Settlements & Billing

Configuration Guide: GMC System Operations Real-Time Dispatch Charge Code

CC 4567

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

Beginning in 2026, the GMC will consist of the following separate service charges: (1) the Market Services Charge; (2) the System Operations Real-Time Dispatch Charge; (3) the System Operations Balancing Authority Area Services Charge; and (4) the CRR Services Charge. The GMC revenue requirement will be allocated to the service charges as follows: forty-nine (49) percent to Market Services; twenty-three (23) percent to System Operations Real-Time Dispatch Charge; twenty-six (26) percent to System Operations Balancing Authority Area Services Charge; and two (2) percent to CRR Services. Every three (3) years, the CAISO will conduct an updated cost-of-service study, in consultation with stakeholders and using costs from the previous year. In conducting each cost-of-service study, the CAISO will recalculate the service charge percentages and the rates for the fees and charges that constitute the Grid Management Charge.

## Description

The GMC System Operations Real-Time Dispatch Charge Code is designed to recover costs the ISO incurs for running the grid in real time. It represents the fees for real-time dispatch services for the Extended Day-Ahead Market (EDAM), Western Energy Imbalance Market (WEIM), and CISO BAA, and applies to metered flows in MWh of supply and demand. However, the ISO has agreed to incorporate a Grandfathering Provision for Scheduling Coordinators with verified long-term contracts, for specific resources, which limit the Scheduling Coordinators to pass on increases in the GMC. The ISO grandfathering provision exempts the Scheduling Coordinators’ resources from the System Operations Charge for verified long-term contracts that meet the ISO tariff criteria. These qualifying resources will be exempt from the charge until the first opportunity to renegotiate the contract or until the contract expires.

# Charge Code Requirements

## Business Rules

| Bus Req ID | Business Rule |
| --- | --- |
|  | The System Operations Charge shall apply to the Settlement Interval absolute value of the following flow of energy by resource:  Non Dynamic System Resource Deemed Delivered Energy, Dynamic System Resource Deemed Delivered Energy, Metered Generation Quantities, Metered Default LAP Load Quantities, Metered Custom LAP Load Quantities, Metered Pumping Energy. |
|  | The rate for the System Operations RTD Charge will be calculated by dividing the  annual EDAM Administrative Charge revenue requirement allocated to this service category by forecast annual gross absolute value of MWh of real-time energy flows on the ISO Controlled Grid, net of amounts excluded pursuant to Part E of the Schedule F. |
|  | Each component rate of the EDAM Administrative Charge will be adjusted automatically on a quarterly basis, up or down, so that rates reflect the annual revenue requirement as posted on the CAISO Website. (Fact) |
|  | This Charge Code shall provide an output on a daily basis. |
|  | This Charge Code shall be billed in accordance to CAISO Payments Calendar. |
|  | This Charge Code shall apply to the EDAM BAAs and the CISO BAA. The WEIM GMC System Operations Component will settle at the System Operations Real-Time Dispatch rate in charge code 4564. |
|  | A settlement details file shall provide details for each daily settlement amount. |
| 4.0 | For adjustments to the Charge Code that cannot be accomplished by correction of upstream data inputs, recalculation or operator override, Pass Through Bill Charge adjustment shall be applied. |
| 5.0 | Scheduling Coordinators that have verified long-term contracts which limit the Scheduling Coordinators to pass on increased EDAM Administrative Charge Costs shall be exempted for System Operations Charge until the first opportunity to renegotiate the contract or until the contract expires. |
| 6.0 | Early participants within the EDAM are eligible to receive the EDAM Transitional Load Ramp-In mechanism, which applies to the Day-Ahead Load Schedule of the EDAM BAA. This mechanism reduces the EDAM Administrative Charges assessed to EDAM Entities with load with the following annual discounts:  First implementation year of EDAM: 95% discount  Second implementation year of EDAM: 75% discount  Third implementation year of EDAM: 50% discount  Fourth implementation year of EDAM: 25% discount  Fifth implementation year of EDAM: 0% discount |
| 6.0 | This Charge Code will not apply to participating and non-participating resources within the EIM Balancing Authority Area. |

## Predecessor Charge Codes

| Charge Code/ Pre-Calc Name |
| --- |
| Real Time Energy Pre-Calculation |
| CC 4560 – GMC Market Services |

## Successor Charge Codes

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

## Inputs - External Systems

| Row # | Variable Name | Description |
| --- | --- | --- |
| 1 | CAISOGMCSystemOperationsRTDChargeRate md | FERC-approved GMC System Operations RTD charge rate. The input data is available from the SaMC standing data based on applicable start and end dates. |
| 2 | BAEDAMTransitionalLoadRampFactor BQ’md | For EDAM Entities with load, a ramp-in ratio based on load for early participants in the EDAM. This mechanism reduces the EDAM Administrative Charges assessed EDAM Entities with load with the following annual discounts:  First participation year in EDAM: 95% discount  Second participation year in EDAM: 75% discount  Third participation year in EDAM: 50% discount  Fourth participation year in EDAM: 25% discount  Fifth participation year in EDAM: 0% discount |
| 2 | BAResourceGrandfatheringProvisionQty BrtQ’md | For SCs within the CISO BAA, Grandfathering Provision Quantity by Business Associate B, Resource r, Resource type t of Trading Month m and Trading Day d.  Where Q’ = ‘CISO’ |
| 2 | BABAAResourceGrandfatheringProvisionQty BrtQ’md | For SCs outside of the CISO BAA, Grandfathering Provision Quantity by Business Associate B, Resource r, Resource type t of Trading Month m and Trading Day d.  Where Q’ <> ‘CISO’ |
| 3 | PTBChargeAdjustmentSystemOperationsGMCSettlementAmount BQ’Jmd | PTB adjustment variable for this Charge Code, with amount per SC (in $). The input applies to Business Associate B, Trading Month m and Trading Day d. |
| 4 | GMCSystemOperationsExclusionFlag B | Flag indicating TOR exception from Charge Code, where exception is represented by “1”. |
| 5 | BAEDAMEntityFlag BQ’md | Flag indicating an EIM entity that specifically participates in EDAM. |

## Inputs - Predecessor Charge Codes or Pre-calculations

| Row # | Variable Name | Predecessor Charge Code/ Pre-calc Configuration / Description |
| --- | --- | --- |
| 1 | SettlementIntervalMeteredEnergy BrtQ’uT’I’M’F’S’mdhcif | Settlement Interval metered energy for Resource r . (MWh) |
| 2 | BAResSettlementIntervalTORFinalBalancedQuantity Brtmdhcif | Settlement Interval TOR Final Balanced Quantity for Business Associate B, Resource r. (MWh) |

## CAISO Formula

The daily settlement System Operations Grid Management Charge by each Business Associate is derived according to the formulation below.

### BATotalDaySystemOperationsAmount BQ’md = BADaySystemOperationsAmount BQ’md + BADayBAASystemOperationsAmount BQ’md

### BADaySystemOperationsAmount BQ’md = BADaySystemOperationsQuantity BQ’md \* CAISOGMCSystemOperationsRTDChargeRate md

### BADayBAASystemOperationsAmount BQ’md = (1 - BAEDAMTransitionalLoadRampFactor BQ’md) \* (BADayBAASystemOperationsQuantity BQ’md \* CAISOGMCSystemOperationsRTDChargeRate md)

### BADaySystemOperationsQuantity BQ’md =

### Sum (r, t)

### {IF

### GMCSystemOperationsExclusionFlag B = 1

### THEN

### 0

### ELSE

### (BADailyResSystemOperDeliveredEnergyLessGFQuantity BrtQ’md )}

### BADayBAASystemOperationsQuantity BQ’md =

### Sum (r, t)

### {IF

### GMCSystemOperationsExclusionFlag B = 1

### THEN

### 0

### ELSE

### (BADailyBAAResSystemOperDeliveredEnergyLessGFQuantity BrtQ’md )}

### BADailyResSystemOperDeliveredEnergyLessGFQuantity BrtQ’md = max (0, (BADailyResSystemOperationsDeliveredEnergyQuantity BrtQ’md - BAResourceGrandfatheringProvisionQty BrtQ’md))

### BADailyBAAResSystemOperDeliveredEnergyLessGFQuantity BrtQ’md = max (0, (BADailyBAAResSystemOperationsDeliveredEnergyQuantity BrtQ’md - BABAAResourceGrandfatheringProvisionQty BrtQ’md))

### BADailyResSystemOperationsDeliveredEnergyQuantity BrtQ’md = BAHourlyResSystemOperationsDeliveredEnergyQuantity BrtQ’mdh

### BADailyBAAResSystemOperationsDeliveredEnergyQuantity BrtQ’md = Sum (h) {BAHourlyBAAResSystemOperationsDeliveredEnergyQuantity BrtQ’mdh }

### BAHourlyResSystemOperationsDeliveredEnergyQuantity BrtQ’mdh = Sum (u, T’, I’, M’, F’, S’, c, i, f) {BASettlementIntervalResSystemOperationsDeliveredEnergyQuantity BrtQ’uT’I’M’F’S’mdhcif }

### BAHourlyBAAResSystemOperationsDeliveredEnergyQuantity BrtQ’mdh = Sum (u, T’, I’, M’, F’, S’, c, i, f) {BASettlementIntervalBAAResSystemOperationsDeliveredEnergyQuantity BrtQ’uT’I’M’F’S’mdhcif }

### BASettlementIntervalResSystemOperationsDeliveredEnergyQuantity BrtQ’uT’I’M’F’S’mdhcif = ABS (SettlementIntervalMeteredEnergy BrtQ’uT’I’M’F’S’mdhcif - BAResSettlementIntervalTORFinalBalancedQuantity Brtmdhcif )

Where Balancing Authority Area (Q’) =’CISO’

### BASettlementIntervalBAAResSystemOperationsDeliveredEnergyQuantity BrtQ’uT’I’M’F’S’mdhcif =

### {IF BAEDAMEntityFlag BQ’md = 1

### THEN

### ABS (SettlementIntervalMeteredEnergy BrtQ’uT’I’M’F’S’mdhcif - BAResSettlementIntervalTORFinalBalancedQuantity Brtmdhcif )

### ELSE

### 0

END IF}

Where Balancing Authority Area (Q’) <> ’CISO’

## Outputs

| Output Req ID | Name | Description |
| --- | --- | --- |
|  | In addition to any outputs listed below, all inputs shall be included as outputs. | All inputs |
| 1 | BATotalDaySystemOperationsAmount BQ’md | Total Daily System Operations Delivered Energy Amount for Business Associate B of Trading Month m, and Trading Day d. ($) |
| 2 | BADaySystemOperationsAmount BQ’md | For SCs in the CISO BAA, the Daily System Operations Delivered Energy Amount for Business Associate B of Trading Month m, and Trading Day d (MWh) |
| 3 | BADayBAASystemOperationsAmount BQ’md | For non-CISO, EDAM BAAs, the Daily System Operations Delivered Energy Amount for Business Associate B of Trading Month m, and Trading Day d (MWh) |
| 4 | BADaySystemOperationsQuantity BQ’md | For SCs in the CISO BAA, the Daily System Operations Delivered Energy Quantity for Business Associate B of Trading Month m, and Trading Day. (MWh) |
| 5 | BADayBAASystemOperationsQuantity BQ’md | For non-CISO, EDAM BAAs, the Daily System Operations Delivered Energy Quantity for Business Associate B of Trading Month m, and Trading Day. (MWh) |
| 6 | BADailyResSystemOperDeliveredEnergyLessGFQuantity BrtQ’md | For SCs in the CISO BAA, the Daily System Operations Delivered Energy less Grandfather Provision Energy for Business Associate B, Resource r, Resource Type t of Trading Month m and Trading Day d. (MWh) |
| 7 | BADailyBAAResSystemOperDeliveredEnergyLessGFQuantity BrtQ’md | For non-CISO, EDAM BAAs, the Daily System Operations Delivered Energy less Grandfather Provision Energy for Business Associate B, Resource r, Resource Type t of Trading Month m and Trading Day d. (MWh) |
| 8 | BADailyResSystemOperationsDeliveredEnergyQuantity BrtQ’md | For SCs in the CISO BAA, the Daily System Operations Delivered Energy for Business Associate B, Resource r, Resource Type t of Trading Month m and Trading Day d. (MWh) |
| 9 | BADailyBAAResSystemOperationsDeliveredEnergyQuantity BrtQ’md | For non-CISO, EDAM BAAs, the Daily System Operations Delivered Energy for Business Associate B, Resource r, Resource Type t of Trading Month m and Trading Day d. (MWh) |
| 10 | BAHourlyResSystemOperationsDeliveredEnergyQuantity BrtQ’mdh | For SCs in the CISO BAA, the Hourly System Operations Delivered Energy for Business Associate B, Resource r, Resource Type t of Trading Month m, Trading Day d, and Trading Hour h. (MWh) |
| 11 | BAHourlyBAAResSystemOperationsDeliveredEnergyQuantity BrtQ’mdh | For non-CISO, EDAM BAAs, the Hourly System Operations Delivered Energy for Business Associate B, Resource r, Resource Type t of Trading Month m, Trading Day d, and Trading Hour h. (MWh) |
| 12 | BASettlementIntervalResSystemOperationsDeliveredEnergyQuantity BrtQ’uT’I’M’F’S’mdhcif | For SCs in the CISO BAA, the Settlement Interval System Operations Delivered Energy for Business Associate B, Resource r. (MWh) |
| 13 | BASettlementIntervalBAAResSystemOperationsDeliveredEnergyQuantity BrtQ’uT’I’M’F’S’mdhcif | For non-CISO, EDAM BAAs, the Settlement Interval System Operations Delivered Energy for Business Associate B, Resource r. (MWh) |

# Charge Code Effective Date

| Charge Code/  Pre-calc Name | Document Version | Effective Start Date | Effective End Date | Version Update Type |
| --- | --- | --- | --- | --- |
| 4567 GMC System Operations Real-Time Dispatch Charge Code | 5.0 | 1/1/2026 | Open | Initial Version |