Settlements & Billing

Configuration Guide: Real Time Congestion – AS Regulation Down Import Settlement

**CC 6765**

 Version 5.4

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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

Suppliers of awarded Ancillary Services (AS) in the Real-Time market (RTM) are paid the Ancillary Service Marginal Price (ASMP) for the Real-Time Market at the relevant interties. However, because AS capacity Imports (export in the case of Regulation Down AS) and Energy schedules compete for transmission capacity at interties, the suppliers of awarded Real-Time AS capacity Exports will also be charged Congestion Costs based on applicable Shadow Prices at binding interties associated with the resources.

This Charge Code is part of the family of Charge Codes for settling Real-Time AS Congestion costs emanating from the following AS product awards: (1) Regulation Up Import, (2) Regulation Down Import, (3) Spinning Reserve Import, and (4) Non-spinning Reserve Import.

The Congestion revenues coming from:

Real Time AS Imports from all Ancillary Services from Congested interties,

less the CAISO net RTM Congestion credits to ETC/TOR (settled in CC 6788 – RTM Congestion Credit Settlement) shall be settled in 6774, Real Time Congestion Offset, which allocates to Measured Demand excluding the metered demand associated with the valid and balanced portion of ETC/TOR Self-Schedules.

## Description

This Charge Code applies to Dynamic and Non-Dynamic System Resources for awarded Regulation Down import capacity whenever Congestion is present in the export direction over the intertie constraint associated with the resource, on an hourly basis at the resource level. The Settlement Amount is the product of (a) hourly simple average of awarded MW hourly import capacity of Real Time Regulation Down AS and the (b) negative of hourly simple average of 15-minute export direction Shadow Prices for the intertie constraint associated with the resource for the Trading Hour.

# Charge Code Requirements

## Business Rules

| Bus Req ID | Business Rule |
| --- | --- |
| 1.0 | The resource specific ITC congestion cost received from IFM/RTM shall be used to calculate ITC congestion charge and credit for Non-Dynamic System Resources and Dynamic System Resources who receive AS awards in IFM and the 15-minute market. |
| 1.1 | The Congestion Charge for Regulation Down for a Dynamic or Non-Dynamic System Resource per hour is the product of (a) hourly simple average of the awarded MW hourly capacity of Real Time Regulation Down AS at the resource and the (b) negative of hourly simple average of 15-minute export direction Shadow Prices for the intertie constraint associated with the resource for the Trading Hour. |
| 1.2 | The charge per BA per Trading Hour h is the sum of all the congestion charges for Regulation Down at its Dynamic or Non-Dynamic System Resources for the hour. |
| 1.3 | If Congestion is present in the import direction, Real Time AS Regulation Down Importers will not be paid nor charged for the counter-flows over the applicable intertie constraint. (Fact) |
| 1.4 | 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 |
| --- |
| Ancillary Services Pre-Calculation |

## Successor Charge Codes

| Charge Code/ Pre-calc Name |
| --- |
| CC 6774 – Real Time Congestion Offset |

## Inputs – External Systems

| Row # | Variable Name | Description |
| --- | --- | --- |
| 1 | FMMIntervalResourceRTRegDownExportShadowPrice rtmdhc | Real Time Shadow Price for Intertie resource. The marginal value of relieving particular intertie constraint(s) (associated with the resource) for congestion in the export direction. ($/MW). These export shadow prices usually come in as negative values. |
| 2 | PTBChargeAdjustmentRTCongestionRegDownAmount BJmdh | Pass Through Bill (PTB) amount for this Charge Code  |

## Inputs - Predecessor Charge Codes or Pre-calculations

| Row # | Variable Name | Predecessor Charge Code/ Pre-calc Configuration |
| --- | --- | --- |
| 1 | RTRegDownAward BrtQ’F’S’mdhc | Ancillary Services Pre-Calculation |

## CAISO Formula

The RT congestion Regulation Down amount

RTCongestionRegDownAmount BrtF’S’mdh=

(-1) \*((SUM (Q’,c) 0.25\*RTRegDownAwardBrtQ’F’S’mdhc))

**\*** (FMMIntervalResourceRTRegDownExportShadowPrice rtmdhc)

Note: This formula will be configured such that the fifteen (15) minute Ancillary Service capacity (MW) quantities will be converted to hourly quantities. Then, standard frequency conversion within this equation will achieve the intended multiplication of the simple average of the fifteen (15) minute Shadow Prices at the applicable Scheduling Point for the applicable Trading Hour against these quantities.

The RT Congestion Charge per Trading Hour h for each Business Associate B for Regulation Down

BAHourlyRTCongestionRegDownAmount Bmdh=

** RTCongestionRegDownAmount BrtF’S’mdh

Note: This is provided as part of reporting structure and is not configured as an individual charge type.

The CAISO total RT congestion revenue from Regulation Down for Trading Hour h

CAISOHourlyTotalRTCongestionRegDownAmount mdh =

** BAHourlyRTCongestionRegDownAmount Bmdh

Note: This is provided as part of reporting structure and is not configured as an individual charge type.

## Outputs

| Output Req ID | Name | Description |
| --- | --- | --- |
|  | In addition to any outputs listed below, all inputs shall be included as outputs. |  |
| 1 | RTCongestionRegDownAmount BrtF’S’mdh | The Real Time Congestion Charge for scheduling Regulation Down at a congested resource  |
| 2 | BAHourlyRTCongestionRegDownAmount Bmdh | The Real Time Congestion Charge for scheduling Regulation DownThis is provided as part of reporting structure and is not configured as an individual charge type. This is shown as a reporting BD in the BD matrix file. |
| 3 | CAISOHourlyTotalRTCongestionRegDownAmount mdh | The CAISO total RT congestion revenue from Regulation Down Exports.This is provided as part of reporting structure and is not configured as an individual charge type. This is shown as a reporting BD in the BD matrix file. |

# Charge Code Effective Dates

| Charge Code/Pre-calc Name | Document Version | Effective Start Date | Effective End Date | Version Update Type |
| --- | --- | --- | --- | --- |
| CC 6765 – Real Time Congestion - AS Regulation Down Import Settlement | 5.0 | 04/01/09 | 4/30/2014 | Documentation Edits Only |
| CC 6765 – Real Time Congestion - AS Regulation Down Import Settlement | 5.1 | 05/01/2014 |  06/30/15 | Configuration Edits |
| CC 6765 – Real Time Congestion - AS Regulation Down Import Settlement | 5.2 | 07/01/15 | 12/31/19 | Configuration Edits |
| CC 6765 – Real Time Congestion - AS Regulation Down Import Settlement | 5.2.5 | 01/01/20 | 10/31/21 | Configuration Edits |
| CC 6765 – Real Time Congestion - AS Regulation Down Import Settlement | 5.3 | 11/01/2021 | 10/31/21 | Configuration Edits |
| CC 6765 – Real Time Congestion - AS Regulation Down Import Settlement | 5.3.0a | 11/01/2021 | 4/30/2026 | Documentation Edits Only |
| CC 6765 – Real Time Congestion - AS Regulation Down Import Settlement | 5.4 | 5/1/2026 | Open | Configuration Edits |