Settlements and Billing

Configuration Guide: Over and Under Scheduling EIM Allocation

CC 6046

 Version 5.5

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 5

3.5 Inputs - Predecessor Charge Codes or Pre-calculations 5

3.6 CAISO Formula 5

3.7 Outputs 7

4. Charge Code Effective Date 8

# 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 energy imbalance market (EIM) allows balancing authorities and transmission providers outside the ISO balancing authority area to efficiently serve their imbalance energy needs through participation in the ISO’s real-time market. While EIM provides opportunities for EIM entities and EIM participating resources within each EIM balancing authority area to support each other for optimal management of imbalance energy, each EIM entity must continue to manage imbalance energy without relying on other EIM entities or the ISO. To ensure the EIM real-time horizon has sufficient resources to meet forecast demand, each EIM entity must provide balanced load, supply, and interchange base schedules. The demand included in an EIM entity’s base schedules is not required to match its actual demand, but demand scheduled inaccurately creates an energy imbalance obligation served by other participants. To the extent an EIM entity does not use the ISO’s forecast, or uses the ISO forecast but does not schedule resources within 1 percent of actual demand, the entity will be subject to assessment of over and under scheduling charges, if its actual load is 5 percent more than scheduled.

## Description

The total daily revenues collected for over scheduling and under scheduling under Charge Code 6045 – Over and Under Scheduling EIM Settlement will be allocated to each balancing authority area (BAA) in the EIM area that was not subject to over scheduling or under scheduling assessment.

# Charge Code Requirements

## Business Rules

| Bus Req ID | Business Rule |
| --- | --- |
|  | This Charge Code shall calculate on a daily basis. |
|  | 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. |
|  | 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.) |
|  | Revenues will be allocated within the EIM area to the BAAs that were not subject to either under scheduling or over scheduling charges over the trading day. |
|  | For EIM BAAs not subject to under scheduling or over scheduling charges over the trading day, revenues will be allocated within the EIM BAA based upon metered demand. |
|  | Revenues will not be allocated to the CAISO BAA. |
|  | If the Market Operator declares a “Market Interruption” for a specific Balancing Authority Area (BAA), the BAA becomes isolated from the rest of the EIM Area  |
|  | The Market Interruption freezes the EIM Transfers to the EIM Transfer System Resource Base Schedules  |
|  | If the isolated Balancing Authority Area is not subject to under scheduling or over scheduling charges over the Market Interruption trading day, that isolated BAA shall have the metered Demand for the Market Interruptions period excluded from receiving a revenue allocation.  |
|  | PTBBAAMarketInterruptionFlag Q’mdh shall indicate the hours in which a Market Interruption has been declared |
| 17 | EDAM BAAs will be excluded from the allocation of over and under scheduling settlements through the exclusionary business driver logic in charge code 6045 – Over and Under Scheduling EIM Settlement.This will ensure that the EIMEntityBAOUSAllocationAmount BQ’AA’md output will exclude EDAM BAAs.  |

## Predecessor Charge Codes

| Charge Code/ Pre-calc Name |
| --- |
| CC 6045 Over and Under-Scheduling EIM Settlement |
| MSS Netting Pre-calculation |

## Successor Charge Codes

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

## Inputs - External Systems

| Row # | Variable Name | Description |
| --- | --- | --- |
| 1 | PTBBAAMarketInterruptionFlag Q’mdh  | The Balancing Authority Area Market Interruption FlagIf the flag = 1, then the BAA is exempt from assessing Over-Scheduling and Under-Scheduling penalty. |
|  |  |  |

## Inputs - Predecessor Charge Codes or Pre-calculations

| Row # | Variable Name | Predecessor Charge Code/ Pre-calc Configuration |
| --- | --- | --- |
| 1 | BAHourlyLAPOverUnderSchedulingAmount **BQ’AA’mdh** | CC 6045 Over and Under Scheduling Settlement |
| 2 | BASettlementIntervalResEIMEntityMeterDemandQuantity **BrtuT’I’Q’M’AA’F’R’pPW’QS’d’Nz’VvHn’L’mdhcif**  | MSS Netting Pre-calculation |

## CAISO Formula

The daily settlement of over and underscheduling for each EIM Entity Scheduling Coordinator by EIM Entity Balancing Authority Area is derived according to the formulation below.

### EIMEntityBAOUSAllocationAmount **BQ’AA’md =**

EIMBADailyLAPMeteredDemandforOUSAllocationQuantity **BQ’AA’md**  \*

EIMBAAOUSAllocationPrice **Q’md**

### EIMBAAOUSAllocationPrice **Q’md** =

IF

EIMBAADailyMeteredDemandforOUSAllocationQuantity **Q’md** = 0

THEN

EIMBAAOUSAllocationPrice **Q’md** = 0

ELSE

 EIMBAAOUSAllocationPrice **Q’md** =

(-1) \* EIMBAAOUSTotalAllocationAmount **Q’md** /

EIMBAADailyMeteredDemandforOUSAllocationQuantity **Q’md**

### EIMBAAOUSTotalAllocationAmount **Q’md** =

TotalDailyOverUnderSchedulingSettlementAmount **md** \*

(EIMBAADailyMeteredDemandforOUSAllocationQuantity **Q’md**  /

EIMAreaDailyMeteredDemandforOUSQuantity **md**)

### EIMAreaDailyMeteredDemandforOUSQuantity **md** =

( EIMBAADailyMeteredDemandforOUSAllocationQuantity **Q’md**)

### EIMBAADailyMeteredDemandforOUSAllocationQuantity **Q’md** =

### EIMBADailyLAPMeteredDemandforOUSAllocationQuantity **BQ’AA’md**

### EIMBADailyLAPMeteredDemandforOUSAllocationQuantity **BQ’AA’md** =

IF

EIMBAADailyOUSSettlementAmount **Q’md** = 0

THEN

EIMBADailyLAPMeteredDemandforOUSAllocationQuantity **BQ’AA’md** =

EIMBADailyLAPTotalMeteredDemandforOUSQuantity **BQ’AA’md**

ELSE

EIMBADailyLAPMeteredDemandforOUSAllocationQuantity **BQ’AA’md** = 0

### EIMBADailyLAPTotalMeteredDemandforOUSQuantity **BQ’AA’md** =

 (1- PTBBAAMarketInterruptionFlag Q’mdh ) \* BASettlementIntervalResEIMEntityMeterDemandQuantity **BrtuT’I’Q’M’AA’F’R’pPW’QS’d’Nz’VvHn’L’mdhcif**

Where Balancing Authority Area (Q’) <> ‘CISO’ and APnode Type A’ = ‘Default’ or ‘Custom’

Developmental note: EDAMBAAFlag Q’md will be added as an exclusionary business driver to ensure that EDAM BAAs will be excluded on the output.

### TotalDailyOverUnderSchedulingSettlementAmount **md** =

BAHourlyLAPOverUnderSchedulingAmount **BQ’AA’mdh**

### EIMBAADailyOUSSettlementAmount **Q’md** =

BAHourlyLAPOverUnderSchedulingAmount **BQ’AA’mdh**

##

## Outputs

| Output Req ID | Name | Description |
| --- | --- | --- |
|  | In addition to any outputs listed below, all inputs shall be included as outputs. |  |
|  | EIMEntityBAOUSAllocationAmount **BQ’AA’md** | Allocation amount by Business Associate ID and assigned to the relevant EIM BAA. |
|  | EIMBAAOUSAllocationPrice **Q’md** | Allocation price by EIM BAA. |
|  | EIMBAAOUSTotalAllocationAmount **Q’md** | Total Allocation amount by EIM BAA. |
|  | EIMAreaDailyMeteredDemandforOUSQuantity **md** | Total daily meter demand for EIM Area (EIM BAAs and CAISO BAA). |
|  | EIMBAADailyMeteredDemandforOUSAllocationQuantity **Q’md** | Total metered demand quantity within an EIM Entity BAA where EIM BAA was not subject to under and over scheduling charges. |
|  | EIMBADailyLAPMeteredDemandforOUSAllocationQuantity **BQ’AA’md** | Metered demand quantity by Business Assocaite ID and EIM Entity BAA where EIM BAA was not subject to under and over scheduling charges.  |
|  | EIMBADailyLAPTotalMeteredDemandforOUSQuantity **BQ’AA’md** | Daily total meter demand quantity for each Business Associate ID within EIM BAA.  |
|  | TotalDailyOverUnderSchedulingSettlementAmount **md** | Daily total under and over scheduling settlement amount assessed under CC 6045. |
|  | EIMBAADailyOUSSettlementAmount **Q’md** | Daily under and over scheduling settlement amont assessed to each EIM BAA. |

#

# Charge Code Effective Date

| Charge Code/Pre-calc Name | Document Version | Effective Start Date | Effective End Date | Version Update Type |
| --- | --- | --- | --- | --- |
| Over and Under Scheduling EIM Allocation | 5.0 | 10/01/14 | 2/28/17 | Configuration Impacted |
| Over and Under Scheduling EIM Allocation | 5.1 | 3/1/17 | 3/31/20 | Configuration Impacted |
| Over and Under Scheduling EIM Allocation | 5.1.1 | 4/1/20 | 12/31/20 | Configuration Impacted |
| Over and Under Scheduling EIM Allocation | 5.2 | 1/1/21 | 12/31/20 | Configuration Impacted |
| Over and Under Scheduling EIM Allocation | 5.3 | 1/1/21 | 5/31/22 | Configuration Impacted |
| Over and Under Scheduling EIM Allocation | 5.4 | 6/1/22 | 4/30/26 | Configuration Impacted |
| Over and Under Scheduling EIM Allocation | 5.5 | 5/1/26 | Open | Documentation-only updates |