Settlements & Billing

Configuration Guide: RUC Reliability Capacity Transfer Revenue Settlement

**CC 8811**

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 3

3.1 Business Rules 3

3.2 Predecessor Charge Codes 4

3.3 Successor Charge Codes 4

3.4 Inputs – External Systems 5

3.5 Inputs - Predecessor Charge Codes or Pre-calculations 5

3.6 CAISO Formula 6

3.7 Outputs 7

4. Charge Code References and Internal Comments 10

4.1 Charge Code Effective Date 10

# 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

RUC Reliability Capacity Transfer Revenue occurs when the net Day Ahead Transfer scheduling limit is reached in the Day-Ahead Market. This manifests as a separation of the Reliability Capacity Up and Down Marginal Costs of the binding Balancing Authority Area (BAA) in the Extended Day Ahead Market (EDAM) Area from the Reliability Capacity Up and Down Marginal Costs of an adjacent BAA in the EDAM Area that is attributed to a Day Ahead Transfer System Resource.

## Description

The RUC Reliability Capacity Transfer Revenue CC will allocate EDAM Transfer revenue from Day Ahead Reliability Capacity represented by Day Ahead Transfer System Resources equally between Balancing Authority Areas, except when notified of an agreement between EDAM Entities on either side of a RUC Reliability Capacity Transfer that a different allocation for some portion of the EDAM Transfer revenue is required. This charge code shall calculate on an hourly settlement interval.

# Charge Code Requirements

## Business Rules

| Bus Req ID | Business Rule |
| --- | --- |
| 1.0 | This charge code will calculate on an hourly basis. |
| 2.0 | Calculate the RUC Reliability Capacity Transfer Revenue as the difference between transfer source and sink pairs with respective BAA RCU/RCD LMP less any calculated RUC RCU No Pay Amount. |
| 2.1 | (Fact) RCD does not exist for RUC RC Transfer Revenue. |
| 2.2 | RUC RCU No Pay Transfer Revenue is calculated as the difference between Real Time realized RUC RCU award and Day Ahead RUC RCU award. |
| 3.0 | Consume EDAM Transfer Resource IFM hourly CRN, awards and schedules of reliability capacity. |
| 3.1 | Corrections allowed for CRN, awards and schedules. |
| 4.0 | Allocation of transfer revenue shall be split under the following methods: |
| 4.1 | Type 2 Transfer Revenue will be settled directly with SCs. |
| 4.1.1 | Except when CRN\_ID = ‘None’, in which case that portion will be allocated to the EDAM Entity. |
| 4.2 | For non CISO EDAM Entitites, directly settle with the Entity. |
| 4.3 | For CISO BAA, sub-allocate based on the ratio of SC measured demand to the CISO BAA measured demand. |
| 5.0 | PTB included to allow adjustments. |

## Predecessor Charge Codes

| Charge Code/ Pre-calc Name |
| --- |
| CC 8411 Day Ahead Energy Transfer Revenue Settlement |
|  |

## Successor Charge Codes

| Charge Code/ Pre-calc Name |
| --- |
| CC 4989 |

## Inputs – External Systems

|  |  |  |
| --- | --- | --- |
| Row # | Variable Name | Description |
| 1 | BABAATransferSystemResourceDAReliabilityCapacityUpQty BrQ’AA’QpQ’’r’d’Nz’mdh | Balancing Authority Area Transfer System Resource Quantity awarded in day ahead of Reliability Capacity Up for resource r and Pricing Node p |
| 2 | BABAATransferSystemResourceRTReliabilityCapacityUpQty BrQ’AA’QpQ’’r’d’Nz’mdh | Balancing Authority Area Transfer System Resource Quantity realized in real time of Reliability Capacity Up for resource r and Pricing Node p |
| 3 | RUCReliabilityCapacityUpTransferSystemResourceLMPPrc rQ’AA’QpQ’’r’Nmph | The Hourly DA Reliability Capacity Up Price for each Resource for every hour of each trading day. |
| 4 | EDAMTSRAllocationRatio rQ’Nmdh | Ratio for allocation of Transfer Revenue, with a default of 50:50 between associated Q’ BAAs to transfer resource r and CRN N |
| 5 | PTBReliabilityCapacityTSRAdjustmentAmt BQ’Jmdh | PTB Adjustment for Reliability Capacity TSR by Business Associate B, BAA Q’, PTB ID J and Trading Hour h. |

## Inputs - Predecessor Charge Codes or Pre-calculations

|  |  |  |
| --- | --- | --- |
| Row # | Variable Name | Predecessor Charge Code/  Pre-calc Configuration |
| 1 | BAMeasuredDemandRatio Bmdh | CC 8411 Day Ahead Energy Transfer Revenue Settlement |
| 2 |  |  |

## CAISO Formula

RUCReliabilityCapacityTSRSettlement BQ’mdh = BARUCReliabilityCapacityTSRSettlement BQ’mdh + BARUCReliabilityCapacityUpTSRReleasedTransferSettlement BQ’mdh + EDAMRUCReliabilityCapacityTSRSettlement BQ’mdh

### BARUCReliabilityCapacityTSRSettlement BQ’mdh = BAMeasuredDemandRatio Bmdh\*CAISORUCReliabilityCapacityTSRAllocation BQ’mdh

### CAISORUCReliabilityCapacityTSRAllocation BQ’mdh= Sum (r,N,z’) EDAMRUCReliabilityCapacityUpTSRAllocation BrQ’Nz’mdh

Where Q’ = CISO

EDAMRUCReliabilityCapacityTSRSettlement BQ’mdh = Sum (r,N,z’) EDAMRUCReliabilityCapacityUpTSRAllocation BrQ’Nz’mdh

Where Q’ <> CISO

**Reliability Capacity Up**

EDAMRUCReliabilityCapacityUpTSRAllocation BrQ’Nz’mdh = EDAMTSRAllocationRatio rQ’Nmdh \* ResourceRUCReliabilityCapacityUpTSRTransferRevenue BrNz’mdh

ResourceSum (Q’,A,A’,Q,p,d’) RUCReliabilityCapacityUpTSRTransferRevenue BrQ’AA’Qpd’Nz’mdh

d<> or N = None

BARUCReliabilityCapacityUpTSRReleasedTransferSettlement BQ’mdh = Sum (r,A,A’,Q,p,N,z’) RUCReliabilityCapacityUpTSRReleasedTransferRevenue BrQ’AA’QpNz’mdh

RUCReliabilityCapacityUpTSRReleasedTransferRevenue BrQ’AA’QpNz’mdh = Sum (d’) RUCReliabilityCapacityUpTSRTransferRevenue BrQ’AA’Qpd’Nz’mdh

Where d’ = 2 and N <> None

RUCReliabilityCapacityUpTSRTransferRevenue BrQ’AA’Qpd’Nz’mdh = Sum (Q’’,r’) RUCReliabilityCapacityUpTSRNetAmount BrQ’AA’QpQ’’r’d’Nz’mdh – RUCReliabilityCapacityTSRNetNoPayAmount BrQ’AA’QpQ’’r’d’Nz’mdh

**RUC TSR No Pay Calculations**

RUCReliabilityCapacityTSRNetNoPayAmount BrQ’AA’QpQ’’r’d’Nz’mdh = RUCReliabilityCapacityTSRNoPaySwapAmount BrQ’AA’QpQ’’r’d’Nz’mdh - RUCReliabilityCapacityTSRNoPayAmount BrQ’AA’QpQ’’r’d’Nz’mdh

RUCReliabilityCapacityTSRNoPaySwapAmount BrQ’AA’QpQ’’r’d’Nz’mdh = AttributeSwap (r,r’) RUCReliabilityCapacityTSRNoPayAmount BrQ’AA’QpQ’’r’d’Nz’mdh

RUCReliabilityCapacityTSRNoPayAmount BrQ’AA’QpQ’’r’d’Nz’mdh = RUCReliabilityCapacityTSRNoPayQuantity BrQ’AA’QpQ’’r’d’Nz’mdh \* RUCReliabilityCapacityUpTransferSystemResourceLMPPrc rQ’AA’QpQ’’r’Nmph

RUCReliabilityCapacityTSRNoPayQuantity BrQ’AA’QpQ’’r’d’Nz’mdh = BABAATransferSystemResourceDAReliabilityCapacityUpQty BrQ’AA’QpQ’’r’d’Nz’mdh - BABAATransferSystemResourceRTReliabilityCapacityUpQty BrQ’AA’QpQ’’r’d’Nz’mdh

**Transfer Revenue Evaluation Calculations**

RUCReliabilityCapacityUpTSRNetAmount BrQ’AA’QpQ’’r’d’Nz’mdh = RUCReliabilityCapacityUpTSRHourlySwapAmount BrQ’AA’QpQ’’r’d’Nz’mdh - RUCReliabilityCapacityUpTSRHourlyAmount BrQ’AA’QpQ’’r’d’Nz’mdh

### RUCReliabilityCapacityUpTSRHourlySwapAmount BrQ’AA’QpQ’’r’d’Nz’mdh = AttributeSwap(r,r’) RUCReliabilityCapacityUpTSRHourlyAmount BrQ’AA’QpQ’’r’d’Nz’mdh

### RUCReliabilityCapacityUpTSRHourlyAmount BrQ’AA’QpQ’’r’d’Nz’mdh = BABAATransferSystemResourceDAReliabilityCapacityUpQty BrQ’AA’QpQ’’r’d’Nz’mdh \* RUCReliabilityCapacityUpTransferSystemResourceLMPPrc rQ’AA’QpQ’’r’Nmph

## Outputs

Define the expected output(s) from this Charge Code/Pre-Calc. Please remember to list any intermediate output that would help the market participant understand the final outcome}

|  |  |  |
| --- | --- | --- |
| Output Req ID | Name | Description |
|  | In addition to any outputs listed below, all inputs shall be included as outputs. |  |
| 1 | RUCReliabilityCapacityUpTSRHourlyAmount BrQ’AA’QpQ’’r’d’Nz’mdh | RUC Reliability Capacity Amount at nodal location of Transfer Resource pairs. |
| 2 | RUCReliabilityCapacityUpTSRHourlySwapAmount BrQ’AA’QpQ’’r’d’Nz’mdh | RUC Reliability Capacity at nodal location of swapped Transfer Resource pairs. |
| 3 | RUCReliabilityCapacityUpTSRNetAmount BrQ’AA’QpQ’’r’d’Nz’mdh | Transfer Revenue Net Amount by TSR matched pair. |
| 4 | RUCReliabilityCapacityTSRNoPayQuantity BrQ’AA’QpQ’’r’d’Nz’mdh | RUC RC TSR No Pay Quantity due to Transfer System Resource matched pairs. |
| 5 | RUCReliabilityCapacityTSRNoPayAmount BrQ’AA’QpQ’’r’d’Nz’mdh | RUC RC TSR No Pay Amount due to Transfer System Resource matched pairs. |
| 6 | RUCReliabilityCapacityTSRNoPaySwapAmount BrQ’AA’QpQ’’r’d’Nz’mdh | RUC RC TSR No Pay Amount for swapped Transfer System Resource matched pairs. |
| 7 | RUCReliabilityCapacityTSRNetNoPayAmount BrQ’AA’QpQ’’r’d’Nz’mdh | RUC RC TSR Net No Pay Amount for Transfer System Resource matched pairs. |
| 8 | RUCReliabilityCapacityUpTSRTransferRevenue BrQ’AA’Qpd’Nz’mdh | RUC RC Transfer Revenue by Transfer System Resource. |
| 9 | RUCReliabilityCapacityUpTSRReleasedTransferRevenue BrQ’AA’QpNz’mdh | RUC RC Transfer Revenue Amount due to Released Schedules on Type 2 Resources. |
| 10 | BARUCReliabilityCapacityUpTSRReleasedTransferSettlement BQ’mdh | RUC RC Transfer Settlement Amount due to Released Schedules on Type 2 Resources. |
| 11 | ResourceRUCReliabilityCapacityUpTSRTransferRevenue BrNz’mdh | RUC RC Transfer Revenue for Type 1,3,4 TSRs and Type 2 TSRs with CRN of None. |
| 12 | EDAMRUCReliabilityCapacityUpTSRAllocation BrQ’Nz’mdh | Allocation amount by r resource and Q’ BAA. |
| 13 | EDAMRUCReliabilityCapacityTSRSettlement BQ’mdh | Transfer Revenue amount for EDAM entity (not including CAISO). |
| 14 | CAISORUCReliabilityCapacityTSRAllocation BQ’mdh | Allocation amount to the CAISO BAA. |
| 15 | BARUCReliabilityCapacityTSRSettlement BQ’mdh | Sub-Allocation amount to SCs within CAISO BAA. |
| 16 | RUCReliabilityCapacityTSRSettlement BQ’mdh | Settlement Amount for Transfer Revenue by Scheduling Coordinator and BAA. |

# Charge Code References and Internal Comments

## Charge Code Effective Date

| Charge Code/  Pre-calc Name | Document Version | Effective Start Date | Effective End Date | Version Update Type |
| --- | --- | --- | --- | --- |
| 8811 RUC Reliability Transfer Revenue Settlement | 5.0 | 5/1/26 | Open | Initial Configuration |