Settlements & Billing

Forecasting Service Fee

CC 701

Version 5.6

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 4

3.5 Inputs – Predecessor Charge Codes or Pre-calculations 6

3.6 CAISO Formula 6

3.7 Outputs 8

4. Charge Code Effective Dates 10

# 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

For purposes of participating in the CAISO Markets, Eligible Intermittent Resources have the option to use their own forecast of their resources output or a forecast of their resources as provided by CAISO. Variable Energy Resource that are external to the CAISO Balancing Authority Area may also elect the option to use their own forecast of their resources output or a forecast of their resources as provided by CAISO. The CAISO forecast will be provided by a third-party Independent Forecast Provider. The CAISO forecast will be based upon meteorological and outage data of the resource. All Eligible Intermittent Resources, including Participating Intermittent Resources, are subject to the Forecast Fee, regardless of whether the resource opts to use the CAISO forecast and rely on their own forecast. Variable Energy Resources located outside of the CAISO Balancing Authority Area that elects to use the forecast of their output as provided by CAISO are subject to the Forecast Fee. Variable Energy Resource located outside of the CAISO Balancing Authority Area that elects to use their own forecast of the resource output are not subject to the Forecast Fee.

Charge Code 701- Forecasting Service Fee charges Business Associates for each Eligible Intermittent Resources for the daily Energy generation forecasts provided by an external Forecast Service Provider. Charge Code 701- Forecasting Service Fee charges Business Associates for each Variable Energy Resource that opts to use the daily Energy generation forecasts provided by an external Forecast Service Provider. All BAs for Eligible Intermittent Resources and Applicable Variable Energy Resource are charged a FERC approved forecasted service rate per MWh based on actual metered Energy output.

## Description

The Forecasting Service Fee is calculated by the Settlements system on a monthly basis at the resource specific level and summed by Business Associate for the Settlement Statement and Invoicing. The Forecasting Service Fee is the product of the forecasted service rate is approved by FERC and monthly total actual metered Energy value. The Forecasting Service Fee shall apply to all Eligible Intermittent Resources and external Variable Energy Resource.

# Charge Code Requirements

## Business Rules

| Bus Req ID | Business Rule |
| --- | --- |
| 1.0 | Forecasting Service Fee is a charge to Business Associates for daily energy generation forecasts for Eligible Intermittent resources. |
| 2.0 | Forecasting Service Fee is a charge to Business Associates for daily energy generation forecasts for Variable Energy Resource and Hybrid Resource Variable Energy Components who opt to use CAISO Forecast. |
| 2.1 | Forecasting Service Fee is a charge to Business Associates for daily energy generation forecasts for NGR Variable Energy Resource who opt to use CAISO Forecast. |
| 3.0 | Business Associates are charged a FERC approved forecasted service rate per MWh based on actual metered Energy for resources defined as Eligible Intermittent Resources. |
| 4.0 | Forecasting Service Fee charges are calculated monthly and appear on the market Invoice. |
| 5.0 | 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 |
| --- |
| Real Time Energy Pre-calculation |

## Successor Charge Codes

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

## Inputs – External Systems

|  |  |  |
| --- | --- | --- |
| Row # | Variable Name | Description |
| 1 | CAISOForecastingServiceFeeRate | FERC approved forecasted service rate. This is standing data. (Currently $0.10/MWh) |
| 2 | PTBChargeAdjustmentForecastingServiceFeeSettlementAmount BJm | PTB Charge Adjustment Forecasting Service Fee Settlement Amount by BA B PTB ID J and Trading Month m. |
| 3 | EligibleIntermittentFlag Brtmd | Eligible Intermittent Resource Flag by Business Associate B per Resource r for Trade Day d. ‘Y’ identifies certified PIR resource, ‘P’ identifies PIR resource certified for Protective Measures, ‘I’ identifies PIR resource certified for Protective Measures with a Inter SC Trade clause, ‘M’ identifies the resource is not participating in the PIR program, but Meteorological (telemetry) data may be collected, ‘Q’ identifies the resource is not fully certified in the PIR program, but is Qualified for evaluation, and all nulls will be identified by ‘N’. Where ‘Y’, ‘P’, ‘I’, and ‘Q’ is represented by value of “1” and ‘M’, ‘N’, or Null is represented by value of “0”  |
| 4 | ForecastFlag Brtmd | Forecast Submitter Flag by Resource r. ‘SC’ identifies resources that have opted and are certified to submit their own forecast. ‘ISO’ identifies resources that have opted or are required to use CAISO Forecast.‘SC’ = 0 and ‘ISO’ = 1 (Masterfile) |
| 5 | VERFLAG Brtmd | Variable Energy Resource Flag for Resource r. ‘Y’ identifies resource which have been certified as VERs and represented as value of “1” (Masterfile). |
| 6 | NGRVERFlag rc”md | Variable Energy Resource Flag for Resource r, and the resource is also an NGR. ‘Y’ identifies resources which have been certified as NGR VERs, and is represented as value of “1” (Masterfile). |
| 7 | BAResHybridDispatchIntervalMeteredQty BrtQ’F’S’c"mdhcif | Metered quantity (in MWh) of hybrid resources reporting Settlement Quality Metered Data to the CAISO. |
| 8 | HybridForecastFlag Brtc”md | Forecast Submitter Flag by Resource r and component c”. ‘SC’ identifies resource components that have opted and are certified to submit their own forecast. ‘ISO’ identifies resource components that have opted or are required to use CAISO Forecast.‘ISO’ = 1 (Masterfile) |
| 9 | ResourceComponentHybridTieGenPISOATelemetryQty rc”mdhcif | Derived only for: 1) Hybrid Tie Gen Fact: Always CISO specificThis bill determinant is not reportable to SCs |
| 10 | BA5mComponentTieGenNonShapedFlagrc”mdhcif | Flag that indicates if a Hybrid TG resource is shaped or not, with 1 indicating not shaped, and 0 otherwise. |

## Inputs – Predecessor Charge Codes or Pre-calculations

|  |  |  |
| --- | --- | --- |
| Row # | Variable Name | Predecessor Charge Code/Pre-calc Configuration |
| 1 | SettlementIntervalMeteredEnergy BrtuT’I’Q’M’F’S’mdhcif | Real Time Energy Pre-calculation |
| 2 | BA5mResourceRegularTieGenPISOATelemetryZeroRevisedQuantity rmdhcif | System Resource Deemed Delivered Energy Quantity Pre-calculation |

## CAISO Formula

* + 1. BAMonthlyResourceForecastingServiceFeeSettlementAmount Brtm=

BAMonthlyResourceTotalForecastFeeMeteredGenerationQuantity Brtm **\*** CAISOForecastingServiceFeeRate

* + 1. Where,

BAMonthlyResourceTotalForecastFeeMeteredGenerationQuantity Brtm=  (BAHourlyResourceVERMeteredGenerationQuantity Brtmdh + BAHourlyResourceEIMVERMeteredGenerationQuantity Brtmdh+ BAHourlyResourceEIRMeteredGenerationQuantity Brtmdh +

BAHourlyResourceHybridMeteredGenerationQuantity Brtmdh)

* + 1. Where Resource type = ’GEN’ and Balancing Authority Area = ‘CISO’

IF

EligibleIntermittentFlag Brtmd = 1

THEN

BAHourlyResourceEIRMeteredGenerationQuantity Brtmdh=** HourlyMeteredGeneration BrtQ’mdh

ELSE

BAHourlyResourceEIRMeteredGenerationQuantity Brtmdh= 0

* + 1. Where Resource type = ’GEN’ and Balancing Authority Area <> ‘CISO’

IF

EligibleIntermittentFlag Brtmd = 1 and ForecastFlag Brtmd = 1

THEN

BAHourlyResourceEIMVERMeteredGenerationQuantity Brtmdh=**HourlyMeteredGeneration BrtQ’mdh

ELSE

BAHourlyResourceEIMVERMeteredGenerationQuantity Brtmdh= 0

* + 1. Where Resource Type = ‘ITIE’

IF

VERFLAG Brtmd = 1 and ForecastFlag Brtmd = 1

THEN

BAHourlyResourceVERMeteredGenerationQuantity Brtmdh= HourlyMeteredGeneration BrtQ’mdh

ELSE

BAHourlyResourceVERMeteredGenerationQuantity Brtmdh= 0

* + 1. Where Entity Component Type = “GEN” or “TG”

HourlyMeteredGenerationBrtQ’mdh=

*SUM (u,T’,I’,M’,F’,S’,c,i,f)* (1- NGRVERFlag rmdh )\*SettlementIntervalMeteredEnergy BrtuT’I’Q’M’F’S’mdhcif

Note: BAMonthlyForecastingServiceFeeSettlementAmount Bm is calculated as part of the reporting structure and will not be configured as individual charge type.

* + 1. NGRVERFlag rmdh = *SUM(c”)* NGRVERFlag rc”md

Hybrid Resources

* + 1. Where Entity Component Type = “HYBD”

IF

(NGRVERFlag rc”md = 1 and HybridForecastFlag Brtc”md = 1)

THEN

BAHourlyResourceHybridMeteredGenerationQuantity Brtmdh=

*SUM(Q',F',S',c",c,i,f)* BAResHybridDispatchIntervalMeteredQty BrtQ’F’S’c"mdhcif + BA5mComponentHybridTieGenQuantity BrtQ’F’S’c”mdhcif

ELSE

BAHourlyResourceHybridMeteredGenerationQuantity Brtmdh= 0

* + - 1. Where Resource Type = “ITIE”

SUM *(u,T’,I’,M’)*

BA5mComponentHybridTieGenQuantity BrtQ’F’S’c”mdhcif =

ComponentHybridTieGenAllocationFactor rc”mdhif\*SettlementIntervalMeteredEnergy BrtuT’I’Q’M’F’S’mdhcif

* + - 1. ComponentHybridTieGenAllocationFactor rc”mdhif =

IF

BA5mComponentTieGenNonShapedFlag rc”mdhif =1

THEN

ResourceComponentHybridTieGenPISOATelemetryQty rc”mdhcif /

SettlementIntervalMeteredRevisedEnergy rmdhcif

ELSE

IF

BA5mResourceRegularTieGenPISOATelemetryZeroRevisedQuantity rmdhcif <> 0

THEN

ResourceComponentHybridTieGenPISOATelemetryQty rc”mdhcif / BA5mResourceRegularTieGenPISOATelemetryZeroRevisedQuantity rmdhcif

ELSE

 0

* + - 1. SettlementIntervalMeteredRevisedEnergy rmdhcif =

SUM(B,t,u,T’,I’,Q’,M’,F’,S’) SettlementIntervalMeteredEnergy BrtuT’I’Q’M’F’S’mdhcif

## Outputs

| OutputID | Name | Description |
| --- | --- | --- |
|  | In addition to any outputs listed below, all inputs shall be included as outputs. | All inputs.  |
|  | BAMonthlyResourceForecastingServiceFeeSettlementAmount Brtm | The Forecasting Service Fee charge amount attributed to Business Associate B for Resource ID r. |
|  | BAMonthlyResourceTotalForecastFeeMeteredGenerationQuantity Brtm | Total metered generation quantity for Eligible Intermittent resource r and Business Associate B. |
|  | BAHourlyResourceEIRMeteredGenerationQuantity Brtmdh  | The total metered quantity for EIR Generation resource r. (MWh) |
|  | HourlyMeteredGenerationBrtQ’mdh | The Total Hourly Metered Generation quantity of Business Associate B, resource r. |
|  | BAHourlyResourceVERMeteredGenerationQuantity Brtmdh | The total metered quantity for external Variable Energy Resource r who have opted to use CAISO forecast. (MWh) |
|  | BAHourlyResourceHybridMeteredGenerationQuantity Brtmdh | The total metered quantity for Hybrid Resource r, for owners who opted to use CAISO forecast. (MWh) |
|  | SettlementHybridIntervalMeteredEnergy *BrtQ'F’S’mdhcif* | Settlement Interval metered energy for Resource r. (MWh) |
|  | BAHourlyResourceEIMVERMeteredGenerationQuantity Brtmdh | The total metered quantity for EIM VER Generation resource r. (MWh) |
|  | NGRVERFlag rmdh  | This is an intermediate charge type to drop the c” attribute. |
|  | ComponentHybridTieGenAllocationFactor rc”mdhif | For each 5-minute settlement interval of a given trade hour where the E-Tag was not curtailed and there was flow on the tag, system shall calculate an LMC Allocation Factor as the interval’s PI 5-minute telemetry divided by the sum of telemetry values for all twelve intervals of the trade hour. Values will only be calculated for Tie Gen resources defined as “Regular Tie Gen” and Dynamic TNGR resource type and values will not be performed for EIM Dynamic System Resources. |
|  | BA5mComponentHybridTieGenQuantity BrtQ’F’S’c”mdhcif | For each 5-minute settlement interval of a given trade hour where the E-Tag was not curtailed and there was flow on the tag, system shall compute Logical Meter Value as the interval’s LMC Allocation Factor multiplied by the trade hour’s Final Tagged Quantity Values will only be calculated for Tie Gen resources defined as a “Regular Tie Gen” and Dynamic TNGR resource type and values will not be performed for EIM Dynamic System Resources |
|  | SettlementIntervalMeteredRevisedEnergy rmdhcif | Intermediate Charge Type that exists to drop attributes |

# Charge Code Effective Dates

| Charge Code/Pre-calc Name | Document Version | Effective Start Date | Effective End Date | Version Update Type |
| --- | --- | --- | --- | --- |
| CC 701 – Forecasting Service Fee | 5.0 | 04/01/09 | 6/30/2010 | Documentation Edits Only |
| CC 701 – Forecasting Service Fee | 5.0a | 07/01/2010 | 3/31/2009 | Documentation Edits Only |
| CC 701 – Forecasting Service Fee | 5.1 | 4/1/09 | 3/31/2009 | Configuration Impacted |
| CC 701 – Forecasting Service Fee | 5.1a | 4/1/09 | 4/30/14 | Documentation Edits Only |
| CC 701 – Forecasting Service Fee | 5.2 | 5/1/14 | 9/30/14 | Configuration Impacted |
| CC 701 – Forecasting Service Fee | 5.3 | 10/1/14 | 11/30/20 | Configuration Impacted |
| CC 701 – Forecasting Service Fee | 5.4 | 12/1/20 | 1/31/23 | Configuration Impacted |
| CC 701 – Forecasting Service Fee | 5.5 | 2/1/23 | 5/31/23 | Configuration Impacted |
| CC 701 – Forecasting Service Fee | 5.6 | 6/1/23 | Open | Configuration Impacted |