Settlements & Billing

Configuration Guide: RC Services Charge

**CC 5701**

 Version 5.0

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# Purpose of Document

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

# Introduction

## Background

The CAISO serves as the reliability coordinator (RC) for entities within its balancing authority area (BAA), and offers to serve as the RC for other balancing authorities (BAs) in the western interconnection, including transmission operators (TOPs) within those BAs. The revenue required to offset the costs that the CAISO incurs to provide RC Services is the “RC Funding Requirement”.

The RC Funding Requirement consists of the annual costs associated with the CAISO’s provision of RC Services, including the annual costs associated with maintaining shared reliability coordinator tools such as the Western Interchange Tool and the Enhanced Curtailment Calculator. The CAISO determines the RC Funding Requirement based on the percentage of its overall revenue requirement attributable to the cost of providing RC Services. This percentage is updated in conjunction with the triennial cost of service study conducted by the CAISO. The RC Funding Requirement is calculated, on an annual basis, as the product of this percentage multiplied by the annual revenue requirement for the same year.

To recover the RC Funding Requirement, the CAISO will calculate an RC Services rate annually, effective January 1 each year. The CAISO will calculate the RC Services rate by taking the annual RC Funding Requirement, less any known minimum RC Services charge for the applicable year, and dividing the RC Funding Requirement by the sum of (1) the annual Net Energy for Load (NEL) MWh for all BAs with load and TOPs and (2) the annual Net Generation (NG) MWh for all generators connected to generation-only BAs and TOPs that the CAISO anticipates will take RC Services for the applicable year.

The CAISO allocates its own RC Services Charge to RC Customers that are located in the CAISO’s BAA and Scheduling Coordinators that serve load in the CAISO BAA based on their share of the total NERC/WECC Metered Demand in MWh for the CAISO Balancing Authority Area.

## Description

The RC Services Charge Code 5701 calculates the annual RC Services charge to RC Customers not within the CAISO footprint per section 19.7 of the CAISO tariff. This charge multiplies either the RC Customer’s NEL (for entities with load) or NG (for generation-only BAAs) by the RC Services Rate to determine the amount charged to the RC Customer. There is a Minimum RC Services charge of $5,000 applicable to RC Customers that either have no NEL and no NG during an applicable period, or whose RC Services charge for a particular year, calculated as described above, would result in a charge that is less than $5,000.

NEL and NG volumes are due to CAISO by September 30th in the year prior to the RC Services assessment year. By October 30th, the CAISO will publish a CC 5701 Informational Statement which will include the submitted Net Energy volumes submitted by the RC Customer by September 30th. RC Charges are not disputable, outside of any ministerial or typographical errors.

In the event that an RC Customer defaults on the payment of RC Services charges, the CAISO may, at its discretion, issue a supplemental RC Services Invoice to all other RC Customers, reallocating the default amounts in proportion to their RC Services Invoice amount.

All RC Services-related charge codes, including CC 5701, appear in the RC Services statements and invoices, which are separate from CAISO market statements and invoices.

# Charge Code Requirements

## Business Rules

| Bus Req ID | Business Rule |
| --- | --- |
| 1.0 | The RC Services Charge (CC 5701) is billed and invoiced annually. |
| 2.0 | This charge is applicable to RC Customers not within the CAISO footprint, which can be Balancing Authorities or transmission operators who have requested direct billing for RC Services. |
| 3.0 | The RC Services Charge statements and invoices are published on the first Business Day of the year for RC Services provided by the CAISO for that calendar year. |
| 3.1 | For non-Federal entities, payment for any RC Services invoice is due within 21 business days from the invoice date. |
| 3.2 | Federal entities have the option to make monthly payments of 1/12 of the annual invoiced amount.  |
| 3.3 | Monthly payments from federal entities are due by the twentieth of each month. |
| 4.0 | The CAISO will issue the RC Services Charge-related statements and invoices separately from CAISO market statements and invoices. |
| 5.0 | RC Customers shall be prohibited from disputing any RC Charges, except on grounds that an error in the invoice is due to a mere typographical or other ministerial error by the CAISO.  |
| 5.1 | If the CAISO determines that an invoice contains a typographical or other ministerial error, the CAISO may at its discretion issue a corrected invoice within 21 days of the date the initial invoice was issued. |
| 6.0 | The CAISO will publish an RC Services Informational Statement by October 30th each year. |
| 6.1 | The Informational Statement includes the billable quantity as submitted by the RC Customer by September 30th.  |
| 7.0 | The RC Services Charge Amount is calculated for RC Customer by unique Balancing Authority Area and Net Energy Zone Owner. |
| 7.1 | The RC Services Settlement Amount is calculated as the maximum of (1) the RC Services Total Charge Amount or (2) the RC Services Minimum Charge Amount, plus (for RC Services calendar year 2019) the RC Services PTB Charge Amount for the initial periods in 2019. |
| 7.2 | The RC Services Minimum Charge Amount is $5,000. |
| 7.3 | RC Customers with no NEL or NG will be assessed the RC Services Minimum Charge Amount. |
| 8.0 | The RC Services Charge Quantity is the NEL or NG billing data volume as submitted by an RC Customer. |
| 8.1 | For RC Customers that take RC Services for less than a full year in either the initial or final year of participation, the annual RC Services Charge Quantity shall be submitted as a prorated value by the RC Customer. |
| 8.2 | If an RC Customer does not submit an NEL or NG value, then the RC Services Charge Quantity shall equal 125% of the RC Customer’s default NEL or 90% of the RC Customer’s Installed Capacity times 8,760 hours in a year if no NG billing data volume was submitted as specified in the Reliability Coordinator Services Agreement (RCSA). |
| 9.0 | Any unpaid (default) amounts from an RC Services Invoice will be reallocated to all other RC Customers in proportion to their RC Invoice amount. |
| 9.1 | The defaulting RC Customer will not receive an allocation of their default RC invoice amount on the recalculation invoice. |
| 9.2 | Any default amounts collected by the CAISO from the defaulting RC Customer after a recalculation invoice has been issued, will be credited to RC Customers on the next annual RC invoice. |
| 10.0 | For the initial RC Services assessment year 2019, RC Service Charge amounts will be calculated manually outside of settlements and come to settlements as pass through bill (PTB) inputs. |
| 11.0 | For the CAISO BA, the NEL is calculated as the total NERC/WECC Metered Demand for all Scheduling Coordinators within the CAISO BAA. |
| 12.0 | The CAISO may with good cause review actual billing data volumes based on information available to the CAISO and adjust a customer’s charges up to two years prior to the most recently issued invoice to account for inaccuracies. |
| 13.0 | For adjustments to the Charge Code that cannot be accomplished by correction of upstream data inputs / recalculation or operator override, Pass Through Bill Charge logic will be applied. |

## Predecessor Charge Codes

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

##

## Successor Charge Codes

| Charge Code/ Pre-calc Name |
| --- |
| CC 5705 CAISO RC Services Charge Allocation |

## Inputs – External Systems

| Row # | Variable Name | Description |
| --- | --- | --- |
| 1 | RCServicesAnnualNetEnergyQty BrQ’md | Net Energy for Load or Net Generation as submitted to the CAISO RC by RC Customer (B) for Net Energy Zone Owner (r) and Balancing Authority Area (Q’). |
| 2 | RCServicesGenOnlyFlag Br | Flag identifying whether an RC Customer (B) is a generation-only customer for Net Energy Zone Owner (r). |
| 3 | RCServicesAnnualDefaultNetEnergyQty BrQ’md | Default Net Energy for Load or Net Generation as stated in the RC Customer’s Reliability Coordination Service Agreement by RC Customer (B) for Net Energy Zone Owner (r) and Balancing Authority Area (Q’). |
| 4 | RCServicesAnnualRate md | The annual CAISO RC Rate (in $/MWh) for providing RC Services. |
| 5 | RCServicesAnnualMinChargeAmt | The annual minimum charge for RC Services. |
| 6 | PTBRCServicesChargeAmt BrU’UQ’Jmd | RC Services PTB Charge Amount (in $) for RC Customer (B), Net Energy Zone Owner (r) and Balancing Authority Area (Q’) for RC Services year with Bill Period Start (U’) and Bill Period End (U) and PTB ID (J). This amount represents the RC Services amount due for initial periods for RC Services calendar year 2019. |
| 7 | PTBChargeAdjustmentRCServicesAmt BrQ’Jmd | RC Services PTB Charge Adjustment Amount (in $) for RC Customer (B), Net Energy Zone Owner (r), Balancing Authority Area (Q’) and PTB ID (J). |
| 8 | BusinessAssociateYearlyRCServicesMeteredDemandQty BU'Umd  | A Business Associate’s yearly Metered Demand quantity (in MW) that is used to allocate the Peak Reliability Coordinator charge for an associated assessment year. The input corresponds to the same one that is used to allocate the NERC and WECC charge for the assessment year.The input BusinessAssociateYearlyNERCWECCMeteredDemandReportedQty BUU’md provides the saved results of a query/view that is executed during a settlement run of the currently defined CC 5705 configuration. The query/view results in turn are obtained from an output of an earlier executed calculation for the CC 6490 – NERC WECC Charge configuration that provides the yearly summation of monthly metered demand (BusinessAssociateMonthlyNERCWECCMeteredDemandQuantity Bm) and denotes the first and the last date of the assessment year as the Bill period start date (U’) and the Bill period end date (U). Thus, as an example, for assessment year 2020 the Bill period start date should appear as January 1, 2020 and the Bill period end date should appear as December 31, 2020. A CC 6490 – NERC WECC Charge settlement calculation performed prior to and independent of the RC Services settlement run is used to generate and save the yearly summation of the monthly Metered Demand output. The statement date associated with the recorded output (as reflected by the currently defined input BusinessAssociateYearlyRCServicesMeteredDemandQty BUU’md) is the first date of the assessment year. |
| 9 | CAISOBAReportingID BrQ’md | Flag containing the CAISO BA ID (B) for Net Energy Zone Owner (r) and Balancing Authority Area (Q’) used to map to the total of the CAISO BA’s NERC/WECC metered demand. |
| 10 | PTBRCIDServicesDefaultInvoiceAmt BU’UJmd | RC Services PTB Default Invoice Amount (in $) attributed to RC Customer (B) for RC Services year with Bill Period Start (U’) and Bill Period End (U) and PTB ID (J). |
| 11 |  PTBRCIDServicesDefaultRepayInvAmt BU’UJmd | RC Services PTB Default Repayment Invoice Amount (in $) attributed to RC Customer (B) for RC Services year with Bill Period Start (U’) and Bill Period End (U) and PTB ID (J). |
| 12 | RCServicesNoLoadTOPFlag BrQ’md | Flag identifying whether RC Customer (B) for Net Energy Zone Owner (r) and Balancing Authority Area (Q’) is a TOP with no load. |
| 13 | PTBBARCServicesAdjustmentMeterDataQty BU’UJmd | RC Services PTB Adjustment meter data quantity for RC Customer (B) for RC Services year with Bill Period Start (U’) and Bill Period End (U) and PTB ID (J). |
| 14 | GenOnlyBAAInstalledCapacity BrQ’md | Installed capacity (in MW) as stated in the RC Customer’s Reliability Coordination Service Agreement for a generation-only RC Customer (B) for Net Energy Zone Owner (r) and Balancing Authority Area (Q’). |

## Inputs - Predecessor Charge Codes or Pre-calculations

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|  |  |  |
| --- | --- | --- |
| Row # | Variable Name | Predecessor Charge Code/ Pre-calc Configuration |
|  | None |  |

## CAISO Formula

RCServicesChargeSettlementAmount Bmd =

RCServicesSettlementAmount Bmd +RCServicesDefaultAdjAllocationAmount Bmd

RCServicesDefaultAdjAllocationAmount Bmd =

(-1) \*RCServicesDefaultInvoiceAdjAllocationRatio Bmd \* TotalRCIDServicesInvoiceDefaultAdjAmount md

RCServicesDefaultInvoiceAdjAllocationRatio Bmd =

#### RCServicesEligDefaultAdjAllocAmount Bmd /

#### TotalRCServicesEligDefaultAdjAllocAmount md

TotalRCServicesEligDefaultAdjAllocAmount md =

$\sum\_{}^{}B $ RCServicesEligDefaultAdjAllocAmount Bmd

RCServicesEligDefaultAdjAllocAmount Bmd =

IF

RCIDServicesInvoiceDefaultAdjAmount Bmd = 0

THEN

RCServicesEligDefaultAdjAllocAmount Bmd = RCServicesSettlementAmount Bmd

ELSE

RCServicesEligDefaultAdjAllocAmount Bmd = 0

RCServicesSettlementAmount Bmd =

Max (RCServicesTotalChargeAmount Bmd, RCServicesAnnualMinChargeAmt) + RCServicesAnnualPTBChargeAmount Bmd

RCServicesTotalChargeAmount Bmd =

$\sum\_{}^{}r \sum\_{}^{}Q' $RCServicesChargeAmount BrQ’md

RCServicesChargeAmount BrQ’md =

IF

RCServicesNoLoadTOPFlag BrQ’md = 1

THEN

RCServicesChargeAmount BrQ’md = RCServicesNoLoadTOPFlag BrQ’md \*

RCServicesAnnualMinChargeAmt

ELSE

RCServicesChargeAmount BrQ’md =

Abs (RCServicesNetEnergySettlementQuantity BrQ’md) \*RCServicesAnnualRate md

RCServicesNetEnergySettlementQuantity BrQ’md =

IF

RCServicesAnnualSubmittedNetEnergyQuantity BrQ’md <> 0

THEN

RCServicesNetEnergySettlementQuantity BrQ’md =RCServicesAnnualSubmittedNetEnergyQuantity BrQ’md

ELSE

(IF

RCServicesGenOnlyFlag Br = 1

THEN

RCServicesNetEnergySettlementQuantity BrQ’md =

GenOnlyBAAInstalledCapacity BrQ’md \* 8,760 \* 0.9

ELSE

RCServicesNetEnergySettlementQuantity BrQ’md =

RCServicesAnnualDefaultNetEnergyQty BrQ’md \* 1.25)

RCServicesAnnualSubmittedNetEnergyQuantity BrQ’md =

RCServicesAnnualNetEnergyQty BrQ’md

+CAISORCServicesAnnualNetEnergyQuantity BrQ’md

CAISORCServicesAnnualNetEnergyQuantity BrQ’md =

TotalCAISORCServicesMeteredDemandQuantity md \* CAISOBAReportingID BrQ’md

TotalCAISORCServicesMeteredDemandQuantity md =

$\sum\_{}^{}B\sum\_{}^{}U'\sum\_{}^{}U$ (BAYearlyCAISORCServicesMeteredDemandQuantity BU’Umd

+ BAYearlyRCServicesAdjustmentQuantity BU’Umd)

BAYearlyRCServicesMeteredDemandQuantity Bmd =

$\sum\_{}^{}U'\sum\_{}^{}U$ (BAYearlyCAISORCServicesMeteredDemandQuantity BU’Umd

+ BAYearlyRCServicesAdjustmentQuantity BU’Umd)

BAYearlyRCServicesAdjustmentQuantity BU’Umd =

 $\sum\_{}^{}J$ PTBBARCServicesAdjustmentMeterDataQty BU’UJmd

BAYearlyCAISORCServicesMeteredDemandQuantity BU’Umd = BusinessAssociateYearlyRCServicesMeteredDemandQty BU'Umd

Notes:

1. BusinessAssociateYearlyRCServicesMeteredDemandQty BU'Umd corresponds to BusinessAssociateYearlyNERCWECCMeteredDemandReportedQty BUU’md which presents as input data the saved results of a settlement database query/view, for which query/view the results are obtained from the output of an earlier executed Metered Demand calculation for the CC 6490 – NERC WECC Charge configuration. The Metered Demand calculation output presents the yearly summation of the monthly Metered Demand BusinessAssociateMonthlyNERCWECCMeteredDemandQuantity Bm and denotes the first and the last date of the assessment year as the Bill period start date (U) and the Bill period end date (U’). A CC 6490 – NERC WECC Charge settlement calculation performed prior to and independent of the RC Services settlement run is used to generate and save the yearly summation of the monthly Metered Demand output. The statement date associated with the recorded output (as reflected by the input BusinessAssociateYearlyNERCWECCMeteredDemandReportedQty BUU’md) is the first date of the assessment year.
2. Variable BusinessAssociateYearlyNERCWECCMeteredDemandReportedQty BUU’md is not reportable in XML-based settlement statement files; however, variable BAYearlyCAISORCServicesMeteredDemandQuantity BU’Umd, defined herein, is reportable and provides the same information as BusinessAssociateYearlyNERCWECCMeteredDemandReportedQty BUU’md which corresponds to BusinessAssociateYearlyRCServicesMeteredDemandQty BU'Umd.

RCServicesAnnualPTBChargeAmount Bmd =

$\sum\_{}^{}r \sum\_{}^{}U'\sum\_{}^{}U \sum\_{}^{}Q' \sum\_{}^{}J $ PTBRCServicesChargeAmt BrU’UQ’Jmd

TotalRCIDServicesInvoiceDefaultAdjAmount md =

$\sum\_{}^{}B\sum\_{}^{}U'\sum\_{}^{}U\sum\_{}^{}J $PTBRCIDServicesDefaultInvoiceAmt BU’UJmd

RCIDServicesInvoiceDefaultAdjAmount Bmd =

$\sum\_{}^{}U'\sum\_{}^{}U\sum\_{}^{}J $(PTBRCIDServicesDefaultInvoiceAmt BU’UJmd

+ PTBRCIDServicesDefaultRepayInvAmt BU’UJmd)

The following variables will be calculated at the hierarchy level:

PTBRCIDServicesCurrentAmount Bmd =

 $\sum\_{}^{}r \sum\_{}^{}Q' \sum\_{}^{}J $PTBChargeAdjustmentRCServicesAmt BrQ’Jmd

RCServicesPTBTotalAmount Bmd = RCServicesChargeSettlementAmount Bmd + PTBRCIDServicesCurrentAmount Bmd

##

##

## Outputs

| Row # | Name | Description |
| --- | --- | --- |
| 1 | RCServicesChargeSettlementAmount Bmd | Total Annual RC Services Settlement Amount to RC Customer (B) for RC Services. |
| 2 | RCServicesDefaultAdjAllocationAmount Bmd | Allocation of Annual RC Services Charge Default Adjustment Amount to RC Customer (B) for RC Services. |
| 3 | RCServicesDefaultInvoiceAdjAllocationRatio Bmd | Allocation ratio for Annual RC Services Charge Default Adjustment Amount to RC Customer (B) for RC Services. |
| 4 | TotalRCServicesEligDefaultAdjAllocAmount md | CAISO sum of eligible Annual RC Services Charge Amounts for allocation of default adjustments for RC Services. |
| 5 | RCServicesEligDefaultAdjAllocAmount Bmd | Eligible Annual RC Services Charge amount for Annual RC Services Charge Default Adjustment allocation to RC Customer (B) for RC Services. |
| 6 | RCServicesSettlementAmount Bmd | Annual RC Services Charge Amount for RC Customer (B) for RC Services. |
| 7 | RCServicesTotalChargeAmount Bmd | Annual RC Services Charge Amount to RC Customer (B) for RC Services.  |
| 8 | RCServicesChargeAmount BrQ’md | Annual RC Services Charge Amount to RC Customer (B) and Net Energy Zone Owner (r)and Balancing Authority Area (Q’) for RC Services.  |
| 9 | RCServicesNetEnergySettlementQuantity BrQ’md | Settlement quantity used to calculate the RC Services Charge for RC Customer (B)and Net Energy Zone Owner (r)and Balancing Authority Area (Q’)for RC Services.  |
| 10 | RCServicesAnnualSubmittedNetEnergyQuantity BrQ’md | Net Energy for Load or Net Generation submitted by RC Customer (B)and Net Energy Zone Owner (r)and Balancing Authority Area (Q’)for RC Services. |
| 11 | CAISORCServicesAnnualNetEnergyQuantity BrQ’md | Total NERC/WECC Metered Demand for CAISO BA (B)and Net Energy Zone Owner (r)and Balancing Authority Area (Q’)for RC Services.  |
| 12 | TotalCAISORCServicesMeteredDemandQuantity md | Sum of all NERC/WECC Metered Demand in CAISO BAA for RC Services. |
| 13 | BAYearlyRCServicesMeteredDemandQuantity Bmd | Yearly metered demand quantity (in MW) for RC Customer (B) for RC Services. |
| 14 | BAYearlyRCServicesAdjustmentQuantity BU’Umd | Yearly adjusted metered demand quantity (in MW) for RC Customer (B) for RC Services year with Bill Period Start (U’) and Bill Period End (U). |
| 15 | BAYearlyCAISORCServicesMeteredDemandQuantity BU’Umd | NERC/WECC Metered Demand for Scheduling Coordinator (B) in CAISO BAA for RC Services year with Bill Period Start (U’) and Bill Period End (U).  |
| 16 | RCServicesAnnualPTBChargeAmount Bmd | RC Services Pass Through Bill Charge Amount to RC Customer (B)for RC Services.  |
| 17 | TotalRCIDServicesInvoiceDefaultAdjAmount md | Total Invoice default RC Services Charge Amount for RC Services. |
| 18 | RCIDServicesInvoiceDefaultAdjAmount Bmd | RC Services Charge Amount default attributed to RC Customer (B)**.** |
| 19 | PTBRCIDServicesCurrentAmount Bmd | PTB RC Services current charge amount for RC Customer (B).  |
| 20 | RCServicesPTBTotalAmount Bmd | RC Services Pass Through Bill total amount to RC Customer (B) |
| 21 | In addition to any outputs listed above, all inputs shall be included as outputs. |  |

# Charge Code Effective Date

| Charge Code/Pre-calc Name | Document Version | Effective Start Date | Effective End Date | Version Update Type |
| --- | --- | --- | --- | --- |
| RC Services Charge (CC 5701) | 5.0 | 7/1/2019 | Open | Configuration Impacted |