|  |  |
| --- | --- |
|  | Settlements & Billing |
|  |  |
|  |  |
| Configuration Guide:  | RUC Reliability Capacity Down Tier 2 Allocation |
|  |  |
|  |  CC 8817 |
|  |  |
|  | Version 5.0 |

Table of Contents

1. Purpose of Document 3

2. Introduction 3

2.1 Background 3

2.2 Description 3

3. Charge Code Requirements 4

3.1 Business Rules 4

3.2 Predecessor Charge Codes 5

3.3 Successor Charge Codes 5

3.4 Inputs – External Systems 6

3.5 Inputs - Predecessor Charge Codes or Pre-calculations 6

3.6 CAISO Formula 6

3.7 Outputs 7

4. Charge Code Effective Dates 10

# Purpose of Document

The purpose of this document is to capture the requirements and design specification for a Settlements Charge Code in one document.

# Introduction

## Background

During the Day Ahead Market, if the scheduled Demand is less than the CAISO Forecast of CAISO Demand, Residual Unit Commitment (RUC) Reliability Capacity Down (RCD) is procured to ensure that enough committed capacity is available and on line to meet the forecasted Demand as well as any forecasted shortfalls of minimum Generation requirements.

RUC RCD Bids (above the minimum Load) may only be submitted if an Energy Bid has also been submitted in the IFM. If a resource is under Resource Adequacy (RA) obligation for a specific amount of capacity, the RA capacity must participate in RUC RCD with a RUC Bid Price of $0/MW. If a RUC RCD Bid is not submitted for the RA capacity, then CAISO will insert a $0/MW proxy bid per hour for the full amount of RA capacity. Non-zero RUC RCD Bids may be submitted for the portion of a resource’s capacity that is not RA capacity. Capacity not pre-dispatched as RMR may also submit non-zero RUC RCD Bids.

Resources that have Compliance Recission due to an FMM capacity range that does not support their DA Energy Schedule plus the Reliabiltiy Capacity Down will be charged at a resource specific RCD No-Pay Penalty Price for the undelivered MW quantity.

RUC RCD payments are the product of Awarded RUC RCD capacity and the RUC RCD Price specified for each PNode. Together, RUC RCD settlements and Unavailability No-Pay Settlements are under CC 8810, and RUC RCD Bid Cost Recovery Uplifts under CC 6620 are allocated in two tiers. First, CC 8816 RUC Reliability Capacity Down Tier 1 Allocation is based upon Net Positive Demand Deviation. Next, any remaining costs are allocated pro-rata to metered Demand under CC 8817 RUC Reliability Capacity Down Tier 2 Allocation.

## Description

Charge Code “CC 8817 – RUC Reliability Capacity Down Tier 2 Allocation” will perform the calculations necessary to implement the business rules identified in the Business Rules of the following section here below.

# Charge Code Requirements

## Business Rules

| Bus Req. ID | Business Rule |
| --- | --- |
|  | This Charge Code shall be calculated on a daily basis.  |
|  | Actual Scheduling Coordinators (SCs) are referenced by Business Associate ID, and CAISO shall settle with Business Associates (BA) through these IDs. |
|  | The formulas herein adopt the convention that payments made by CAISO to BAs will be negative, while payments received by the CAISO from BAs (charges to BAs) will be positive. (In other words, the signs reflect the flow of money from the point of view of the CAISO.) |
|  | Settlements will allocate RUC Reliability Capacity Down (RCD) costs in 2 tiers |
|  | **Tier-2 RCD Cost Allocation**For each BAA, and on hourly basis:* System shall calculate Tier-2 RCD BAA Allocation Cost as the remainder (left over) of unallocated RCD costs from Tier-1, as follows:
* Tier-2 RCD BAA Allocation Cost = [Sum of RCD Payments across BAA - Sum of RCD No Pay Amounts across BAA – Sum of Tier-1 RCD Cost Allocation across BAA]
* System shall allocate Tier-2 RCD BAA Allocation Cost proportional to Metered Demand within each BAA, except for:
* If a BAA is Gen-only (does not have metered demand), Tier-2 RCD BAA Allocation Cost shall be directly allocated to the Entity of the BAA.
 |
|  | Treatment of MSS* If MSS operator has elected to load follow to manage its own load variability, it shall NOT get RCD Tier-1 nor RCD Tier-2 cost allocations based on the MSS operator’s net portfolio uninstructed deviations. This is because MSS Operator that has elected to Load Follow is required to provide sufficient resources in DAM to follow its Load within the MSS Deviation Band.
* Otherwise, for both RCD Tier-1 and RCD Tier 2 cost allocations, MSS resources shall be settled in a similar manner as non-MSS resources, regardless of their Net versus Gross selection.
 |
|  | Treatment of ETC, and TOR* System shall exclude the ETC and TOR self-schedules from RCD Tier-1 and RCD Tier-2 allocations up to the valid and balanced portion of ETC and TOR self-schedules.

In contrast, System shall consider quantities above the valid and balanced portion of the ETC or TOR self-schedules in RCD Tier-1 and RCD Tier-2 cost allocations. |
|  | For each BAA, if the RCD obligation is higher than the RCD awards, all of the RCD cost will be allocated to RCD Tier-1, otherwise, RCD cost will be split between Tier-1 and Tier-2. |
|  | This cost allocation does not apply to WEIM-Only BAAs. WEIM-Only BAAs do not participate in EDAM and will not be cost allocated for Reliability Capacity. |

## Predecessor Charge Codes

| Charge Code/ Pre-calc Name |
| --- |
| PC MSS Netting |
| CC 8077– Day Ahead Imbalance Reserve Up Settlement |
| CC 8810 –RUC Reliability Capacity Down Settlement |
| CC 8816– RUC Reliability Capacity Up Tier 1 Allocation |

## Successor Charge Codes

| Charge Code/ Pre-calc Name |
| --- |
| CC 4989 – Rounding Adjustment Settlement |

## Inputs – External Systems

| Row # | Variable Name | Description |
| --- | --- | --- |
|  | WEIMOnlyBAAFlag Q’md | Flag indicating an EIM BAA that participates in the WEIM only, not EDAM. |
|  | PTBAdjBAHourlyRCDTier2AllocAmtBQ’JM’mdh | PTB Adjustment for the Tier 2 RCD cost allocation amount portion |
|  | BADayGenOnlyBAAFlag BQ'md | Flag indicating a Gen-Only BAA with 1 |

## Inputs - Predecessor Charge Codes or Pre-calculations

| Row # | Variable Name | Predecessor Charge Code/ Pre-calc Configuration |
| --- | --- | --- |
|  | BAHourlyBAAMeteredDemandQuantity BQ’M’mdh | PC MSS Netting |
|  | BAHourlyTotalLoadBalancedContractQuantityBmdh | CC 8077– Day Ahead Imbalance Reserve Up Settlement |
|  | BAMSSLoadFollowingFlagBM'md | CC 8077– Day Ahead Imbalance Reserve Up Settlement |
|  | DailyGenOnlyBAAFlagQ’mdh | CC 8077– Day Ahead Imbalance Reserve Up Settlement |
|  | EDAMBAAFlagQ’md | CC 8077– Day Ahead Imbalance Reserve Up Settlement |
|  | BAAHourlyRCDTier2CostAmountQ’mdh | CC 8816 –RUC Reliability Capacity Down Tier 1 Allocation |

## CAISO Formula

The daily settlement for this charge code for each Business Associate by Trading Day is derived according to the formulation below.

**Note:** The following calculation is listed starting with the final charge calculation and progressively detailing the intermediate calculations and Settlement input.

**BAHourlyRCDTier2FinalAllocAmount BQ’M’mdh =**
{BAHourlyRCDTier2AllocAmountBQ’M’mdh + PTBAdjustmentBAHourlyRCDTier2AllocAmountBQ’M’mdh }

**BAHourlyBAA\_RCDTier2BaseAllocQuantity BQ’M’mdh =**
(1-BAMSSLoadFollowingFlagBM'md)\* [BAHourlyBAAMeteredDemandQuantityBQ’M’mdh - BAHourlyTotalLoadBalancedContractQuantityBmdh]

Excluding records where WEIMOnlyBAAFlag Q’md exists.

**BAAHourlyTotal\_RCDTier2AllocQuantity Q’mdh =**
Sum (B, M’) {BAHourlyBAA\_RCDTier2BaseAllocQuantityBQ’M’mdh }

**BAHourlyBAA\_RCDTier2AllocPrice Q’mdh =**
BAAHourlyRCDTier2CostAmountQ’mdh / BAAHourlyTotal\_RCDTier2AllocQuantityQ’mdh

**BAHourlyBAA\_RCDTier2BaseAllocAmount BQ’M’mdh =**
BAHourlyBAA\_RCDTier2BaseAllocQuantityBQ’M’mdh \* BAHourlyBAA\_RCDTier2AllocPriceQ’mdh

**BAHourlyBAA\_RCDTier2CISOAllocAmount BQ’M’mdh =**
BAHourlyBAA\_RCDTier2BaseAllocAmountBQ’M’mdh

Where Balancing\_Authority\_Area (Q’) = ‘CISO’

**BAHourlyBAA\_RCDTier2EDAMAllocAmount BQ’M’mdh =**
(EDAMBAAFlag Q’md )\*[(1- DailyGenOnlyBAAFlagQ’mdh)\*BAHourlyBAA\_RCDTier2BaseAllocAmountBQ’M’mdh ) + BADayGenOnlyBAAFlag BQ’md\*(BAAHourlyRCDTier2CostAmountQ’mdh)]

Where Balancing\_Authority\_Area (Q’) <> ‘CISO’

**BAHourlyRCDTier2AllocAmount BQ’M’mdh =**
BAHourlyBAA\_RCDTier2CISOAllocAmountBQ’M’mdh + BAHourlyBAA\_RCDTier2EDAMAllocAmountBQ’M’mdh

**PTBAdjustmentBAHourlyRCDTier2AllocAmount BQ’M’mdh =**
Sum (J) { PTBAdjBAHourlyRCDTier2AllocAmt BQ’JM’mdh }

## Outputs

| ID | Name | Description |
| --- | --- | --- |
| -- | In addition to any outputs listed below, all inputs shall be included as outputs.  | All inputs. Refer to section 3.6 and 3.7 above for input descriptions. |
|  | BAHourlyRCDTier2FinalAllocAmount BQ’M’mdh | Tier 2 RCD cost final allocation amount per BA |

|  |  |  |
| --- | --- | --- |
|  | BAHourlyBAA\_RCDTier2BaseAllocQuantity BQ’M’mdh | Tier 2 RCD base allocation quantity per BA, BAA and MSS combination |
|  | BAAHourlyTotal\_RCDTier2AllocQuantity Q’mdh | Tier 2 RCD allocation quantity per BAA |
|  | BAHourlyBAA\_RCDTier2AllocPrice Q’mdh | Tier 2 RCD allocation price per BAA |
|  | BAHourlyBAA\_RCDTier2BaseAllocAmount BQ’M’mdh | Tier 2 RCD base allocation amount per BA, BAA and MSS combination |
|  | BAHourlyBAA\_RCDTier2CISOAllocAmount BQ’M’mdh | Tier 2 RCD base allocation amount per BA in the CISO BAA |
|  | BAHourlyBAA\_RCDTier2EDAMAllocAmount BQ’M’mdh | Tier 2 RCD allocation amount per BA in an EDAM BAA |
|  | BAHourlyRCDTier2AllocAmount BQ’M’mdh | Tier 2 RCD cost allocation (interim) amount per BA |
|  | PTBAdjustmentBAHourlyRCDTier2AllocAmount BQ’M’mdh | PTB adjustment for Tier 2 RCD cost allocation amount per BA, if any |

# Charge Code Effective Dates

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Charge Code/Pre-calc Name | Document Version  | Effective Start Date | Effective End Date | Version Update Type |
| RUC Reliability Capacity Down Tier 2 Allocation | 5.0 | 05/01/2026 | Open | Configuration Impacted |