Settlements & Billing

Configuration Guide: CRR Balancing Account

**CC 6790**

Version 5.6.0a

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# Purpose of Document

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

# Introduction

## Background

Congestion Revenue Rights (CRRs) are the congestion hedging instruments the CAISO releases as part of its Locational Marginal Price (LMP) energy market. CRRs may come from allocations by CAISO, given free of charge to select market participants. CRRs may also come from auctions by CAISO for any remaining available CRR capacities after the allocations. CRRs from auctions are bought at a Market Clearing Price. The CRRs can be subdivided and can be traded in the secondary market but no new CRRs will be released by CAISO in the secondary market.

CAISO conducts an annual CRR Allocation once a year for the entire year. The annual CRR Allocation releases Seasonal CRRs for four seasonal periods. The CAISO also conducts monthly CRR Allocation twelve times a year in advance of each month. In addition, CAISO also conducts yearly and monthly CRR Auctions which can release monthly as well as seasonal CRRs. There is also a special type of CRRs - the Long-Term CRRs (LT-CRR) – which have a validity of ten years as opposed to the short–term ones. These LT-CRRs are seasonal in nature and are released via the annual CRR allocation process but not through CRR Auction.

Ownership of a CRR may change hands. However, only one entity can own the CRR in any Trading Day and CAISO will settle with that owner.

The CAISO pays CRR holders for their CRR entitlements only to the extent the CAISO collects sufficient revenue through day-ahead market congestion charges and CRR charges. The CAISO allocates any day-ahead revenue insufficiency to CRR holders on a constraint-by-constraint basis by scaling their CRR entitlement based on the CRR holder’s net modeled (or implied) flow over a particular constraint in the direction of the congestion.

The CRR charge codes, consisting of CC 6798 (CRR Auction Transaction Settlement), CC 6700 (CRR Hourly Settlement), CC 6790 (CRR Balancing Account), CC 6791 (CRRBA Accrued Interest Allocation), CC 6701 (Monthly CRR True Up), and CC 6706 (Monthly CRRBA Clearing) shall conform to the Tariff language on CRR Settlements.

## Description

The CRR Balancing Account (CRRBA) is an internal tracking account that offsets the CRR Payments and CRR Charges to achieve neutrality at the end of each day. The CRRBA represents the daily account that is used for the CRR daily clearing process. At the end of each day, any surplus or deficit in the CRRBA, particularly the daily CRRBA account, is allocated to daily Measured Demand excluding the valid and balanced portion of TOR/ETC/CVR Self-Schedules for which IFM and RTM Congestion credits were provided. Each CRRBA daily account is completely used up or cleared at the end of each relevant day. This daily CRRBA excludes any surplus from CRR congestion fund at the end of the month. Instead, such excess surplus, if any, after settling first with CRR holders at the end of the month under CC 6701 Monthly CRR True-Up, will be settled in a separate charge code CC 6706, Monthly CRRBA Clearing.

Hourly excess Congestion revenues or shortfall from settling IFM Congestion revenues less the net CRR entitlements in the CRR Hourly Settlement are forwarded to the relevant CRRBA daily account. CRR Auction revenues for the specific Trading Day are also forwarded to the relevant CRRBA daily account. At Trading Day end, a clearing adjustment is made to the CRRBA daily account.

For cash management purpose, the Finance Department maintains an interest-bearing bank account to track CRRBA funds. Monthly interest accrues from net proceeds of CRR Auction revenues that are held for more than a month. These accrued interests are forwarded to the relevant monthly CRRBA accrued interest fund to be allocated in CC 6791.

# Charge Code Requirements

## Business Rules

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| Bus Req ID | Business Rule |
| --- | --- |
| 1.0 | The charge code tracks the activity in the CRR Balancing Account (CRRBA) for the daily clearing process for CRR Holders for their entitlements subject to constraint-specific valuation, and then allocates any surplus or deficit, at the end of each day to Measured Demand excluding the valid and balanced portion of TOR/ETC/CVR Self-Schedules for which IFM and RTM Congestion credits were provided. |
| 2.0 | Each CRRBA daily account is separate from each other and each is completely cleared at the end of the relevant day. |
| 3.0 | Each CRRBA daily account, (corresponding to CAISODailyCRRBAAmount m) shall include the following:   1. the CAISO IFM congestion balance from all hours of the Trading Day; and 2. the addition of net proceeds from CRR monthly and yearly auction specific for the Trading Day. 3. Increased CRR Revenues attributable to Convergence Bidding |
| 3.1 | Each hourly CAISO IFM congestion balance is the sum of IFM Congestion Charge. This amount is computed in the Day Ahead Congestion Pre-calculation (DA\_CONG\_PC). (Fact) |
| 3.3 | CRR Auction revenues for each specific Trading Month, calculated in CC 6798 particularly coming from CRRs auctioned monthly and yearly, are to be distributed to the relevant CRRBA daily accounts of the same Trading Month. |
| 3.4 | The conversion of the net monthly auction revenues to daily values shall be made based on time of use. In particular, the daily CRRBA contribution is the sum of (1) the monthly on-peak amounts from CRR auction revenues multiplied by the ratio of daily on-peak hours to monthly on-peak hours, and (2) the monthly off-peak amounts from CRR auction revenues multiplied by the ratio of daily off-peak hours to monthly off-peak hours. |
| 3.5 | Net proceeds from the yearly CRR Auction are invested by the CAISO and accrue monthly interest when held by CAISO for more than a month. The accrued interest is accounted for and cleared in the CRRBA accrued interest allocation Charge Code CC 6791 on a monthly basis. |
| 4.0 | Clearing of CRRBA daily account:  At the end of the day, any surplus or deficit in the CRRBA daily account shall be allocated to Measured Demand excluding the valid and balanced portion of TOR/ETC/CVR Self-Schedules for which IFM and RTM Congestion credits were provided. |
| 5.0 | Advisory settlement from NPM resources: Congestion revenue allocation for each SC in each NPM BAA will be computed in this charge code. |

## Predecessor Charge Codes

| Charge Code/ Pre-calc Name |
| --- |
| CC 6700 - CRR Hourly Settlement |
| CC 6798 - CRR Auction Transaction Settlement |
| Day Ahead Congestion Pre-calculation |
| Measured Demand over Control Area Precalculation |
| NPM Pre-calculation |

## Successor Charge Codes

| Charge Code/ Pre-calc Name |
| --- |
| None |

## Inputs – External Systems

| Row # | Variable Name | Description |
| --- | --- | --- |
| 1 | CRRBAAllocationExceptionFlag | Indicator of whether or not Exception Set #1 from the pre-calculation “Measured Demand Over Control Area” applies to the CRR Balancing Account (CC 6970) configuration. 1 => Exception Set #1 applies; 0 => Exception Set #1 does not apply |
| 2 | CAISOMonthlyCRRAuctionMarketTOUTotalRevenueAmt t’md | This monthly value comes from CC 6798 as a translation of attributes U’ and U into Trade Month m in the charge type CAISOMonthlyCRRAuctionMarketTotalRevenueforMonthAmount UU’ t’ . The month period bounded by U’ and U attributes month is the same Trading Month m in which the Trading Day d belongs.  Note: This raw input will not be reportable. However, an output variable, CAISOMonthlyCRRAuctionMarketTOUTotalRevenueAmount t’md, with the same value and attributes will be reportable. |
| 3 | CAISODailyTOUMonthToDayConversionFactor t’md | The rate used to convert total monthly auction revenues to daily values for distribution into the CRRBA daily accounts.  The daily on-peak TOU rate is the ratio of on-peak hours for the day to the on-peak hours for the month; while the daily off-peak TOU rate is the ratio of off-peak hours for the day to the off-peak hours for the month.  For this input, the time of use (t’) attribute value is provided as ‘ON’ if on-peak, or ‘OFF’ for off-peak.  The on-peak and off-peak hours definition is available through the bill determinant CRRHourlyTOU with a value 1 for on-peak and 0 for off-peak. CRRHourlyTOU definition is provided for all hours of the Trading Day on a daily basis. The TOU definition for all hours of the year is also provided by the CAISO CRR Team via the CRR website portal. |

## Inputs - Predecessor Charge Codes or Pre-calculations

| Row # | Variable Name | Predecessor Charge Code/  Pre-calc Configuration |
| --- | --- | --- |
|  | CAISOTotalHourlyMeasuredDemandMinusRightsControlAreaQty\_Ex1 mdh | PC Measured Demand Over Control Area |
|  | BAHourlyMeasuredDemandMinusRightsControlAreaQty\_Ex1 Bmdh | PC Measured Demand Over Control Area |
|  | CAISOTotalHourlyMeasuredDemandMinusRightsControlAreaQty mdh | PC Measured Demand Over Control Area |
|  | BAHourlyMeasuredDemandMinusRightsControlAreaQty Bmdh | PC Measured Demand Over Control Area |
|  | CAISODailyIFMCongestionCharge md | Day Ahead Congestion Pre-calculation |
|  | CAISODailyCRRSettlementAmount md | CC 6700 - CRR Hourly Settlement |
|  | CAISOTotalDailyCRRSurplusAmount md | CC 6700 - CRR Hourly Settlement |
|  | BANPMDailyCongRevDAAllocationAmount **Bmd** | PC NPM (NPM Pre-calculation) |

## CAISO Formula

BADailyCRRBAAllocationAmount Bmd =

{(-1)\* BADailyMeasuredDemandControlArea\_CRRBA\_BQ Bmd \* CAISODailyCRRBAAllocationPrice md } + BANPMDailyCongRevDAAllocationAmount **Bmd**

BADailyMeasuredDemandControlAreaQty\_CRRBA\_BQ Bmd =

 BAHourlyMeasuredDemandMinusRightsControlAreaQty\_CRRBA\_BQ Bmdh

Where IF CRRBAAllocationExceptionFlag = 1 THEN

BAHourlyMeasuredDemandMinusRightsControlAreaQty\_CRRBA\_BQ Bmdh =

BAHourlyMeasuredDemandMinusRightsControlAreaQty\_Ex1 Bmdh

ELSE (in the case where CRRBAAllocationExceptionFlag = 0)

BAHourlyMeasuredDemandMinusRightsControlAreaQty\_CRRBA\_BQ Bmdh =

BAHourlyMeasuredDemandMinusRightsControlAreaQty Bmdh

END IF

CAISODailyCRRBAAllocationPrice md = (CAISODailyCRRBAAmount md

/ CAISOTotalDailyMeasuredDemandControlAreaQty\_CRRBA\_BQ md)

Where CAISOTotalDailyMeasuredDemandControlAreaQty\_CRRBA\_BQ md =

Sum (h) {CAISOTotalHourlyMeasuredDemandMinusRightsControlAreaQty\_CRRBA\_BQ mdh }

Where IF CRRBAAllocationExceptionFlag = 1 THEN

CAISOTotalHourlyMeasuredDemandMinusRightsControlAreaQty\_CRRBA\_BQ mdh =

CAISOTotalHourlyMeasuredDemandMinusRightsControlAreaQty\_Ex1 mdh

ELSE (in the case where CRRBAAllocationExceptionFlag = 0)

CAISOTotalHourlyMeasuredDemandMinusRightsControlAreaQty\_CRRBA\_BQ mdh =

CAISOTotalHourlyMeasuredDemandMinusRightsControlAreaQty mdh

END IF

CAISODailyCRRBAAmount md =

CAISODailyIFMCongestionCharge md + CAISODailyCRRBAFundFromAuctionRevenueAmount md +

CAISODailyCRRSettlementAmount md –

CAISOTotalDailyCRRSurplusAmount md

Where CAISODailyCRRBAFundFromAuctionRevenueAmount md =

Sum (t’) {CAISOMonthlyCRRAuctionMarketTOUTotalRevenueAmount t’md\*

CAISODailyTOUMonthToDayConversionFactor t’md }

CAISOMonthlyCRRAuctionMarketTOUTotalRevenueAmount t’md =

CAISOMonthlyCRRAuctionMarketTOUTotalRevenueAmt t’md

Implementation Note: The input CAISOMonthlyCRRAuctionMarketTOUTotalRevenueAmt t’md and the charge type CAISOMonthlyCRRAuctionMarketTOUTotalRevenueAmount t’md both have the same values as the CAISOCRRAuctionMarketTOUTotalRevenueforMonthAmount U’U t’ from CC 6798, only that the month period bounded by U’ and U attributes has now been translated into Trade Month m, in which Trading Day d belongs. The monthly value is repeated for each day of Trade Month m.

Note: The input CAISOMonthlyCRRAuctionMarketTOUTotalRevenueAmt will not be reportable but the output CAISOMonthlyCRRAuctionMarketTOUTotalRevenueAmount will be reportable.

## Outputs

| Row # | Name | Description |
| --- | --- | --- |
|  | In addition to any outputs listed below, all inputs shall be included as outputs. |  |
|  | BADailyCRRBAAllocationAmount Bmd | The payment or charge to Business Associate B in order to clear the CRRBA daily account for Trading Day d. |
|  | CAISODailyCRRBAAllocationPrice md | The allocation rate to obtain the BADailyCRRBAAllocationAmount **Bmd**. |
|  | CAISODailyCRRBAAmount md | The amount in the CRRBA daily account for Trading Day d. |
|  | CAISODailyCRRBAFundFromAuctionRevenueAmount md | The CRRBA fund coming from net proceeds of CRR auction allocated for Trading Day d CRRBA account. |
|  | BADailyMeasuredDemandControlAreaQty\_CRRBA\_BQ Bmd | The applicable dailyMeasured Demand eligible for CRRBA allocation. |
|  | BAHourlyMeasuredDemandMinusRightsControlAreaQty\_CRRBA\_BQ Bmdh | The applicable hourly Measured Demand eligible for CRRBA allocation. |
|  | CAISOTotalDailyMeasuredDemandControlAreaQty\_CRRBA\_BQ md | The CAISO total applicable daily Measured Demand eligible for CRRBA allocation. |
|  | CAISOTotalHourlyMeasuredDemandMinusRightsControlAreaQty\_CRRBA\_BQ mdh | The CAISO total applicable hourly Measured Demand eligible for CRRBA allocation. |
|  | CAISOMonthlyCRRAuctionMarketTOUTotalRevenueAmount t’md | The CRRBA fund coming from net proceeds of CRR auction revenues for Trade Month m. This is a constant monthly value provided on a daily basis. |

# Charge Code Effective Date

| Charge Code/  Pre-calc Name | Document Version | Effective Start Date | Effective End Date | Version Update Type |
| --- | --- | --- | --- | --- |
| CC 6790 - CRR Balancing Account | 5.0 | 04/01/09 | 10/31/09 | Documentation Edits Only |
| CC 6790 - CRR Balancing Account | 5.1 | 11/01/09 | 01/31/11 | Configuration Impacted |
| CC 6790 - CRR Balancing Account | 5.2 | 02/01/2011 | 6/30/2013 | Documentation Edits and Configuration Impacted |
| CC 6790 - CRR Balancing Account | 5.3 | 07/01/2013 | 10/31/2017 | Documentation Edits and Configuration Impacted |
| CC 6790 - CRR Balancing Account | 5.3a | 11/01/2017 | 12/31/2018 | Documentation Edits Only |
| CC 6790 - CRR Balancing Account | 5.4 | 1/01/2019 | 12/31/2020 | Configuration Impacted |
| CC 6790 - CRR Balancing Account | 5.5 | 1/01/2021 | 4/30/2026 | Configuration Impacted |
| CC 6790 - CRR Balancing Account | 5.6.0a | 5/01/2026 | Open | Documentation Edits Only |