PPT\_DLY\_LRS_{Pd}$
[1]Rounded to 2 decimal places.

**22.6**    Allocate any daily credit BANC received to TPUD.

$TPUD\_DLY\_6046\_AMT_{Bd}{}^{1} = CAISO\_DLY\_6046\_AMT_{Bd} * TPUD\_DLY\_LRS_{Bd}$
[1]Rounded to 2 decimal places.

*Allocations Monitoring*

**22.7**    The total daily allocation to EIM Participants is summed to a daily total.

$BNC\_DLY\_6046\_ALLOC\_AMT_{Bd} = \sum_{Bd} (PPT\_DLY\_6046\_AMT_{Pd}) + TPUD\_DLY\_6046\_AMT_{Bd}$

**22.8**    The total daily difference between the credit BANC received and the allocated amount to EIM Participants is calculated and monitored.

$BNC\_DLY\_6046\_ALLOC\_DIFF\_AMT_{Bd} = CAISO\_DLY\_6046\_AMT_{Bd} - BNC\_DLY\_6046\_ALLOC\_AMT_{Bd}$

## 23. BANC Charge Code 6194 Hourly Spinning Reserve Obligation Settlement

**CAISO Application**

The Spinning Reserve Obligation Settlement charges CAISO Scheduling Coordinators by hour for the cost of its Spinning Reserve Obligation that was not self-provided by the Scheduling Coordinator in the Day Ahead and Real-Time markets. Although the EIM does not participate in CAISO's Day-Ahead Market (also referred to as the Integrated Forward Market) nor does the CAISO cover the obligation or costs of ancillary services in the EIM BAA, there can be obligations that result from imports from the EIM BAA to the CAISO BAA. These obligation costs are calculated and charged to the EESC by hour.

There is a potential PTB amount with this charge code.

**BANC Application**

BANC will allocate any charges for Spinning Reserve Obligation by hour to EIM Participants based on the EIM Participant Load Ratio Share Precalculation.

The portion of the charge code estimated to TPUD will be held by BANC and reallocated by BANC Accounting to non-WAPA participants outside of this allocation process.

### 23.1 *CAISO Determinants*

| Determinants | UOM, Interval Length, Precision | Description | CAISO Statement Bill Determinant Name | CAISO Bill Determinant Attributes | CAISO BPM |
|---|---|---|---|---|---|
| SpinObligAmount$_{Bmdh}$ | $ Hourly 9 Decimal | Spinning Reserve Obligation charge amount (in $) due ISO for a given Business Associate and Trading Hour**.** | BANC EESC Bill Determinant Statement: BA_HRLY_SPIN_OBLIG@SUB_SUBTOT_NET_AMOUNT | | BPM Configuration Guide: Spinning Reserve Obligation Settlement CC 6194 Version 5.2a |
| PTBChargeAdjustmentObligationSpin$_{BJmdh}$ | $ Hourly 9 Decimal | Spinning Reserve Obligation PTB Charge Adjustment Amount (in $) for a given Business Associate and Trading Hour. | BANC EESC Bill Determinant Statement: PTB_BA_HRLY_SPIN_OBLIG@PTB_SUBTOT_NET_AMOUNT | | BPM Configuration Guide: Spinning Reserve Obligation Settlement CC 6194 Version 5.2a |

### 23.2 *BANC Provided Determinants*

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| | | |

## 23.3   *BANC Allocation Determinants*

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| CAISO_HRLY_6194_PTB_AMT$_{Bh}$ | $ <br> Hourly <br> 2 Decimal | **CAISO Hourly 6194 PTB Amount** - The CAISO CC6194 PTB charge amount to BANC on an hourly basis. |
| CAISO_HRLY_6194_AMT$_{Bh}$ | $ <br> Hourly <br> 2 Decimal | **CAISO Hourly 6194 Amount** - The CAISO CC6194 charge amount to BANC on an hourly basis. |
| PPT_HRLY_LRS$_{Ph}$ | Decimal <br> Hourly <br> 5 Decimals | **EIM Participant Hourly Load Ratio Share** - The hourly percent in decimal of load for an EIM Participant to the total hourly BANC load. |
| PPT_HRLY_6194_AMT$_{Ph}$ | $ <br> Hourly <br> 2 Decimal | **EIM Participant Hourly 6194 Amount** - EIM Participant hourly allocation of CAISO charge code 6194 rounded to two decimal places. |
| TPUD_HRLY_LRS$_{Bh}$ | Decimal <br> Hourly <br> 5 Decimals | **TPUD Hourly Load Ratio Share** - The hourly percent in decimal of TPUD's load for compared to the total hourly BANC load. |
| TPUD_HRLY_6194_AMT$_{Bh}$ | $ <br> Hourly <br> 2 Decimal | **BANC TPUD Hourly 6194 Amount** - BANC EIM TPUD hourly estimate of CAISO charge code 6194 rounded to two decimal places. |
| PPT_DLY_6194_AMT$_{Pd}$ | $ <br> Daily <br> 2 Decimal | **EIM Participant Daily 6194 Amount** - EIM Participant daily total allocation of CAISO charge code 6194. |
| TPUD_DLY_6194_AMT$_{Bd}$ | $ <br> Daily <br> 2 Decimal | **BANC TPUD Daily 6194 Amount** - BANC EIM TPUD total daily estimate of CAISO charge code 6194. |
| BNC_DLY_6194_ALLOC_AMT$_{Bd}$ | $ <br> Daily <br> 2 Decimal | **BANC Total Daily 6194 Allocation Amount** – Total EIM Participant daily allocation of CAISO charge code 6194. |
| CAISO_DLY_6194_AMT$_{Bd}$ | $ <br> Daily <br> 2 Decimal | **CAISO Daily 6194 Amount** - The CAISO CC6194 charge to BANC summed to a daily value. |
| BNC_DLY_6194_ALLOC_DIFF_AMT$_{Bd}$ | $ <br> Daily <br> 2 Decimal | **BANC Daily 6194 Allocated Differential Amount** - The calculated daily difference between the daily CAISO rounded charge code to the total BANC allocation to its participants. |

## Formulas

**23.4**   The CAISO PTB determinant for this charge code will be Processed in the BANC Charge Code 101, BANC PTB Allocation.

$$\text{CAISO\_HRLY\_6194\_PTB\_AMT}_{Bh}{}^{1} = \sum\nolimits_{Bh}(\text{PTBChargeAdjustmentObligationSpin}_{BJmdh})$$
[1]Rounded to 2 decimal places.

**23.5**   The total hourly charge to BANC for charge code 6194.

$$\text{CAISO\_HRLY\_6194\_AMT}_{Bh}{}^{1} = \text{SpinObligAmount}_{Bmdh}$$
[1]Rounded to 2 decimal places.

**23.6** These charges are allocated hourly to EIM Participants using the EIM Participant Load Ratio Share Precalculation.

$$PPT\_HRLY\_6194\_AMT_{Ph}^{1} = CAISO\_HRLY\_6194\_AMT_{Bh} * PPT\_HRLY\_LRS_{Ph}$$
[1]Rounded to 2 decimal places.

**23.7** The hourly cost estimate associated with TPUD.

$$TPUD\_HRLY\_6194\_AMT_{Bh}^{1} = CAISO\_HRLY\_6194\_AMT_{Bh} * TPUD\_HRLY\_LRS_{Bh}$$
[1]Rounded to 2 decimal places.

**23.8** The daily charge code total for each EIM Participant.

$$PPT\_DLY\_6194\_AMT_{Pd} = \sum\nolimits_{Pd}(PPT\_HRLY\_6194\_AMT_{Ph})$$

**23.9** Calculate the daily charge code total related to TPUD.

$$TPUD\_DLY\_6194\_AMT_{Bd} = \sum\nolimits_{Bd}(TPUD\_HRLY\_6194\_AMT_{Bh})$$

## *Allocations Monitoring*

**23.10** The total daily allocation to EIM Participants is summed to a daily total.

$$BNC\_DLY\_6194\_ALLOC\_AMT_{Bd} = \sum\nolimits_{Bd}(PPT\_DLY\_6194\_AMT_{Pd}) + TPUD\_DLY\_6194\_AMT_{BD}$$

**23.11** The total CAISO daily charge to BANC.

$$CAISO\_DLY\_6194\_AMT_{Bd} = \sum\nolimits_{Bd}(CAISO\_HRLY\_6194\_AMT_{Bh})$$

**23.12** The total daily difference between the credit BANC received and the allocated amount to EIM Participants is calculated and monitored.

$$BNC\_DLY\_6194\_ALLOC\_DIFF\_AMT_{Bd} = CAISO\_DLY\_6194\_AMT_{Bd} - BNC\_DLY\_6194\_ALLOC\_AMT_{Bd}$$

# 24. BANC Charge Code 6196 Hourly Spinning Reserve Neutrality Allocation

## CAISO Application

CAISO's Spinning Reserve Neutrality Allocation recovers from CAISO's Scheduling Coordinators the total Spinning Reserve Neutrality amount, in proportion to their positive Spinning reserve Obligation. The total Spinning Reserve Neutrality amount is calculated as the difference between the Spinning reserve Net Requirement at the Spinning reserve rate and the total revenue from the Spinning reserve charge to all the Scheduling Coordinators. There is no CAISO PTB with this charge code.

There is a no PTB amount with this charge code.

## BANC Application

BANC will allocate charges for Spinning Reserve Neutrality Allocation by hour to EIM Participants based on the EIM Participant Load Ratio Share Precalculation.

The portion of the charge code estimated to TPUD will be held by BANC and reallocated by BANC Accounting to non-WAPA participants outside of this allocation process.

### 24.1 *CAISO Determinants*

| Determinants | UOM, Interval Length, Precision | Description | CAISO Statement Bill Determinant Name | CAISO Bill Determinant Attributes | CAISO BPM |
|---|---|---|---|---|---|
| SpinNeutralityAmount$_{Bmdh}$ | $ Hourly 9 Decimal | Spinning Reserve Neutrality amount due ISO for Business Associate B for Trading Day d and Trading Hour h ($). | BANC EESC Bill Determinant Statement: BA_HRLY_SPIN_NTRL@AMOUNT | | BPM Configuration Guide: Spinning Reserve Neutrality Obligation CC6196 Version 5.0b |

### 24.2 *BANC Provided Determinants*

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| | | |

### 24.3 *BANC Allocation Determinants*

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| CAISO_HRLY_6196_AMT$_{Bh}$ | $ Hourly 2 Decimal | **CAISO Hourly 6196 Amount** - The CAISO CC6196 charge amount to BANC on an hourly basis. |
| PPT_HRLY_LRS$_{Ph}$ | Decimal Hourly 5 Decimals | **EIM Participant Hourly Load Ratio Share** - The hourly percent in decimal of load for an EIM Participant to the total hourly BANC load. |

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| PPT_HRLY_6196_AMT$_h$ | $ <br> Hourly <br> 2 Decimal | **EIM Participant Daily 6196 Amount** - EIM Participant hourly allocation of CAISO charge code 6196 rounded to two decimal places. |
| TPUD_HRLY_LRS$_{Bh}$ | Decimal <br> Hourly <br> 5 Decimals | **TPUD Hourly Load Ratio Share** - The hourly percent in decimal of TPUD's load for compared to the total hourly BANC load. |
| TPUD_HRLY_6196_AMT$_{Bh}$ | $ <br> Hourly <br> 2 Decimal | **BANC TPUD Hourly 6196 Amount** - BANC EIM TPUD hourly estimate of CAISO charge code 6196 rounded to two decimal places. |
| PPT_DLY_6196_AMT$_{Pd}$ | $ <br> Daily <br> 2 Decimal | **EIM Participant Daily 6196 Amount** - EIM Participant daily total allocation of CAISO charge code 6196. |
| TPUD_DLY_6196_AMT$_{Bd}$ | $ <br> Daily <br> 2 Decimal | **BANC TPUD Daily 6196 Amount** - BANC EIM TPUD total daily estimate of CAISO charge code 6196. |
| CAISO_DLY_6196_AMT$_{Bd}$ | $ <br> Daily <br> 2 Decimal | **CAISO Daily 6196 Amount** - The CAISO CC6196 charge to BANC summed to a daily value. |
| BNC_DLY_6196_ALLOC_AMT$_{Bd}$ | $ <br> Daily <br> 2 Decimal | **BANC Total Daily 6196 Allocation Amount** – Total EIM Participant daily allocation of CAISO charge code 6196. |
| BNC_DLY_6196_ALLOC_DIFF_AMT$_{Bd}$ | $ <br> Daily <br> 2 Decimal | **BANC Daily 6196 Allocated Differential Amount** - The calculated daily difference between the daily CAISO rounded charge code to the total BANC allocation to its participants. |

## Formulas

**24.4**    The hourly charge to BANC for charge code 6196.

$$CAISO\_HRLY\_6196\_AMT_{Bh}{}^1 = SpinNeutralityAmount_{Bmdh}$$
[1]Rounded to 2 decimal places.

**24.5**    These charges are allocated hourly to EIM Participants using the EIM Participant Load Ratio Share Precalculation.

$$PPT\_HRLY\_6196\_AMT_{Ph}{}^1 = CAISO\_HRLY\_6196\_AMT_{Bh} * PPT\_HRLY\_LRS_{Ph}$$
[1]Rounded to 2 decimal places.

**24.6**    The hourly cost estimate associated with TPUD.

$$TPUD\_HRLY\_6196\_AMT_{Bh}{}^1 = CAISO\_HRLY\_6196\_AMT_{Bh} * TPUD\_HRLY\_LRS_{Bh}$$
[1]Rounded to 2 decimal places.

**24.7**    Calculate the daily charge code total for each EIM Participant.

$$PPT\_DLY\_6196\_AMT_{Pd} = \sum\nolimits_{Pd} (PPT\_HRLY\_6196\_AMT_{Ph})$$

**24.8**    Calculate the daily charge code total related to TPUD.

$$TPUD\_DLY\_6196\_AMT_{BD} = \sum\nolimits_{Bd} (TPUD\_HRLY\_6196\_AMT_{Bh})$$

## *Allocations Monitoring*

**24.9**   The total daily allocation to EIM Participants is summed to a daily total.

$$BNC\_DLY\_6196\_ALLOC\_AMT_{Bd} = \sum\nolimits_{Bd}(PPT\_DLY\_6196\_AMT_{Pd}) + TPUD\_DLY\_6196\_AMT_{BD}$$

**24.10**   The total CAISO daily charge to BANC.

$$CAISO\_DLY\_6196\_AMT_{Bd} = \sum\nolimits_{Bd}(CAISO\_HRLY\_6196\_AMT_{Bh})$$

**24.11**   The total daily difference between the credit BANC received and the allocated amount to EIM Participants is calculated and monitored.

$$BNC\_DLY\_6196\_ALLOC\_DIFF\_AMT_{Bd} = CAISO\_DLY\_6196\_AMT_{Bd} - BNC\_DLY\_6196\_ALLOC\_AMT_{Bd}$$

# 25. BANC Charge Code 6294 Hourly Non-Spinning Reserve Obligation Settlement

**CAISO Application**

The Spinning Reserve Obligation Settlement charges Scheduling Coordinators by hour for the cost of its Spinning Reserve Obligation that was not self-provided by the Scheduling Coordinator in the Day Ahead and Real-Time markets. Although the EIM Entity does not participate in CAISO's Day-Ahead Market (also referred to as the Integrated Forward Market) nor does the CAISO cover the obligation or costs of ancillary services in the EIM Entity BAA, there can be obligations that result from imports from the EIM BAA to the CAISO BAA. These obligation costs are calculated and charged to the EESC by hour.

There is a potential PTB amount with this charge code.

**BANC Application**

BANC will allocate charges for Spinning Reserve Obligation by hour to EIM Participants based on the EIM Participant Load Ratio Share Precalculation.

The portion of the charge code estimated to TPUD will be held by BANC and reallocated by BANC Accounting to non-WAPA participants outside of this allocation process.

## 25.1 *CAISO Determinants*

| Determinants | UOM, Interval Length, Precision | Description | CAISO Statement Bill Determinant Name | CAISO Bill Determinant Attributes | CAISO BPM |
|---|---|---|---|---|---|
| NonSpinObligAmount$_{Bmdh}$ | $ Hourly 9 Decimal | Non-Spinning Reserve Obligation charge amount (in $) due ISO for a given Business Associate and Trading Hour. | BANC EESC Bill Determinant Statement: BA_HRLY_NSPN_ OBLIG@SUB_SUB TOT_NET_AMOUN T | | BPM Configuration Guide: Non Spinning Reserve Obligation Settlement CC 6294 Version 5.2a |
| PTBChargeAdjustmentObligati onNonSpin$_{BJmdh}$ | $ Hourly 9 Decimal | Non-Spinning Reserve Obligation PTB Charge Adjustment Amount (in $) for a given Business Associate and Trading Hour. | BANC EESC Bill Determinant Statement: PTB_BA_HRLY_NS PN_OBLIG@PTB_S UBTOT_NET_AMO UNT | | BPM Configuration Guide: Non Spinning Reserve Obligation Settlement CC 6294 Version 5.2a |

## 25.2 *BANC Provided Determinants*

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| | | |

## 25.3 BANC Allocation Determinants

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| CAISO_HRLY_6294_PTB_AMT$_{Bh}$ | $<br>Hourly<br>2 Decimal | **CAISO Hourly 6294 PTB Amount** - The CAISO CC6294 PTB charge amount to BANC on an hourly basis. |
| CAISO_HRLY_6294_AMT$_{Bh}$ | $<br>Hourly<br>2 Decimal | **CAISO Hourly 6294 Amount** - The CAISO CC6294 charge amount to BANC on an hourly basis. |
| PPT_HRLY_LRS$_{Ph}$ | Decimal<br>Hourly<br>5 Decimals | **EIM Participant Hourly Load Ratio Share** - The hourly percent in decimal of load for an EIM Participant to the total hourly BANC load. |
| PPT_HRLY_6294_AMT$_{Ph}$ | $<br>Hourly<br>2 Decimal | **EIM Participant Daily 6294 Amount** - EIM Participant hourly allocation of CAISO charge code 6294 rounded to two decimal places. |
| TPUD_HRLY_LRS$_{Bh}$ | Decimal<br>Hourly<br>5 Decimals | **TPUD Hourly Load Ratio Share** - The hourly percent in decimal of TPUD's load for compared to the total hourly BANC load. |
| TPUD_HRLY_6294_AMT$_{Bh}$ | $<br>Hourly<br>2 Decimal | **BANC TPUD Hourly 6294 Amount** - BANC EIM TPUD hourly estimate of CAISO charge code 6294 rounded to two decimal places. |
| PPT_DLY_6294_AMT$_{Pd}$ | $<br>Daily<br>2 Decimal | **EIM Participant Daily 6294 Amount** - EIM Participant daily total allocation of CAISO charge code 6294. |
| TPUD_DLY_6294_AMT$_{Bd}$ | $<br>Daily<br>2 Decimal | **BANC TPUD Daily 6294 Amount** - BANC EIM TPUD total daily estimate of CAISO charge code 6294. |
| BNC_DLY_6294_ALLOC_AMT$_{Bd}$ | $<br>Daily<br>2 Decimal | **BANC Total Daily 6294 Allocation Amount** – Total EIM Participant daily allocation of CAISO charge code 6294. |
| CAISO_DLY_6294_AMT$_{Bd}$ | $<br>Daily<br>2 Decimal | **CAISO Daily 6294 Amount** - The CAISO CC6294 charge to BANC summed to a daily value. |
| BNC_DLY_6294_ALLOC_DIFF_AMT$_{Bd}$ | $<br>Daily<br>2 Decimal | **BANC Daily 6294 Allocated Differential Amount** - The calculated daily difference between the daily CAISO rounded charge code to the total BANC allocation to its participants. |

## Formulas

**25.4** The CAISO PTB determinant for this charge code will be Processed in the BANC Charge Code 101, BANC PTB Allocation.

CAISO_HRLY_6294_PTB_AMT$_{Bh}$[1] = $\sum_{Bh}$(PTBChargeAdjustmentObligationNonSpin$_{BJmdh}$)
[1]Rounded to 2 decimal places.

**25.5** The total hourly charge to BANC for charge code 6294.

CAISO_HRLY_6294_AMT$_{Bh}$[1] = NonSpinObligAmount$_{Bmdh}$
[1]Rounded to 2 decimal places.

**25.6**  These charges are allocated hourly to EIM Participants using the EIM Participant Load Ratio Share Precalculation.

$$PPT\_HRLY\_6294\_AMT_{Ph}{}^1 = CAISO\_HRLY\_6294\_AMT_{Bh} * PPT\_HRLY\_LRS_{Ph}$$
[1]Rounded to 2 decimal places.

**25.7**  The hourly cost allocation estimated to TPUD.

$$TPUD\_HRLY\_6294\_AMT_{Bh}{}^1 = CAISO\_HRLY\_6294\_AMT_{Bh} * TPUD\_HRLY\_LRS_{Bh}$$
[1]Rounded to 2 decimal places.

**25.8**  Calculate the daily charge code total for each EIM Participant.

$$PPT\_DLY\_6294\_AMT_{Pd} = \sum\nolimits_{Pd}(PPT\_HRLY\_6294\_AMT_{Ph})$$

**25.9**  Calculate the daily charge code total estimated to TPUD.

$$TPUD\_DLY\_6294\_AMT_{Bd} = \sum\nolimits_{Bd}(TPUD\_HRLY\_6294\_AMT_{Bh})$$

### *Allocations Monitoring*

**25.10**  The total daily allocation to EIM Participants is summed to a daily total.

$$BNC\_DLY\_6294\_ALLOC\_AMT_{Bd} = \sum\nolimits_{Bd}(PPT\_DLY\_6294\_AMT_{Pd}) + TPUD\_DLY\_6294\_AMT_{Bd}$$

**25.11**  The total CAISO daily charge to BANC.

$$CAISO\_DLY\_6294\_AMT_{Bd} = \sum\nolimits_{Bd}(CAISO\_HRLY\_6294\_AMT_{Bh})$$

**25.12**  The total daily difference between the credit BANC received and the allocated amount to EIM Participants is calculated and monitored.

$$BNC\_DLY\_6294\_ALLOC\_DIFF\_AMT_{Bd} = CAISO\_DLY\_6294\_AMT_{Bd} - BNC\_DLY\_6294\_ALLOC\_AMT_{Bd}$$

# 26. BANC Charge Code 6296 Hourly Non-Spinning Reserve Neutrality Allocation

## CAISO Application

CAISO's Non-Spinning Reserve Neutrality Allocation recovers from Scheduling Coordinators the total Non-Spinning Reserve Neutrality amount, in proportion to their positive Non-Spinning Reserve Obligation. The total Non-Spinning Reserve Neutrality amount is calculated as the difference between the Non-Spinning reserve Net Requirement at the Non-Spinning reserve rate and the total revenue from the Non-Spinning reserve charge to all the Scheduling Coordinators. There is no CAISO PTB with this charge code.

There is a no PTB amount with this charge code.

## BANC Application

BANC will allocate charges for Non-Spinning Reserve Neutrality Allocation by hour to EIM Participants based on the EIM Participant Load Ratio Share Precalculation.

### 26.1 CAISO Determinants

| Determinants | UOM, Interval Length, Precision | Description | CAISO Statement Bill Determinant Name | CAISO Bill Determinant Attributes | CAISO BPM |
|---|---|---|---|---|---|
| NonSpinNeutralityAmount$_{Bmdh}$ | $ Hourly 9 Decimal | Non-Spinning Reserve Neutrality amount due ISO for Business Associate B for Trading Day d and Trading Hour h ($). | BANC EESC Bill Determinant Statement: BA_HRLY_NSPN_NTRL@AMOUNT | | BPM Configuration Guide: Spinning Reserve Neutrality Obligation CC6296 Version 5.0b |

### 26.2 BANC Provided Determinants

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| | | |

### 26.3 BANC Allocation Determinants

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| CAISO_HRLY_6296_AMT$_{Bh}$ | $ Hourly 2 Decimal | **CAISO Hourly 6296 Amount** - The CAISO CC6296 charge amount to BANC on an hourly basis. |
| PPT_HRLY_LRS$_{Ph}$ | Decimal Hourly 5 Decimals | **EIM Participant Hourly Load Ratio Share** - The hourly percent in decimal of load for an EIM Participant to the total hourly BANC load. |
| PPT_HRLY_6296_AMT$_{Ph}$ | $ Hourly 2 Decimal | **EIM Participant Daily 6296 Amount** - EIM Participant hourly allocation of CAISO charge code 6196 rounded to two decimal places. |

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| TPUD_HRLY_LRS$_{Bh}$ | Decimal<br>Hourly<br>5 Decimals | **TPUD Hourly Load Ratio Share** - The hourly percent in decimal of TPUD's load for compared to the total hourly BANC load. |
| TPUD_HRLY_6296_AMT$_{Bh}$ | \$<br>Hourly<br>2 Decimal | **BANC TPUD Hourly 6296 Amount** - BANC EIM TPUD hourly estimate of CAISO charge code 6296 rounded to two decimal places. |
| PPT_DLY_6296_AMT$_{Pd}$ | \$<br>Daily<br>2 Decimal | **EIM Participant Daily 6296 Amount** - EIM Participant daily total allocation of CAISO charge code 6296. |
| TPUD_DLY_6296_AMT$_{Bd}$ | \$<br>Daily<br>2 Decimal | **BANC TPUD Daily 6296 Amount** - BANC EIM TPUD total daily estimate of CAISO charge code 6296. |
| BNC_DLY_6296_ALLOC_AMT$_{Bd}$ | \$<br>Daily<br>2 Decimal | **BANC Total Daily 6296 Allocation Amount** – Total EIM Participant daily allocation of CAISO charge code 6296. |
| CAISO_DLY_6296_AMT$_{Bd}$ | \$<br>Daily<br>2 Decimal | **CAISO Daily 6296 Amount** - The CAISO CC6296 charge to BANC summed to a daily value. |
| BNC_DLY_6296_ALLOC_DIFF_AMT$_{Bd}$ | \$<br>Daily<br>2 Decimal | **BANC Daily 6296 Allocated Differential Amount** - The calculated daily difference between the daily CAISO rounded charge code to the total BANC allocation to its participants. |

**Formulas**

**26.4**   The hourly charge to BANC for charge code 6296.

$$\text{CAISO\_HRLY\_6296\_AMT}_{Bh}{}^{[1]} = \text{NonSpinNeutralityAmount}_{Bmdh}$$
[1]Rounded to 2 decimal places.

**26.5**   These charges are allocated hourly to EIM Participants using the EIM Participant Load Ratio Share Precalculation.

$$\text{PPT\_HRLY\_6296\_AMT}_{Ph}{}^{[1]} = \text{CAISO\_HRLY\_6296\_AMT}_{Bh} * \text{PPT\_HRLY\_LRS}_{Ph}$$
[1]Rounded to 2 decimal places.

**26.6**   The hourly cost allocation estimated to TPUD.

$$\text{TPUD\_HRLY\_6296\_AMT}_{Bh}{}^{[1]} = \text{CAISO\_HRLY\_6296\_AMT}_{Bh} * \text{TPUD\_HRLY\_LRS}_{Bh}$$
[1]Rounded to 2 decimal places.

**26.7**   Calculate the daily charge code total for each participant.

$$\text{PPT\_DLY\_6296\_AMT}_{Pd} = \sum\nolimits_{Pd} (\text{PPT\_HRLY\_6296\_AMT}_{Ph})$$

**26.8**   Calculate the daily charge code total estimate for TPUD.

$$\text{TPUD\_DLY\_6296\_AMT}_{BD} = \sum\nolimits_{Bd} (\text{TPUD\_HRLY\_6296\_AMT}_{Bh})$$

*Allocations Monitoring*

**26.9**  The total daily allocation to EIM Participants is summed to a daily total.

$$BNC\_DLY\_6296\_ALLOC\_AMT_{Bd} = \sum\nolimits_{Bd} (PPT\_DLY\_6296\_AMT_{Pd}) + TPUD\_DLY\_6296\_AMT_{BD}$$

**26.10**  The total CAISO daily charge to BANC.

$$CAISO\_DLY\_6296\_AMT_{Bd} = \sum\nolimits_{Bd} (CAISO\_HRLY\_6296\_AMT_{Bh})$$

**26.11**  The total daily difference between the credit BANC received and the allocated amount to EIM Participants is calculated and monitored.

$$BNC\_DLY\_6296\_ALLOC\_DIFF\_AMT_{Bd} = CAISO\_DLY\_6296\_AMT_{Bd} -$$
$$BNC\_DLY\_6296\_ALLOC\_AMT_{Bd}$$

## 27. BANC Charge Code 64600 5 Minute FMM Instructed Imbalance Energy EIM Settlement

**CAISO Application**

In EIM, the CAISO will bill participating generation and participating load resources in Charge Code 64600 for any energy difference between their 15-minute market energy clearing and their hourly Base Schedules at the 15-minute market LMP. CAISO calculates all differences on a 5-minute interval. For generators that do not bid into the market, the 15-minute market solution will represent the resource's Base Schedule as adjusted by the BAA for manual dispatch. The resulting settlement charge amount is the calculated quantity difference multiplied by the 15-minute LMP for that resource. CAISO bills participating resources on the PRSC settlement statements.

CAISO will also bill Interchange tagging in Charge Code 64600 for any energy difference from the value of the Interchange of tags at 37.5 minutes prior to the start of each 15-minute market interval less the volume as seen in their accompanying Base Schedule multiplied by their 15-minute market LMP. CAISO bills Interchange tags on the EESC settlement statements.

CAISO bills Interchange tags on the EESC settlement statements based on tags aggregated together on predefined paths.

Non-participating load is not billed for any 15-minute market changes.

This charge code can have a 5-minute PTB to the Scheduling Coordinator.

**BANC Application**

BANC BAA will not have any registered non-participating generation resources and as such will not incur any 15-minute market clearing energy imbalance charges for resources.

BANC will be billed by CAISO for BANC tag Interchange volume changes but will not be billed for intrachange schedule changes. CAISO does not see any tags that source and sink within the BAA and see them as revenue neutral to the overall EIM.

BANC will bill all Interchange change tag volume differences from the T-37.5-minute snapshot less the volume used in the accompanying Base Schedule. BANC will multiply the schedule change by the CAISO interface FMM LMP and will bill the participant where the schedule is sourced or sink. The FMM LMP for each tag will be determined by a path segment on the tag. The allocations vendor will look for a predefined path segment on each tag and then based on the path found will use the LMP Interface Price that is cross referenced to that path segment. The LMP cross reference table is found in Appendix D – Intertie Tag LMP Cross Reference.

Schedules between participants within BANC, Intratie schedules, will not be settled for changes between the fifteen minute market and what they were in calculating a participant's Base Schedule. Although schedule changes in this time frame can impact which participant must cover imbalance, the participants collectively agreed that changes are rare and they will handle them as part of their bilateral settlement between EIM Participants. As for allocation neutrality of this charge code, this will have no impact on the charge or credit being billed by CAISO.

The total allocation of this charge code will be revenue neutral other than rounding differences

BANC will monitor for any PTB and will remove it from this charge allocation to allocate it in the BANC PTB Charge Code.

## 27.1 CAISO Determinants

| Determinants | UOM, Interval Length, Precision | Description | CAISO Statement Bill Determinant Name | CAISO Bill Determinant Attributes | CAISO BPM |
|---|---|---|---|---|---|
| EIMBASettlementIntervalFMMIIEAmount$_{Bmdhcif}$ | $ 5 Minute 9 Decimal | The BA total FMM IIE Settlement Amount for all resources inside EIM Entity BAAs. ($) This value does not include the PTB interval amount. | BANC EESC Bill Determinant Statement: BA_5M_EIM_FMM _IIE_STLMT@SUB _SUBTOT_CURRE NT_AMOUNT | | BPM Configuration Guide: FMM Instructed Imbalance Energy Settlement EIM Settlement CC 64600 Version 5.2 |
| PTBChargeAdjustmentEIMBA5MFMMEnergyAmt$_{BJmdhcif}$ | $ 5 Minute 9 Decimal | PTB settlement adjustment amount for this Charge Code | BANC EESC Bill Determinant Statement: PTB_BA_5M_EIM_ FMM_IIE_STLMT_ HIER@PTB_SUBT OT_CURRENT_AM OUNT | | BPM Configuration Guide: FMM Instructed Imbalance Energy Settlement EIM Settlement CC 64600 Version 5.2 |
| FMMIntervalLMPPrice$_{BrtuT'I'M'mdhc}$ | $ 15 Minute 9 Decimal | The FMM Interval Locational Marginal Price for Resource r. ($/MWh) | CAISO Determinant Statement: BA_15M_RSRC_FM M_LMP@PRICE | | BPM Configuration Guide: FMM Instructed Imbalance Energy Settlement EIM Settlement CC 64600 Version 5.2 |

## 27.2 BANC Provided Determinants

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| | | |

## 27.3 BANC Allocation Determinants

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| CAISO_5MIN_64600_PTB_AMT$_{Bf}$ | $ 5 Minute 2 Decimal | **CAISO 5-Minute 64600 Pass Through Billing Amount** - A 5-minute interval amount when applicable related to CAISO Charge Code 64600. |

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| CAISO_5MIN_64600_AMT<sub>Bf</sub> $\text{CAISO\_5MIN\_64600\_AMT}_{Bf}$ | $ 5 Minute 2 Decimal | **CAISO 5-Minute 64600 Amount** - The CAISO CC 64600 charge amount to BANC rounded to two decimal places. |
| $\text{PPT\_5MIN\_TAG\_FMM\_BAA\_IMP\_SCHD}_{PRSGECLxyzf}$ | MWh 5 Min 8 Decimals | **EIM Participant 5-Minute Tagged 15-Minute Market BAA Import Schedule** - The 5-minute tagged energy BAA Import schedule snapshot at T-37.5 minutes before the start of the 15-market window that sinks at an EIM Participant's load or resource registered location and imports from outside of BANC. |
| $\text{PPT\_5MIN\_TAG\_BASE\_SCHD\_SNK}_{PRSGECLxyzf}$ | MWh 5 Min 8 Decimals | **EIM Participant 5-Minute Tagged Base Schedule at a Sink** - The 5-minute tagged Base Schedule that sinks at an EIM Participant location that is either approved or pending approval as seen by the BANC scheduling system at T-57 before the start of the next hour. |
| $\text{PPT\_5MIN\_INTERTIE\_IMP\_FMM\_IMB}_{PSGPCLxyzf}$ | MWh 5 Min 8 Decimals | **Participant 5 Minute Intertie Import FMM Imbalance** – The tagged schedule difference from FMM compared to the Base Schedule for an EIM Participant importing a schedule from outside of BANC sinking at the participant's registered location. |
| $\text{CAISO\_15MIN\_FMM\_LMP}_{QSc}$ | $/MWh 15 Minute 9 Decimals | **CAISO 15-Minute FMM LMP** – The 15-minute FMM published LMP price for all CAISO Intertie and resource locations in EIM. The price will be determined by the cross referenced tag segment in the tag and the lookup table in Appendix D. |
| $\text{PPT\_5MIN\_INTERTIE\_IMP\_FMM\_AMT}_{PSGPCLxyzf}$ | $ 5 Min 8 Decimals | **EIM Participant 5-Minute Intertie Import FMM Amount** – The total FMM charge for a schedule change from the FMM to the schedule Base Schedule. |
| $\text{PPT\_5MIN\_TAG\_FMM\_BAA\_EXP\_SCHD}_{PRSGECLxyzf}$ | MWh 5 Min 8 Decimals | **EIM Participant 5-Minute Tagged 15-Minute Market BAA Export Schedule** - The 5-minute tagged energy BAA Export schedule snapshot at 37.5 minutes before the start of the 15-market window that sources at an EIM Participant's load or resource registered location and exports out of BANC. |
| $\text{PPT\_5MIN\_TAG\_BASE\_SCHD\_SRC}_{PRSGECLxyzf}$ | MWh 5 Min 8 Decimals | **EIM Participant 5-Minute Tagged Base Schedule at a Source** - The 5-minute tagged Base Schedule that sources at an EIM Participant location that is either approved or pending approval as seen by the BANC scheduling system at T-57 before the start of the next hour. |
| $\text{PPT\_5MIN\_INTERTIE\_EXP\_FMM\_IMB}_{PRSGECLxyzf}$ | MWh 5 Min 8 Decimals | **Participant 5 Minute Intertie Export FMM Imbalance** – The tagged schedule difference from FMM compared to the |

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| | | Base Schedule for an EIM Participant exporting a schedule to outside of BANC sourcing at the participant's registered location. |
| PPT_5MIN_INTERTIE_EXP_FMM_AMT$_{PRSGECLxyzf}$ | $<br>5 Min<br>8 Decimals | **EIM Participant 5-Minute Intertie EXPORT FMM Amount** – The total FMM charge for a schedule change from the FMM to the schedule Base Schedule. |
| PPT_5MIN_64600_AMT$_{Pf}$ | $<br>5 Min<br>2 Decimal | **EIM Participant Hourly 64600 Amount** - EIM Participant 5-minute allocation of CAISO charge code 64600. |
| PPT_DLY_64600_AMT$_{Pd}$ | $<br>Daily<br>2 Decimal | **EIM Participant Hourly 64600 Amount** - EIM Participant daily allocation of CAISO charge code 64600. |
| BNC_DLY_64600_ALLOC_AMT$_{Bd}$ | $<br>Daily<br>2 Decimal | **BANC Total Daily 64600 Allocation Amount** – Total EIM Participant daily allocation of CAISO charge code 64600. |
| CAISO_DLY_64600_AMT$_{Bd}$ | $<br>Daily<br>2 Decimal | **CAISO Daily 64600 Amount** - The CAISO CC 64600 charge amount to BANC summed to a daily value and rounded to two decimal places. |
| BNC_DLY_64600_ALLOC_DIFF_AMT$_{Bd}$ | $<br>Daily<br>2 Decimal | **BANC Daily 64600 Allocated Differential Amount** - The calculated daily difference between the daily CAISO rounded charge code to the total BANC allocation to EIM Participants. |

## Formulas

**27.4** The CAISO PTB determinant for this charge code will be summed across the 5 minute intervals and will be allocated in the BANC PTB Charge Code.

CAISO_5MIN_64600_PTB_AMT$_{Bf}$[1] $= \sum_{Bf}$(PTBChargeAdjustmentEIMBA5MFMMEnergyAmt$_{BJmdhcif}$)
[1]Rounded to 2 decimal places.

**27.5** The 5-minute charge to BANC for charge code 64600.

CAISO_5MIN_64600_AMT$_{Bf}$[1] = EIMBASettlementIntervalFMMIIEAmount$_{Bmdhcif}$
[1]Rounded to 2 decimal places.

### *Interchange Schedules*

**27.6** For every Intertie import schedule, calculate any FMM imbalance energy by subtracting from the FMM schedule the corresponding Base Schedule if it exists. Schedules which have no change in the FMM will not have any imbalance amounts due in this charge code.

PPT_5MIN_INTERTIE_IMP_FMM_IMB$_{PRSGPCLxyzf}$ =
    PPT_5MIN_TAG_FMM_BAA_IMP_SCHD$_{PRSGECLxyzfL}$ -
    PPT_5MIN_TAG_BASE_SCHD_SNK$_{PRSGECLxyzf}$

where z (Schedule ID) for $PPT\_5MIN\_TAG\_FMM\_BAA\_IMP\_SCHD_{PRSGECLxyzf}$ = z (Schedule ID) for $PPT\_5MIN\_TAG\_BASE\_SCHD\_SNK_{PRSGECLxyzf}$ and x is <u>not</u> a registered location within the BANC BAA.

**27.7** Determine the 15-Minute Market LMP for every CAISO interface ID used by EIM Participants for Interties. These Intertie locations are defined in Appendix D.

$$CAISO\_15MIN\_FMM\_LMP_{QSc} = FMMIntervalLMPPrice_{BrtuT'I'M'mdhc}$$
$$\text{where } r = \text{CAISO Interface ID (Q)}$$

**27.8** Calculate the FMM market imbalance amount for each Intertie import schedule. The FMM LMP will be based on the CAISO Interface ID (Q) of the schedule. Each 5 minute imbalance schedule will be multiplied by the 15-minute LMP for that covers that interval. The result is multiplied by -1 since it is an import.

$$PPT\_5MIN\_INTERTIE\_IMP\_FMM\_AMT_{PRSGECLxyzf}{}^{[1]} =$$
$$-1 * PPT\_5MIN\_INTERTIE\_IMP\_FMM\_IMB_{PRSGECLxyz} * CAISO\_15MIN\_FMM\_LMP_{QSc}$$
$$\text{where S (POR/POD Segment) of } PPT\_5MIN\_INTERTIE\_IMP\_FMM\_IMB_{PRSGECLxyz} =$$
$$\text{S (POR/POD Segment) of } CAISO\_15MIN\_FMM\_LMP_{QSc}$$

[1]Rounded to 2 decimal places.

**27.9** For every Intertie export schedule, calculate any FMM imbalance energy by subtracting from the FMM schedule the corresponding Base Schedule if it exists. Schedules which have no change in the FMM will not have any imbalance amounts due in this charge code.

$$PPT\_5MIN\_INTERTIE\_EXP\_FMM\_IMB_{PRSGECLxyzf} =$$
$$PPT\_5MIN\_TAG\_FMM\_BAA\_EXP\_SCHD_{PRSGECLxyzf} -$$
$$PPT\_5MIN\_TAG\_BASE\_SCHD\_SRC_{PRSGECLxyzf}$$
$$\text{where z (Schedule ID) for } PPT\_5MIN\_TAG\_FMM\_BAA\_EXP\_SCHD_{PRSGECLxyzf} =$$
$$\text{z (Schedule ID) for } PPT\_5MIN\_TAG\_BASE\_SCHD\_SRC_{PRSGECLxyzf}$$
$$\text{and y is } \underline{not} \text{ a registered location within the BANC BAA.}$$

**27.10** Calculate the FMM market imbalance amount for each Intertie export schedule. The FMM LMP will be based on the CAISO Interface ID (Q) of the schedule. Each 5 minute imbalance schedule will be multiplied by the 15-minute LMP for that covers that interval.

$$PPT\_5MIN\_INTERTIE\_EXP\_FMM\_AMT_{PRSGECLxyzf}{}^{[1]} =$$
$$PPT\_5MIN\_INTERTIE\_EXP\_FMM\_IMB_{PRSGECLxyz} * CAISO\_15MIN\_FMM\_LMP_{QSc}$$
$$\text{where S (POR/POD Segment) of } PPT\_5MIN\_INTERTIE\_EXP\_FMM\_IMB_{PRSGECLxyz} =$$
$$\text{S (POR/POD Segment) of } CAISO\_15MIN\_FMM\_LMP_{QSc}$$

[1]Rounded to 2 decimal places.

**27.11** Sum the total of all Intertie imbalance amounts by EIM Participant.

$$PPT\_5MIN\_64600\_AMT_{Pf} = \sum_{Pf}(PPT\_5MIN\_INTERTIE\_IMP\_FMM\_AMT_{PRSGPELxyzf}) +$$
$$\sum_{Pf}(PPT\_5MIN\_INTERTIE\_EXP\_FMM\_AMT_{PRSGECLxyzf})$$

**27.12** Sum each EIM Participant's 5-minute amounts to a daily total.

$$PPT\_DLY\_64600\_AMT_{Pd} = \sum_{Pd}(PPT\_5MIN\_64600\_AMT_{Pf})$$

### *Allocations Monitoring*

**27.13**  The total daily allocation to EIM Participants is summed to a daily total.

$$BNC\_DLY\_64600\_ALLOC\_AMT_{Bd} = \sum\nolimits_{Bd} (PPT\_DLY\_64600\_AMT_{Pd})$$

**27.14**  The total CAISO daily charge to BANC.

$$CAISO\_DLY\_64600\_AMT_{Bd} = \sum\nolimits_{Bd} (CAISO\_5MIN\_64600\_AMT_{Bf})$$

**27.15**  The total daily difference between the credit BANC received and the allocated amount to EIM Participants is calculated and monitored.

$$BNC\_DLY\_64600\_ALLOC\_DIFF\_AMT_{Bd} = CAISO\_DLY\_64600\_AMT_{Bd} - BNC\_DLY\_64600\_ALLOC\_AMT_{Bd}$$

## 28. BANC Charge Code 64700 5 Minute Real Time Instructed Imbalance Energy EIM Settlement

**CAISO Application**

In EIM, the CAISO will bill participating generation and participating load resources in Charge Code 64700 for any energy difference between their 5-minute Real-Time market energy clearing and their 15-minute market clearing at the 5-minute Real-Time market LMP. CAISO calculates all differences on a 5-minute interval. For generators that do not bid into the market, the 5-minute Real-Time market solution will represent the resource's Base Schedule as adjusted by the BAA for manual dispatch. The resulting settlement charge amount is the calculated quantity difference multiplied by the 5-minute Real-Time LMP for that resource. CAISO bills participating resources on the PRSC settlement statements.

CAISO will also bill Interchange tagging in Charge Code 64700 for any energy difference from the final value of the Interchange of tags interval less the volume as seen in the Fifteen Minute Market solution multiplied by the 5-minute Real-Time Intertie market LMP. CAISO bills Interchange tags on the EESC settlement statements.

Non-participating load is not billed for any 5-minute market changes.

This charge code can have a 5-minute PTB to the Scheduling Coordinator.

**BANC Application**

The EIM Entity will not have any registered non-participating generation resources and as such will not incur any 5-minute Real-Time market clearing energy imbalance charges for such resources.

BANC will be billed by CAISO for BANC tag Interchange volume changes but will not be billed for Intrachange schedule changes. CAISO does not see any tags that source and sink within the BAA and see them as revenue neutral to the overall EIM.

BANC will bill all Interchange change tag volume differences from the final tag volume less the volume seen in the 15-minute market clearing. BANC will multiply the schedule change by the CAISO interface 5-minute RTM LMP and will bill the participant where the schedule is sourced or sank. The RTM LMP for each tag will be determined by a path segment on the tag. The allocations vendor will look for a predefined path segment on each tag and then based on the path found will use the LMP Interface Price that is cross referenced to that path segment. The LMP cross reference table is found in Append D – Intertie Tag LMP Cross Reference.

Schedules between EIM Participants within BANC, Intratie schedules, will not be settled for changes between the 5-minute Real-Time Market clearing and the volume seen in the fifteen minute market. Although schedule changes in this time frame can impact which EIM Participant must cover imbalance, the EIM Participants collectively agreed that changes are rare and they will handle them as part of their bilateral settlement between EIM Participants. As for allocation neutrality of this charge code, this will have no impact on the charge or credit being billed by CAISO.

The total allocation of this charge code will be revenue neutral other than rounding differences

BANC will monitor for any PTB and will remove it from this charge allocation to allocate it in the BANC PTB Charge Code.

## 28.1  CAISO Determinants

| Determinants | UOM, Interval Length, Precision | Description | CAISO Statement Bill Determinant Name | CAISO Bill Determinant Attributes | CAISO BPM |
|---|---|---|---|---|---|
| EIMSettlementIntervalIIEAmount$_{BrtQ'mdhcif}$ | $ 5 Minute 9 Decimal | The BA total RTM IIE Settlement Amount for all resources inside EIM Entity BAAs. ($) This value does not include the PTB interval amount. | BANC EESC Bill Determinant Statement: BAA_5M_EIM_IIE @AMOUNT | | BPM Configuration Guide: Real Time Instructed Imbalance Energy Settlement EIM Settlement CC 64700 Version 5.2 |
| PTBChargeAdjustmentEIMSettlementIntervalIIEAmount$_{Bjmdhcif}$ | $ 5 Minute 9 Decimal | Real Time Instructed Imbalance Energy Settlement Amount PTB Charge Adjustment Amount for Business Associate B, PTB Id J, Trading Hour h, and Settlement Interval i. $ | BANC EESC Bill Determinant Statement: PTB_BA_5M_EIM _IIE_ADJ@AMOUNT | | BPM Configuration Guide: Real Time Instructed Imbalance Energy Settlement EIM Settlement CC 64700 Version 5.2 |
| SettlementIntervalRealTimeLMP$_{BrtuM'mdhcif}$ | $ 5 Minute 9 Decimal | The RTM Interval Locational Marginal Price for Resource r. ($/MWh) | CAISO Determinant Statement: BA_5M_RSRC_RT _LMP@PRICE | | BPM Configuration Guide: Real Time Instructed Imbalance Energy Settlement EIM Settlement CC 64700 Version 5.2 |

## 28.2  BANC Provided Determinants

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| | | |

## 28.3  BANC Allocation Determinants

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| CAISO_5MIN_64700_PTB_AMT$_{Bf}$ | $ 5 Minute 2 Decimal | **CAISO 5-Minute 64700 Pass Through Billing Amount** - A 5-minute interval amount when applicable related to CAISO Charge Code 64700. |
| CAISO_5MIN_64700_AMT$_{Bf}$ | $ 5 Minute 2 Decimal | **CAISO 5-Minute 64700 Amount** - The CAISO CC 64700 charge amount to BANC rounded to two decimal places. |
| PPT_5MIN_TAG_FNL_BAA_IMP_SCHD$_{PRSGECLxyzf}$ | MWh 5 Min 8 Decimals | **EIM Participant 5-Minute Tagged Final Balancing Authority Area Import Schedule** - The final after the fact 5-minute tagged energy schedule that sinks at an EIM Participant's load or |

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| | | resource registered location and imports into BANC. |
| PPT_5MIN_TAG_FMM_BAA_IMP_SCHD<sub>PRSGECLxyzf</sub> | MWh<br>5 Min<br>8 Decimals | **EIM Participant 5-Minute Tagged 15-Minute Market BAA Import Schedule** - The 5-minute tagged energy BAA Import schedule snapshot at 37.5 minutes before the start of the 15-market window that sinks at an EIM Participant's load or resource registered location and imports from outside of BANC. |
| PPT_5MIN_INTERTIE_IMP_RTM_IMB<sub>PRSGECLxyzf</sub> | MWh<br>5 Min<br>8 Decimals | **Participant 5 Minute Intertie Import RTM Imbalance** – The tagged schedule difference from final schedule compared to the schedule in the FMM for an EIM Participant importing a schedule from outside of BANC sinking at the participant's registered location. |
| CAISO_5MIN_RTM_LMP<sub>QSf</sub> | $/MWh<br>5 Minute<br>9 Decimals | **CAISO 5-Minute RTM LMP** – The 5-minute RTM published LMP price for all CAISO Intertie and resource locations in EIM. The price will be determined by the cross referenced tag segment in the tag and the lookup table in Appendix D. |
| PPT_5MIN_INTERTIE_IMP_RTM_AMT<sub>PRSGECLxyzf</sub> | $<br>5 Min<br>8 Decimals | **EIM Participant 5-Minute Intertie Import RTM Amount** – The total RTM charge for an import schedule change from the final schedule to the FMM schedule. |
| PPT_5MIN_TAG_FNL_BAA_EXP_SCHD<sub>PRSGECLxyzf</sub> | MWh<br>5 Min<br>8 Decimals | **EIM Participant 5-Minute Tagged Final Balancing Authority Area Export Schedule** - The final after the fact 5-minute tagged energy schedule that sources at an EIM Participant's load or resource registered location and exports out of BANC. |
| PPT_5MIN_TAG_FMM_BAA_EXP_SCHD<sub>PRSGECLxyzf</sub> | MWh<br>5 Min<br>8 Decimals | **EIM Participant 5-Minute Tagged 15-Minute Market BAA Export Schedule** - The 5-minute tagged energy BAA Export schedule snapshot at 37.5 minutes before the start of the 15-market window that sources at an EIM Participant's load or resource registered location and exports out of BANC. |
| PPT_5MIN_INTERTIE_EXP_RTM_IMB<sub>PRSGECLxyzf</sub> | MWh<br>5 Min<br>8 Decimals | **EIM Participant 5-Minute Intertie Export RTM Amount** – The total RTM charge for an export schedule change from the final schedule to the FMM schedule. |
| PPT_5MIN_INTERTIE_EXP_RTM_AMT<sub>PRSGECLxyzf</sub> | $<br>5 Min<br>8 Decimals | **EIM Participant 5-Minute Intertie EXPORT RTM Amount** – The total RTM charge for an export schedule change from the final schedule to the FMM schedule. |

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| PPT_5MIN_64700_AMT$_{Pf}$ | $ Hourly 2 Decimal | **EIM Participant Hourly 64700 Amount** - EIM Participant hourly allocation of CAISO charge code 64700. |
| BNC_DLY_64700_ALLOC_AMT$_{Bd}$ | $ Daily 2 Decimal | **BANC Total Daily 64700 Allocation Amount** – Total EIM Participant daily allocation of CAISO charge code 64700. |
| CAISO_DLY_64700_AMT$_{Bd}$ | $ Daily 2 Decimal | **CAISO Daily 64700 Amount** - The CAISO CC 64700 charge amount to BANC summed to a daily value and rounded to two decimal places. |
| BNC_DLY_64700_ALLOC_DIFF_AMT$_{Bd}$ | $ Daily 2 Decimal | **BANC Daily 64700 Allocated Differential Amount** - The calculated daily difference between the daily CAISO rounded charge code to the total BANC allocation to its participants. |

**Formulas**

**28.4**  The CAISO PTB determinant for this charge code will be summed across the 5 minute intervals and will be allocated in the BANC PTB Charge Code.

$$CAISO\_5MIN\_64700\_PTB\_AMT_{Bf}{}^1 = \sum\nolimits_{Bf}(PTBChargeAdjustmentEIMSettlementIntervalIIEAmount_{Bjmdhcif})$$
[1]Rounded to 2 decimal places.

**28.5**  The 5-minute charge to BANC for charge code 64700. This 5-minute value will be used to check the total settlement allocation for accuracy. Any PTB amount is not included in this determinant.

$$CAISO\_5MIN\_64700\_AMT_{Bf}{}^1 = EIMSettlementIntervalIIEAmount_{BrtQ'mdhcif}$$
[1]Rounded to 2 decimal places.

*Interchange Schedules*

**28.6**  For every Intertie import schedule, calculate any RTM imbalance energy by subtracting the final RTM schedule from the corresponding FMM Schedule if it exists. Schedules which have no change will not have any imbalance amounts due in this charge code.

$$PPT\_5MIN\_INTERTIE\_IMP\_RTM\_IMB_{PRSGECLxyzf} = PPT\_5MIN\_TAG\_FNL\_BAA\_IMP\_SCHD_{PRSGECLxyzf} - PPT\_5MIN\_TAG\_FMM\_BAA\_IMP\_SCHD_{PRSGECLxyzf}$$

where z (Schedule ID) for $PPT\_5MIN\_TAG\_FNL\_BAA\_IMP\_SCHD_{PRSGECLxyzf} =$ z (Schedule ID) for $PPT\_5MIN\_TAG\_FMM\_BAA\_IMP\_SCHD_{PRSGECLxyzf}$ and x is <u>not</u> a registered location within the BANC BAA.

**28.7**  Determine the RTM CAISO interface ID used by EIM Participants for Interties. These Intertie locations are defined in Appendix D.

$$CAISO\_5MIN\_RTM\_LMP_{QSf} = SettlementIntervalRealTimeLMP_{BrtuM'mdhcif}$$
where r = CAISO Interface ID (Q)

**28.8**   Calculate the RTM market imbalance amount for each Intertie import schedule. The RTM LMP will be based on the CAISO Interface ID (Q) of the schedule. Each 5 minute imbalance schedule will be multiplied by the 5-minute LMP for that covers that interval. The result is multiplied by -1 since it is an import.

$$PPT\_5MIN\_INTERTIE\_IMP\_RTM\_AMT_{PRSQGECLxyzf}[1] =$$
$$-1 * PPT\_5MIN\_INTERTIE\_IMP\_RTM\_IMB_{PRSQGECLxyz} * CAISO\_5MIN\_RTM\_LMP_{Qf}$$
where S (POR/POD Segment) of $PPT\_5MIN\_INTERTIE\_IMP\_RTM\_IMB_{PRSQGECLxyz} =$
S (POR/POD Segment) of $CAISO\_15MIN\_FMM\_LMP_{QSf}$

[1]Rounded to 2 decimal places.

**28.9**   For every Intertie export schedule, calculate any RTM imbalance energy by subtracting the RTM schedule from the corresponding FMM Schedule if it exists. Schedules which have no change in the RTM will not have any imbalance amounts due in this charge code.

$$PPT\_5MIN\_INTERTIE\_EXP\_RTM\_IMB_{PRSGECLxyzf} =$$
$$PPT\_5MIN\_TAG\_FNL\_BAA\_EXP\_SCHD_{PRSGECLxyzf} -$$
$$PPT\_5MIN\_TAG\_FMM\_BAA\_EXP\_SCHD_{PRSGECLxyzf}$$
where z (Schedule ID) for $PPT\_5MIN\_TAG\_FNL\_BAA\_EXP\_SCHD_{PRSGECLxyzf} =$
z (Schedule ID) for $PPT\_5MIN\_TAG\_FMM\_BAA\_EXP\_SCHD_{PRSGECLxyzf}$
and y is <u>not</u> a registered location within the BANC BAA.

**28.10**   Calculate the RTM market imbalance amount for each Intertie export schedule. The RTM LMP will be based on the CAISO Interface ID (Q) of the schedule. Each 5-minute imbalance schedule will be multiplied by the 5-minute LMP for that covers that interval.

$$PPT\_5MIN\_INTERTIE\_EXP\_RTM\_AMT_{PRSGECLxyzf}[1] =$$
$$PPT\_5MIN\_INTERTIE\_EXP\_RTM\_IMB_{PRSGECLxyz} * CAISO\_5MIN\_RTM\_LMP_{QSf}$$
where S (POR/POD Segment) of $PPT\_5MIN\_INTERTIE\_IMP\_RTM\_IMB_{PRSQGECLxyz} =$
S (POR/POD Segment) of $CAISO\_15MIN\_FMM\_LMP_{QSf}$

[1]Rounded to 2 decimal places.

**28.11**   Sum the total of all Intertie imbalance amounts by EIM Participant.

$$PPT\_5MIN\_64700\_AMT_{Pf} = \sum\nolimits_{Pf}(PPT\_5MIN\_INTERTIE\_IMP\_RTM\_AMT_{PRSGECLxyzf}) +$$
$$\sum\nolimits_{Pf}(PPT\_5MIN\_INTERTIE\_EXP\_RTM\_AMT_{PRSGECLxyzf})$$

**28.12**   Sum each EIM Participant's 5 minute amounts to a daily total.

$$PPT\_DLY\_64700\_AMT_{Pd} = \sum\nolimits_{Pd}(PPT\_5MIN\_64700\_AMT_{Pf})$$

## *Allocations Monitoring*

**28.13**   The total daily allocation to EIM Participants is summed to a daily total.

$$BNC\_DLY\_64700\_ALLOC\_AMT_{Bd} = \sum\nolimits_{Bd}(PPT\_DLY\_64700\_AMT_{Pd})$$

**28.14**   The total CAISO daily charge to BANC.

$$CAISO\_DLY\_64700\_AMT_{Bd} = \sum\nolimits_{Bd}(CAISO\_5MIN\_64700\_AMT_{Bf})$$

**28.15** The total daily difference between the credit BANC received and the allocated amount to EIM Participants is calculated and monitored.

$$BNC\_DLY\_64700\_ALLOC\_DIFF\_AMT_{Bd} = CAISO\_DLY\_64700\_AMT_{Bd} - BNC\_DLY\_64700\_ALLOC\_AMT_{Bd}$$

## 29. BANC Charge Code 64740 Hourly Real Time Unaccounted for Energy EIM Settlement

### CAISO Application

The CAISO shall calculate and account for Unaccounted for Energy (UFE) for each settlement Interval by EIM balancing authority and shall settle UFE as part of the Real-Time Market Settlements. The UFE will be settled as Imbalance Energy at the applicable settlement interval locational marginal price calculated for each balancing area. UFE is attributable to meter measurement errors, Load profile errors, energy theft and distribution loss deviations. The resulting charge in EIM is billed to the EESC scheduling coordinator.

This charge does not have any PTB associated to it.

### BANC Application

BANC will allocate any charges for Real Time Unaccounted for Energy EIM Settlement by hour to EIM Participants based on the EIM Participant Load Ratio Share Precalculation.

The portion of the charge code estimated to TPUD will be held by BANC and reallocated by BANC Accounting to non-WAPA participants outside of this allocation process.

### 29.1  *CAISO Determinants*

| Determinants | UOM, Interval Length, Precision | Description | CAISO Statement Bill Determinant Name | CAISO Bill Determinant Attributes | CAISO BPM |
|---|---|---|---|---|---|
| BA_EIMBAA_SettlementInterval_UnaccountedforEnergy_SettlementAmount$_{BuQ'mdhcif}$ | $ 5 Minute 9 Decimal | Real Time Unaccounted for Energy Settlement amount (in U.S. $). | BANC EESC Bill Determinant Statement: BA_5M_UDC_EIM_BAA_UFE@AMOUNT | | BPM Configuration Guide: Real Time Uninstructed Unaccounted for Energy EIM Settlement CC 64740 Version 5.1 |
| EIMBAASettlementIntervalUFEQuantity$_{uQ'mdhcif}$ | MWh 5 Minute 9 Decimal | The Real-Time 5-Minute Unaccounted for Energy Quantity. | BANC EESC Bill Determinant Statement: UDC_5M_EIM_BAA_UFE@QUANTITY | | BPM Configuration Guide: Real Time Uninstructed Unaccounted for Energy EIM Settlement CC 64740 Version 5.1 |
| HourlyUFEUDCLMP$_{umdhcif}$ | $ Hourly 5 Decimal | An output from the Real Time Price Pre-calculation. It is the specific UFE price applied to applicable UDC. | CAISO Bill Determinant Statement: UFE_HRLY_RTM_UDC@PRICE | | BPM Configuration Guide: Real Time Uninstructed Unaccounted for Energy EIM |

| Determinants | UOM, Interval Length, Precision | Description | CAISO Statement Bill Determinant Name | CAISO Bill Determinant Attributes | CAISO BPM |
|---|---|---|---|---|---|
| | | | | | Settlement CC 64740 Version 5.1 |
| EIMBAASettlementIntervalActualTransmissionLoss$_{uT'Q'mdhcif}$ | MWh 5 Minute 9 Decimal | The calculated quantity (in MWh) of actual transmission line and facility losses associated with Energy scheduled for EIM BAA. This is reported as a negative value. | BANC EESC Bill Determinant Statement: UDC_5M_ACTUAL_EIM_BAA_TRANS_LOSS@QUANTITY | | BPM Configuration Guide: Real Time Uninstructed Unaccounted for Energy EIM Settlement CC 64740 Version 5.1 |

## 29.2  BANC Provided Determinants

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| | | |

## 29.3  BANC Allocation Determinants

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| CAISO_5MIN_64740_AMT$_{Bf}$ | $ 5 Minute 2 Decimal | **CAISO 5-Minute 64740 Amount** - The CAISO CC 64740 charge amount to BANC rounded to two decimal places. |
| CAISO_HRLY_64740_AMT$_{Bh}$ | $ Hourly 2 Decimal | **CAISO Hourly 64740 Amount** - The CAISO CC 64740 5-minute charge amount summed to an hourly amount. |
| PPT_HRLY_LRS$_{Ph}$ | Decimal Hourly 5 Decimals | **EIM Participant Hourly Load Ratio Share** - The hourly percent in decimal of load for an EIM Participant to the total hourly BANC load. |
| PPT_HRLY_64740_AMT$_{Ph}$ | $ Hourly 2 Decimal | **EIM Participant Hourly 64740 Amount** - EIM Participant hourly allocation of CAISO charge code 64740. |
| TPUD_HRLY_LRS$_{Bh}$ | Decimal Hourly 5 Decimals | **TPUD Hourly Load Ratio Share** - The hourly percent in decimal of TPUD's load for compared to the total hourly BANC load. |
| TPUD_HRLY_64740_AMT$_{Bh}$ | $ Hourly 2 Decimal | **BANC TPUD Hourly 64740 Amount** - BANC TPUD hourly estimate of CAISO charge code 64740. |
| PPT_DLY_64740_AMT$_{Pd}$ | $ Daily 2 Decimal | **EIM Participant Daily 64740 Amount** - EIM Participant daily allocation of CAISO charge code 64740. |

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| TPUD_DLY_64740_AMT$_{Bd}$ | $ Daily 2 Decimal | **BANC TPUD Daily 64740 Amount** - BANC TPUD daily estimate of CAISO charge code 64740. |
| BNC_DLY_64740_ALLOC_AMT$_{Bd}$ | $ Daily 2 Decimal | **BANC Total Daily 64740 Allocation Amount** – Total EIM Participant daily allocation of CAISO charge code 64740. |
| CAISO_DLY_64740_AMT$_{Bd}$ | $ Daily 2 Decimal | **CAISO Daily 64740 Amount** - The CAISO CC 64740 charge amount to BANC summed to a daily value and rounded to two decimal places. |
| BNC_DLY_64740_ALLOC_DIFF_AMT$_{Bd}$ | $ Daily 2 Decimal | **BANC Daily 64740 Allocated Differential Amount** - The calculated daily difference between the daily CAISO rounded charge code to the total BANC allocation to its participants. |

## Formulas

**29.4** The 5-minute charge to BANC for charge code 64740.

$\text{CAISO\_5MIN\_64740\_AMT}_{Bf}{}^{1} =$
$$\text{BA\_EIMBAA\_SettlementInterval\_UnaccountedforEnergy\_SettlementAmount}_{BuQ'mdhcif}$$
[1]Rounded to 2 decimal places.

**29.5** Sum the CAISO 5-minute charge to an hourly charge.

$\text{CAISO\_HRLY\_64740\_AMT}_{Bh} = \sum_{Bh}(\text{CAISO\_5MIN\_64740\_AMT}_{Bf})$

**29.6** These charges are allocated hourly to EIM Participants using the EIM Participant Load Ratio Share Precalculation.

$\text{PPT\_HRLY\_64740\_AMT}_{Ph}{}^{1} = \text{CAISO\_HRLY\_64740\_AMT}_{Bh} * \text{PPT\_HRLY\_LRS}_{Ph}$
[1]Rounded to 2 decimal places.

**29.7** The hourly cost estimate associated with TPUD.

$\text{TPUD\_HRLY\_64740\_AMT}_{Bh}{}^{1} = \text{CAISO\_HRLY\_64740\_AMT}_{Bh} * \text{TPUD\_HRLY\_LRS}_{Bh}$
[1]Rounded to 2 decimal places.

**29.8** Calculate the daily charge code total for each EIM Participant.

$\text{PPT\_DLY\_64740\_AMT}_{Pd} = \sum_{Pd}(\text{PPT\_HRLY\_64740\_AMT}_{Ph})$

**29.9** Calculate the daily charge code total related to TPUD.

$\text{TPUD\_DLY\_64740\_AMT}_{Bd} = \sum_{Bd}(\text{TPUD\_HRLY\_64740\_AMT}_{Bh})$

**29.10** The 5-minute UFE imbalance volume as calculated by CAISO will be defined to a determinant for reporting and monitoring.

$BNC\_5MIN\_UFE\_QTY_{Bf} = EIMBAASettlementIntervalUFEQuantity_{uQ'mdhcif}$

**29.11** The 5-minute UFE imbalance price as calculated by CAISO will be defined to a determinant for reporting and monitoring.

$BNC\_5MIN\_UFE\_LMP_{Bf} = HourlyUFEUDCLMP_{umdhcif}$

**29.12** The CAISO calculated BAA transmission losses by 5-minute interval. Losses display as a negative value by CAISO. This value is being set to a determinant for reporting and monitoring.

$BNC\_5MIN\_TX\_LOSS\_QTY_{Bf} = EIMBAASettlementIntervalActualTransmissionLoss_{uT'Q'mdhcif}$

**29.13** The total daily allocation to EIM Participants is summed to a daily total.

$BNC\_DLY\_64740\_ALLOC\_AMT_{Bd} = \sum_{Bd} (PPT\_DLY\_64740\_AMT_{Pd}) + TPUD\_DLY\_64740\_AMT_{Bd}$

**29.14** The total CAISO daily charge to BANC.

$CAISO\_DLY\_64740\_AMT_{Bd} = \sum_{Bd} (CAISO\_HRLY\_64740\_AMT_{Bh})$

**29.15** The total daily difference between the credit BANC received and the allocated amount to EIM Participants is calculated and monitored.

$BNC\_DLY\_64740\_ALLOC\_DIFF\_AMT_{Bd} = CAISO\_DLY\_64740\_AMT_{Bd} - BNC\_DLY\_64740\_ALLOC\_AMT_{Bd}$

# 30. BANC Charge Code 64750 Hourly Real Time Uninstructed Energy EIM Settlement

**CAISO Application**

In EIM, the CAISO will bill participating generation and participating load resources for any energy imbalance difference from the reported meter data to the dispatch from the 5-minute Real-Time Market solution. For generators that do not bid into the market, the 5-minute Real-Time Market solution will represent the resource's Base Schedule as adjusted in Real-Time by the BAA for manual dispatch. The resulting settlement charge amount is the calculated quantity difference multiplied by the 5-minute LMP for that resource. CAISO bills participating resources on the PRSC settlement statements.

CAISO will bill non-participating resources energy imbalance in the same manner that participating resources are billed except they will be billed on the EESC settlement statement.

CAISO will bill non non-participating BAA load energy imbalance for the quantity difference from the reported meter data to the CAISO calculated BAA load Base Schedule and then multiple the result by the calculated hourly load LMP (LAP) for the BAA. The BAA load Base Schedule is the total of all generation Base Schedules in the BAA plus the sum of the net BAA tagged Interchange based schedules with the result being reduced by a fixed transmission loss percentage. All non-participating load energy imbalance will be billed on the EESC settlement statement.

In EIM, Interchange tagging does not incur any uninstructed imbalance. CAISO uses the final tagged schedule volume to calculate the Real-Time instructed energy imbalance in charge code 64700.

This charge code can have a 5-minute PTB to the Scheduling Coordinator.

**BANC Application**

BANC BAA will not have any registered non-participating generation resources and as such will not incur any uninstructed imbalance energy charges for resources.

BANC BAA will receive a 5-minute uninstructed imbalance charge for each EIM Participant's load imbalance at each EIM Participant's CLAP. The load imbalance  for each EIM Participant will result from the difference of the participant's reported load less a prorated assumed Base Schedule load by CAISO. CAISO calculate a load uninstructed imbalance energy charge by multiplying the load imbalance by each EIM Participant's CLAP. BANC has determined this method is inaccurate and will calculate an hourly load Base Schedule for each EIM Participant and will calculate the actual load imbalance. BANC will charge each EIM Participant for their imbalance at each participant's CLAP. This methodology will produce some neutrality discrepancies which will be allocated in BANC Charge Code 100.

BANC will monitor for any PTB and will remove it from this charge allocation to allocate it in the BANC PTB Charge Code.

## 30.1  CAISO Determinants

| Determinants | UOM, Interval Length, Precision | Description | CAISO Statement Bill Determinant Name | CAISO Bill Determinant Attributes | CAISO BPM |
|---|---|---|---|---|---|
| PTBChargeAdjustmentEIMSettlementIntervalUIEAmount$_{BjQ'mdhcif}$ | $ 5 Minute 9 Decimal | Real Time Uninstructed Imbalance Energy Settlement Amount PTB Charge Adjustment Amount for Business | BANC EESC Bill Determinant Statement: PTB_BA_5M_UIE@PTB_SUBTOT_CURRENT_AMOUNT | | BPM Configuration Guide: Real Time Uninstructed Imbalance Energy EIM Settlement CC 64750 Version 5.1 |
| EIMSettlementIntervalUIESettlementAmount$_{BrtuT'I'Q'M'mdhcif}$ | $ 5 Minute 9 Decimal | Settlement Interval UIE Settlement Amount for resource r ($) | BANC EESC Bill Determinant Statement: BA_5M_RSRC_UIE@SUB_SUBTOT_CURRENT_AMOUNT | | BPM Configuration Guide: Real Time Uninstructed Imbalance Energy EIM Settlement CC 64750 Version 5.1 |
| HourlyRTMLAPPrice$_{AA'mdh}$ | $ Hourly 9 Decimal | Hourly Real Time Market LAP Price for APnode A. | CAISO Bill Determinant Statement: LAP_HRLY_RTM_LMP@PRICE | | BPM Configuration Guide: Real Time Uninstructed Imbalance Energy EIM Settlement CC 64750 Version 5.1 |

## 30.2  BANC Provided Determinants

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| | | |

## 30.3  BANC Allocation Determinants

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| CAISO_5MIN_64750_PTB_AMT$_{Bf}$ | $ 5 Minute 2 Decimal | **CAISO 5-Minute 64750 Pass Through Billing Amount** - A 5-minute interval amount when applicable related to CAISO Charge Code 64750. |
| CAISO_5MIN_64750_AMT$_{Bf}$ | $ 5 Minute 2 Decimal | **CAISO 5-Minute 64750 Amount** - The CAISO CC 64750 charge amount to BANC rounded to two decimal places. |

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| CAISO_HRLY_64750_AMT$_{Bh}$ | $<br>Hourly<br>2 Decimal | **CAISO Hourly 64750 Amount** - The CAISO CC 64750 5-minute charge amount summed to an hourly amount. |
| PPT_HRLY_LD_QTY$_{Ph}$ | MWh<br>Hourly<br>4 Decimals | **EIM Participant Hourly Load Quantity** - The total hourly megawatt-hour load for an EIM Participant. This determinant is calculated in the *EIM Participant Load Ratio Share Precalculation.* |
| PPT_HRLY_LD_BASE_SCHD$_{Ph}$ | MWh<br>Hourly<br>2 Decimals | **EIM Participant Hourly Load Base Schedule** - EIM Participant total hourly load Base Schedule rounded to two decimal places. This determinant is calculated in the *EIM Participant Load Base Schedule Precalculation.* |
| PPT_HRLY_LOAD_UIE$_{Ph}$ | MWh<br>Hourly<br>4 Decimals | **EIM Participant Hourly Load Uninstructed Imbalance Energy Quantity** – The hourly uninstructed energy at an EIM Participant's load in MWh. |
| PPT_HRLY_RTM_LAP_PRICE$_{Ph}$ | $/MWh<br>Hourly<br>9 Decimals | **EIM Participant Hourly Real Time Market Price** – The EIM Participant CAISO hourly load calculated LMP (CLAP). |
| PPT_HRLY_64750_AMT$_{Ph}$ | $<br>Hourly<br>2 Decimal | **EIM Participant Hourly 64750 Amount** - EIM Participant hourly allocation of CAISO charge code 64750. |
| PPT_DLY_64750_AMT$_{Pd}$ | $<br>Daily<br>2 Decimal | **EIM Participant Daily 64750 Amount** - EIM Participant daily allocation of CAISO charge code 64750 rounded to two decimal places. |
| BNC_HRLY_64750_AMT$_{Bh}$ | $<br>Hourly<br>2 Decimal | **BANC Hourly Allocated 64750 Amount** – The allocated hourly over and under schedule penalty amount. |
| BNC_DLY_64750_ALLOC_AMT$_{Bd}$ | $<br>Daily<br>2 Decimal | **BANC Total Daily 64750 Allocation Amount** – Total EIM Participant daily allocation of CAISO charge code 64750. |
| CAISO_DLY_64750_AMT$_{Bd}$ | $<br>Daily<br>2 Decimal | **CAISO Daily 64750 Amount** – The CAISO total daily CC64750 Amount to BANC. |
| BNC_HRLY_64750_ALLOC_DIFF_AMT$_{Bh}$ | $<br>Hourly<br>2 Decimal | **BANC Hourly 64750 Allocated Hourly Differential Amount** – The calculated hourly difference between the hourly CAISO rounded charge code to the total BANC allocation to its participants. |
| BNC_DLY_64750_ALLOC_DIFF_AMT$_{Bd}$ | $<br>Daily<br>2 Decimal | **BANC Daily 64750 Allocated Differential Amount** - The calculated daily difference between the daily CAISO rounded charge code to the total BANC allocation to its participants. |

**Formulas**

**30.4** The CAISO PTB determinant for this charge code will be summed across the 5-minute intervals and will be allocated in the BANC PTB Charge Code.

$$CAISO\_5MIN\_64750\_PTB\_AMT_{Bf}{}^1 =$$
$$\sum_{Bf}(PTBChargeAdjustmentEIMSettlementIntervalUIEAmount_{BjQ'mdhcif})$$

[1]Rounded to 2 decimal places.

**30.5** The 5-minute charge to BANC for charge code 64750. This is the total charge code 5-minute total for all of the EIM Participants.

$$CAISO\_5MIN\_64750\_AMT_{Bf}{}^1 = EIMSettlementIntervalUIESettlementAmount_{BrtuT'I'Q'M'mdhcif}$$

[1]Rounded to 2 decimal places.

**30.6** The 5-minute charge BANC charge code 64750 will be summed to an hourly value so it can be compared to the total allocation by hour to all the EIM Participants.

$$CAISO\_HRLY\_64750\_AMT_{Bh} = \sum_{Bh}(CAISO\_5MIN\_64750\_AMT_{Bf})$$

**30.7** BANC will calculate each EIM Participant's load imbalance by taking the EIM Participants' 5-minute CASIO reported meter data summed to an hourly total and then will subtract from it their BANC calculated load Base Schedule.

$$PPT\_HRLY\_LOAD\_UIE_{Ph} = PPT\_HRLY\_LD\_QTY_{Ph} - PPT\_HRLY\_LD\_BASE\_SCHD_{Ph}$$

**30.8** Each EIM Participant LMP price (CLAP) will be pulled from the CAISO settlement statements.

$$PPT\_HRLY\_RTM\_LAP\_PRICE_{Ph} = HourlyRTMLAPPrice_{AA'mdh}$$
$$where\ APN\_ID\ (A) = EIM\ Participant's\ CLAP\ APNode$$

**30.9** Each participant's hourly load imbalance amount is calculated using the EIM Participant's load price.

$$PPT\_HRLY\_64750\_AMT_{Ph}{}^1 = PPT\_HRLY\_LOAD\_UIE_{Ph} * PPT\_HRLY\_RTM\_LAP\_PRICE_{Ph}$$

[1]Rounded to 2 decimal places.

**30.10** Sum the hourly allocate to a daily total for each EIM Participant.

$$PPT\_DLY\_64750\_AMT_{Pd} = \sum_{Bd}(PPT\_HRLY\_64750\_AMT_{Ph})$$

*Allocations Monitoring*

**30.11** Total BANC allocation by hour to all EIM Participants.

$$BNC\_HRLY\_64750\_AMT_{Bh} = \sum_{Bh}(PPT\_HRLY\_64750\_AMT_{Ph})$$

**30.12** The total daily allocation to EIM Participants is summed to a daily total.

$$BNC\_DLY\_64750\_ALLOC\_AMT_{Bd} = \sum_{Bd}(PPT\_DLY\_64750\_AMT_{Bd})$$

**30.13** CAISO hourly charge to BANC summed to a daily amount.

$$CAISO\_DLY\_64750\_AMT_{Bd} = \sum_{Bd}(CAISO\_HRLY\_64750\_AMT_{Bh})$$

**30.14** The differential from CAISO's charge code to BANC's allocated amount by hour.

$$BNC\_HRLY\_64750\_ALLOC\_DIFF\_AMT_{Bh} = CAISO\_HRLY\_64750\_AMT_{Bh} - BNC\_HRLY\_64750\_AMT_{Bh}$$

**30.15** The total daily difference between the credit BANC received and the allocated amount to EIM Participants is calculated and monitored.

$$BNC\_DLY\_64750\_ALLOC\_DIFF\_AMT_{Bd} = CAISO\_DLY\_64750\_AMT_{Bd} - BNC\_DLY\_6470\_ALLOC\_AMT_{Bd}$$

# 31. BANC Charge Code 64770 Hourly Real Time Imbalance Energy Offset EIM

**CAISO Application**

To the extent that the sum of the CAISO Settlement Amounts for EIM Financial Transfer, Greenhouse Gas Compensation, IIE, UIE, and UFE, less the RT Energy Congestion revenues computed within Real-Time Congestion Offset (from CC 67740) less the Real-Time Marginal Cost of Losses Offset (from CC 69850) and EIM Transfer Adjustment does not equal zero, the CAISO will assess Charges or make Payments in Real Time Imbalance Energy Offset (CC 64770) for the resulting differences to the EESC.

There is a no PTB amount with this charge code.

**BANC Application**

BANC will allocate the 5-minute CAISO charge code to the hourly amount and then will allocate it to EIM Participants on an Hourly EIM Participant Absolute Imbalance Ratio Precalculation.

The portion of the charge code estimated to TPUD will be held by BANC and reallocated by BANC Accounting to non-WAPA participants outside of this allocation process.

## 31.1 *CAISO Determinants*

| Determinants | UOM, Interval Length, Precision | Description | CAISO Statement Bill Determinant Name | CAISO Bill Determinant Attributes | CAISO BPM |
|---|---|---|---|---|---|
| EIMEntityRealTimeImbalance EnergyOffsetAllocationAmount$_{BQ'mdhcif}$ | $ 5 Minute 9 Decimal | Total Real Time Imbalance Energy Offset Settlement Amount for an EESC by Balancing Authority Area. | BANC EESC Bill Determinant Statement: BA_5M_RT_IMB_E NGY_OFFSET_EIM _ALLOC@AMOUN T | | BPM Configuration Guide: Real Time Imbalance Energy Offset EIM CC 64770 Version 5.2 |

## 31.2 *BANC Provided Determinants*

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| | | |

## 31.3 *BANC Allocation Determinants*

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| CAISO_5MIN_64770_AMT$_{Bf}$ | $ 5 Minute 2 Decimal | **CAISO 5-Minute 64770 Amount** - The CAISO CC 64770 charge amount to BANC rounded to two decimal places. |
| CAISO_HRLY_64770_AMT$_{Bh}$ | $ Hourly 2 Decimal | **CAISO Hourly 64770 Amount** - The CAISO CC 64770 5-minute charge amount to BANC is summed to an hourly amount. |

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| $PPT\_HRLY\_ABS\_IMB\_RATIO_{Ph}$ | Decimal<br>Hourly<br>5 Decimal | **EIM Participant Hourly Absolute Imbalance Ratio** – The EIM Participant's hourly decimal ratio of the imbalance allocation share. Rounded to 5 decimals. |
| $PPT\_HRLY\_64770\_AMT_{Ph}$ | $<br>Hourly<br>2 Decimal | **EIM Participant Hourly 64770 Amount** - EIM Participant hourly allocation of CAISO charge code 64770 rounded to two decimal places. |
| $TPUD\_HRLY\_ABS\_IMB\_RATIO_{Bh}$ | Decimal<br>Hourly<br>5 Decimal | **TPUD Hourly Absolute Imbalance Ratio** – The TPUD hourly decimal ratio of the imbalance allocation share. Rounded to 5 decimals. |
| $TPUD\_HRLY\_64770\_AMT_{Bh}$ | $<br>Hourly<br>2 Decimal | **BANC TPUD Hourly 64770 Amount** - BANC TPUD hourly estimate of CAISO charge code 64770 rounded to two decimal places. |
| $PPT\_DLY\_64770\_AMT_{Pd}$ | $<br>Daily<br>2 Decimal | **EIM Participant Daily 64770 Amount** - EIM Participant daily allocation of CAISO charge code 64770. |
| $TPUD\_DLY\_64770\_AMT_{Bd}$ | $<br>Daily<br>2 Decimal | **BANC TPUD Daily 64770 Amount** - BANC TPUD daily estimate of CAISO charge code 64770. |
| $BNC\_DLY\_64770\_ALLOC\_AMT_{Bd}$ | $<br>Daily<br>2 Decimal | **BANC Total Daily 64770 Allocation Amount** – Total EIM Participant daily allocation of CAISO charge code 64770. |
| $CAISO\_DLY\_64770\_AMT_{Bd}$ | $<br>Daily<br>2 Decimal | **CAISO Daily 64770 Amount** - The CAISO CC 64770 5-minute charge amount to BANC is summed to a daily amount. |
| $BNC\_DLY\_64770\_ALLOC\_DIFF\_AMT_{Bd}$ | $<br>Daily<br>2 Decimal | **BANC Daily 64770 Allocated Differential Amount** - The calculated daily difference between the daily CAISO rounded charge code to the total BANC allocation to EIM Participants. |

## Formulas

**31.4**  The 5-minute charge to BANC for charge code 64770.

$$CAISO\_5MIN\_64770\_AMT_{Bf}{}^{1} = EIMEntityRealTimeImbalanceEnergyOffsetAllocationAmount_{BQ'mdhcif}$$
[1]Rounded to 2 decimal places.

**31.5**  The 5-minute charge is summed to an hourly amount.

$$CAISO\_HRLY\_64770\_AMT_{Bh} = \sum\nolimits_{Bh} (CAISO\_5MIN\_64770\_AMT_{Bf})$$

**31.6**  These charges are allocated hourly to EIM Participants using the EIM Participant Absolute Imbalance Ratio Precalculation.

$$PPT\_HRLY\_64770\_AMT_{Ph}{}^{1} = CAISO\_HRLY\_64770\_AMT_{Bh} * PPT\_HRLY\_ABS\_IMB\_RATIO_{Ph}$$
[1]Rounded to 2 decimal places.

**31.7** Charges related to TPUD are estimated to be the load imbalance portion of WAPA's exposure. WAPA's load imbalance is prorata assigned to TPUD based on TPUD's load to WAPA's load ratio.

$$TPUD\_HRLY\_64770\_AMT_{Bh}^{1} = CAISO\_HRLY\_64770\_AMT_{Bh} * TPUD\_HRLY\_ABS\_IMB\_RATIO_{Bh}$$

[1]Rounded to 2 decimal places.

**31.8** The participants hourly amounts are summed to a daily amount.

$$PPT\_DLY\_64770\_AMT_{Pd} = \sum_{Pd}(PPT\_HRLY\_64770\_AMT_{Ph})$$

**31.9** The assigned estimate to TPUD is summed across the Trade Date.

$$TPUD\_DLY\_64770\_AMT_{Bd} = \sum_{Pd}(TPUD\_HRLY\_64770\_AMT_{Bh})$$

## *Allocations Monitoring*

**31.10** The total daily allocation to EIM Participants is summed to a daily total.

$$BNC\_DLY\_64770\_ALLOC\_AMT_{Bd} = \sum_{Bd}(PPT\_DLY\_64770\_AMT_{Pd}) + TPUD\_DLY\_64770\_AMT_{Bd}$$

**31.11** CAISO hourly charge to BANC summed to a daily amount.

$$CAISO\_DLY\_64770\_AMT_{Bd} = \sum_{Bd}(CAISO\_HRLY\_64770\_AMT_{Bh})$$

**31.12** The total daily difference between the credit BANC received and the allocated amount to EIM Participants is calculated and monitored.

$$BNC\_DLY\_64770\_ALLOC\_DIFF\_AMT_{Bd} = CAISO\_DLY\_64770\_AMT_{Bd} - BNC\_DLY\_64770\_ALLOC\_AMT_{Bd}$$

## 32. BANC Charge Code 6478 Hourly Real Time System Imbalance Energy Offset

**CAISO Application**

CAISO uses this charge code to balance the Real-Time Market (5- and 15-minute markets) energy costs across their charge codes by BAA. To the extent that the sum of the Settlement Amounts for Instructed Imbalance Energy (IIE), Uninstructed Imbalance Energy (UIE), and Unaccounted for Energy (UFE), Greenhouse Gas Compensation, Real-Time Ancillary Services Imports Congestion and each EIM area Balancing Authority Area Neutrality, less the RT Energy Congestion revenues computed within Real-Time Congestion Offset, and less the Real-Time Marginal Cost of Losses Offset does not equal zero, the CAISO will assess Charges or make Payments in Real Time System Imbalance Energy Offset (CC 6478) for the resulting differences to all CAISO Scheduling Coordinators based on a pro rata share of their EIM Measured Demand by 5-minute interval.

There is no PTB determinant associated with this charge code.

**BANC Application**

These 5-minute amounts can be charges or credits to BANC. BANC will sum these 5-minute amounts to an hourly total and will allocate it to EIM Participants using the EIM Participant Load Ratio Share Precalculation.

The portion of the charge code estimated to TPUD will be held by BANC and reallocated by BANC Accounting to non-WAPA participants outside of this allocation process.

### 32.1  *CAISO Determinants*

| Determinants | UOM, Interval Length, Precision | Description | CAISO Statement Bill Determinant Name | CAISO Bill Determinant Attributes | CAISO BPM |
|---|---|---|---|---|---|
| BASystemRealTimeImbalance EnergyOffsetAllocationAmount $_{Bmdhcif}$ | $ 5 Minute 9 Decimal | Allocation of Total System Real Time Instructed Imbalance Energy Settlement Amount for the EIM Area by Business Associate ID (B). | BANC EESC Bill Determinant Statement: BA_5M_SYS_RT_I MB_ENG_OFFSET_ ALLOC@AMOUNT | | BPM Configuration Guide: Real Time System Energy Offset CC 6478 Version 5.0 |

### 32.2  *BANC Provided Determinants*

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| | | |

### 32.3  *BANC Allocation Determinants*

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| CAISO_5MIN_6478_AMT$_{Bf}$ | $ 5 Minute 2 Decimal | **CAISO 5-Minute 6478 Amount** - The CAISO CC6478 charge amount to BANC on a 5-minute basis. |

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| CAISO_HRLY_6478_AMT$_{Bh}$ | $<br>Hourly<br>2 Decimal | **CAISO Hourly 6478 Amount** - The CAISO CC6478 charge amount to BANC summed to an hourly basis. |
| PPT_HRLY_LRS$_{Ph}$ | Decimal<br>Hourly<br>5 Decimals | **EIM Participant Hourly Load Ratio Share** - The hourly percent in decimal of load for an EIM Participant to the total hourly BANC load. |
| PPT_HRLY_6478_AMT$_{Ph}$ | $<br>Hourly<br>2 Decimal | **EIM Participant Hourly 6478 Amount** - EIM Participant hourly allocation of CAISO charge code 6478 rounded to two decimal places. |
| TPUD_HRLY_LRS$_{Bh}$ | Decimal<br>Hourly<br>5 Decimal | **TPUD Hourly Load Ratio Share** - The hourly percent in decimal of TPUD's load compared to the total hourly BANC load. |
| TPUD_HRLY_6478_AMT$_{Bh}$ | $<br>Hourly<br>2 Decimal | **BANC TPUD Hourly 6478 Amount** - BANC TPUD hourly estimate of CAISO charge code 6478 rounded to two decimal places. |
| PPT_DLY_6478_AMT$_{Pd}$ | $<br>Daily<br>2 Decimal | **EIM Participant Daily 6478 Amount** - EIM Participant daily allocation of CAISO charge code 6478 rounded. |
| TPUD_DLY_6478_AMT$_{Bd}$ | $<br>Daily<br>2 Decimal | **BANC TPUD Daily 6478 Amount** - BANC TPUD daily estimate of CAISO charge code 6478. |
| BNC_DLY_6478_ALLOC_AMT$_{Bd}$ | $<br>Daily<br>2 Decimal | **BANC Daily 6478 Allocated Amount** - The total CAISO charge code 6478 amount allocated to all EIM Participants for the Trade Date. |
| CAISO_DLY_6478_AMT$_{Bd}$ | $<br>Daily<br>2 Decimal | **CAISO Daily 6478 Amount** - The CAISO CC 6478 5-minute charge amount to BANC is summed to a daily amount. |
| BNC_DLY_6478_ALLOC_DIFF_AMT$_{Bd}$ | $<br>Daily<br>2 Decimal | **BANC Daily 6478 Allocated Differential Amount** - The calculated daily difference between the daily CAISO rounded charge code to the total BANC allocation to its participants. |

**Formulas**

**32.4**   This is a 5-minute charge or credit that BANC receives in charge code 6478 to balance BANC's BAA charge codes

CAISO_5MIN_6478_AMT$_{Bf}$[1] = BASystemRealTimeImbalanceEnergyOffsetAllocationAmount$_{Bmdhcif}$
[1]Rounded to 2 decimal places.

**32.5**   BANC will sum the 5-minute amounts to an hourly value that will be allocated to EIM Participants.

CAISO_HRLY_6478_AMT$_{Bh}$ = $\sum_{Bh}$(CAISO_5MIN_6478_AMT$_{Bf}$)

**32.6**   These charges are allocated hourly to EIM Participants using the EIM Participant Load Ratio Share Precalculation.

PPT_HRLY_6478_AMT$_{Ph}$[1] = CAISO_HRLY_6478_AMT$_{Bh}$ * PPT_HRLY_LRS$_{Ph}$
[1]Rounded to 2 decimal places.

**32.7**   Charges related to TPUD are estimated to be the load ratio share of WAPA's reported load. WAPA's load is prorata assigned to TPUD based on TPUD's load to WAPA's load ratio.

$$\text{TPUD\_HRLY\_6478\_AMT}_{Bh}{}^{1} = \text{CAISO\_HRLY\_6478\_AMT}_{Bh} * \text{TPUD\_HRLY\_LRS}_{Bh}$$
[1]Rounded to 2 decimal places.

**32.8**   The participants hourly amounts are summed to a daily amount.

$$\text{PPT\_DLY\_6478\_AMT}_{Pd} = \sum\nolimits_{Pd}(\text{PPT\_HRLY\_6478\_AMT}_{Ph})$$

**32.9**   The assigned estimate to TPUD is summed across the Trade Date.

$$\text{TPUD\_DLY\_6478\_AMT}_{Bd} = \sum\nolimits_{Pd}(\text{TPUD\_HRLY\_6478\_AMT}_{Bh})$$

### *Allocations Monitoring*

**32.10**   The total daily allocation to EIM Participants is summed to a daily total.

$$\text{BNC\_DLY\_6478\_ALLOC\_AMT}_{Bd} = \sum\nolimits_{Bd}(\text{PPT\_DLY\_6478\_AMT}_{Pd}) + \text{TPUD\_DLY\_6478\_AMT}_{Bd}$$

**32.11**   CAISO hourly charge to BANC summed to a daily amount.

$$\text{CAISO\_DLY\_6478\_AMT}_{Bd} = \sum\nolimits_{Bd}(\text{CAISO\_HRLY\_6478\_AMT}_{Bh})$$

**32.12**   The total daily difference between the credit BANC received and the allocated amount to EIM Participants is calculated and monitored.

$$\text{BNC\_DLY\_6478\_ALLOC\_DIFF\_AMT}_{Bd} = \text{CAISO\_DLY\_6478\_AMT}_{Bd} - \text{BNC\_DLY\_6478\_ALLOC\_AMT}_{Bd}$$

# 33. BANC Charge Code 66200 Daily RTM Bid Cost Recovery EIM Settlement

**CAISO Application**

CAISO Charge Code CC 66200 Real-Time Market Bid Cost Recovery EIM Settlement applies over an EIM area. The calculation presents the Bid Cost Recovery Settlement for various Bid Cost Recovery Eligible Resources that are settled on a Resource basis. RTM Eligible Bid Costs and market revenues are netted across Trading Hours and Settlement Intervals of a Trading Day for a single RTM Uplift Payment by resource.

This charge code which represents a credit may be awarded to aggregated schedules seen by CAISO and as such BANC will need to allocate the proceeds to EIM Participants.

There is no PTB determinant associated with this charge code.

**BANC Application**

BANC will allocate this daily charge using the BANC Daily Load Ratio Share Precalculation.

The portion of the charge code estimated to TPUD will be held by BANC and reallocated by BANC Accounting to non-WAPA participants outside of this allocation process.

## 33.1 *CAISO Determinants*

| Determinants | UOM, Interval Length, Precision | Description | CAISO Statement Bill Determinant Name | CAISO Bill Determinant Attributes | CAISO BPM |
|---|---|---|---|---|---|
| $EIMTradingDayTotalRTMBCRUpliftAmount_{BruT'I'Q'M'F'md}$ | \$ Daily 9 Decimal | Total RTM Bid Cost Recover Uplift Payment (in \$) for MSS and Non-MSS entities, for resources in an EIM Balancing Authority Area on a given Trading Day. | BANC EESC Bill Determinant Statement: BAA_BA_DAY_RTM_BCR_EIM_STLMT@AMOUNT | | BPM Configuration Guide: RTM Bid Cost Recovery EIM Settlement CC 66200 Version 5.2 |

## 33.2 *BANC Provided Determinants*

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| | | |

## 33.3 *BANC Allocation Determinants*

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| $CAISO\_DLY\_66200\_AMT_{Bd}$ | \$ Daily 2 Decimal | **CAISO Daily 66200 Amount** - The CAISO CC66200 charge amount to BANC on a daily basis. |
| $PPT\_DLY\_LRS_{Pd}$ | Decimal Daily 5 Decimals | **EIM Participant Daily Load Ratio Share** - The daily percent in decimal of load for an EIM Participant to the total daily BANC load in the Pacific Prevailing Time zone. |

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| PPT_DLY_66200_AMT$_{Pd}$ | $ Daily 2 Decimal | **EIM Participant Daily 66200 Amount** - EIM Participant daily allocation of CAISO charge code 66200 rounded to two decimal places. |
| TPUD_DLY_LRS$_{Bd}$ | Decimal Daily 5 Decimals | **TPUD Daily Load Ratio Share** - The daily percent in decimal of TPUD's load for compared to the total daily BANC load. |
| TPUD_DLY_66200_AMT$_{Bd}$ | $ Daily 2 Decimal | **TPUD Daily 66200 Amount** – TPUD daily estimate of CAISO charge code 66200 rounded to two decimal places. |
| TPUD_DLY_66200_AMT$_{Bd}$ | $ Daily 2 Decimal | **TPUD Daily 66200 Amount** - TPUD daily estimate of CAISO charge code 66200 rounded to two decimal places. |
| BNC_DLY_66200_ALLOC_AMT$_{Bd}$ | $ Daily 2 Decimal | **BANC Daily 66200 Allocated Amount** - The total CAISO charge code 66200 amount allocated to all EIM Participants for the Trade Date. |
| BNC_DLY_66200_ALLOC_DIFF_AMT$_{Bd}$ | $ Daily 2 Decimal | **BANC Daily 66200 Allocated Differential Amount** - The calculated daily difference between the daily CAISO rounded charge code to the total BANC allocation to its EIM Participants. |

**Formulas**

**33.4**   This is a daily credit that BANC may receive in charge code 66200.

$CAISO\_DLY\_66200\_AMT_{Bd}{}^{1} = EIMTradingDayTotalRTMBCRUpliftAmount_{BruT'I'Q'M'F'md}$
[1]Rounded to 2 decimal places.

**33.5**   These charges are allocated daily to EIM Participants using the BANC Daily Load Ratio Share Precalculation.

$PPT\_DLY\_66200\_AMT_{Pd}{}^{1} = CAISO\_DLY\_66200\_AMT_{Bd}{}^{1} * PPT\_DLY\_LRS_{Pd}$
[1]Rounded to 2 decimal places.

**33.6**   Allocate TPUD's portion of the charge code.

$TPUD\_DLY\_66200\_AMT_{Bd}{}^{1} = CAISO\_DLY\_66200\_AMT_{Bd}{}^{1} * TPUD\_DLY\_LRS_{Bd}$
[1]Rounded to 2 decimal places.

*Allocations Monitoring*

**33.7**   The total amount to EIM Participants is summed to a daily total.

$BNC\_DLY\_66200\_ALLOC\_AMT_{Bd} = \sum_{Bd} (PPT\_DLY\_66200\_AMT_{Pd}) + TPUD\_DLY\_66200\_AMT_{Bd}$

**33.8**   The total daily difference between the credit BANC received and the allocated amount to EIM Participants is calculated and monitored.

$BNC\_DLY\_66200\_ALLOC\_DIFF\_AMT_{Bd} = CAISO\_DLY\_66200\_AMT_{Bd} - BNC\_DLY\_6d200\_ALLOC\_AMT_{Bd}$

## 34. BANC Charge Code 66780 Hourly Real Time Bid Cost Recovery EIM Allocation

**CAISO Application**

CAISO Charge Code CC 66780 Real-Time Market Bid Cost Recovery EIM Settlement applies over an EIM area. The calculation presents the Bid Cost Recovery Settlement for various Bid Cost Recovery Eligible Resources that are settled on a Resource basis.  This charge code collects the funds from Scheduling Coordinators on a  5-minute interval.

There is no PTB determinant associated with this charge code.

**BANC Application**

BANC will aggregate the 5-minute charges to an hourly aggregate value and will allocated the result to participants using the EIM Participant Load Ratio Share Precalculation.

### 34.1 *CAISO Determinants*

| Determinants | UOM, Interval Length, Precision | Description | CAISO Statement Bill Determinant Name | CAISO Bill Determinant Attributes | CAISO BPM |
|---|---|---|---|---|---|
| EIMEntityRTMUpliftAllocationAmount$_{BQ'mdhcif}$ | $ 5 Minute 9 Decimal | Total RTM BCR Uplift Amount (in $) allocated to the given EIM Balancing Authority Area and associated EIM Entity Business Associate. | BANC EESC Bill Determinant Statement: BAA_BA_5MIN_RTM_UPLIFT_ALLOC | | BPM Configuration Guide: Real Time Bid Cost Recovery EIM Allocation CC 66780 Version 5.0 |

### 34.2 *BANC Provided Determinants*

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| | | |

### 34.3 *BANC Allocation Determinants*

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| CAISO_5MIN_66780_AMT$_{Bf}$ | $ 5 Minute 2 Decimal | **CAISO 5-Minute 66780 Amount** – The total uplift charge to BANC by 5-minute interval. |
| CAISO_HRLY_66780_AMT$_{Bh}$ | $ Hourly 2 Decimal | **CAISO Hourly 66200 Amount** - The CAISO CC66478 charge to BANC summarized to an hourly amount. |
| PPT_HRLY_LRS$_{Ph}$ | Decimal Hourly 5 Decimals | **EIM Participant Hourly Load Ratio Share** - The hourly percent in decimal of load for an EIM Participant to the total hourly BANC load. |
| TPUD_HRLY_LRS$_{Bh}$ | Decimal Hourly 5 Decimals | **TPUD Hourly Load Ratio Share** - The hourly percent in decimal of TPUD's load for compared to the total hourly BANC load. |

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| PPT_HRLY_66780_AMT$_{Ph}$ | $ Hourly 2 Decimal | **EIM Participant Hourly 66478 Amount** - EIM Participant hourly allocation of CAISO charge code 66780 rounded to two decimal places. |
| TPUD_HRLY_66780_AMT$_{Bh}$ | $ Hourly 2 Decimal | **BANC TPUD Hourly 66780 Amount** - The hourly estimate of CAISO Charge Code 66780 via hourly load ratio share to TPUD. |
| PPT_DLY_66780_AMT$_{Pd}$ | $ Daily 2 Decimal | **EIM Participant Daily 66780 Amount** - The daily allocation of CAISO Charge Code 66780 to each EIM Participant. |
| TPUD_DLY_66780_AMT$_{Bd}$ | $ Daily 2 Decimal | **BANC TPUD Daily 66780 Amount** - The daily estimate of CAISO Charge Code 66780 to TPUD. |
| BNC_DLY_66780_ALLOC_AMT$_{Bd}$ | $ Daily 2 Decimal | **BANC Daily 66478 Allocated Amount** - The daily CAISO charge code 66478 amount allocated to all EIM Participants for the Trade Date. |
| CAISO_DLY_66780_AMT$_{Bd}$ | $ Daily 2 Decimal | **CAISO Daily 66780 Amount** - The CAISO CC66780 charge amount to BANC aggregated to a daily amount. This is only used as a reference point. |
| BNC_DLY_66780_ALLOC_DIFF_AMT$_{Bd}$ | $ Daily 2 Decimal | **BANC Daily 66780 Allocated Differential Amount** - The calculated daily difference between the daily CAISO rounded charge code to the total BANC allocation to its participants. |

## Formulas

**34.4** This is a daily credit that BANC may receive in charge code 66200.

$$\text{CAISO\_5MIN\_66780\_AMT}_{Bf}{}^1 = \text{EIMEntityRTMUpliftAllocationAmount}_{BQ'mdhcif}$$
[1]Rounded to 2 decimal places.

**34.5** BANC will sum the 5-minute amounts to an hourly value that will be allocated to EIM Participants.

$$\text{CAISO\_HRLY\_66780\_AMT}_{Bh} = \sum\nolimits_{Bh}(\text{CAISO\_5MIN\_66780\_AMT}_{Bf})$$

**34.6** These charges are allocated hourly to EIM Participants using the EIM Participant Load Ratio Share Precalculation.

$$\text{PPT\_HRLY\_66780\_AMT}_{Ph}{}^1 = \text{CAISO\_HRLY\_66780\_AMT}_{Bh}{}^1 * \text{PPT\_HRLY\_LRS}_{Ph}$$
[1]Rounded to 2 decimal places.

**34.7** Allocate the hourly BANC charge code 66780 amounts to TPUD via the hourly Load Ratio Share Precalculation.

$$\text{TPUD\_HRLY\_66780\_AMT}_{Bh}{}^1 = \text{CAISO\_HRLY\_66780\_AMT}_{Bh} * \text{TPUD\_HRLY\_LRS}_{Bh}$$
[1]Rounded to 2 decimal places.

**34.8** Sum the hourly allocations to a daily total for each EIM Participant.

$$\text{PPT\_DLY\_66780\_AMT}_{Pd} = \sum\nolimits_{Bd}(\text{PPT\_HRLY\_66780\_AMT}_{Ph})$$

**34.9** Sum the hourly allocations to a daily total for each EIM Participant.

$$\text{TPUD\_DLY\_66780\_AMT}_{Bd} = \sum_{Bd} (\text{TPUD\_HRLY\_66780\_AMT}_{Bh})$$

### *Allocations Monitoring*

**34.10** The total amount to EIM Participants is summed to a daily total.

$$\text{BNC\_DLY\_66780\_ALLOC\_AMT}_{Bd} = \sum_{Bd} (\text{PPT\_DLY\_66780\_AMT}_{Pd}) + \text{TPUD\_DLY\_66780\_AMT}_{Bd}$$

**34.11** The CAISO charge code is summed to a daily total as a reference for BANC and its EIM Participants.

$$\text{CAISO\_DLY\_66780\_AMT}_{Bd} = \sum_{Bd} (\text{CAISO\_HRLY\_66780\_AMT}_{Bh})$$

**34.12** The total daily difference between the credit BANC received and the allocated amount to EIM Participants is calculated and monitored.

$$\text{BNC\_DLY\_66780\_ALLOC\_DIFF\_AMT}_{Bd} = \text{CAISO\_DLY\_66780\_AMT}_{Bd} - \text{BNC\_DLY\_66780\_ALLOC\_AMT}_{Bd}$$

# 35. BANC Charge Code 67740 Hourly Real Time Congestion Offset EIM

## CAISO Application

CAISO will calculate for each Balancing Area Authority (BAA) in the EIM Area, its RT Congestion Balancing Account or Offset. The RT Congestion Offset for each BAA is the sum for each BAA of the product of the contribution of that Balancing Authority Area's Transmission Constraints to the marginal Congestion component of the Locational Marginal Price at each resource location in the EIM Area and the imbalance energy, including Virtual Bids, at that resource location.

There is a no PTB amount with this charge code.

## BANC Application

BANC will allocate the 5-minute CAISO charge code to the hourly amount and then will allocate it to EIM Participants on an Hourly EIM Participant Absolute Imbalance Ratio Precalculation.

The portion of the charge code estimated to TPUD will be held by BANC and reallocated by BANC Accounting to non-WAPA participants outside of this allocation process.

## 35.1 *CAISO Determinants*

| Determinants | UOM, Interval Length, Precision | Description | CAISO Statement Bill Determinant Name | CAISO Bill Determinant Attributes | CAISO BPM |
|---|---|---|---|---|---|
| EIMEntitySCRTCongestionOffsetAllocation$_{BQ'mdhcif}$ | $ <br> 5 Minute <br> 9 Decimal | The Real-Time Congestion Offset amount per BAA and assigned to the relevant EIM Entity SC. | BANC EESC Bill Determinant Statement: BA_5M_EIM_RT_CONG_OFFSET_ALLOC@AMOUNT | | BPM Configuration Guide: Real Time Congestion Offset EIM CC 67740 Version 5.0 |

## 35.2 *BANC Provided Determinants*

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| | | |

## 35.3 *BANC Allocation Determinants*

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| CAISO_5MIN_67740_AMT$_{Bf}$ | $ <br> 5 Minute <br> 2 Decimal | **CAISO 5-Minute 67740 Amount** - The CAISO CC 67740 charge amount to BANC rounded to two decimal places. |
| CAISO_HRLY_67740_AMT$_{Bh}$ | $ <br> Hourly <br> 2 Decimal | **CAISO Hourly 67740 Amount** - The CAISO CC 67740 5-minute charge amount to BANC is summed to an hourly amount. |
| PPT_HRLY_ABS_IMB_RATIO$_{Ph}$ | Decimal <br> Hourly <br> 5 Decimal | **EIM Participant Hourly Absolute Imbalance Ratio** – The EIM Participant's hourly decimal ratio of the imbalance allocation share. Rounded to 5 decimals. |

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| PPT_HRLY_67740_AMT$_{Ph}$ | $ Hourly 2 Decimal | **EIM Participant Hourly 67740 Amount** - EIM Participant hourly allocation of CAISO charge code 67740 rounded to two decimal places. |
| TPUD_HRLY_ABS_IMB_RATIO$_{Bh}$ | Decimal Hourly 5 Decimal | **TPUD Hourly Absolute Imbalance Ratio** – The TPUD hourly decimal ratio of the imbalance allocation share. Rounded to 5 decimals. |
| TPUD_HRLY_67740_AMT$_{Bh}$ | $ Hourly 2 Decimal | **BANC TPUD Hourly 67740 Amount** - BANC TPUD hourly estimate of CAISO charge code 67774 rounded to two decimal places. |
| PPT_DLY_67740_AMT$_{Pd}$ | $ Daily 2 Decimal | **EIM Participant Daily 64770 Amount** - EIM Participant daily allocation of CAISO charge code 64770. |
| TPUD_DLY_67740_AMT$_{Bd}$ | $ Daily 2 Decimal | **BANC TPUD Daily 67740 Amount** - BANC TPUD daily estimate of CAISO charge code 67740. |
| BNC_DLY_67740_ALLOC_AMT$_{Bd}$ | $ Daily 2 Decimal | **BANC Total Daily 67740 Allocation Amount** – Total EIM Participant daily allocation of CAISO charge code 67740. |
| CAISO_DLY_67740_AMT$_{Bd}$ | $ Daily 2 Decimal | **CAISO Daily 67740 Amount** - The CAISO CC 67740 5-minute charge amount to BANC is summed to a daily amount. |
| BNC_DLY_67740_ALLOC_DIFF_AMT$_{Bd}$ | $ Daily 2 Decimal | **BANC Daily 67740 Allocated Differential Amount** - The calculated daily difference between the daily CAISO rounded charge code to the total BANC allocation to its participants. |

## Formulas

**35.4**   The 5-minute charge to BANC for charge code 67740.

CAISO_5MIN_67740_AMT$_{Bf}$[1] = EIMEntitySCRTCongestionOffsetAllocation$_{BQ'mdhcif}$
[1]Rounded to 2 decimal places.

**35.5**   The 5-minute charge is summed to an hourly amount.

CAISO_HRLY_67740_AMT$_{Bh}$ = $\sum_{Bh}$(CAISO_5MIN_67740_AMT$_{Bf}$)

**35.6**   These charges are allocated hourly to EIM Participants using the EIM Participant Absolute Imbalance Ratio Precalculation.

PPT_HRLY_67740_AMT$_{Ph}$[1] = CAISO_HRLY_67740_AMT$_{Bh}$ * PPT_HRLY_ABS_IMB_RATIO$_{Ph}$
[1]Rounded to 2 decimal places.

**35.7**   Charges related to TPUD are estimated to be the load imbalance portion of WAPA's exposure. WAPA's load imbalance is prorata assigned to TPUD based on TPUD's load to WAPA's load ratio.

TPUD_HRLY_67740_AMT$_{Bh}$[1] = CAISO_HRLY_67740_AMT$_{Bh}$ * TPUD_HRLY_ABS_IMB_RATIO$_{Bh}$
[1]Rounded to 2 decimal places.

**35.8**   The EIM Participants hourly amounts are summed to a daily amount.

$$PPT\_DLY\_67740\_AMT_{Pd} = \sum\nolimits_{Pd} (PPT\_HRLY\_67740\_AMT_{Ph})$$

**35.9**   The estimated allocation to TPUD is summed across the Trade Date.

$$TPUD\_DLY\_67740\_AMT_{Bd} = \sum\nolimits_{Pd} (TPUD\_HRLY\_67740\_AMT_{Bh})$$

### *Allocations Monitoring*

**35.10**   The total daily allocation to EIM Participants is summed to a daily total.

$$BNC\_DLY\_67740\_ALLOC\_AMT_{Bd} = \sum\nolimits_{Bd} (PPT\_DLY\_67740\_AMT_{Pd}) + TPUD\_DLY\_67740\_AMT_{Bd}$$

**35.11**   CAISO hourly charge to BANC summed to a daily amount.

$$CAISO\_DLY\_67740\_AMT_{Bd} = \sum\nolimits_{Bd} (CAISO\_HRLY\_67740\_AMT_{Bh})$$

**35.12**   The total daily difference between the credit BANC received and the allocated amount to EIM Participants is calculated and monitored.

$$BNC\_DLY\_67740\_ALLOC\_DIFF\_AMT_{Bd} = CAISO\_DLY\_67740\_AMT_{Bd} - BNC\_DLY\_67740\_ALLOC\_AMT_{Bd}$$

# 36. BANC Charge Code 69850 Hourly Real Time Marginal Losses Offset EIM

**CAISO Application**

CAISO calculates, for each BAA in the EIM Area, the RT Marginal Losses Offset amount. The RT Marginal Losses Offset for each BAA is the sum of the product of (1) the contribution of that Balancing Authority Area's Transmission Constraints to the marginal Loss component of the Locational Marginal Price at each resource location in the EIM Area and (2) the imbalance energy, at that resource location.

This Charge Code CC 69850 implements the assignment of RT Marginal Losses Offset of an EIM BAA to its corresponding EIM Entity SC.

There is a no PTB amount with this charge code.

**BANC Application**

BANC will allocate the 5-minute CAISO charge code to the hourly amount and then will allocate it to EIM Participants on an Hourly EIM Participant Absolute Imbalance Ratio Precalculation.

The portion of the charge code estimated to TPUD will be held by BANC and reallocated by BANC Accounting to non-WAPA participants outside of this allocation process.

## 36.1 *CAISO Determinants*

| Determinants | UOM, Interval Length, Precision | Description | CAISO Statement Bill Determinant Name | CAISO Bill Determinant Attributes | CAISO BPM |
|---|---|---|---|---|---|
| EIMEntitySCRTMarginalLossesOffsetAllocation$_{BQ'mdhcif}$ | $<br>5 Minute<br>9 Decimal | The Real-Time Losses Offset amount per BAA and assigned to the relevant EIM Entity SC. | BANC EESC Bill Determinant Statement: BA_EIM_ENTITY_ BAA_RT_MARGIN AL_LOSS@AMOU NT | | BPM Configuration Guide: Real Time Marginal Losses Offset EIM CC 69850 Version 5.1 |

## 36.2 *BANC Provided Determinants*

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| | | |

## 36.3 *BANC Allocation Determinants*

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| CAISO_5MIN_69850_AMT$_{Bf}$ | $<br>5 Minute<br>2 Decimal | **CAISO 5-Minute 69850 Amount** - CAISO CC 69850 charge amount to BANC rounded to two decimal places. |
| CAISO_HRLY_69850_AMT$_{Bh}$ | $<br>Hourly<br>2 Decimal | **CAISO Hourly 69850 Amount** - The CAISO CC 67740 5-minute charge amount to BANC is summed to an hourly amount. |

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| PPT_HRLY_ABS_IMB_RATIO$_{Ph}$ | Decimal<br>Hourly<br>5 Decimal | **EIM Participant Hourly Absolute Imbalance Ratio** – The EIM Participant's hourly decimal ratio of the imbalance allocation share. Rounded to 5 decimals. |
| PPT_HRLY_69850_AMT$_{Ph}$ | $<br>Hourly<br>2 Decimal | **EIM Participant Hourly 69850 Amount** - EIM Participant hourly allocation of CAISO charge code 69850 rounded to two decimal places. |
| TPUD_HRLY_ABS_IMB_RATIO$_{Bh}$ | Decimal<br>Hourly<br>5 Decimal | **TPUD Hourly Absolute Imbalance Ratio** – The TPUD hourly decimal ratio of the imbalance allocation share. Rounded to 5 decimals. |
| TPUD_HRLY_69850_AMT$_{Bh}$ | $<br>Hourly<br>2 Decimal | **BANC TPUD Hourly 69850 Amount** - BANC TPUD hourly estimate of CAISO charge code 69850 rounded to two decimal places. |
| PPT_DLY_69850_AMT$_{Pd}$ | $<br>Daily<br>2 Decimal | **EIM Participant Daily 69850 Amount** - EIM Participant daily allocation of CAISO charge code 69850. |
| TPUD_DLY_69850_AMT$_{Bd}$ | $<br>Daily<br>2 Decimal | **BANC TPUD Daily 69850 Amount** - BANC TPUD daily estimate of CAISO charge code 69850. |
| BNC_DLY_69850_ALLOC_AMT$_{Bd}$ | $<br>Daily<br>2 Decimal | **BANC Total Daily 69850 Allocation Amount** – Total EIM Participant daily allocation of CAISO charge code 69850. |
| CAISO_DLY_69850_AMT$_{Bd}$ | $<br>Daily<br>2 Decimal | **CAISO Daily 69850 Amount** - The CAISO CC 69850 5-minute charge amount to BANC is summed to a daily amount. |
| BNC_DLY_69850_ALLOC_DIFF_AMT$_{Bd}$ | $<br>Daily<br>2 Decimal | **BANC Daily 69850 Allocated Differential Amount** - The calculated daily difference between the daily CAISO rounded charge code to the total BANC allocation to its participants. |

## Formulas

**36.4** The 5-minute charge to BANC for charge code 69850.

$$CAISO\_5MIN\_698500\_AMT_{Bf}{}^{1} = EIMEntitySCRTMarginalLossesOffsetAllocation_{BQ'mdhcif}$$
[1]Rounded to 2 decimal places.

**36.5** The 5-minute charge is summed to an hourly amount.

$$CAISO\_HRLY\_69850\_AMT_{Bh} = \sum\nolimits_{Bh}(CAISO\_5MIN\_69850\_AMT_{Bf})$$

**36.6** These charges are allocated hourly to EIM Participants using the EIM Participant Absolute Imbalance Ratio Precalculation.

$$PPT\_HRLY\_69850\_AMT_{Ph}{}^{1} = CAISO\_HRLY\_69850\_AMT_{Bh} * PPT\_HRLY\_ABS\_IMB\_RATIO_{Ph}$$
[1]Rounded to 2 decimal places.

**36.7** Charges related to TPUD are estimated to be the load imbalance portion of WAPA's exposure. WAPA's load imbalance is prorata assigned to TPUD based on TPUD's load to WAPA's load ratio.

$$TPUD\_HRLY\_69850\_AMT_{Bh}{}^{1} = CAISO\_HRLY\_69850\_AMT_{Bh} * TPUD\_HRLY\_ABS\_IMB\_RATIO_{Bh}$$
[1]Rounded to 2 decimal places.

**36.8** The participants hourly amounts are summed to a daily amount.

$$PPT\_DLY\_69850\_AMT_{Pd} = \sum\nolimits_{Pd}(PPT\_HRLY\_69850\_AMT_{Ph})$$

**36.9** The estimated allocation to TPUD is summed across the Trade Date.

$$TPUD\_DLY\_69850\_AMT_{Bd} = \sum\nolimits_{Pd}(TPUD\_HRLY\_69850\_AMT_{Bh})$$

### *Allocations Monitoring*

**36.10** The total daily allocation to EIM Participants is summed to a daily total.

$$BNC\_DLY\_69850\_ALLOC\_AMT_{Bd} = \sum\nolimits_{Bd}(PPT\_DLY\_69850\_AMT_{Pd}) + TPUD\_DLY\_69850\_AMT_{Bd}$$

**36.11** CAISO hourly charge to BANC summed to a daily amount.

$$CAISO\_DLY\_69850\_AMT_{Bd} = \sum\nolimits_{Bd}(CAISO\_HRLY\_69850\_AMT_{Bh})$$

**36.12** The total daily difference between the credit BANC received and the allocated amount to EIM Participants is calculated and monitored.

$$BNC\_DLY\_69850\_ALLOC\_DIFF\_AMT_{Bd} = CAISO\_DLY\_69850\_AMT_{Bd} - BNC\_DLY\_69850\_ALLOC\_AMT_{Bd}$$

# 37. BANC Charge Code 7070 Hourly Flexible Ramp Forecast Movement Settlement

## CAISO Application

The CAISO flexible ramp construct pays resources and imports for the opportunity and capability for dispatchable ramp for changes in either anticipated demand (forecasted movement) or potential (uncertain) demand. There are separate charge codes to credit resources and to charge measured demand.

CASIO splits up the flexible ramp charge codes between forecasted ramp and ramp uncertainty

CAISO labels the anticipated change in demand from their forecast as Forecasted Ramp. In order to meet the changes in the next intervals, CAISO needs to make sure there is enough ramp available from online resources to meet the upcoming requirement. This is especially important when there are large changes in the overall load to serve such as the end of the day when solar generation is rapidly going offline.

This charge code pays resources and dispatchable imports for flexible forecasted ramp on a 5-minute basis. The amount collected by the resources is expected to compensate the resource for any out of merit dispatch costs.

CAISO also can have a 5-minute PTB in this charge code.

## BANC Application

BANC will not be able to allocate credits based on CAISO's methodology since schedules are rolled up by path when submitted to CAISO. BANC will allocate this charge to EIM Participants on an hourly EIM Participant Absolute Load and Intertie Imbalance Ratio Precalculation. CAISO calculates these credits on a 5-minute interval that BANC will sum to an hourly value before they are allocated.

BANC will monitor for any PTB and will remove it from this charge allocation to allocate it in the BANC PTB Charge Code.

The portion of the charge code estimated to TPUD will be held by BANC and reallocated by BANC Accounting to non-WAPA participants outside of this allocation process.

## 37.1 *CAISO Determinants*

| Determinants | UOM, Interval Length, Precision | Description | CAISO Statement Bill Determinant Name | CAISO Bill Determinant Attributes | CAISO BPM |
|---|---|---|---|---|---|
| Total5mFRForecastedMovementSettlementAmount$_{mdhcif}$ | $ 5 Min 9 Decimal | Total Flex Ramp settlement amount for forecasted movement for the BANC ($). | BANC EESC Bill Determinant Statement: PTB_CHG_ADJ_BA_FR_FCAST_MVMT_HIER@PTB_SUBTOT_CURRENT_AMOUNT | | BPM Configuration Guide: Flexible Ramp Forecasted Movement Settlement CC 7070 Version 5.0 |

| Determinants | UOM, Interval Length, Precision | Description | CAISO Statement Bill Determinant Name | CAISO Bill Determinant Attributes | CAISO BPM |
|---|---|---|---|---|---|
| PTB_BAFRForecastedMovementChargeAdjustmentAmount<sub>BJm</sub> <sub>dhcif</sub> | $ 5 Min 9 Decimal | Pass through bill for Flexible Forecast Movement | BANC EESC Bill Determinant Statement: BA_DAY_TOT_FCAST_MVMT_STLMT@SUB_SUBTOT_CURRENT_AMOUNT | | BPM Configuration Guide: Flexible Ramp Forecasted Movement Settlement CC 7070 Version 5.0 |

## 37.2  *BANC Provided Determinants*

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| | | |

## 37.3  *BANC Allocation Determinants*

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| CAISO_5MIN_7070_PTB_AMT<sub>Bf</sub> | $ 5 Minute 2 Decimal | **CAISO 5-Minute 7070 Pass Through Billing Amount** - A 5-minute interval amount when applicable related to CAISO Charge Code 7070. |
| CAISO_5MIN_7070_AMT<sub>Bf</sub> | $ 5 Minute 2 Decimal | **CAISO Hourly 7070 Amount -** The CAISO CC7070 5-minute charge amount to BANC. |
| CAISO_HRLY_7070_AMT<sub>Bh</sub> | $ Hourly 2 Decimal | **CAISO Hourly 7070 Amount -** The CAISO CC7070 charge amount to BANC aggregated to an hourly amount. |
| CAISO_DLY_7070_AMT<sub>Bd</sub> | $ Daily 2 Decimal | **CAISO Daily 7070 Amount** - The CAISO charge code 7070 charge amount to BANC aggregated to a daily amount. This is only used as a reference point. |
| PPT_HRLY_ABS_LD_INTERTIE_IMB_RATIO<sub>Ph</sub> | Decimal Hourly 5 Decimal | **EIM Participant Hourly Absolute Load and Intertie Imbalance Ratio** – The EIM Participant's hourly decimal ratio of the load and Intertie imbalance allocation share. Rounded to 5 decimals. |
| TPUD_HRLY_ABS_LD_INTERTIE_IMB_RATIO<sub>Bh</sub> | Decimal Hourly 5 Decimal | **TPUD Hourly Absolute Load and Intertie Imbalance Ratio** – The TPUD hourly decimal ratio of the load and Intertie imbalance allocation share. Rounded to 5 decimals. |
| PPT_HRLY_7070_AMT<sub>Ph</sub> | $ Hourly 2 Decimal | **EIM Participant Hourly 7070 Amount** - The hourly allocation of CAISO charge code 7070 via hourly measured demand to each EIM Participant. |
| TPUD_HRLY_7070_AMT<sub>Bh</sub> | $ Hourly 2 Decimal | **BANC TPUD Hourly 7070 Amount** - The hourly estimate of CAISO charge code 7070 via hourly measured demand to TPUD. |
| PPT_DLY_7070_AMT<sub>PD</sub> | $ Daily 2 Decimal | **EIM Participant Daily 7070 Amount** - The daily allocation of CAISO charge code 7070 summed from the hourly allocations by EIM Participant. |

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| TPUD_DLY_7070_AMT$_{Ph}$ | $ Daily 2 Decimal | **BANC TPUD Daily 7070 Amount** - The daily estimate of CAISO charge code 7070 summed from the hourly allocations to TPUD. |
| BNC_DLY_7070_ALLOC_AMT$_{Bd}$ | $ Daily 2 Decimal | **BANC Daily 7070 Allocated Amount** - The total CAISO charge code 7070 amount allocated to all EIM Participants for the Trade Date. |
| BNC_DLY_7070_ALLOC_DIFF_AMT$_{Bd}$ | $ Daily 2 Decimal | **BANC Daily 7070 Allocated Differential Amount** - The calculated daily difference between the summed 5-minute CAISO rounded charge code to the total BANC allocation to its participants. |

**Formulas**

**37.4** The CAISO PTB determinant for this charge code will be summed across the 5 minute intervals and will be allocated in the BANC PTB Charge Code.

$$CAISO\_5MIN\_7070\_PTB\_AMT_{Bf}{}^{1} = \sum\nolimits_{Bf}(PTB\_BAFRForecastedMovementChargeAdjustmentAmount_{BJmdhcif})$$
[1]Rounded to 2 decimal places.

**37.5** The BANC charge code 7070 5-minute billed amounts from CAISO.

$$CAISO\_5MIN\_7070\_AMT_{Bf}{}^{1} = Total5mFRForecastedMovementSettlementAmount_{mdhcif}$$
[1]Rounded to 2 decimal places.

**37.6** The 5-minute BANC charge code 7070 is aggregated to an hourly amount.

$$CAISO\_HRLY\_7070\_AMT_{Bh} = \sum\nolimits_{Bh}(CAISO\_5MIN\_7070\_AMT_{Bf})$$

**37.7** Allocate the hourly BANC charge code 7070 amounts to the EIM Participants via the hourly Absolute Load and Intertie Imbalance Ratio Precalculation.

$$PPT\_HRLY\_7070\_AMT_{Ph}{}^{1} = CAISO\_HRLY\_7070\_AMT_{Bh} *$$
$$PPT\_HRLY\_ABS\_LD\_INTERTIE\_IMB\_RATIO_{Ph}$$
[1]Rounded to 2 decimal places.

**37.8** Allocate the hourly BANC charge code 7070 amounts to TPUD

$$TPUD\_HRLY\_7070\_AMT_{Bh}{}^{1} = CAISO\_HRLY\_7070\_AMT_{Bh} *$$
$$TPUD\_HRLY\_ABS\_LD\_INTERTIE\_IMB\_RATIO_{Bh}$$
[1]Rounded to 2 decimal places.

**37.9** Sum the hourly allocations to a daily total for each EIM Participant.

$$PPT\_DLY\_7070\_AMT_{Pd} = \sum\nolimits_{Bd}(PPT\_HRLY\_7070\_AMT_{Ph})$$

**37.10** Sum the hourly allocations to a daily total for each EIM Participant.

$$TPUD\_DLY\_7070\_AMT_{Bd} = \sum\nolimits_{Bd}(TPUD\_HRLY\_7070\_AMT_{Bh})$$

**37.11** The total daily allocation to EIM Participants is summed to a daily total.

$$BNC\_DLY\_7070\_ALLOC\_AMT_{Bd} = \sum_{Bd} (PPT\_DLY\_7070\_AMT_{Pd}) + TPUD\_DLY\_7070\_AMT_{Bd}$$

**37.12** The CAISO charge code is summed to a daily total as a reference for BANC and EIM Participants.

$$CAISO\_DLY\_7070\_AMT_{Bd} = \sum_{Bd} (CAISO\_HRLY\_7070\_AMT_{Bh})$$

**37.13** The total daily difference between the credit BANC received and the allocated amount to EIM Participants is calculated and monitored.

$$BNC\_DLY\_7070\_ALLOC\_DIFF\_AMT_{Bd} = CAISO\_DLY\_7070\_AMT_{Bd} - BNC\_DLY\_7070\_ALLOC\_AMT_{Bd}$$

## 38. BANC Charge Code 7076 Hourly Flexible Ramp Forecast Movement Allocation

**CAISO Application**

The CAISO flexible ramp construct pays resources and imports for the opportunity and capability for dispatchable ramp for changes in either anticipated demand (forecasted movement) or potential (uncertain) demand. There are separate charge codes to credit resources and to charge measured demand.

CASIO splits up the flexible ramp charge codes between forecasted ramp and ramp uncertainty

CAISO labels the anticipated change in demand from their forecast as Forecasted Ramp. In order to meet the changes in the next intervals, CAISO needs to make sure there is enough ramp available from online resources to meet the upcoming requirement. This is especially important when there are large changes in the overall load to serve such as the end of the day when solar generation is rapidly going offline.

This charge code collects from CAISO Scheduling Coordinators to pay resources and dispatchable imports for flexible forecasted ramp on a 5-minute basis. The CAISO charge code is settled on a 5-min measured demand ratio share.

CAISO also can have a 5-minute PTB in this charge code.

**BANC Application**

BANC will allocate this charge to EIM Participants on an hourly EIM Participant Load Ratio Share Precalculation.

BANC will monitor for any PTB and will remove it from this charge allocation to allocate it in the BANC PTB Charge Code.

The portion of the charge code estimated to TPUD will be held by BANC and reallocated by BANC Accounting to non-WAPA participants outside of this allocation process.

### 38.1 *CAISO Determinants*

| Determinants | UOM, Interval Length, Precision | Description | CAISO Statement Bill Determinant Name | CAISO Bill Determinant Attributes | CAISO BPM |
|---|---|---|---|---|---|
| BA5mFlexRampForecastMvmt AllocationAmount$_{Bmdhcif}$ | $ 5 Min 9 Decimal | Total Flex Ramp settlement amount for forecasted movement for the BANC ($). | BANC EESC Bill Determinant Statement: BA_DAY_FR_FCAST_MVMT_ALLOC_STLMT_HIER_SUB_SUBTOT_CURRENT_AMOUNT | | BPM Configuration Guide: Internal - Flexible Ramp Forecasted Movement Allocation CC 7076 Version 5.0 |

| Determinants | UOM, Interval Length, Precision | Description | CAISO Statement Bill Determinant Name | CAISO Bill Determinant Attributes | CAISO BPM |
|---|---|---|---|---|---|
| PTBBAFRForecastedMovement AllocAdjustmentAmount<sub>BJmdhcif</sub> | $ 5 Min 9 Decimal | Pass through bill for Flexible Forecast Movement Allocation. | BANC EESC Bill Determinant Statement: PTB_CHG_ADJ_BA _5MIN_FCAST_MV MT_ALLOC | | BPM Configuration Guide: Internal - Flexible Ramp Forecasted Movement Allocation CC 7076 Version 5.0 |

## 38.2  *BANC Provided Determinants*

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| | | |

## 38.3  *BANC Allocation Determinants*

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| CAISO_5MIN_7076_PTB_AMT<sub>Bf</sub> | $ 5 Minute 2 Decimal | **BANC 5 Minute 7076 Pass Through Bill Amount** - A 5-minute statement BANC PTB value when applicable related to CAISO Charge Code 7070. |
| CAISO_5MIN_7076_AMT<sub>Bf</sub> | $ 5 Minute 2 Decimal | **CAISO 5-Minute 7076 Amount** - The CAISO CC7076 charge amount to BANC. |
| CAISO_HRLY_7076_AMT<sub>Bh</sub> | $ Hourly 2 Decimal | **CAISO Hourly 7076 Amount** - The CAISO CC7076 charge amount to BANC aggregated to an hourly amount. |
| PPT_HRLY_LRS<sub>Ph</sub> | Decimal Hourly 5 Decimals | **EIM Participant Hourly Load Ratio Share** - The hourly percent in decimal of load for an EIM Participant to the total hourly BANC load. |
| TPUD_HRLY_LRS<sub>Bh</sub> | Decimal Hourly 5 Decimals | **TPUD Hourly Load Ratio Share** - The hourly percent in decimal of TPUD's load for compared to the total hourly BANC load. |
| PPT_HRLY_7076_AMT<sub>Ph</sub> | $ Hourly 2 Decimal | **EIM Participant Hourly 7076 Amount** - The hourly allocation of CAISO Charge Code 7076 via hourly load ratio share to each EIM Participant. |
| TPUD_HRLY_7076_AMT<sub>Bh</sub> | $ Hourly 2 Decimal | **BANC TPUD Hourly 7076 Amount** - The hourly estimate of CAISO Charge Code 7076 via hourly load ratio share to TPUD. |
| PPT_DLY_7076_AMT<sub>Pd</sub> | $ Daily 2 Decimal | **EIM Participant Daily 7076 Amount** - The daily allocation of CAISO Charge Code 7076 to each EIM Participant. |
| TPUD_DLY_7076_AMT<sub>Bd</sub> | $ Daily 2 Decimal | **BANC TPUD Daily 7076 Amount** - The daily estimate of CAISO Charge Code 7076 to TPUD. |
| BNC_DLY_7076_ALLOC_AMT<sub>Bd</sub> | $ Daily 2 Decimal | **BANC Daily 7076 Amount** - The total CAISO charge code 7076 amount allocated to all EIM Participants for the Trade Date. |

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| CAISO_DLY_7076_AMT$_{Bd}$ | $ Daily 2 Decimal | **CAISO Daily 7076 Amount** - The CAISO CC7076 charge amount to BANC aggregated to a daily amount. This is only used as a reference point. |
| BNC_DLY_7076_ALLOC_DIFF_AMT$_{Bd}$ | $ Daily 2 Decimal | **BANC Daily 7076 Allocated Differential Amount** - The calculated daily difference between the summed 5-minute CAISO rounded charge code to the total BANC allocation to EIM Participants. |

**Formulas**

**38.4** The CAISO PTB determinant for this charge code will be summed across the 5 minute intervals and will be allocated in the BANC PTB Charge Code.

$CAISO\_5MIN\_7076\_PTB\_AMT_{Bf}{}^{1} = \sum_{Bf}(PTBBAFRForecastedMovementAllocAdjustmentAmount_{BJmdhcif})$
[1]Rounded to 2 decimal places.

**38.5** The BANC charge code 7076 5-minute billed amounts from CAISO.

$CAISO\_5MIN\_7076\_AMT_{Bf}{}^{1} = BA5mFlexRampForecastMvmtAllocationAmount_{Bmdhcif}$
[1]Rounded to 2 decimal places.

**38.6** The 5-minute BANC charge code 7076 is aggregated to an hourly amount.

$CAISO\_HRLY\_7076\_AMT_{Bh} = \sum_{Bh}(CAISO\_5MIN\_7076\_AMT_{Bf})$

**38.7** Allocate the hourly BANC charge code 7076 amounts to the EIM Participants via the hourly Load Ratio Share Precalculation.

$PPT\_HRLY\_7076\_AMT_{Ph}{}^{1} = CAISO\_HRLY\_7076\_AMT_{Bh} * PPT\_HRLY\_LRS_{Ph}$
[1]Rounded to 2 decimal places.

**38.8** Allocate the hourly BANC charge code 7076 amounts to TPUD via the hourly Load Ratio Share Precalculation.

$TPUD\_HRLY\_7076\_AMT_{Bh}{}^{1} = CAISO\_HRLY\_7076\_AMT_{Bh} * TPUD\_HRLY\_LRS_{Bh}$
[1]Rounded to 2 decimal places.

**38.9** Sum the hourly allocations to a daily total for each EIM Participant.

$PPT\_DLY\_7076\_AMT_{Pd} = \sum_{Bd}(PPT\_HRLY\_7076\_AMT_{Ph})$

**38.10** Sum the hourly allocations to a daily total for each EIM Participant.

$TPUD\_DLY\_7076\_AMT_{Bd} = \sum_{Bd}(TPUD\_HRLY\_7076\_AMT_{Bh})$

*Allocations Monitoring*

**38.11** The total daily allocation to EIM Participants is summed to a daily total.

$BNC\_DLY\_7076\_ALLOC\_AMT_{Bd} = \sum_{Bd}(PPT\_DLY\_7076\_AMT_{Pd}) + TPUD\_DLY\_7076\_AMT_{Bd}$

**38.12** The CAISO charge code is summed to a daily total as a reference for BANC and EIM Participants.

$$CAISO\_DLY\_7076\_AMT_{Bd} = \sum_{Bd} (CAISO\_HRLY\_7076\_AMT_{Bh})$$

**38.13** The total daily difference between the credit BANC received and the allocated amount to EIM Participants is calculated and monitored.

$$BNC\_DLY\_7076\_ALLOC\_DIFF\_AMT_{Bd} = CAISO\_DLY\_7076\_AMT_{Bd} - BNC\_DLY\_7076\_ALLOC\_AMT_{Bd}$$

# 39. BANC Charge Code 7077 Daily Flexible Ramp Up Uncertainty Award Allocation

## CAISO Application

The CAISO flexible ramp construct pays resources and imports for the opportunity and capability for dispatchable ramp for changes in either anticipated demand (forecasted movement) or potential (uncertain) demand. There are separate charge codes to credit resources and to charge measured demand.

CASIO splits up the flexible ramp charge codes between forecasted ramp and ramp uncertainty.

CAISO also plans for potential uncertainty in overall load to serve that results from forecast uncertainty. Since forecasted load to serve is an expectation and not a certainty, CAISO also dispatches resources in a manner to retain flexible ramping capability for potential upward and downward uncertainty. CAISO calculate the forecast uncertainty by analyzing loads and resources (especially renewal resources) against their historical performance and calculates both an upward and downward uncertainty confidence interval. Based on these results they calculate how much additional ramp needs to be reserved in both directions to meet these potential changes.

Daily, this CAISO charge code collects funds to reimburse resources and ITIEs that are dispatched for Flexible Ramp Up Uncertainty. On the last day of the month, CAISO will refund all the charges billed during the month in charge code 7077 in a separate monthly charge code 7078 and then will reallocate them across the month to participants using a different methodology in that same charge code.

CAISO also can have a daily PTB in this charge code.

## BANC Application

BANC will allocate this charge every day of the month using the daily EIM Participant Absolute Load and Intertie Imbalance Ratio Precalculation. On the last day of the month, BANC will refund the entire prior month's billed amount in charge code 7077 and will reallocate it to participants using the EIM Participant Absolute Load and Intertie Imbalance Ratio Precalculation in BANC Charge Code 7078.

BANC will also monitor for any PTB and will remove it from this charge allocation and allocate it in the BANC PTB Charge Code.

The portion of the charge code estimated to TPUD will be held by BANC and reallocated by BANC Accounting to non-WAPA participants outside of this allocation process.

## 39.1 *CAISO Determinants*

| Determinants | UOM, Interval Length, Precision | Description | CAISO Statement Bill Determinant Name | CAISO Bill Determinant Attributes | CAISO BPM |
|---|---|---|---|---|---|
| BADailyCompleteFRUUncertaintyAllocationAmount$_{BQ'md}$ | $ Daily 9 Decimal | FRU Uncertainty Charge (in $) allocated to BANC for the Trading Day. | BANC EESC Bill Determinant Statement: BA_DAY_FR_FCAST_MVMT_ALLOC_STLMT_HIER_SUB_SUBTOT_CURRENT_AMOUNT | | BPM Configuration Guide: Daily Flexible Ramp Up Uncertainty Award Allocation CC 7077 Version 5.1 |

| Determinants | UOM, Interval Length, Precision | Description | CAISO Statement Bill Determinant Name | CAISO Bill Determinant Attributes | CAISO BPM |
|---|---|---|---|---|---|
| PTBBAADayFRUUncertaintyAllocAmt*BJmd* | $ Daily 9 Decimal | Pass through bill for Flexible Ramp Up Uncertainty Allocation. | BANC EESC Bill Determinant Statement: PTB_CHG_ADJ_BA _DAY_FCAST_MV MT_ALLOC_HIER @PTB_SUBTOT_C URRENT_AMOUN T | | BPM Configuration Guide: Daily Flexible Ramp Up Uncertainty Award Allocation CC 7077 Version 5.1 |

## 39.2   *BANC Provided Determinants*

| Determinants | UOM, Interval Length, Precision | Description |
|---|---|---|
| | | |

## 39.3   *BANC Allocation Determinants*

| Determinants | UOM, Interval Length, Precision | Description |
|---|---|---|
| CAISO_DLY_7077_PTB_AMT$_{Bd}$ | $ Daily 2 Decimal | **BANC Daily 7077 Pass Through Billing Amount** - A daily statement BANC PTB value when applicable related to CAISO Charge Code 7077. |
| CAISO_DLY_7077_AMT$_{Bd}$ | $ Daily 2 Decimal | **CAISO Daily 7077 Amount** - The CAISO charge code 7077 charge amount to BANC rounded to two decimal places. |
| PPT_DLY_ABS_LD_INTERTIE_IMB_RATIO$_{Pd}$ | Decimal Daily 5 Decimal | **EIM Participant Daily Absolute Load and Intertie Imbalance Ratio** – The EIM Participant's daily decimal ratio of the load and Intertie imbalance allocation share. Rounded to 5 decimals. |
| TPUD_DLY_ABS_LD_INTERTIE_IMB_RATIO$_{Bd}$ | Decimal Daily 5 Decimal | **TPUD Daily Absolute Load and Intertie Imbalance Ratio** – The TPUD daily decimal ratio of the load and Intertie imbalance allocation share. Rounded to 5 decimals. Note TPUD has no Interties, but the imbalance ratio calculation does include them for the EIM Participants. |
| PPT_DLY_7077_AMT$_{Pd}$ | $ Daily 2 Decimal | **EIM Participant Daily 7077 Amount** - The daily allocation of CAISO charge code 7077 via daily absolute load and Intertie imbalance ratio to each EIM Participant rounded to two decimal places. |
| TPUD_DLY_7077_AMT$_{Bd}$ | $ Daily 2 Decimal | **BANC TPUD Daily 7077 Amount** - The daily estimate of CAISO charge code 7077 to TPUD rounded to two decimal places. |
| BNC_DLY_7077_ALLOC_AMT$_{Bd}$ | $ Daily 2 Decimal | **BANC Daily 7077 Amount** - The total CAISO charge code 7077 amount allocated to all EIM Participants for the Trade Date. |

| Determinants | UOM, Interval Length, Precision | Description |
|---|---|---|
| BNC_DLY_7077_ALLOC_DIFF_AMT$_{Bd}$ | $ Daily 2 Decimal | **BANC Daily 7077 Allocated Differential Amount** - The calculated daily difference between the daily CAISO rounded charge code to the total BANC allocation to its participants. |

**Formulas**

**39.4** The CAISO PTB determinant for this charge code will be allocated in the BANC PTB Charge Code.

$$\text{CAISO\_DLY\_7077\_PTB\_AMT}_{Bd}{}^{1} = \sum\nolimits_{Bd} (\text{PTBBAADayFRUUncertaintyAllocAmt}_{BJmd})$$
[1]Rounded to 2 decimal places.

**39.5** The BANC charge code 7077 daily amount from CAISO will be rounded to two decimal places after any potential PTB is removed.

$$\text{CAISO\_DLY\_7077\_AMT}_{Bd}{}^{1} = \text{BADailyCompleteFRUUncertaintyAllocationAmount}_{BQ'md}$$
[1]Rounded to 2 decimal places.

**39.6** Allocate the daily BANC charge code 7077 amount to the EIM Participants via the daily measured demand Precalculation.

$$\text{PPT\_DLY\_7077\_AMT}_{Pd}{}^{1} = \text{CAISO\_DLY\_7077\_AMT}_{Bd} * \text{PPT\_DLY\_ABS\_LD\_INTERTIE\_IMB\_RATIO}_{Pd}$$
[1]Rounded to 2 decimal places.

**39.7** Allocate the daily BANC charge code 7077 amount to the EIM Participants via the daily measured demand Precalculation.

$$\text{TPUD\_DLY\_7077\_AMT}_{Bd}{}^{1} = \text{CAISO\_DLY\_7077\_AMT}_{Bd} * \text{TPUD\_DLY\_ABS\_LD\_INTERTIE\_IMB\_RATIO}_{Bd}$$
[1]Rounded to 2 decimal places.

*Allocations Monitoring*

**39.8** The total daily allocation to EIM Participants is summed to a daily total.

$$\text{BNC\_DLY\_7077\_ALLOC\_AMT}_{Bd} = \sum\nolimits_{Bd} (\text{PPT\_DLY\_7077\_AMT}_{Pd}) + \text{TPUD\_DLY\_7077\_AMT}_{Bd}$$

**39.9** The total daily difference between the credit BANC received and the allocated amount to EIM Participants is calculated and monitored.

$$\text{BNC\_DLY\_7077\_ALLOC\_DIFF\_AMT}_{Bd} = \text{CAISO\_DLY\_7077\_AMT}_{Bd} - \text{BNC\_DLY\_7077\_ALLOC\_AMT}_{Bd}$$

# 40. BANC Charge Code 7078 Monthly Flexible Ramp Up Uncertainty Award Allocation

## CAISO Application

The CAISO flexible ramp construct pays resources and imports for the opportunity and capability for dispatchable ramp for changes in either anticipated demand (forecasted movement) or potential (uncertain) demand. There are separate charge codes to credit resources and to charge measured demand.

CASIO splits up the flexible ramp charge codes between forecasted ramp and ramp uncertainty.

CAISO also plans for potential uncertainty in overall load to serve that results from forecast uncertainty. Since forecasted load to serve is an expectation and not a certainty, CAISO also dispatches resources in a manner to retain flexible ramping capability for potential upward and downward uncertainty. CAISO calculate the forecast uncertainty by analyzing loads and resources (especially renewal resources) against their historical performance and calculates both an upward and downward uncertainty confidence interval. Based on these results they calculate how much additional ramp needs to be reserved in both directions to meet these potential changes.

Daily, CAISO uses charge code 7077 to collects funds to reimburse resources and ITIEs that are dispatched for Flexible Ramp Up Uncertainty. On the last day of the month in charge code 7078, CAISO will refund all the charges billed during the month in charge code 7077 and will reallocate them across the month to participants based on an on-peak/off-peak methodology in the same charge code.

CAISO also can have a monthly PTB in this charge code.

## BANC Application

BANC will also use monthly charge code 7078 to refund what each participant was billed in charge code 7077 across the month and then will reallocate the total monthly charge to EIM Participants based on the monthly EIM Participant Absolute Load and Intertie Imbalance Ratio Precalculation.

BANC will also monitor for any PTB and will remove it from this charge allocation and allocate it in the BANC PTB Charge Code.

The portion of the charge code estimated to TPUD will be held by BANC and reallocated by BANC Accounting to non-WAPA participants outside of this allocation process.

## 40.1 *CAISO Determinants*

| Determinants | UOM, Interval Length, Precision | Description | CAISO Statement Bill Determinant Name | CAISO Bill Determinant Attributes | CAISO BPM |
|---|---|---|---|---|---|
| BAMonthlyCompleteFRUUncertaintyAllocationAmount$_{BQ'm}$ | $ Monthly 9 Decimal | FRU Uncertainty Allocation Amount (in $) assessed monthly to a BA of the BAA as the difference of the monthly FRU Allocation Amount for the designated Trading Month and the monthly total of the daily FRU Uncertainty | BANC EESC Bill Determinant Statement: BAA_MTH_FRU_UNCERT_ALLOC_STLMT_HIER@SUB_SUBTOT_CURRENT_AMOUNT | | BPM Configuration Guide: Monthly Flexible Ramp Up Uncertainty Award Allocation CC 7078 Version 5.0 |

| Determinants | UOM, Interval Length, Precision | Description | CAISO Statement Bill Determinant Name | CAISO Bill Determinant Attributes | CAISO BPM |
|---|---|---|---|---|---|
| | | Allocation Amounts over all Trading Days of the Trading Month. | | | |
| PTBBAAMonthFRUUncertaintyAllocationAmount$_{BJm}$ | $ Monthly 9 Decimal | Pass through bill for Monthly Flexible Ramp Up Uncertainty Allocation. | BANC EESC Bill Determinant Statement: PTB_CHG_ADJ_BAA_MTH_FRU_UNCERT_ALLOC_HIER@PTB_SUBTOT_CURRENT_AMOUNT | | BPM Configuration Guide: Monthly Flexible Ramp Up Uncertainty Award Allocation CC 7078 Version 5.0 |

## 40.2   *BANC Provided Determinants*

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| | | |

## 40.3   *BANC Allocation Determinants*

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| CAISO_MNLY_7078_PTB_AMT$_{Bm}$ | $ Monthly 2 Decimal | **BANC Monthly 7078 Pass Through Billing Amount** - A monthly statement BANC PTB value when applicable related to CAISO Charge Code 7078. |
| CAISO_MNLY_7078_AMT$_{Bm}$ | $ Monthly 2 Decimal | **CAISO Monthly7078 Amount** - The CAISO 7078 charge amount to BANC rounded to two decimal places. This amount include the full rebate of the daily charge codes 7077 for the month. |
| PPT_DLY_7077_AMT$_{Pd}$ | $ Daily 2 Decimal | **EIM Participant Daily 7077 Amount** - The daily allocation of CAISO charge code 7077 via daily load ratio share to each EIM Participant rounded to two decimal places. |
| PPT_MNLY_7077_AMT$_{Pm}$ | $ Monthly 2 Decimal | **EIM Participant Monthly 7077 Amount** – The total monthly allocation of CAISO charge code 7077 to each participant. |
| TPUD_DLY_7077_AMT$_{Pd}$ | $ Daily 2 Decimal | **BANC TPUD Daily 7077 Amount** - The daily estimate of CAISO charge code 7077 to TPUD. |
| TPUD_MNLY_7077_AMT$_{Bm}$ | $ Monthly 2 Decimal | **BANC TPUD Monthly 7077 Amount** – The total monthly estimate of CAISO charge code 7077 to TPUD. |
| BNC_DLY_7077_ALLOC_AMT$_{Bd}$ | $ Daily 2 Decimal | **BANC Daily 7077 Amount** - The total CAISO charge code 7077 amount allocated to all EIM Participants for the Trade Date. |

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| PPT_MNLY_ABS_LD_INTERTIE_IMB_RATIO$_{Pm}$ | Decimal<br>Monthly<br>5 Decimal | **EIM Participant Monthly Absolute Load and Intertie Imbalance Ratio** – The EIM Participant's Monthly decimal ratio of the load and Intertie imbalance allocation share. Rounded to 5 decimals. |
| PPT_MNLY_7078_AMT$_{Pm}$ | $<br>Monthly<br>2 Decimal | **EIM Participant Monthly 7078 Amount** - The monthly allocation of CAISO Charge Code 7078 to each EIM Participant. |
| TPUD_MNLY_ABS_LD_INTERTIE_IMB_RATIO$_{Bm}$ | Decimal<br>Monthly<br>5 Decimal | **TPUD Monthly Absolute Load and Intertie Imbalance Ratio** – The TPUD monthly decimal ratio of the load and Intertie imbalance allocation share. Rounded to 5 decimals. Note TPUD has no Interties, but the imbalance ratio calculation does include them for the EIM Participants. |
| TPUD_MNLY_7078_AMT$_{Bm}$ | $<br>Monthly<br>2 Decimal | **BANC TPUD Monthly 7078 Amount** - The monthly estimate of CAISO Charge Code 7078 to TPUD. |
| BNC_MNLY_7078_ALLOC_AMT$_{Bm}$ | $<br>Monthly<br>2 Decimal | **BANC Monthly 7078 Allocated Amount** - The total CAISO charge code 7078 amount allocated to all EIM Participants for the Trade Date. |
| BNC_MNLY_7078_ALLOC_DIFF_AMT$_{Bm}$ | $<br>Monthly<br>2 Decimal | **BANC Monthly 7078 Allocated Differential Amount** - The calculated daily difference between the monthly CAISO rounded charge code to the total BANC allocation to its participants. |

**Formulas**

**40.4** All the formulas in this charge code will only be executed on the last day of the month.

The charge code PTB will be allocated in the BANC PTB Charge Code.

$$\text{CAISO\_MNLY\_7078\_PTB\_AMT}_{Bm}{}^{1} = \sum_{Bm} (\text{PTBBAAMonthFRUUncertaintyAllocationAmount}_{BJm})$$
[1]Rounded to 2 decimal places.

**40.5** The BANC charge code 7078 daily amount from CAISO will be rounded to two decimal places after any potential PTB is removed.

$$\text{CAISO\_MNLY\_7078\_AMT}_{Bm}{}^{1} = \text{BAMonthlyCompleteFRUUncertaintyAllocationAmount}_{BQ'm}$$
[1]Rounded to 2 decimal places.

**40.6** BANC will sum each participant's total charge code 7077 for the month to a single monthly amount. This amount will be credited back to each participant in this charge code when the last day of the month is settled.

$$\text{PPT\_MNLY\_7077\_AMT}_{Pm} = \sum_{Pm}(\text{PPT\_DLY\_7077\_AMT}_{Pd})$$

**40.7** Sum the TPUD charge code 7077 across the month to a single monthly amount. This amount will be credited back to the TPUD charge holding account when the last day of the month is settled.

$$\text{TPUD\_MNLY\_7077\_AMT}_{Bm} = \sum_{Bm}(\text{TPUD\_DLY\_7077\_AMT}_{Pd})$$

**40.8**   The CAISO charge code 7078 consists of the net of the rebated monthly total for charge code 7077 plus the entire month's Flexible Ramp Up Uncertainty allocation. The charge to each EIM Participant is the sum of CAISO charge code 7078 plus the sum of all the allocated charges for charge code 7077 across the month less what each EIM Participant paid in charge code 7077 during the month.

$$PPT\_MNLY\_7078\_AMT_{Pm}{}^1 =$$
$$\{ [CAISO\_MNLY\_7078\_AMT_{Bm} + \textstyle\sum_{Bm} (BNC\_DLY\_7077\_ALLOC\_AMT_{Bd}) ]$$
$$* PPT\_MNLY\_ABS\_LD\_INTERTIE\_IMB\_RATIO_{Pm} \} - PPT\_MNLY\_7077\_AMT_{Pm}$$

[1]Rounded to 2 decimal places.

**40.9**   The charge for TPUD is the sum of CAISO charge code 7078 plus the sum of all the allocated charges for charge code 7077 across the month less what was allocated to TPUD in charge code 7077 during the month.

$$TPUD\_MNLY\_7078\_AMT_{Bm}{}^1 =$$
$$\{ [CAISO\_MNLY\_7078\_AMT_{Bm} + \textstyle\sum_{Bm} (BNC\_DLY\_7077\_ALLOC\_AMT_{Bd}) ]$$
$$* TPUD\_MNLY\_ABS\_LD\_INTERTIE\_IMB\_RATIO_{Bm} \} - TPUD\_MNLY\_7077\_AMT_{Bm}$$

[1]Rounded to 2 decimal places.

## *Allocations Monitoring*

**40.10**   On the last day of the month, the total monthly allocation to EIM Participants is summed to a total.

$$BNC\_MNLY\_7078\_ALLOC\_AMT_{Bm} = \textstyle\sum_{Bm} (PPT\_MNLY\_7078\_AMT_{Pm}) +$$
$$TPUD\_MNLY\_7078\_AMT_{Bm}$$

**40.11**   The total daily difference between the credit BANC received and the allocated amount to EIM Participants is calculated and monitored.

$$BNC\_MNLY\_7078\_ALLOC\_DIFF\_AMT_{Bm} = CAISO\_MNLY\_7078\_AMT_{Bm} -$$
$$BNC\_MNLY\_7078\_ALLOC\_AMT_{Bm}$$

# 41. BANC Charge Code 7087 Daily Flexible Ramp Down Uncertainty Award Allocation

## CAISO Application

The CAISO flexible ramp construct pays resources and imports for the opportunity and capability for dispatchable ramp for changes in either anticipated demand (forecasted movement) or potential (uncertain) demand. There are separate charge codes to credit resources and to charge measured demand.

CASIO splits up the flexible ramp charge codes between forecasted ramp and ramp uncertainty.

CAISO also plans for potential uncertainty in overall load to serve that results from forecast uncertainty. Since forecasted load to serve is an expectation and not a certainty, CAISO also dispatches resources in a manner to retain flexible ramping capability for potential upward and downward uncertainty. CAISO calculate the forecast uncertainty by analyzing loads and resources (especially renewal resources) against their historical performance and calculates both an upward and downward uncertainty confidence interval. Based on these results they calculate how much additional ramp needs to be reserved in both directions to meet these potential changes.

Daily, this CAISO charge code collects funds to reimburse resources and ITIEs that are dispatched for Flexible Ramp Down Uncertainty. On the last day of the month, CAISO will refund all the charges billed during the month in charge code 7087 in a separate monthly charge code 7088 and then will reallocate them across the month to participants using a different methodology in that same charge code.

CAISO also can have a daily PTB in this charge code.

## BANC Application

BANC will allocate this charge every day of the month using the daily EIM Participant Absolute Load and Intertie Imbalance Ratio Precalculation. On the last day of the month, BANC will refund the entire prior month's billed amount in charge code 7087 and will reallocate it to participants using the EIM Participant Absolute Load and Intertie Imbalance Ratio Precalculation in BANC Charge Code 7088.

BANC will also monitor for any PTB and will remove it from this charge allocation and allocate it in the BANC PTB Charge Code.

The portion of the charge code estimated to TPUD will be held by BANC and reallocated by BANC Accounting to non-WAPA participants outside of this allocation process.

## 41.1 *CAISO Determinants*

| Determinants | UOM, Interval Length, Precision | Description | CAISO Statement Bill Determinant Name | CAISO Bill Determinant Attributes | CAISO BPM |
|---|---|---|---|---|---|
| BADailyCompleteFRDUncertaintyAllocationAmount$_{BQ'md}$ | $ Daily 9 Decimal | FRD Uncertainty Charge (in $) allocated to BANC for the Trading Day. | BANC EESC Bill Determinant Statement: BAA_DAY_FRD_UNCERT_ALLOC_STLMT_HIER@SUB_SUBTOT_CURRENT_AMOUNT | | BPM Configuration Guide: Daily Flexible Ramp Down Uncertainty Award Allocation CC 7087 Version 5.1 |

| Determinants | UOM, Interval Length, Precision | Description | CAISO Statement Bill Determinant Name | CAISO Bill Determinant Attributes | CAISO BPM |
|---|---|---|---|---|---|
| PTBBAADayFRDUncertaintyAllocAmt$_{BJmd}$ | $ Daily 9 Decimal | Pass through bill for Flexible Ramp Down Uncertainty Allocation. | BANC EESC Bill Determinant Statement: PTB_CHG_ADJ_BAA_DAY_FRD_UNCERT_ALLOC_HIER @PTB_SUBTOT_CURRENT_AMOUNT | | BPM Configuration Guide: Daily Flexible Ramp Down Uncertainty Award Allocation CC 7087 Version 5.1 |

## 41.2  BANC Provided Determinants

| Determinants | UOM, Interval Length, Precision | Description |
|---|---|---|
| | | |

## 41.3  BANC Allocation Determinants

| Determinants | UOM, Interval Length, Precision | Description |
|---|---|---|
| CAISO_DLY_7087_PTB_AMT$_{Bd}$ | $ Daily 2 Decimal | **BANC Daily 7087 Pass Through Bill Amount** - A daily statement BANC PTB value when applicable related to CAISO Charge Code 7087. |
| CAISO_DLY_7087_AMT$_{Bd}$ | $ Daily 2 Decimal | **CAISO Daily 7087 Amount** - The CAISO CC7087 charge amount to BANC rounded to two decimal places. |
| PPT_DLY_ABS_LD_INTERTIE_IMB_RATIO$_{Pd}$ | Decimal Daily 5 Decimal | **EIM Participant Daily Absolute Load and Intertie Imbalance Ratio** – The EIM Participant's daily decimal ratio of the load and Intertie imbalance allocation share. Rounded to 5 decimals. |
| TPUD_DLY_ABS_LD_INTERTIE_IMB_RATIO$_{Bd}$ | Decimal Daily 5 Decimal | **TPUD Daily Absolute Load and Intertie Imbalance Ratio** – The TPUD daily decimal ratio of the load and Intertie imbalance allocation share. Rounded to 5 decimals. Note TPUD has no Interties, but the imbalance ratio calculation does include them for the EIM Participants. |
| PPT_DLY_7087_AMT$_{Pd}$ | $ Daily 2 Decimal | **EIM Participant Daily 7087 Amount** - The daily allocation of CAISO charge code 7087 via daily measured demand to each EIM Participant rounded to two decimal places. |
| TPUD_DLY_7087_AMT$_{Bd}$ | $ Daily 2 Decimal | **BANC TPUD Daily 7087 Amount** - The daily estimate of CAISO charge code 7087 to TPUD rounded to two decimal places. |
| BNC_DLY_7087_ALLOC_AMT$_{Bd}$ | $ Daily 2 Decimal | **BANC Daily 7087 Allocated Amount** - The total CAISO charge code 7087 amount allocated to all EIM Participants for the Trade Date. |

| Determinants | UOM, Interval Length, Precision | Description |
|---|---|---|
| BNC_DLY_7087_ALLOC_DIFF_AMT$_{Bd}$ | $ Daily 2 Decimal | **BANC Daily 7087 Allocated Differential Amount** - The calculated daily difference between the daily CAISO rounded charge code to the total BANC allocation to EIM Participants. |

**Formulas**

**41.4** The CAISO PTB determinant for this charge code will be allocated in the BANC PTB Charge Code.

$$CAISO\_DLY\_7087\_PTB\_AMT_{Bd}{}^1 = \sum\nolimits_{Bd}(PTBBAADayFRDUncertaintyAllocAmt_{BJmd})$$
[1]Rounded to 2 decimal places.

**41.5** The BANC charge code 7087 daily amount from CAISO will be rounded to two decimal places after any potential PTB is removed.

$$CAISO\_DLY\_7087\_AMT_{Bd}{}^1 = BADailyCompleteFRDUncertaintyAllocationAmount_{BQ'md}$$
[1]Rounded to 2 decimal places.

**41.6** Allocate the daily BANC charge code 7087 amount to the EIM Participants via the daily measured demand Precalculation.

$$PPT\_DLY\_7087\_AMT_{Pd}{}^1 = CAISO\_DLY\_7087\_AMT_{Bd} * PPT\_DLY\_ABS\_LD\_INTERTIE\_IMB\_RATIO_{Pd}$$
[1]Rounded to 2 decimal places.

**41.7** Allocate the daily BANC charge code 7087 amount to the EIM Participants via the daily measured demand Precalculation.

$$TPUD\_DLY\_7087\_AMT_{Bd}{}^1 = CAISO\_DLY\_7087\_AMT_{Bd} * TPUD\_DLY\_ABS\_LD\_INTERTIE\_IMB\_RATIO_{Bd}$$
[1]Rounded to 2 decimal places.

*Allocations Monitoring*

**41.8** The total daily allocation to EIM Participants is summed to a daily total.

$$BNC\_DLY\_7087\_ALLOC\_AMT_{Bd} = \sum\nolimits_{Bd} (PPT\_DLY\_7087\_AMT_{Pd}) + TPUD\_DLY\_7087\_AMT_{Bd}$$

**41.9** The total daily difference between the credit BANC received and the allocated amount to EIM Participants is calculated and monitored.

$$BNC\_DLY\_7087\_ALLOC\_DIFF\_AMT_{Bd} = CAISO\_DLY\_7087\_AMT_{Bd} - BNC\_DLY\_7087\_ALLOC\_AMT_{Bd}$$

## 42.    BANC Charge Code 7088 Monthly Flexible Ramp Down Uncertainty Award  Allocation

**CAISO Application**

The CAISO flexible ramp construct pays resources and imports for the opportunity and capability for dispatchable ramp for changes in either anticipated demand (forecasted movement) or potential (uncertain) demand. There are separate charge codes to credit resources and to charge measured demand.

CASIO splits up the flexible ramp charge codes between forecasted ramp and ramp uncertainty.

CAISO also plans for potential uncertainty in overall load to serve that results from forecast uncertainty. Since forecasted load to serve is an expectation and not a certainty, CAISO also dispatches resources in a manner to retain flexible ramping capability for potential upward and downward uncertainty. CAISO calculate the forecast uncertainty by analyzing loads and resources (especially renewal resources) against their historical performance and calculates both an upward and downward uncertainty confidence interval. Based on these results they calculate how much additional ramp needs to be reserved in both directions to meet these potential changes.

Daily, CAISO uses charge code 7087 to collects funds to reimburse resources and ITIEs that are dispatched for Flexible Ramp Down Uncertainty. On the last day of the month in charge code 7088, CAISO will refund all the charges billed during the month in charge code 7078 and will reallocate them across the month to participants based on an on-peak/off-peak methodology in the same charge code.

CAISO also can have a monthly PTB in this charge code.

**BANC Application**

BANC will also use monthly charge code 7088 to refund what each participant was billed in charge code 7087 across the month and then will reallocate the total monthly charge to EIM Participants based on the monthly EIM Participant Absolute Load and Intertie Imbalance Ratio Precalculation.

BANC will also monitor for any PTB and will remove it from this charge allocation and allocate it in the BANC PTB Charge Code.

The portion of the charge code estimated to TPUD will be held by BANC and reallocated by BANC Accounting to non-WAPA participants outside of this allocation process.

### 42.1    *CAISO Determinants*

| Determinants | UOM, Interval Length, Precision | Description | CAISO Statement Bill Determinant Name | CAISO Bill Determinant Attributes | CAISO BPM |
|---|---|---|---|---|---|
| BAMonthlyCompleteFRDUncertaintyAllocationAmount$_{BQ'm}$ | $ Monthly 9 Decimal | FRU Uncertainty Allocation Amount (in $) assessed monthly to a BA of the BAA as the difference of the monthly FRD Allocation Amount for the designated Trading Month and the monthly total of the daily FRD Uncertainty Allocation | BANC EESC Bill Determinant Statement: BAA_MTH_FRD_UNCERT_ALLOC_STLMT_HIER@SUB_SUBTOT_CURRENT_AMOUNT | | BPM Configuration Guide: Monthly Flexible Ramp Down Uncertainty Award Allocation CC7088 Version 5.0 |

| Determinants | UOM, Interval Length, Precision | Description | CAISO Statement Bill Determinant Name | CAISO Bill Determinant Attributes | CAISO BPM |
|---|---|---|---|---|---|
| | | Amounts over all Trading Days of the Trading Month. | | | |
| PTBBAAMonthFRDUncertaintyAllocationAmount$_{BJm}$ | $ Monthly 9 Decimal | Pass through bill for Monthly Flexible Ramp Down Uncertainty Allocation. | BANC EESC Bill Determinant Statement: PTB_CHG_ADJ_BAA_MTH_FRD_UNCERT_ALLOC_HIER @PTB_SUBTOT_CURRENT_AMOUNT | | BPM Configuration Guide: Monthly Flexible Ramp Down Uncertainty Award Allocation CC7088 Version 5.0 |

## 42.2 BANC Provided Determinants

| Determinants | UOM, Interval Length, Precision | Description |
|---|---|---|
| | | |

## 42.3 BANC Allocation Determinants

| Determinants | UOM, Interval Length, Precision | Description |
|---|---|---|
| CAISO_MNLY_7088_PTB_AMT$_{Bm}$ | $ Monthly 2 Decimal | **BANC Monthly 7088 Pass Through Bill Amount** - A monthly statement BANC PTB value when applicable related to CAISO Charge Code 7088. |
| CAISO_MNLY_7088_AMT$_{Bm}$ | $ Monthly 9 Decimal | **CAISO Monthly 7088 Amount** - The CAISO CC7088 charge amount to BANC rounded to two decimal places. |
| PPT_DLY_7087_AMT$_{Pd}$ | $ Daily 2 Decimal | **EIM Participant Daily 7087 Amount** - The daily allocation of CAISO charge code 7087 via daily measured demand to each EIM Participant rounded to two decimal places. |
| PPT_MNLY_7087_AMT$_{Pm}$ | $ Monthly 2 Decimal | **EIM Participant Monthly 7087 Amount** – The total monthly allocation of CAISO charge code 7087 to the participant. |
| TPUD_DLY_7087_AMT$_{Pd}$ | $ Daily 2 Decimal | **BANC TPUD Daily 7087 Amount** - The daily estimate of CAISO charge code 7087 to TPUD. |
| TPUD_MNLY_7087_AMT$_{Bm}$ | $ Monthly 2 Decimal | **BANC TPUD Monthly 7087 Amount** – The total monthly estimate of CAISO charge code 7087 to TPUD. |
| PPT_MNLY_ABS_LD_INTERTIE_IMB_RATIO$_{Pm}$ | Decimal Monthly 5 Decimal | **EIM Participant Monthly Absolute Load and Intertie Imbalance Ratio** – The EIM Participant's Monthly decimal ratio of the load |

| Determinants | UOM, Interval Length, Precision | Description |
|---|---|---|
| | | and Intertie imbalance allocation share. Rounded to 5 decimals. |
| PPT_MNLY_7088_AMT$_{Pm}$ | $ Monthly 2 Decimal | **EIM Participant Monthly 7088 Amount** - The monthly allocation of CAISO Charge Code 7088 via the monthly measured demand to each EIM Participant. |
| TPUD_MNLY_ABS_LD_INTERTIE_IMB_RATIO$_{Bm}$ | Decimal Monthly 5 Decimal | **TPUD Monthly Absolute Load and Intertie Imbalance Ratio** – The TPUD monthly decimal ratio of the load and Intertie imbalance allocation share. Rounded to 5 decimals. Note TPUD has no Interties, but the imbalance ratio calculation does include them for the EIM Participants. |
| TPUD_MNLY_7088_AMT$_{Bm}$ | $ Monthly 2 Decimal | **BANC TPUD Monthly 7088 Amount** - The monthly estimate of CAISO Charge Code 7088 to TPUD. |
| BNC_MNLY_7088_ALLOC_AMT$_{Bm}$ | $ Monthly 2 Decimal | **BANC Monthly 7088 Allocated Amount** - The total CAISO charge code 7088 amount allocated to all EIM Participants for the Trade Date. |
| BNC_MNLY_7088_ALLOC_DIFF_AMT$_{Bm}$ | $ Monthly 2 Decimal | **BANC Monthly 7088 Allocated Differential Amount** - The calculated daily difference between the monthly CAISO rounded charge code to the total BANC allocation to EIM Participants. |

## Formulas

**42.4**   All the formulas in this charge code will only be executed on the last day of the month.

The charge code PTB will be allocated in the BANC PTB Charge Code.

$CAISO\_MNLY\_7088\_PTB\_AMT_{Bm}{}^{[1]} = \sum_{Bm}(PTBBAAMonthFRDUncertaintyAllocationAmount_{BJm})$
[1]Rounded to 2 decimal places.

**42.5**   The BANC charge code 7088 daily amount from CAISO will be rounded to two decimal places after any potential PTB is removed.

$CAISO\_MNLY\_7088\_AMT_{Bm}{}^{[1]} = BAMonthlyCompleteFRDUncertaintyAllocationAmount_{BQ'm}$
[1]Rounded to 2 decimal places.

**42.6**   BANC will sum each participant's total charge code 7087 for the month to a single monthly amount. This amount will be credited back to each EIM Participant in this charge code.

$PPT\_MNLY\_7087\_AMT_{Pm} = \sum_{Pm}(PPT\_DLY\_7087\_AMT_{Pd})$

**42.7**   Sum the TPUD charge code 7087 across the month to a single monthly amount. This amount will be credited back to the TPUD charge holding account when the last day of the month is settled.

$TPUD\_MNLY\_7087\_AMT_{Bm} = \sum_{Bm}(TPUD\_DLY\_7087\_AMT_{Pd})$

**42.8** The CAISO charge code 7088 consists of the net of the rebated monthly total for charge code 7078 plus the entire month's Flexible Ramp Down Uncertainty allocation. The charge to each EIM Participant is the sum of CAISO charge code 7088 plus the sum of all the allocated charges for charge code 7087 across the month less what each EIM Participant paid in charge code 7087 during the month.

$$PPT\_MNLY\_7088\_AMT_{Pm}{}^1 =$$
$$\{ [CAISO\_MNLY\_7088\_AMT_{Bm} + \textstyle\sum_{Bm} (BNC\_DLY\_7087\_ALLOC\_AMT_{Bd}) ]$$
$$* PPT\_MNLY\_ABS\_LD\_INTERTIE\_IMB\_RATIO_{Pm} \} - PPT\_MNLY\_7087\_AMT_{Pm}$$

[1]Rounded to 2 decimal places.

**42.9** The charge for TPUD is the sum of CAISO charge code 7088 plus the sum of all the allocated charges for charge code 7087 across the month less what was allocated to TPUD in charge code 7087 during the month.

$$TPUD\_MNLY\_7088\_AMT_{Bm}{}^1 =$$
$$\{ [CAISO\_MNLY\_7088\_AMT_{Bm} + \textstyle\sum_{Bm} (BNC\_DLY\_7087\_ALLOC\_AMT_{Bd}) ]$$
$$* TPUD\_MNLY\_ABS\_LD\_INTERTIE\_IMB\_RATIO_{Bm} \} - TPUD\_MNLY\_7087\_AMT_{Bm}$$

[1]Rounded to 2 decimal places.

## *Allocations Monitoring*

**42.10** On the last day of the month, the total monthly allocation to EIM Participants is summed to a total.

$$BNC\_MNLY\_7088\_ALLOC\_AMT_{Bm} = \textstyle\sum_{Bm} (PPT\_MNLY\_7088\_AMT_{Pm}) +$$
$$TPUD\_MNLY\_7088\_AMT_{Bm}$$

**42.11** The total monthly difference between the credit BANC received and the allocated amount to EIM Participants is calculated and monitored.

$$BNC\_MNLY\_7088\_ALLOC\_DIFF\_AMT_{Bm} = CAISO\_MNLY\_7088\_AMT_{Bm} -$$
$$BNC\_MNLY\_7088\_ALLOC\_AMT_{Bm}$$

# 43. BANC Charge Code 7989 Daily Invoice Deviation Interest Distribution

## CAISO Application

Interest will be charged or paid to Market Participants receiving Invoice or Payment Advice through Charge Codes (7989 and 7999) in the CAISO Settlements system. Interest charged (CC7989) or paid (CC7999) will be calculated back to the due date of the initial Invoices. The FERC Annual Interest Rate in effect for each quarter will be used to calculate these amounts.

There is no PTB determinant associated with this charge code.

## BANC Application

BANC will allocate this daily charge code to EIM Participants based on the EIM Participant Cost Allocation Ratio Precalculation.

The portion of the charge code estimated to TPUD will be held by BANC and reallocated by BANC Accounting to non-WAPA participants outside of this allocation process.

### 43.1 *CAISO Determinants*

| Determinants | UOM, Interval Length, Precision | Description | CAISO Statement Bill Determinant Name | CAISO Bill Determinant Attributes | CAISO BPM |
|---|---|---|---|---|---|
| BADayInvoiceDeviationInterestDistributionAmount$_{BU'Umd}$ | $ Daily 9 Decimal | Charge Code 7989 is the amount of interest due from a Scheduling Coordinator for the time difference between resettlement of Trade Dates and the original invoice for that date. | BANC EESC Bill Determinant Statement: BA_DAY_INV_DEV_INT_DIST@AMOUNT | | BPM Configuration Guide: Invoice Deviation Interest and Allocation CC7989 and CC7999 Version 5.2c |

### 43.2 *BANC Provided Determinants*

| Determinants | UOM, Interval Length, Precision | Description |
|---|---|---|
| | | |

### 43.3 *BANC Allocation Determinants*

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| CAISO_DLY_7989_AMT$_{Bd}$ | $ Daily 2 Decimal | **CAISO Daily 7989 Amount** - The CAISO CC7989 charge amount to BANC. |
| PPT_COST_ALLOC_RATIO$_{Pd}$ | Decimal Daily 5 Decimals | **EIM Participant Cost Allocation Ratio** - The EIM Participant daily cost allocation ratio per participant. This percentage is expected to be defined annually by the BANC Commission and it will be in effect by Trade Date until it is updated. |

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| | | All allocations including resettlements will use the allocation in effect for that Trade date. |
| $PPT\_DLY\_7989\_AMT_{Pd}$ | $ Daily 2 Decimal | **EIM Participant Daily 7989 Amount** - EIM Participant allocation of CAISO charge code 7989 rounded to two decimal places. |
| $TPUD\_COST\_ALLOC\_RATIO_{Bd}$ | Decimal Daily 5 Decimals | **Trinity PUD Cost Allocation Ratio** – The ratio of WAPA's cost allocation that is attributable to TPUD load for the day. This determinant is associated with BANC. |
| $TPUD\_DLY\_7989\_AMT_{Bd}$ | $ Monthly 2 Decimal | **BANC TPUD Daily 7989 Amount** - BANC TPUD allocation of CAISO charge code 7989 rounded to two decimal places. |
| $BNC\_DLY\_7989\_ALLOC\_AMT_{Pd}$ | $ Daily 2 Decimal | **BANC Daily 7989 Allocated Amount** - The total CAISO charge code 7989 amount allocated to all EIM Participants for the Trade Date. |
| $BNC\_DLY\_7989\_ALLOC\_DIFF\_AMT_{Bd}$ | $ Daily 2 Decimal | **BANC Daily 7989 Allocated Differential Amount** - The calculated difference between the CAISO rounded charge code to the total BANC allocation to EIM Participants. |

## Formulas

**43.4**    A daily possible charge to BANC for charge code 7989 when applicable.

$CAISO\_DLY\_7989\_AMT_{Bd}{}^1 = BADayInvoiceDeviationInterestDistributionAmount_{BU'Umd}$
[1]Rounded to 2 decimal places.

**43.5**    Allocate any charge BANC received from CAISO in charge code 7989 to EIM Participants by each participant's specific Cost Allocation Ratio in the EIM Participants Cost Allocation Ratio Precalculation.

$PPT\_DLY\_7989\_AMT_{Pd}{}^1 = CAISO\_DLY\_7989\_AMT_{Bd} * PPT\_COST\_ALLOC\_RATIO_{Pd}$
[1]Rounded to 2 decimal places.

**43.6**    The daily cost allocation estimated to TPUD.

$TPUD\_DLY\_7989\_AMT_{Bd}{}^1 = CAISO\_DLY\_7989\_AMT_{Bd} * TPUD\_COST\_ALLOC\_RATIO_{Bd}$
[1]Rounded to 2 decimal places.

### *Allocations Monitoring*

**43.7**    The allocation is summed to a daily total.

$BNC\_DLY\_7989\_ALLOC\_AMT_{Bd} = \sum_{Bd} (PPT\_DLY\_7989\_AMT_{Pd}) + TPUD\_DLY\_7989\_AMT_{Bd}$

**43.8**    The total daily difference between the credit BANC received and the allocated amount to EIM Participants is calculated and monitored.

$BNC\_DLY\_7989\_ALLOC\_DIFF\_AMT_{Bd} = CAISO\_DLY\_7989\_AMT_{Bd} - BNC\_DLY\_7989\_ALLOC\_AMT_{Bd}$

# 44.    BANC Charge Code 7999 Daily Invoice Deviation Interest Allocation

## CAISO Application

Interest will be charged or paid to Market Participants receiving Invoice or Payment Advice through Charge Codes (7989 and 7999) in the CAISO Settlements system.  Interest charged (CC7989) or paid (CC7999) will be calculated back to the due date of the initial Invoices. The FERC Annual Interest rate in effect for each quarter will be used to calculate these amounts.

There is no PTB determinant associated with this charge code.

## BANC Application

BANC will allocate this daily charge code to participants based on the EIM Participant Cost Allocation Ratio Precalculation.

The portion of the charge code estimated to TPUD will be held by BANC and reallocated by BANC Accounting to non-WAPA participants outside of this allocation process.

## 44.1   *CAISO Determinants*

| Determinants | UOM, Interval Length, Precision | Description | CAISO Statement Bill Determinant Name | CAISO Bill Determinant Attributes | CAISO BPM |
|---|---|---|---|---|---|
| BADayInvoiceDeviationInterestAllocationAmount$_{BU'Umd}$ | $ Daily 9 Decimal | Charge Code 7999 is the amount of interest owed to a Scheduling Coordinator for the time difference between resettlement of Trade Dates and the original invoice for that date. | BANC EESC Bill Determinant Statement: BA_DAY_INV_DEV_INT_ALLOC@AMOUNT | | BPM Configuration Guide: Invoice Deviation Interest and Allocation CC7989 and CC7999 Version 5.2c |

## 44.2   *BANC Provided Determinants*

| Determinants | UOM, Interval Length, Precision | Description |
|---|---|---|
| | | |

## 44.3   *BANC Allocation Determinants*

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| CAISO_DLY_7999_AMT$_{Bd}$ | $ Daily 2 Decimal | **CAISO Daily 7999 Amount** - The CAISO CC7999 credit amount to BANC. |
| PPT_COST_ALLOC_RATIO$_{Pd}$ | Decimal Daily 5 Decimals | **EIM Participant Cost Allocation Ratio** - The EIM Participant daily cost allocation ratio per participant. This percentage is expected to be defined annually by the BANC Commission by EIM BANC Participant, and it will be in effect by |

| Determinants | UOM & Interval Length | Description |
|---|---|---|
| | | Trade Date until it is updated. All allocations including resettlements will use the allocation in effect for that Trade date. Refer to the EIM Participants Cost Allocation Precalculation. |
| $PPT\_DLY\_7999\_AMT_{Pd}$ | $ Daily 2 Decimal | **EIM Participant Daily 7999 Amount** - EIM Participant allocation of CAISO charge code 7999 rounded to two decimal places. |
| $TPUD\_COST\_ALLOC\_RATIO_{Bd}$ | Decimal Daily 5 Decimals | **Trinity PUD Cost Allocation Ratio** – The ratio of WAPA's cost allocation that is attributable to TPUD load for the day. This determinant is associated with BANC. |
| $TPUD\_DLY\_7999\_AMT_{Bd}$ | $ Monthly 2 Decimal | **BANC TPUD Daily 7999 Amount** - BANC TPUD allocation of CAISO charge code 7999 rounded to two decimal places. |
| $BNC\_DLY\_7999\_ALLOC\_AMT_{Pd}$ | $ Daily 2 Decimal | **BANC Daily 7999 Allocated Amount** - The total CAISO charge code 7999 amount allocated to all EIM Participants for the Trade Date. |
| $BNC\_DLY\_7999\_ALLOC\_DIFF\_AMT_{Bd}$ | $ Daily 2 Decimal | **BANC Daily 7999 Allocated Differential Amount** - The calculated difference between the CAISO rounded charge code to the total BANC allocation to its participants. |

## Formulas

**44.4** A daily possible credit to BANC for charge code 7999 when applicable.

$CAISO\_DLY\_7999\_AMT_{Bd}{}^1 = BADayInvoiceDeviationInterestAllocationAmount_{BU'Umd}$
[1]Rounded to 2 decimal places.

**44.5** Allocate any credit BANC received from CAISO in charge code 7999 to EIM Participants by each participant's specific Cost Allocation Ratio in the EIM Participants Cost Allocation Ratio Precalculation.

$PPT\_DLY\_7999\_AMT_{Pd}{}^1 = CAISO\_DLY\_7999\_AMT_{Bd} * PPT\_COST\_ALLOC\_RATIO_{Pd}$
[1]Rounded to 2 decimal places.

**44.6** The monthly cost allocation estimated to TPUD.

$TPUD\_DLY\_7999\_AMT_{Bd}{}^1 = CAISO\_DLY\_7999\_AMT_{Bd} * TPUD\_COST\_ALLOC\_RATIO_{Bd}$
[1]Rounded to 2 decimal places.

*Allocations Monitoring*

**44.7** The allocation is summed to a daily total.

$BNC\_DLY\_7999\_ALLOC\_AMT_{Bd} = \sum_{Bd} (PPT\_DLY\_7999\_AMT_{Pd}) + TPUD\_DLY\_7999\_AMT_{Bd}$

**44.8** The total daily difference between the credit BANC received and the allocated amount to EIM Participants is calculated and monitored.

$BNC\_DLY\_7999\_ALLOC\_DIFF\_AMT_{Bd} = CAISO\_DLY\_7999\_AMT_{Bd} - BNC\_DLY\_7999\_ALLOC\_AMT_{Bd}$

# Appendix A – Monitoring Reports

[THIS SECTION INTENTIONALLY LEFT BLANK]

## Appendix B – CAISO Settlement Statement Determinants

Bill determinants from the CAISO determinant file.

| CAISO Determinant Source | BANC Charge Code Reference | Determinants | UOM, Interval Length, Precision | Description | CAISO Statement Bill Determinant Name | CAISO Bill Determinant Attributes | CAISO BPM |
|---|---|---|---|---|---|---|---|
| CAISO Bill Determinant Statement | BANC CC 64600 | $FMMIntervalLMPPrice_{BrtuT'l'M'mdhc}$ | $ 5 Minute 9 Decimal | The FMM Interval Locational Marginal Price for Resource r. ($/MWh) | CAISO Determinant Statement: BA_15M_RSRC_FMM_LMP@PRICE | | BPM Configuration Guide: FMM Instructed Imbalance Energy Settlement EIM Settlement CC 64600 Version 5.2 |
| CAISO Bill Determinant Statement | BANC CC 64700 | $SettlementIntervalRealTimeLMP_{BrtuM'mdhcif}$ | $ 5 Minute 9 Decimal | The RTM Interval Locational Marginal Price for Resource r. ($/MWh) | CAISO Determinant Statement: BA_5M_RSRC_RT_LMP@PRICE | | BPM Configuration Guide: Real Time Instructed Imbalance Energy Settlement EIM Settlement CC 64700 Version 5.2 |
| CAISO Bill Determinant Statement | BANC CC 64740 | $HourlyUFEUDCLMP_{umdhcif}$ | $ Hourly 5 Decimal | An output from the Real Time Price Pre-calculation. It is the specific UFE price applied to applicable UDC. | BANC EESC Bill Determinant Statement: UFE_HRLY_RTM_UDC@PRICE | | BPM Configuration Guide: Real Time Uninstructed Unaccounted for Energy EIM Settlement CC 64740 Version 5.1 |
| CAISO Bill Determinant Statement | BANC CC 64750 | $HourlyRTMLAPPrice_{AA'mdh}$ | $ 5 Minute 9 Decimal | Hourly Real Time Market LAP Price for APnode A. | BANC EESC Bill Determinant Statement: LAP_HRLY_RTM_LMP@PRICE | | BPM Configuration Guide: Real Time Uninstructed Imbalance Energy EIM Settlement CC 64750 Version 5.1 |

Bill Determinants from the PRSC bill determinant file.

| CAISO Determinant Source | BANC Charge Code Reference | Determinants | UOM, Interval Length, Precision | Description | CAISO Statement Bill Determinant Name | CAISO Bill Determinant Attributes | CAISO BPM |
|---|---|---|---|---|---|---|---|
| EIM Participant PRSC Bill | EIM Participant Absolute Imbalance | $BAResEntityDispatchIntervalMeteredQuantity_{BrtuT'l'Q'M'AA'm'F'R'pPW'QS'd'Nz'Vv Hn'L'mdhcif}$ where $_{m'}$ = 4 and t = 'Gen' | MWh 5 Min 4 Decimals | Metered quantity (in MWh) of generator resources reporting Settlement Quality Metered Data to the CAISO. | BANC PRSC Bill Determinant Statement: BA_5M_RSRC_METER_QTY | t = =RSRC_TYPE = 'Gen' | MSS Netting Pre-Calculation Version 5.8. |

| CAISO Determinant Source | BANC Charge Code Reference | Determinants | UOM, Interval Length, Precision | Description | CAISO Statement Bill Determinant Name | CAISO Bill Determinant Attributes | CAISO BPM |
|---|---|---|---|---|---|---|---|
| Determinant Statement | Ratio Precalculation | | | Settlement allocation solution will convert the resource Id (r) for this resource into the *EIM Participant's* name. | | m' = CHANNEL_ID = '4'<br><br>r is a resource assigned to an EIM Participant | |

Bill determinants from the EESC bill determinant file.

| CAISO Determinant Source | BANC Charge Code Reference | Determinants | UOM, Interval Length, Precision | Description | CAISO Statement Bill Determinant Name | CAISO Bill Determinant Attributes | CAISO BPM |
|---|---|---|---|---|---|---|---|
| BANC EESC Bill Determinant Statement | BANC CC 100 | $\text{TRADE\_DATE}_{Bd}$ | $ Daily | The total settlement statement charge for BANC from CAISO. This value has up to five decimal places of precision. | BANC EESC Bill Determinant Statement: TRADE_DATE | | Configuration File |
| BANC EESC Bill Determinant Statement | EIM Participant Load Ratio Share Precalculation | $\text{BAResEntityDispatchIntervalMeteredQuantity}_{BrtuT'l'Q'M'AA'm'F'R'pPW'QS'd'Nz'VvHn'L'mdhcif}$ where $m'$ = 1 and t = 'Load' | MWh 5 Min 4 Decimals | Hourly settlement meter data submitted to *CAISO* in Channel ID = 1 by registered non-participating loads within *BANC*. This value is provided by *CAISO* as a negative value. Settlement allocation solution will convert the UDC_ID for this load into the *EIM Participant's* name. | BANC EESC Bill Determinant Statement: BA_5MIN_RSRC_METER_QTY | t = =RSRC_TYPE = 'LOAD'<br><br>m' = CHANNEL_ID = '1'<br><br>r = resource Id assigned to an EIM Participant | MSS Netting Pre-Calculation Version 5.8. |
| BANC EESC Bill Determinant Statement | EIM Participant Load Base Schedule Precalculation | $\text{BAResBaseLoadSchedule}_{BrtuT'l'Q'M'AA'R'W'F'S'VL'pmdh}$ | MWh Hourly 2 Decimals | The hourly final load Base Schedule calculated by CAISO for all of BANC's load. These values are displayed as a negative value. The hourly value should equal all the sum of all the resource Base Schedules in BANC plus the net of the ITIEs and ETIEs reduced by the BANC Transmission Loss Factor and the result multiplied by -1. | BANC EESC Bill Determinant Statement: BA_HRLY_RSRC_BASE_LOAD_SCHD_QTY | | Real Time Uninstructed Imbalance Energy EIM Settlement CC 64750 (Version 5.1) – Note this variable is listed as an input to this calculation, but CAISO doesn't define where it is sourced from). |
| BANC EESC Bill | BANC CC 2999 | $\text{DefaultInvoiceInterestPaymentSettlementAmount}_{BmdV'U'U}$ | $ Monthly | CAISO Charge Code 2999 credit to BANC, prorated by Scheduling Coordinator, on a monthly | BANC EESC Bill Determinant Statement: | | BPM Configuration Guide: Default Invoice Interest |

| CAISO Determinant Source | BANC Charge Code Reference | Determinants | UOM, Interval Length, Precision | Description | CAISO Statement Bill Determinant Name | CAISO Bill Determinant Attributes | CAISO BPM |
|---|---|---|---|---|---|---|---|
| Determinant Statement | | | 9 Decimal | basis for any interest paid to CAISO for Scheduling Coordinator late payments when applicable. | BA_MTH_DFLT_INV_INT_PMT@AMOUNT | | Payment CC2999 Version 5.0 |
| BANC EESC Bill Determinant Statement | BANC CC 399 | DefaultInvoiceInterestChargeSettlementAmount$_{BJV'U'Um}$ | $ Monthly 9 Decimal | CAISO Charge Code 3999 Charge to BANC for interest on defaulted invoice payments on a monthly basis | BANC EESC Bill Determinant Statement: BA_MTH_DFLT_INV_INT_CHARGE@AMOUNT | | BPM Configuration Guide: Default Invoice Interest Charge CC3999 Version 5.0 |
| BANC EESC Bill Determinant Statement | BANC CC 4564 | EIMAdministrativeCharge$_{BQ'mdhcif}$ | $ 5 Minute 9 Decimal | This formula conforms to the tariff requirement to assess System Operations and Market Services charges up until an EIM Entity notifies CAISO of its intent to terminate participation in EIM at which point the only charge assessed up to the end of the notice period (when EIM Entity SC is terminated in system) is the EIM Entity SC specific minimum EIM Administrative Charge | BANC EESC Bill Determinant Statement: BA_5M_GMC_EIM_TRANSACTION_CHG@AMOUNT | | BPM Configuration Guide: GMC EIM Transaction Charge CC 4564 Version 5.3 |
| BANC EESC Bill Determinant Statement | BANC CC 4575 | GMCSettlementsMeteringandClientRelationsSettlementAmount$_{Bm}$ | $ Monthly 9 Decimal | CAISO Charge Code 4575 monthly charge to BANC on the last day of the month. | BANC EESC Bill Determinant Statement: BA_MTH_GMC_STLMTS_MTR_CLIENT_RELATIONS@SUB_SUBTOT_PREVIOUS_AMOUNT | | BPM Configuration Guide: GMC – Scheduling Coordinator Identification (ID) Charge CC 4575 Version 5.0 |
| BANC EESC Bill Determinant Statement | BANC CC 4575 | PTBChargeAdjustmentGMCSettlementsMeteringandClientRelationsSettlementAmount$_{BJm}$ | PTB adjustment variable for this Charge Code, amount per SC. ($) | PTB adjustment variable for this Charge Code, amount per SC. ($) | BANC EESC Bill Determinant Statement: PTB_BA_MTH_GMC_STLMTS_MTR_CLIENT_RELATIONS@PTB_SUBTOT_PREVIOUS_AMOUNT | | BPM Configuration Guide: GMC – Scheduling Coordinator Identification (ID) Charge CC 4575 Version 5.0 |
| BANC EESC Bill Determinant Statement | BANC CC 5024 | BAInvoiceLatePaymentPenaltySettlementAmount$_{BV'U'Ud}$ | $ Daily 9 Decimal | CAISO Charge Code 5024 is a charge BANC could receive upon late paying CAISO invoices. | BANC EESC Bill Determinant Statement: BA_DAY_INV_LATE_ | | BPM Configuration Guide: Invoice Late Payment Penalty CC 5024 Version 5.0 |

| CAISO Determinant Source | BANC Charge Code Reference | Determinants | UOM, Interval Length, Precision | Description | CAISO Statement Bill Determinant Name | CAISO Bill Determinant Attributes | CAISO BPM |
|---|---|---|---|---|---|---|---|
| | | | | | PMT_PENALTY_STLMT@AMOUNT | | |
| BANC EESC Bill Determinant Statement | BANC CC 5025 | BACollateralLatePaymentPenaltySettlementAmount$_{Bv'd}$ | $ Daily 9 Decimal | CAISO Charge Code 5025 is a charge BANC could receive upon late posting collateral to CAISO. | BANC EESC Bill Determinant Statement: BA_DAY_COLL_LATE_PMT_PENALTY_STLMT@AMOUNT | | BPM Configuration Guide: Collateral Late Payment Penalty CC 5025 Version 5.0 |
| BANC EESC Bill Determinant Statement | BANC CC 5900 | BusinessAssociateShortfallReceiptDistributionSettlementAmount$_{BP'L}$ | $ Daily 9 Decimal | CAISO Charge Code 5900 is a credit BANC could receive if BANC had been short paid during a prior invoice and the debtor has paid all or some of those funds. The distribution is by Bill Period (P') start and end along with the Invoice Run Number (L). | BANC EESC Bill Determinant Statement: BA_MTH_SHORTFALL_RCPT_DIST@AMOUNT | | BPM Configuration Guide: Shortfall Receipt Distribution CC 5900 Version 5.0 |
| BANC EESC Bill Determinant Statement | BANC CC 5901 | BusinessAssociateShortfallAllocationReversalAmount$_{BUU'L}$ | $ Daily 9 Decimal | CAISO Charge Code 5901 is a credit BANC may receive that reverses out any shortfall allocation they were previously assessed by CAISO. This is only performed when there is permanent default by a Scheduling Coordinator and the shortfall will never be recovered. When this credit happens then CAISO will reassess the shortfall in CC5910 through a different allocation method. | BANC EESC Bill Determinant Statement: BA_SHORTFALL_ALLOC_REV@AMOUNT | | BPM Configuration Guide: Shortfall Allocation Reversal CC 5901 Version 5.0 |
| BANC EESC Bill Determinant Statement | BANC CC 5910 | BusinessAssociateShortfallAllocationSettlementAmount$_{BUU'L}$ | $ Daily 9 Decimal | CAISO Charge Code 5910 is a charge BANC may receive whenever a Scheduling Coordinator short pays a CAISO invoice and there is insufficient funds in CAISO's clearing account for CAISO to remit all owed payments. When a shortfall occurs, CAISO will calculate each Scheduling Coordinator's share and will charge each sufficient to cover the shortfall. | BANC EESC Bill Determinant Statement: BA_MTH_SHORTFALL_ALLOC@AMOUNT | | BPM Configuration Guide: Shortfall Allocation Reversal CC5910 Version 5.3 |
| BANC EESC Bill Determinant Statement | BANC CC 5912 | DefaultLossBusinessAssociateActualDefaultLossPercentage$_{UU'B'L}$ | $ Daily 9 Decimal | CAISO Charge Code 5912 is a charge BANC may receive whenever a CAISO deems a defaulting Scheduling Coordinator will not pay. When CAISO determines this situation has occurred, they revers the short pay in CC5901 and reallocate it in this charge code. | BANC EESC Bill Determinant Statement: DEFAULT_SC_SHORTFALL_ALLOC | | BPM Configuration Guide: Shortfall Allocation Reversal CC5912 Version 5.0 |

| CAISO Determinant Source | BANC Charge Code Reference | Determinants | UOM, Interval Length, Precision | Description | CAISO Statement Bill Determinant Name | CAISO Bill Determinant Attributes | CAISO BPM |
|---|---|---|---|---|---|---|---|
| BANC EESC Bill Determinant Statement | BANC CC 6045 | BAHourlyLAPOverUnderScheduling Amount$_{BQ'AA'mdh}$ | $ Hourly 9 Decimal | Total of under and over scheduling charges per BAA and assigned to the relevant EIM Entity SC. | BANC EESC Bill Determinant Statement: BA_HRLY_EIM_BAA_ APNODE_OVER_UND ER_SCHED_STLMT@ AMOUNT | | BPM Configuration Guide: Over and Under Scheduling EIM Settlement CC 6045 Version 5.2 |
| BANC EESC Bill Determinant Statement | BANC CC 6045 | BAHourlyLAPOverSchedulingAmou nt$_{BQ'AA'mdh}$ | $ Hourly 9 Decimal | Over scheduling charges per BAA and assigned to the relevant EIM Entity SC. | BANC EESC Bill Determinant Statement: EIM_HRLY_APNODE_ OVER_SCHED@AMO UNT | | BPM Configuration Guide: Over and Under Scheduling EIM Settlement CC 6045 Version 5.2 |
| BANC EESC Bill Determinant Statement | BANC CC 6045 | BAHourlyLAPUnderSchedulingAmo unt$_{BQ'AA'mdhA}$ | $ Hourly 9 Decimal | Under scheduling charges per BAA and assigned to the relevant EIM Entity SC. | BANC EESC Bill Determinant Statement: EIM_HRLY_APNODE_ UNDER_SCHED@AM OUNT | | BPM Configuration Guide: Over and Under Scheduling EIM Settlement CC 6045 Version 5.2 |
| BANC EESC Bill Determinant Statement | BANC CC 6046 | EIMEntityBAOUSAllocationAmount $_{BQ'AA'md}$ | $ Daily 9 Decimal | Total over and under scheduling allocation credit from CAISO in charge code 6046 on a daily basis. | BANC EESC Bill Determinant Statement: BA_DAILY_EIM_BAA _LAP_OUS_ALLOC@ AMOUNT | | BPM Configuration Guide: Over and Under Scheduling EIM Allocation CC 6046 Version 5.1 |
| BANC EESC Bill Determinant Statement | BANC CC 6194 | SpinObligAmount$_{Bmdh}$ | $ Hourly 9 Decimal | Spinning Reserve Obligation charge amount (in $) due ISO for a given Business Associate and Trading Hour. | BANC EESC Bill Determinant Statement: BA_HRLY_SPIN_OBLI G@SUB_SUBTOT_NE T_AMOUNT | | BPM Configuration Guide: Spinning Reserve Obligation Settlement CC 6194 Version 5.2a |
| BANC EESC Bill Determinant Statement | BANC CC 6194 | PTBChargeAdjustmentObligationSpin $_{BJmdh}$ | $ Hourly 9 Decimal | Spinning Reserve Obligation PTB Charge Adjustment Amount (in $) for a given Business Associate and Trading Hour. | BANC EESC Bill Determinant Statement: PTB_BA_HRLY_SPIN_ OBLIG@PTB_SUBTO T_NET_AMOUNT | | BPM Configuration Guide: Spinning Reserve Obligation Settlement CC 6194 Version 5.2a |

| CAISO Determinant Source | BANC Charge Code Reference | Determinants | UOM, Interval Length, Precision | Description | CAISO Statement Bill Determinant Name | CAISO Bill Determinant Attributes | CAISO BPM |
|---|---|---|---|---|---|---|---|
| BANC EESC Bill Determinant Statement | BANC CC 6196 | SpinNeutralityAmount$_{Bmdh}$ | $ Hourly 9 Decimal | Spinning Reserve Neutrality amount due ISO for Business Associate B for Trading Day d and Trading Hour h ($). | BANC EESC Bill Determinant Statement: BA_HRLY_SPIN_NTRL@AMOUNT | | BPM Configuration Guide: Spinning Reserve Neutrality Obligation CC6196 Version 5.0b |
| BANC EESC Bill Determinant Statement | BANC CC 6294 | NonSpinObligAmount$_{Bmdh}$ | $ Hourly 9 Decimal | Non-Spinning Reserve Obligation charge amount (in $) due ISO for a given Business Associate and Trading Hour. | BANC EESC Bill Determinant Statement: BA_HRLY_NSPN_OBLIG@SUB_SUBTOT_NET_AMOUNT | | BPM Configuration Guide: Non Spinning Reserve Obligation Settlement CC 6294 Version 5.2a |
| BANC EESC Bill Determinant Statement | BANC CC 6294 | PTBChargeAdjustmentObligationNonSpin$_{BJmdh}$ | $ Hourly 9 Decimal | Non-Spinning Reserve Obligation PTB Charge Adjustment Amount (in $) for a given Business Associate and Trading Hour. | BANC EESC Bill Determinant Statement: PTB_BA_HRLY_NSPN_OBLIG@PTB_SUBTOT_NET_AMOUNT | | BPM Configuration Guide: Non Spinning Reserve Obligation Settlement CC 6294 Version 5.2a |
| BANC EESC Bill Determinant Statement | BANC CC 6296 | NonSpinNeutralityAmount$_{Bmdh}$ | $ Hourly 9 Decimal | Non-Spinning Reserve Neutrality amount due ISO for Business Associate B for Trading Day d and Trading Hour h ($). | BANC EESC Bill Determinant Statement: BA_HRLY_NSPN_NTRL@AMOUNT | | BPM Configuration Guide: Spinning Reserve Neutrality Obligation CC6296 Version 5.0b |
| BANC EESC Bill Determinant Statement | BANC CC 64600 | EIMBASettlementIntervalFMMIIEAmount$_{Bmdhcif}$ | $ 5 Minute 9 Decimal | The BA total FMM IIE Settlement Amount for all resources inside EIM Entity BAAs. ($) This value does not include the PTB interval amount. | BANC EESC Bill Determinant Statement: BA_5M_EIM_FMM_IIE_STLMT@SUB_SUBTOT_CURRENT_AMOUNT | | BPM Configuration Guide: FMM Instructed Imbalance Energy Settlement EIM Settlement CC 64600 Version 5.2 |
| BANC EESC Bill Determinant Statement | BANC CC 64600 | PTBChargeAdjustmentEIMBA5MFMMEnergyAmt$_{BJmdhcif}$ | $ 5 Minute 9 Decimal | PTB settlement adjustment amount for this Charge Code | BANC EESC Bill Determinant Statement: PTB_BA_5M_EIM_FMM_IIE_STLMT_HIER@PTB_SUBTOT_CURRENT_AMOUNT | | BPM Configuration Guide: FMM Instructed Imbalance Energy Settlement EIM Settlement CC 64600 Version 5.2 |
| BANC EESC Bill Determinant Statement | BANC CC 64700 | EIMSettlementIntervalIIEAmount$_{BrtQ'mdhcif}$ | $ 5 Minute 9 Decimal | The BA total RTM IIE Settlement Amount for all resources inside EIM Entity BAAs. ($) This value does not include the PTB interval amount. | BANC EESC Bill Determinant Statement: BAA_5M_EIM_IIE@AMOUNT | | BPM Configuration Guide: Real Time Instructed Imbalance Energy Settlement EIM Settlement CC 64700 Version 5.2 |

| CAISO Determinant Source | BANC Charge Code Reference | Determinants | UOM, Interval Length, Precision | Description | CAISO Statement Bill Determinant Name | CAISO Bill Determinant Attributes | CAISO BPM |
|---|---|---|---|---|---|---|---|
| BANC EESC Bill Determinant Statement | BANC CC 64700 | PTBChargeAdjustmentEIMSettlementIntervalIIEAmount$_{Bjmdhcif}$ | $ 5 Minute 9 Decimal | Real Time Instructed Imbalance Energy Settlement Amount PTB Charge Adjustment Amount for Business Associate B, PTB Id J, Trading Hour h, and Settlement Interval i. $ | BANC EESC Bill Determinant Statement: PTB_BA_5M_EIM_IIE_ADJ@AMOUNT | | BPM Configuration Guide: Real Time Instructed Imbalance Energy Settlement EIM Settlement CC 64700 Version 5.2 |
| BANC EESC Bill Determinant Statement | BANC CC 64740 | BA_EIMBAA_SettlementInterval_UnaccountedforEnergy_SettlementAmount$_{BuQ'mdhcif}$ | $ 5 Minute 9 Decimal | Real Time Unaccounted for Energy Settlement amount (in U.S. $). | BANC EESC Bill Determinant Statement: BA_5M_UDC_EIM_BAA_UFE@AMOUNT | | BPM Configuration Guide: Real Time Uninstructed Unaccounted for Energy EIM Settlement CC 64740 Version 5.1 |
| BANC EESC Bill Determinant Statement | BANC CC 64740 | EIMBAASettlementIntervalActualTransmissionLoss$_{uT'Q'mdhcif}$ | MWh 5 Minute 9 Decimal | The calculated quantity (in MWh) of actual transmission line and facility losses associated with energy scheduled for EIM BAA. | BANC EESC Bill Determinant Statement: UDC_5M_ACTUAL_EIM_BAA_TRANS_LOSS@QUANTITY | | BPM Configuration Guide: Real Time Uninstructed Unaccounted for Energy EIM Settlement CC 64740 Version 5.1 |
| BANC EESC Bill Determinant Statement | BANC CC 64740 | EIMBAASettlementIntervalUFEQuantity$_{uQ'mdhcif}$ | MWh 5 Minute 9 Decimal | The Real-Time 5-Minute Unaccounted for Energy Quantity. | BANC EESC Bill Determinant Statement: UDC_5M_EIM_BAA_UFE@QUANTITY | | BPM Configuration Guide: Real Time Uninstructed Unaccounted for Energy EIM Settlement CC 64740 Version 5.1 |
| BANC EESC Bill Determinant Statement | BANC CC 64750 | EIMSettlementIntervalUIESettlementAmount$_{BrtuT'l'Q'M'mdhcif}$ | $ 5 Minute 9 Decimal | Settlement Interval UIE Settlement Amount for resource r ($) | BANC EESC Bill Determinant Statement: BA_5M_RSRC_UIE@SUB_SUBTOT_CURRENT_AMOUNT | | BPM Configuration Guide: Real Time Uninstructed Imbalance Energy EIM Settlement CC 64750 Version 5.1 |
| BANC EESC Bill Determinant Statement | BANC CC 64750 | PTBChargeAdjustmentEIMSettlementIntervalUIEAmount$_{BjQ'mdhcif}$ | $ 5 Minute 9 Decimal | Real Time Uninstructed Imbalance Energy Settlement Amount PTB Charge Adjustment Amount for Business | BANC EESC Bill Determinant Statement: PTB_BA_5M_UIE@PTB_SUBTOT_CURRENT_AMOUNT | | BPM Configuration Guide: Real Time Uninstructed Imbalance Energy EIM Settlement CC 64750 Version 5.1 |
| BANC EESC Bill Determinant Statement | BANC CC 64770 | EIMEntityRealTimeImbalanceEnergyOffsetAllocationAmount$_{BQ'mdhcif}$ | $ 5 Minute 9 Decimal | Total Real Time Imbalance Energy Offset Settlement Amount for an EESC by Balancing Authority Area. | BANC EESC Bill Determinant Statement: BA_5M_RT_IMB_ENGY_OFFSET_EIM_ALLOC@AMOUNT | | BPM Configuration Guide: Real Time Imbalance Energy Offset EIM CC 64770 Version 5.2 |

| CAISO Determinant Source | BANC Charge Code Reference | Determinants | UOM, Interval Length, Precision | Description | CAISO Statement Bill Determinant Name | CAISO Bill Determinant Attributes | CAISO BPM |
|---|---|---|---|---|---|---|---|
| BANC EESC Bill Determinant Statement | BANC CC 6478 | BASystemRealTimeImbalanceEnergyOffsetAllocationAmount$_{Bmdhcif}$ | $ 5 Minute 9 Decimal | Allocation of Total System Real Time Instructed Imbalance Energy Settlement Amount for the EIM Area by Business Associate ID (B). | BANC EESC Bill Determinant Statement: BA_5M_SYS_RT_IMB_ENG_OFFSET_ALLOC@AMOUNT | | BPM Configuration Guide: Real Time System Energy Offset CC 6478 Version 5.0 |
| BANC EESC Bill Determinant Statement | BANC CC 66200 | EIMTradingDayTotalRTMBCRUpliftAmount$_{BruT'I'Q'M'F'md}$ | $ Daily 9 Decimal | Total RTM Bid Cost Recover Uplift Payment (in $) for MSS and Non-MSS entities, for resources in an EIM Balancing Authority Area on a given Trading Day. | BANC EESC Bill Determinant Statement: BAA_BA_DAY_RTM_BCR_EIM_STLMT@AMOUNT | | BPM Configuration Guide: RTM Bid Cost Recovery EIM Settlement CC 66200 Version 5.2 |
| BANC EESC Bill Determinant Statement | BANC CC 66780 | EIMEntityRTMUpliftAllocationAmount$_{BQ'mdhcif}$ | $ 5 Minute 9 Decimal | Total RTM BCR Uplift Amount (in $) allocated to the given EIM Balancing Authority Area and associated EIM Entity Business Associate. | BANC EESC Bill Determinant Statement: BAA_BA_5MIN_RTM_UPLIFT_ALLOC | | BPM Configuration Guide: Real Time Bid Cost Recovery EIM Allocation CC 66780 Version 5.0 |
| BANC EESC Bill Determinant Statement | BANC CC 67740 | EIMEntitySCRTCongestionOffsetAllocation$_{BQ'mdhcif}$ | $ 5 Minute 9 Decimal | The Real-Time Congestion Offset amount per BAA and assigned to the relevant EIM Entity SC. | BANC EESC Bill Determinant Statement: BA_5M_EIM_RT_CONG_OFFSET_ALLOC@AMOUNT | | BPM Configuration Guide: Real Time Congestion Offset EIM CC 67740 Version 5.0 |
| BANC EESC Bill Determinant Statement | BANC CC 69850 | EIMEntitySCRTMarginalLossesOffsetAllocation$_{BQ'mdhcif}$ | $ 5 Minute 9 Decimal | The Real-Time Losses Offset amount per BAA and assigned to the relevant EIM Entity SC. | BANC EESC Bill Determinant Statement: BA_EIM_ENTITY_BAA_RT_MARGINAL_LOSS@AMOUNT | | BPM Configuration Guide: Real Time Marginal Losses Offset EIM CC 69850 Version 5.1 |
| BANC EESC Bill Determinant Statement | BANC CC 7070 | Total5mFRForecastedMovementSettlementAmount$_{mdhcif}$ | $ 5 Min 9 Decimal | Total Flex Ramp settlement amount for forecasted movement for the BANC ($). | BANC EESC Bill Determinant Statement: PTB_CHG_ADJ_BA_FR_FCAST_MVMT_HIER@PTB_SUBTOT_CURRENT_AMOUNT | | BPM Configuration Guide: Flexible Ramp Forecasted Movement Settlement CC 7070 Version 5.0 |
| BANC EESC Bill Determinant Statement | BANC CC 7070 | PTB_BAFRForecastedMovementChargeAdjustmentAmount$_{BJmdhcif}$ | $ 5 Min 9 Decimal | Pass through bill for Flexible Forecast Movement | BANC EESC Bill Determinant Statement: BA_DAY_TOT_FCAST_MVMT_STLMT@SU | | BPM Configuration Guide: Flexible Ramp Forecasted Movement Settlement CC 7070 Version 5.0 |

| CAISO Determinant Source | BANC Charge Code Reference | Determinants | UOM, Interval Length, Precision | Description | CAISO Statement Bill Determinant Name | CAISO Bill Determinant Attributes | CAISO BPM |
|---|---|---|---|---|---|---|---|
| | | | | | B_SUBTOT_CURRENT_AMOUNT | | |
| BANC EESC Bill Determinant Statement | BANC CC 7076 | BA5mFlexRampForecastMvmtAllocationAmount$_{Bmdhcif}$ | $ 5 Min 9 Decimal | Total Flex Ramp settlement amount for forecasted movement for the BANC ($). | BANC EESC Bill Determinant Statement: BA_5MIN_FR_FCAST_MVMT_ALLOC_STLMT | | BPM Configuration Guide: Internal - Flexible Ramp Forecasted Movement Allocation CC 7076 Version 5.0 |
| BANC EESC Bill Determinant Statement | BANC CC 7076 | PTBBAFRForecastedMovementAllocAdjustmentAmount$_{BJmdhcif}$ | $ 5 Min 9 Decimal | Pass through bill for Flexible Forecast Movement Allocation. | BANC EESC Bill Determinant Statement: PTB_CHG_ADJ_BA_5MIN_FCAST_MVMT_ALLOC | | BPM Configuration Guide: Internal - Flexible Ramp Forecasted Movement Allocation CC 7076 Version 5.0 |
| BANC EESC Bill Determinant Statement | BANC CC 7077 | BADailyCompleteFRUUncertaintyAllocationAmount$_{BQ'md}$ | $ Daily 9 Decimal | FRU Uncertainty Charge (in $) allocated to BANC for the Trading Day. | BANC EESC Bill Determinant Statement: BA_DAY_FR_FCAST_MVMT_ALLOC_STLMT_HIER_SUB_SUBTOT_CURRENT_AMOUNT | | BPM Configuration Guide: Daily Flexible Ramp Up Uncertainty Award Allocation CC 7077 Version 5.1 |
| BANC EESC Bill Determinant Statement | BANC CC 7077 | PTBBAADayFRUUncertaintyAllocAmt$_{BJmd}$ | $ Daily 9 Decimal | Pass through bill for Flexible Ramp Up Uncertainty Allocation. | BANC EESC Bill Determinant Statement: PTB_CHG_ADJ_BA_DAY_FCAST_MVMT_ALLOC_HIER@PTB_SUBTOT_CURRENT_AMOUNT | | BPM Configuration Guide: Daily Flexible Ramp Up Uncertainty Award Allocation CC 7077 Version 5.1 |
| BANC EESC Bill Determinant Statement | BANC CC 7078 | BAMonthlyCompleteFRUUncertaintyAllocationAmount$_{BQ'm}$ | $ Monthly 9 Decimal | FRU Uncertainty Allocation Amount (in $) assessed monthly to a BA of the BAA as the difference of the monthly FRU Allocation Amount for the designated Trading Month and the monthly total of the daily FRU Uncertainty Allocation Amounts over all Trading Days of the Trading Month. | BANC EESC Bill Determinant Statement: BAA_MTH_FRU_UNCERT_ALLOC_STLMT_HIER@SUB_SUBTOT_CURRENT_AMOUNT | | BPM Configuration Guide: Monthly Flexible Ramp Up Uncertainty Award Allocation CC 7078 Version 5.0 |

| CAISO Determinant Source | BANC Charge Code Reference | Determinants | UOM, Interval Length, Precision | Description | CAISO Statement Bill Determinant Name | CAISO Bill Determinant Attributes | CAISO BPM |
|---|---|---|---|---|---|---|---|
| BANC EESC Bill Determinant Statement | BANC CC 7078 | PTBBAAMonthFRUUncertaintyAllocationAmount$_{BJm}$ | $ Monthly 9 Decimal | Pass through bill for Monthly Flexible Ramp Up Uncertainty Allocation. | BANC EESC Bill Determinant Statement: PTB_CHG_ADJ_BAA_MTH_FRU_UNCERT_ALLOC_HIER@PTB_SUBTOT_CURRENT_AMOUNT | | BPM Configuration Guide: Monthly Flexible Ramp Up Uncertainty Award Allocation CC 7078 Version 5.0 |
| BANC EESC Bill Determinant Statement | BANC CC 7087 | BADailyCompleteFRDUncertaintyAllocationAmount$_{BQ'md}$ | $ Daily 9 Decimal | FRD Uncertainty Charge (in $) allocated to BANC for the Trading Day. | BANC EESC Bill Determinant Statement: BAA_DAY_FRD_UNCERT_ALLOC_STLMT_HIER@SUB_SUBTOT_CURRENT_AMOUNT | | BPM Configuration Guide: Daily Flexible Ramp Down Uncertainty Award Allocation CC 7087 Version 5.1 |
| BANC EESC Bill Determinant Statement | BANC CC 7087 | PTBBAADayFRDUncertaintyAllocAmt$_{BJmd}$ | $ Daily 9 Decimal | Pass through bill for Flexible Ramp Down Uncertainty Allocation. | BANC EESC Bill Determinant Statement: PTB_CHG_ADJ_BAA_DAY_FRD_UNCERT_ALLOC_HIER@PTB_SUBTOT_CURRENT_AMOUNT | | BPM Configuration Guide: Daily Flexible Ramp Down Uncertainty Award Allocation CC 7087 Version 5.1 |
| BANC EESC Bill Determinant Statement | BANC CC 7088 | BAMonthlyCompleteFRDUncertaintyAllocationAmount$_{BQ'm}$ | $ Monthly 9 Decimal | FRU Uncertainty Allocation Amount (in $) assessed monthly to a BA of the BAA as the difference of the monthly FRD Allocation Amount for the designated Trading Month and the monthly total of the daily FRD Uncertainty Allocation Amounts over all Trading Days of the Trading Month. | BANC EESC Bill Determinant Statement: BAA_MTH_FRD_UNCERT_ALLOC_STLMT_HIER@SUB_SUBTOT_CURRENT_AMOUNT | | BPM Configuration Guide: Monthly Flexible Ramp Down Uncertainty Award Allocation CC7088 Version 5.0 |
| BANC EESC Bill Determinant Statement | BANC CC 7088 | PTBBAAMonthFRDUncertaintyAllocationAmount$_{BJm}$ | $ Monthly 9 Decimal | Pass through bill for Monthly Flexible Ramp Down Uncertainty Allocation. | BANC EESC Bill Determinant Statement: PTB_CHG_ADJ_BAA_MTH_FRD_UNCERT_ALLOC_HIER@PTB_SUBTOT_CURRENT_AMOUNT | | BPM Configuration Guide: Monthly Flexible Ramp Down Uncertainty Award Allocation CC7088 Version 5.0 |

| CAISO Determinant Source | BANC Charge Code Reference | Determinants | UOM, Interval Length, Precision | Description | CAISO Statement Bill Determinant Name | CAISO Bill Determinant Attributes | CAISO BPM |
|---|---|---|---|---|---|---|---|
| BANC EESC Bill Determinant Statement | BANC CC 7989 | BADayInvoiceDeviationInterestDistributionAmount$_{BU'Umd}$ | $ Daily 9 Decimal | Charge Code 7989 is the amount of interest due from a Scheduling Coordinator for the time difference between resettlement of Trade Dates and the original invoice for that date. | BANC EESC Bill Determinant Statement: BA_DAY_INV_DEV_INT_DIST@AMOUNT | | BPM Configuration Guide: Invoice Deviation Interest and Allocation CC7989 and CC7999 Version 5.2c |
| BANC EESC Bill Determinant Statement | BANC CC 7999 | BADayInvoiceDeviationInterestAllocationAmount$_{BU'Umd}$ | $ Daily 9 Decimal | Charge Code 7999 is the amount of interest owed to a Scheduling Coordinator for the time difference between resettlement of Trade Dates and the original invoice for that date. | BANC EESC Bill Determinant Statement: BA_DAY_INV_DEV_INT_ALLOC@AMOUNT | | BPM Configuration Guide: Invoice Deviation Interest and Allocation CC7989 and CC7999 Version 5.2c |

# Appendix C – BANC Provided Determinants

BANC supplied determinants:

| Determinant Source | BANC Charge Code Reference | Determinants | UOM, Interval Length, Precision | Description | Determinant Calculation Methodology |
|---|---|---|---|---|---|
| BANC Settlement Analyst | EIM Participants Cost Allocation Precalculation | $PPT\_COST\_ALLOC\_RATIO_{Pd}$ | Decimal Daily 5 Decimals | **EIM Participant Cost Allocation Ratio** - The EIM Participant daily Cost Allocation Ratio per participant. This percentage is expected to be defined annually by the BANC Commission and it will be in effect by Trade Date until it is updated. All allocations including resettlements will use the allocation in effect for that Trade date. | Determined by the BANC Commission each year. |
| BANC Settlement Analyst | EIM Participant Fixed Cost Allocation Precalculation | $BNC\_DLY\_NUM\_MEM_{Bd}$ | Integer Daily Integer | **BANC Daily Number of Participants** - The number of *EIM Participants* for the *Trade Date*. | Set by BANC Settlement Analyst based on the number of participants in BANC by Trade Date. |
| BANC BAA Tags | EIM Participant Tagging Precalculation | $PPT\_5MIN\_TAG\_BASE\_SCHD_{QSGPCLxyzf}$ | MWh 5 Min 8 Decimals | **EIM Participant 5-Minute Tagged Base Schedule** - A single 5-minute tagged Intertie or Intratie Base Schedule that is either approved or pending approval as seen by the BANC scheduling system at T-57 before the start of the next hour. | Power Settlements will receive all BANC BAA tags and will sort them based on these criteria. |
| BANC BAA Tags | EIM Participant Tagging Precalculation | $PPT\_5MIN\_TAG\_FMM\_SCHD_{QSGPCLxyzf}$ | MWh 5 Min 8 Decimals | **EIM Participant 5-Minute Tagged 15-Minute Market Schedule** - The 5-minute tagged Intertie energy schedule from BANC's scheduling system. | Power Settlements will receive all BANC BAA tags and will sort them based on these criteria. |
| BANC BAA Tags | EIM Participant Tagging Precalculation | $PPT\_5MIN\_TAG\_FNL\_SCHD_{QSGPCLxyzf}$ | MWh 5 Min 8 Decimals | **EIM Participant 5-Minute Tagged Final Schedule** - The final after the fact 5-minute tagged Intertie energy schedule from BANC's scheduling system. | Power Settlements will receive all BANC BAA tags and will sort them based on these criteria. |
| WAPA | EIM Participant Load Ratio Share Precalculation | $TPUD\_HRLY\_LD\_QTY_{h}$ | MWH Hourly 4 Decimals | **Trinity PUD Hourly Load Quantity** – Trinity Hourly Load as reported by WAPA. | WAPA will provide hourly Trinity load to Power Settlements. |
| BANC Settlement Analyst | EIM Participant Load Base Schedule Precalculation | $BNC\_TX\_LOSS\_FCT_{Bd}$ | Decimal N/A 4 Decimals | **BANC Transmission Loss Factor** - The BANC registered transmission loss factor in effect with CAISO for the Trade Date. | A fixed transmission loss factor determined by BANC Commission. |
| BANC Settlement Analyst | EIM Participant Load Base Schedule Precalculation | $HRLY\_COTP\_FCST\_LOSS\_QTY_{h}$ | MWh Hourly 2 Decimals | **Hourly COTP Forecast Loss Quantity** – The hourly COTP forecasted loss quantity supplied by WAPA to CAISO and downloaded by BANC from BSAP. | Power Settlements will download from CAISO BSAP the hourly forecasted COTP losses. |

| Determinant Source | BANC Charge Code Reference | Determinants | UOM, Interval Length, Precision | Description | Determinant Calculation Methodology |
|---|---|---|---|---|---|
| BANC Settlement Analyst | BANC CC 101 PTB Charge | PPT_DLY_MANUAL_PTB_ALLOC_AMT$_{Pd}$ | $ Daily 2 Decimal | **EIM Participant Daily Manual PTB Allocation Amount** – A manually allocation amount as calculated by BANC staff. | Determined by BANC Settlement Analyst. |
| BANC Settlement Analyst | BANC CC 101 PTB Charge | BNC_DLY_PTB_MAN_ALLOC_FLAG$_{Bd}$ | Integer Daily | **BANC Daily PTB Allocation Flag** – A daily flag of 1 or 0 to indicate when BANC has manually allocated the PTB amounts for the Trade Date. A value of 1 indicates there is a manual allocation by BANC staff. | Determined by BANC Settlement Analyst. |
| BANC Settlement Analyst | BANC CC 102 Miscellaneous Charge | PPT_DLY_MISC_ALLOC_AMT$_{Pd}$ | $ Daily 2 Decimal | **EIM Participant Daily Miscellaneous Allocation Amount** – A authorized BANC miscellaneous allocation amount. | Determined by BANC Settlement Analyst. |

# Appendix D - CAISO BPM References

The following CAISO Settlement and Billing BPM Configuration Guides have been used in this document.

| CAISO BPM Name | Charge Code | Version |
|---|---|---|
| MSS Netting Pre-Calculation | Precalculation | Version 5.8 |
| Real Time Energy Pre-Calculation | Precalculation | Version 5.20 |
| Default Invoice Interest Payment | CC 2999 | Version 5.0 |
| Default Invoice Interest Charge | CC 3999 | Version 5.0 |
| GMC EIM Transaction Charge | CC 4564 | Version 5.3 |
| Scheduling Coordinator Identification | CC 4575 | Version 5.0 |
| Invoice Late Payment Penalty | CC 5024 | Version 5.0 |
| Collateral Late Payment Penalty | CC 5025 | Version 5.0 |
| Shortfall Receipt Distribution | CC 5900 | Version 5.0 |
| Shortfall Allocation Reversal | CC 5901 | Version 5.0 |
| Shortfall Allocation | CC 5910 | Version 5.3 |
| Default Allocation | CC 5912 | Version 5.1 |
| Over and Under Scheduling EIM Settlement | CC 6045 | Version 5.2 |
| Over and Under Scheduling EIM Allocation | CC 6046 | Version 5.0 |
| Spinning Reserve Obligation Settlement | CC 6194 | Version 5.2a |
| Spinning Reserve Neutrality Allocation | CC 6196 | Version 5.0b |
| Non Spinning Reserve Obligation Settlement | CC 6294 | Version 5.2a |
| Non Spinning Reserve Neutrality Amount | CC 6296 | Version 5.0b |
| FMM Instructed Imbalance Energy Settlement EIM Settlement | CC 64600 | Version 5.2 |
| Real Time Instructed Imbalance Energy Settlement EIM Settlement | CC 64700 | Version 5.2 |
| Real Time Uninstructed Unaccounted for Energy EIM Settlement | CC 64740 | Version 5.1 |
| Real Time Uninstructed Imbalance Energy EIM Settlement | CC 64750 | Version 5.1 |
| Real Time Imbalance Energy Offset EIM | CC 64770 | Version 5.2 |
| Real Time System Energy Offset | CC 6478 | Version 5.0 |
| RTM Bid Cost Recovery EIM Settlement | CC 66200 | Version 5.2 |
| Real Time Bid Cost Recovery EIM Allocation | CC 66780 | Version 5.0 |
| Real Time Congestion Offset EIM | CC 67740 | Version 5.0 |
| Real Time Marginal Losses Offset EIM | CC 69850 | Version 5.1 |
| Flexible Ramp Forecasted Movement Settlement | CC 7070 | Version 5.0 |
| Internal - Flexible Ramp Forecasted Movement Allocation | CC 7076 | Version 5.0 |
| Daily Flexible Ramp Up Uncertainty Award Allocation | CC 7077 | Version 5.1 |
| Monthly Flexible Ramp Up Uncertainty Award Allocation | CC 7078 | Version 5.0 |
| Daily Flexible Ramp Down Uncertainty Award Allocation | CC 7087 | Version 5.1 |
| Monthly Flexible Ramp Down Uncertainty Award Allocation | CC 7088 | Version 5.0 |
| Invoice Deviation Interest and Allocation | CC 7989 & CC 7999 | Version 5.2c |

# Appendix E – Intertie Tag LMP Cross Reference

The following table is used as an LMP price cross refence to define the Intertie price for Intertie tagged energy. These LMPs are needed to settle any Intertie tag volume changes between the tagged Base Schedule volume and the snapshot volume used in the 15-minute market (CC64600) and also any volume changes between the 15-minute market and the final tagged volume (CC64700).

Only Intertie tagged schedules will be assessed imbalance charges on volume changes.

The settlement allocations tool will evaluate every schedule to determine if the tag is an import or export to BANC. An import will be defined as a tag where the POR is not a BANC scheduling location whereas the POD is a BANC scheduling location. An export will be defined as a tag where the POR is defined as a BANC scheduling location whereas the POD is not. Schedules where both the POR and POD are scheduling locations within BANC is defined as a BANC Intratie and will not be settled for schedule imbalance in the fifteen and 5-minute market solutions. For a list of scheduling locations in BANC, please refer to Appendix E.

| Direction | Path FROM: | Path TO: | Segment Acronym (subscript "S") | CAISO RES_ID (subscript "R") | CAISO TIE ID | Interface Resource ID LMP (CAISO SP / (subscript "Q") |
|---|---|---|---|---|---|---|
| IMPORT | NP15 | CTW230 | NP15-CTW230 | BANC_CTW230_I_F_MIRROR | CTW230_M | SMD5_ASR-APND |
| IMPORT | NP15 | LAK230 | NP15-LAK230 | BANC_LAKE_I_F_MIRROR | LAKE_SMUD | SMD7_ASR-APND |
| IMPORT | NP15 | LLL115 | NP15-LLL115 | BANC_LLL115_I_F_MIRROR | LLL115_M | SMD6_ASR-APND |
| IMPORT | CAPTAINJACK | ODA500 | CAPTAINJACK-ODA500 | BANC_ODA500_I_F | ODA500 | DGAP_BPAT-APND |
| IMPORT | NP15 | RAN230 | NP15-RAN230 | BANC_RANCHOSECO_I_F_MIRROR | RANCHOSECO_SMUD | SMD1_ASR-APND |
| IMPORT | NP15 | RDM230 | NP15-RDM230 | BANC_RDM230_I_F_MIRROR | RDM230_M | SMD4_ASR-APND |
| IMPORT | RDM500 | RDM230 | RDM500-RDM230 | BANC_RDM230_I_F_MIRROR | RDM230_M | SMD4_ASR-APND |
| IMPORT | NP15 | STANDIFORD | NP15-STANDIFORD | BANC_STANDIFORD_I_F_MIRROR | STANDIFORD_M | STANDFD2_1_N011 |
| IMPORT | TESLA230 | TRY230 | TESLA230-TRY230 | BANC_TESLA230_I_F_MIRROR | TESLA230_M | SMD9_ASR-APND |
| IMPORT | TESLA230 | TRCYTEA | TESLA230-TRCYTEA | BANC_TESLA230_I_F_MIRROR | TESLA230_M | SMD9_ASR-APND |
| IMPORT | CAPTAINJACK | TRY500 | CAPTAINJACK-TRY500 | BANC_TRCYCOTP_I_F_MIRROR | TRY500_M | SMDG_ASR-APND |
| IMPORT | NP15 | TRY500 | NP15-TRY500 | BANC_TRCYCOTP_I_F_MIRROR | TRY500_M | SMDG_ASR-APND |
| IMPORT | TRCYTEA | TRY230 | TRCYTEA-TRY230 | BANC_TRCYTEA_I_F_MIRROR | TRY500_M | SMD2_ASR-APND |
| IMPORT | TRCYTEA | TRY500 | TRCYTEA-TRY500 | BANC_TRCYTEA_I_F_MIRROR | TRY500_M | SMD2_ASR-APND |
| IMPORT | TESLA230 | WESTLEY | TESLA230-WESTLEY | BANC_WESTLYTSLA_I_F_MIRROR | WESTLYTSLA_M | SMDB_ASR-APND |

| Direction | Path FROM: | Path TO: | Segment Acronym (subscript "S") | CAISO RES_ID (subscript "R") | CAISO TIE ID | Interface Resource ID LMP (CAISO SP / (subscript "Q") |
|---|---|---|---|---|---|---|
| IMPORT | WESTLEY | WESTLEY | WESTLEY-WESTLEY | TIDC_WESTLEY_BANC_I_EIMBASE | WESTLEY | TIDC_WESTLEY-APND |
| IMPORT | WESTLEY | TRY230 | WESTLEY-TRY230 | TIDC_WESTLEY_BANC_I_EIMBASE | WESTLEY | TIDC_WESTLEY-APND |
| EXPORT | CTW230 | NP15 | CTW230-NP15 | BANC_CTW230_E_F_MIRROR | CTW230_M | CAPTJACK_5_N510 |
| EXPORT | LAK230 | NP15 | LAK230-NP15 | BANC_LAKE_E_F_MIRROR | LAKE_SMUD | CAPTJACK_5_N508 |
| EXPORT | LLL115 | NP15 | LLL115-NP15 | BANC_LLL115_E_F_MIRROR | LLL115_M | CAPTJACK_5_N509 |
| EXPORT | ODA500 | CAPTAINJACK | ODA500-CAPTAINJACK | BANC_ODA500_E_F | ODA500 | DGAP_BPAT-APND |
| EXPORT | RAN230 | NP15 | RAN230-NP15 | BANC_RANCHOSECO_E_F_MIRROR | RANCHOSECO_SMUD | CAPTJACK_5_N508 |
| EXPORT | RDM230 | NP15 | RDM230-NP15 | BANC_RDM230_E_F_MIRROR | RDM230_M | CAPTJACK_5_N511 |
| EXPORT | RDM230 | RDM500 | RDM230-RDM500 | BANC_RDM230_E_F_MIRROR | RDM230_M | CAPTJACK_5_N511 |
| EXPORT | STANDIFORD | NP15 | STANDIFORD-NP15 | BANC_STANDIFORD_E_F_MIRROR | STANDIFORD_M | STANDFD2_1_N011 |
| EXPORT | TRY230 | TESLA230 | TRY230-TESLA230 | BANC_TESLA230_E_F_MIRROR | TESLA230_M | CAPTJACK_5_N506 |
| EXPORT | TRCYTEA | TESLA230 | TRCYTEA-TESLA230 | BANC_TESLA230_E_F_MIRROR | TESLA230_M | CAPTJACK_5_N506 |
| EXPORT | TRY500 | CAPTAINJACK | TRY500-CAPTAINJACK | BANC_TRCYCOTP_E_F_MIRROR | TRY500_M | CAPTJACK_5_N015 |
| EXPORT | TRY500 | NP15 | TRY500-NP15 | BANC_TRCYCOTP_E_F_MIRROR | TRY500_M | CAPTJACK_5_N015 |
| EXPORT | TRY230 | TRCYTEA | TRY230-TRCYTEA | BANC_TRCYTEA_E_F_MIRROR | TRY230_M | CAPTJACK_5_N513 |
| EXPORT | TRY500 | TRCYTEA | TRY500-TRCYTEA | BANC_TRCYTEA_E_F_MIRROR | TRY500_M | CAPTJACK_5_N513 |
| EXPORT | WESTLEY | TESLA230 | WESTLEY-TESLA230 | BANC_WESTLYTSLA_E_F_MIRROR | WESTLYTSLA_M | CAPTJACK_5_N504 |
| EXPORT | WESTLEY | WESTLEY | WESTLEY-WESTLEY | TIDC_WESTLEY_BANC_E_EIMBASE | WESTLEY | TIDC_WESTLEY-APND |
| EXPORT | TRY230 | WESTLEY | TRY230-WESTLEY | TIDC_WESTLEY_BANC_E_EIMBASE | WESTLEY | TIDC_WESTLEY-APND |

# Appendix F – EIM Participant Configurations

## EIM Participants

The following are the complete list of EIM Participants and their associated scheduling identifiers in CAISO:

*Table E-1*

| EIM Participant | CAISO SCID |
|---|---|
| Modesto | CLAP_BANCMID-APND |
| Redding | CLAP_BANCRDNG-APND |
| Roseville | CLAP_BANCRSVL-APND |
| SMUD | CLAP_BANCSMUD-APND |
| WAPA | CLAP_BANCWASN-APND |

## EIM Participant Tagging Associations

BANC Tags will be associated to EIM Participants based on POR/POD EIM Participant association in Table E-2.

*Table E-2*

| BANC Source/Sink Scheduling Locations | EIM Participant |
|---|---|
| REDDR1 | Redding |
| SMUD.LOAD | SMUD |
| RSVL | Roseville |
| MID.SYSTEM | Modesto |
| LLNL | WAPA |
| CVPGen | WAPA |
| TNY.SYS | WAPA |
| RSVL.LOSS | WAPA |
| PUL | WAPA |
| SMUD.GEN | SMUD |

## Tag Types

The Settlement Allocation solution will need to determine whether each BANC tag is an import, export, wheel or Intratie. To determine the type of tag, refer to Table E-2 and the subsequent descriptions provided in this appendix.

*Table E-3*

| TYPE | SOURCE | SINK |
|---|---|---|
| IMPORT | Non-BANC Scheduling Location | Known BANC Scheduling Location |
| EXPORT | Known BANC Scheduling Location | Non-BANC Scheduling Location |
| WHEEL | Non-BANC Scheduling Location | Non-BANC Scheduling Location |
| INTRATIE | Known BANC Scheduling Location | Known BANC Scheduling Location |

## Import/Export Intertie Tags

To determine if a tag is an import or export to BANC the POR and POD locations on the tag will be evaluated. An import will be defined as any tag where the POR is not a BANC scheduling location whereas the POD is a BANC scheduling location. An export will be defined as a tag where the POR is defined as a BANC scheduling location whereas the POD is not. The EIM participant associated with the BANC Source/Sink Scheduling Location will be the responsible entity for settlement allocation purposes.

The following are the complete list of scheduling locations in BANC and the EIM Participant who is defined as the responsible settlement entity for the EIM Entity Settlement Allocation process.

## Wheel Intertie Tags

Schedules where both the POR and POD are not defined as BANC scheduling locations in Table E-2 are excluded from all EIM Entity Settlement Allocations.

## Intratie Tags

Schedules where both the POR and POD are defined as scheduling locations within BANC in Table E-2 are defined as a BANC Intratie schedules. These schedules will not be settled for any imbalance volumes but will be included in calculating each EIM Participant's load Base Schedule volumes. EIM Participant hourly load Base Schedules are calculated as the sum of all the participants hourly base scheduled generation plus any EIM Participant area imports at T-57 less any tagged EIM Participant area exports at T-57. The load Base Schedule calculations includes both import Intraties and Interties along with export Intraties and Interties. The EIM Participant associated with the POR scheduled on the tag will have their hourly load Base Schedule reduced by the volume of the tag while the EIM Participant associated with the POD on the tag will have their hourly load Base Schedule increased by the volume of the tag. To determine EIM Participant associations, refer to Table E-2.

# Appendix G – BANC EIM Participant Monthly Invoice Files

## BANC EIM Participant Monthly Invoice Summary

For each BANC invoice, BANC settlement staff will provide a monthly PDF file that shows the total invoice amount along with which allocation results were aggregated into the monthly invoice.

**BANC Accounts Receivable PDF File**

BALANCING AUTHORITY OF NORTHERN CALIFORNIA

RELIABILITY • COLLABORATION • SUSTAINABILITY

**BANC EIM Invoice**

EIM Participant Name

EIM Participant Street Address

EIM Particpant City, State, ZIP Code

| | |
|---|---|
| Invoice Date: | \<Invoice Posting Date> |
| Invoice Due Date: | \<Calculated Due Date> |
| Invoice Number: | \<PowerSettlements Inoice #> |
| Business Partner: | \<AR Customer Account> |

| Date | Description | Quantity | Amount |
|---|---|---|---|
| \<Invoice Posting Date> | Power Sale | 0 | $123,456.78 |
| | | **Total Due** | **$123,456.78** |

Payments shall be received by SMUD on the 20th day of the invoicing month or the 10th day after receipt of the bill, whichever is later. If the day of the month that payment is due falls on a non-business day, payment shall be due the next following business day.

If you have any questions regarding payment instructions, please call Maureen Vowell at 916-732-5561.

A JOINT POWERS AUTHORITY BETWEEN

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

6201 S STREET, MS B356, SACRAMENTO, CA 95852-0830

WWW.THEBANC.ORG

1

# BANC Accounts Payable PDF File

BALANCING AUTHORITY OF NORTHERN CALIFORNIA

RELIABILITY • COLLABORATION • SUSTAINABILITY

## BANC EIM Invoice

| | | | |
|---|---|---|---|
| **Invoice Date:** | 1/1/2021 | **Approver ID:** | HWILSON |
| **Invoice Number:** | PowerSettlements Inoice # | **Approver Name:** | Heather Wilson |
| **Tax Code:** | TBD | **Approver Date:** | 1/1/2021 |
| **Vendor Name:** | SAP Vendor Name | **Payment Method:** | ACH |
| **Vendor Number:** | SAP Vendor ID | **Invoice Due Date:** | 1/10/2021 |
| **PO Number:** | PO Number | | |

FROM:

**EIM Participant Name**
EIM Participant Street Address
EIM Particpant City, State, ZIP Code

TO:
**BANC**
**6201 S Street**
**Sacramento, CA 95817**

| Purchase Order | Line Item # | GL Account | Order # | Description | Amount |
|---|---|---|---|---|---|
| 987654321 | 1 | 12345 | 12345 | Power | $123,456.78 |
| | | | | Total | $123,456.78 |

A JOINT POWERS AUTHORITY BETWEEN

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

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

1

# Appendix H – Version History Table

| VERSION | CHANGE | BY | DATE |
|---------|--------|-----|------|
| 1.0 | Initial Version | Commission | 12/16/2020 |
| 1.1 | Add Version History, Minor Formula Corrections | EIM Committee | 05/18/2021 |
| 1.2 | Revisions to Section 2.3 (Invoice Process) adjusting invoice date and due date | EIM Committee | 08/17/2021 |

## Attachment B: BANC Unsecured Credit Pool

# 1. Preface

In accordance with Section 5.2.5 (Credit and Collateral Requirements Related to EIM Participants) of this BP, the following shall constitute what is being referred to as the "BANC Unsecured Credit Pool" (UCP). The UCP is a pool of unsecured credit, determined in accordance with the California Independent System Operator (CAISO) Tariff and CAISO Credit Management and Market Clearing Business Practice Manual (BPM), which is assigned by each *qualified* EIM Participant to BANC pursuant to Section 12.1.1.1 of the CAISO Tariff.[3] To be a qualified EIM Participant, the assigning entity must also be a signatory to the BANC Joint Powers Agreement (JPA), or otherwise be approved by the CAISO in accordance with Section 12.1.1.1 of the CAISO Tariff. The UCP assigned to BANC can serve in lieu of cash collateral required under the CAISO Tariff for Scheduling Coordinators. As an EIM Entity, BANC is the Scheduling Coordinator for the BANC EIM Entity footprint.

# 2. Special Definitions

Any capitalized terms not defined herein shall have the meaning(s) set forth in either the BP, inclusive of the BANC EIM Settlements Manual (Manual) or the CAISO/Market Operator (MO) Tariff.

**2.1** *Aggregate UCP Level* shall mean the gross amount of unsecured credit needed by the EIM Entity to serve in lieu of cash collateral as required by the CAISO Tariff. The Aggregate UCP Level is determined in accordance with Section 4.0 (Determination of Aggregate UCP Level) of this UCP.

**2.2** *UCP Participant* shall mean an EIM Participant, which is also a signatory to the BANC JPA or has obtained some other means of approval by the CAISO in accordance with Section 12.1.1.1 of the CAISO Tariff, which participates in the UCP by assigning a portion of its unsecured credit in accordance with this Attachment B.

**2.3** *UCP Participant Percentage* shall mean the percentage of the Aggregate UCP Level described in Section 4.0 (Determination of Aggregate UCP Level) an UCP Participant is responsible to contribute to the UCP. The UCP Participant Percentages are set forth in Appendix B-2 (BANC Unsecured Credit Pool Participant Percentages) of this UCP.

# 3. Participation

Each EIM Participant, which is also a BANC JPA signatory, may participate in the UCP by doing all of the following:

1. Notifying the BANC General Manager of the entity's intent to participate;

2. Meeting the criteria under Section 12.1.1.1 of the CAISO Tariff;

3. Executing a Guaranty with the CAISO/MO, setting forth the amount of unsecured credit being transferred to the EIM Entity/BANC JPA in accordance with the allocation of UCP assigned to the EIM Participant in accordance with this attachment; and

---

[3] CAISO Tariff and "Market Operator" or "MO" Tariff are to be considered synonymous.

4. Obtaining any necessary approvals to be added to Appendix B-1 of this UCP, including approval of the proposed allocation of individual UCP responsibilities being assigned to each UCP Participant, as approved by the BANC Commission.

## 4. Determination of Aggregate UCP Level

In order to determine the individual allocated share of UCP responsibility for each UCP Participant, the aggregate UCP amount shall be first determined by the BANC Settlement Services Provider and provided to the BANC General Manager (General Manager). The General Manager will communicate this aggregate UCP amount to the EIM Committee for review and concurrence. As a general rule, the aggregate UCP should reflect the highest level of estimated EIM settlements for the EIM Entity with the CAISO/MO over the course of a calendar year (January 1 – December 31). This level should be commensurate or possibly higher than what the EIM Entity would likely be required to post in cash collateral with the CAISO in accordance with the CAISO Tariff and BPM. This aggregate UCP amount, upon concurrence by the EIM Committee, will be used to determine the individual UCP Participant's allocation in accordance with Section 5.0 (Allocation of UCP Obligations Among UCP Participants) herein. Both the aggregate UCP under this Section 4.0 and the individual allocation of UCP among UCP Participants under Section 5.0 shall be approved by the Commission.

## 5. Allocation of UCP Obligations Among UCP Participants

### 5.1 *General*

Except as provided in Section 5.2 (Change in Allocation) below, the default rule for allocating the obligations among UCP Participants shall be in accordance with the Second Amended and Restated EIM Participation Agreement (EIM PA), Table 2, "EIM Participant Allocation Percentages based on 3-Year Average NEL," Section 12.1/ Cost Allocation for Violations. This table of the EIM PA reflects the participation percentages of all EIM Participants, except the Western Area Power Administration – Sierra Nevada Region (WAPA).[4] For convenience, the proposed percentages for Each UCP Participant are set forth in Appendix B-2 (UCP Participant Percentages) of this UCP.

### 5.2 *Change in Allocation*

Notwithstanding Section 5.1, the EIM Entity and UCP Participants may agree to change the allocations in any manner they deem appropriate; however, such changes shall be reviewed by the EIM Committee and approved by the Commission. Such changes shall be reflected in an update to Appendix B-2 (UCP Participant Percentages) of this UCP.

---

[4] As a non-party to the BANC JPA, it is believed that WAPA cannot assign unsecured credit in accordance with Section 12.1.1.1 of the CAISO Tariff, which states, in pertinent part, that "[p]ublic entities, including Local Publicly Owned Electric Utilities, that operate through a Joint Powers Agreement, or a similar agreement acceptable to the CAISO with the same legal force and effect, shall be entitled to aggregate or assign their Unsecured Credit Limits . . ." (emphasis added). BANC and WAPA are working with the CAISO to determine whether the BANC EIM Participation Agreement might by another means by which WAPA can also participate under Section 12.1.1.1 of the Tariff (i.e., can the EIM Participation Agreement suffice as a "similar agreement" to the BANC JPA?). If this is approved by the CAISO and WAPA can execute the Guaranty with the CAISO, BANC will submit revisions to the Commission for approval.

## 6. Changes in Allocation Among UCP Participants Due to Withdrawal or a New UCP Participant

Notwithstanding Section 5 (Allocation of UCP Obligations Among UCP Participants), should an UCP Participant withdraw its share of unsecured credit from the UCP for any reason, the remaining UCP Participants shall determine how to reallocate the UCP obligations equitably among the remaining UCP Participants. Similarly, should a qualified EIM Participant later participate in the UCP, the individual obligations shall be reallocated as determined by the UCP Participants.

In either the case of a change by withdrawal or addition, the revised allocations shall be reviewed by the EIM Committee and approved by the Commission. Updates to the Appendices (B-1 and B-2) shall be made to reflect the approved changes.

## 7. Termination of the UCP

The UCP may be terminated upon mutual consent of the UCP Participants and Commission approval; however, to the extent BANC remains as the EIM Entity, the EIM Participants shall ensure that the UCP is replaced by cash collateral in accordance with the CAISO Tariff and BPM and in accordance with Section 5.1.4 (Credit and Collateral Requirements Imposed on the EIM Entity by the MO) and 5.2.5 (Credit and Collateral Requirements Related to EIM Participants) of the BP.

## 8. Amendments to UCP

This UCP may be amended by mutual consent of the UCP Participants with the concurrence of the EIM Committee. Notwithstanding the foregoing, any amendments which substantially and materially alter the intent of this UCP shall be vetted with the EIM Committee and approved by the Commission. Such determination as to whether amendments "substantially and materially alter the intent of the UCP" shall be determined by the General Counsel with the concurrence of the Legal Committee. Amendments to the Appendices are to be made in accordance with Section 5.0 (Allocation of UCP Obligations Among UCP Participants) and Section 6.0 (Changes in Allocation Among UCP Participants Due to Withdrawal or a New UCP Participant) of this UCP.

## Appendix B-1: BANC Unsecured Credit Pool Participants

The following EIM Participants have met the requirements under Section 3.0 (Participation) of this UCP:

1. Modesto Irrigation District

2. City of Redding

3. City of Roseville

4. Sacramento Municipal Utility District

## Appendix B-2: BANC Unsecured Credit Pool Participant Percentages

The following EIM Participant Percentages are in effect in accordance with Section 5.0 (Allocation of UCP Obligations Among UCP Participants) of this UCP:

| UCP Participant | UCP Participant Percentage |
|---|---|
| Modesto Irrigation District | 16.0% |
| City of Redding | 6.1% |
| City of Roseville | 7.6% |
| Sacramento Municipal Utility District | 70.3% |

## Attachment C: BANC Imbalance Pricing During EIM Disruption or Suspension

In accordance with Section 11.3.1 (Corrective Actions for Temporary Contingencies) of this BP, and the MO Tariff, Section 29.7(j)(2)(D) (CAISO Response to EIM Disruption) and the BPM for Energy Imbalance Market, Section 11.4.1(5) (Recovery Approach), during an EIM market disruption that requires imbalance pricing to be set administratively by the EIM Market Operator, the price for the BANC EIM Entity footprint shall be the *CAISO DA NP-15 EZ Gen Hub Price (TH_NP15_GEN-APND)*.

## Appendix 1: Notices

<u>Amendments</u>

Updates to this Appendix 1 (Notices) can be made at any time, as required, by the General Manager. Such changes will constitute a "minor" revision with respect to an update to Appendix 2 (Version History) of this BP.

## Appendix 2: Version History

| Balancing Authority of Northern California Business Practice | | | |
|---|---|---|---|
| **Version** | **Issue Date** | **Approved** | **Remarks** |
| 1.0 | 10/28/2020 | 10/28/2020 | BANC Commission Approval |
| 2.0 | 05/26/2021 | 05/26/2021 | BANC Commission Approval |

<u>Amendments</u>

Updates to this Appendix 2 (Version History) shall be made upon any amendments to this BP, Attachments or Appendices subsequent to such amendments. Minor changes, as determined by BANC counsel, to this BP, Attachments or Appendices shall only require a change to numbering after the decimal point (i.e., 1.1 to 1.2, etc.) to this Version History. Significant changes, as determined by BANC counsel, to this BP, Attachments or Appendices shall be reflected in the numeral before the decimal point (i.e., 1.0 to 2.0, etc.) of this Version History. The revised BP shall be posted on the BANC Website.