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 Version 5.2

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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

The Capacity Procurement Mechanism (CPM) is the backbone of the ISO backstop procurement authority. It ensures that the ISO will have sufficient capacity available to maintain reliable operation of the grid. The ISO shall have the authority to designate Eligible Capacity to provide CPM Capacity services under the CPM to address the following circumstances:

* + Insufficient Local Capacity Area Resources in an annual Resource Adequacy Plan
	+ Insufficient Local Capacity Area Resources in a monthly Resource Adequacy Plan
	+ Collective deficiency in Local Capacity Area Resources
	+ Insufficient Resource Adequacy Resources in an LSE’s annual or monthly Resource Adequacy Plan
	+ A CPM Significant Event
	+ A reliability or operational need for an Exceptional Dispatch CPM
	+ A cumulative deficiency in the total Flexible RA Capacity included in the annual or monthly Flexible RA Capacity Plans, or in a Flexible Capacity Category in the monthly Flexible RA Capacity Plans

A resource is designated under CPM through a competitive solicitation process. Specifically the ISO would:

* Secure backstop capacity under the CPM through a competitive solicitation process in which market participants would submit capacity bids.
* Implement a market power mitigation procedure consisting of an offer cap and resource-specific market power mitigation measures.
* Pay a resource-specific offer price to the resource designated under the CPM competitive solicitation process.

For the CPM Allocation, ISO Tariff Sections 43.8.1 through 43.8.8 establishes the method for allocating the costs of CPM capacity payments for each category of CPM designation. The allocation method for each CPM category is as follows:

* For insufficient Local Capacity Area Resources in an annual RA Plan, the CPM costs are allocated pro rata to each Scheduling Coordinator for a deficient LSE based on the ratio of that LSE’s deficiency to the deficiency within the TAC area, based on the deficiency specific to and considered for an Annual RA Plan.
* For insufficient Local Capacity Area Resources in a monthly RA Plan, the CPM costs are allocated pro rata to each Scheduling Coordinator for a deficient LSE based on the ratio of that LSE’s deficiency to the deficiency within the TAC area, based on the deficiency specific to and considered for the Monthly RA Plan. Note that this is distinct and separate from any monthly breakdown coming from an Annual RA Plan.
* For a collective deficiency of Local Capacity Area Resources in an annual RA Plan, the CPM costs are allocated to all Scheduling Coordinators of LSEs serving load in the TAC area in which the deficient local capacity area was located. The allocation is based on Scheduling Coordinators’ proportionate share of Load in such TAC Area(s) as determined in accordance with Tariff Section 40.3.2, excluding Scheduling Coordinators for LSEs that procured additional capacity in accordance with Section 43A.2.1.2 on a proportionate basis, to the extent of their additional procurement.
* For insufficient RA resources to comply with an LSE’s annual and monthly demand and reserve margin requirements, the CPM cost allocation is made pro rata to each LSE based on the proportion of its deficiency to the aggregate deficiency.
* For a significant event, or Exceptional Dispatch CPM, the costs are allocated to all Scheduling Coordinators for LSEs that serve load in the TAC area where the need for the designation arose, based on each Scheduling Coordinator’s percentage of actual load in the TAC area to total load in that area.
* For a cumulative deficiency in the total Flexible RA Capacity included in the annual or monthly Flexible RA Capacity Plans, or in a Flexible Capacity Category in the monthly Flexible RA Capacity Plans, the CPM cost allocation is made pro rata to each LSE based on the proportion of its deficiency to the aggregate deficiency

## Description

The 1 () provides for the settlement of CPM Capacity services under the CPM. This charge code outputs for each Scheduling Coordinator the total dollar amount of the payment owed to the Scheduling Coordinator for the CPM capacity that the SC sold to the ISO during the Trading Month. The CPM total dollar amount includes the designations for that SC, all resources designated to supply the CPM capacity, and all Trading Days of the Trading Month for which the capacity is supplied.

# Charge Code Requirements

## Business Rules

| Bus Req ID | Business Rule |
| --- | --- |
| 1.0 | The configuration shall output the total settlement amount for the CPM capacity procured from the SC. |
| 2.0 | This Charge Code shall provide an output on a monthly basis. |
| 2.1 | This Charge Code shall be billed monthly. |
| 3.0 | A settlement details file shall provide details for each monthly settlement amount. |
| 4.0 | Scheduling Coordinators representing resources receiving payment for a CPM designation shall receive a monthly CPM Capacity Payment for each month of CPM designation equal to the product of the kW-month of designated CPM Capacity and the CPM Capacity price per kW-month (based on the capacity’s CSP bid, the CPM Soft Offer Cap, or the resource-specific CPM rate authorized by FERC, as applicable). |
| 5.0 | The CPM Capacity Payment shall receive a deduction pro-rated for days the capacity was Committed RA Capacity other than CPM Capacity. The deduction shall be made on the CPM Capacity for days the capacity was Committed RA Capacity other than CPM Capacity. |
| 6.0 | CPM Capacity designated to respond to a CPM Significant Event or an Exceptional Dispatch CPM shall receive payment based proportionately on the actual number of days the resource was designated as CPM Capacity during the month to the total number of days in the month. |
| 7.0 | CPM designations due to Insufficient Local Capacity Area Resources in a monthly RA Plan, coming natively from Monthly RA Plan and not as a monthly breakdown of an Annual RA Plan shall have CPM Type o’ = LOCAL.  |
| 7.1 | CPM designations, under the supply resource, due to Insufficient Local Capacity Area Resources in an annual RA Plan and those due to annual Collective Deficiency in Local Capacity Area Resources in an annual RA Plan shall both be referred to by using CPM Type o’ = ANCOL. |
|  |  |
|  |  |
| 7.2 | For the entire Year 2018, unless changed earlier within year 2018, Annual CPM for year 2018 will all be designated under the supply resource as COLDEF, but will be cost allocated separately into ANLOCAL and COLDEF, due to the differing cost allocation basis for Annual individual deficiency coming from an Annual RA Plan versus Collective Deficiency cost allocation basis. The total MW designated for supply under COLDEF shall equal the total MW of ANLOCAL and COLDEF under cost allocation, and further the total supply cost under COLDEF shall equal the total cost allocation from combined ANLOCAL and COLDEF. |
| 7.3 | After Year 2018, Annual CPM will be designated under the supply resource as ANCOL to cover both annual local deficiency and annual collective deficiency. For allocation purposes, this supply designation will be split into either ANLOCAL or COLDEF, depending on the need. Cost allocation for ANLOCAL shall respect the cost allocation basis for annual individual deficiency coming from an annual RA Plan, and cost allocation for COLDEF shall respect the cost allocation basis for annual collective deficiency from an annual RA Plan. |
| 8.0 | CPM designations due to Insufficient RA Resources in an LSE’s monthly RA Plan shall have CPM Type o’ = CADEF. |
| 9.0 | CPM designations due to Insufficient RA Resources in an LSE’s annual RA Plan shall have CPM Type o’=ANCADEF. |
| 10.0 | CPM designations due to a Significant Event shall have CPM Type o’ = SIGEVT. |
| 11.0 | CPM designations due to a reliability or operational need for an Exceptional Dispatch CPM shall have CPM Type o’ = ED. |
| 12.0 | Not used.  |
| 13.0 | CPM designations due to a cumulative deficiency in the total Flexible RA Capacity included in a monthly Flexible RA Capacity Plan, or in a Flexible Capacity Category in the monthly Flexible RA Capacity Plans, shall have CPM Type o’ = FRDEF. |
| 13.1 | CPM designations due to a cumulative deficiency in the total Flexible RA Capacity included in the annual Flexible RA Capacity Plans, or in a Flexible Capacity Category in the monthly Flexible RA Capacity Plans, shall have CPM Type o’ = ANFRDEF. |
| 14.0 | 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.Where the ISO issues a 12-month CPM designation at the soft offer cap within a single RA compliance year, the ISO will use Pass Thru Bill to adjust the compensation to ensure that the ISO does not exceed the annual cap of $75.68/kW-year. This adjustment will be the sum total of adjustments from each trade month, and be applied on the December Monthly Settlement Statement for the given year. |

## Predecessor Charge Codes

| Charge Code/ Pre-Calc Name |
| --- |
| Metered Demand Over TAC Area And CPM Pre-calculation |

## Successor Charge Codes

| Charge Code/ Pre-calc Name |
| --- |
| CC 7896 – Monthly CPM Allocation |

## Inputs - External Systems

| Row # | Variable Name | Description |
| --- | --- | --- |
| 1.0 | PTBBAResourceCPMSettlementAdjustmentAmount BrtJo’UU’k’m | PTB adjustment variable for the currently configured Charge Code, amount per Business Associate B, resource r, resource type t, PTB ID J, CPM Type o’, during Settlement Billing Period that extends from Bill Period Start Date U’ to Bill Period End Date U for Trading month m ($). |
| 2.0 | PTBBACPMSettlementAdjustmentAmount BJo’m | PTB adjustment variable for the currently configured Charge Code, amount per Business Associate B, PTB ID J, CPM Type o’ for Trading month m ($).Where the ISO issues a 12-month CPM designation at the soft offer cap within a single RA compliance year, the ISO will utilize this Pass Thru Bill to adjust the compensation to ensure that the ISO does not exceed the annual cap of $75.68/kW-year. This adjustment will be the sum total of adjustments from each trade month, and be applied on the December Monthly Settlement Statement for the given year. |

## Inputs - Predecessor Charge Codes or Pre-calculations

| Row # | Variable Name | Predecessor Charge Code/ Pre-calc Configuration / Description |
| --- | --- | --- |
| 1.0 | BAMonthlyResourceCPMCapacityHourlyAveragedDesignatedQuantity Brto’UU’k’m | Designated CPM capacity (in MW) with deduction pro-rated for when the capacity was Comitted RA Capacity other than CPM Capacity for Business Associate B, resource r, resource type t, by CPM Type o’ during Settlement Billing Period that extends from Bill Period Start Date U’ for CPM ID k’ to Bill Period End Date U for Trading Month m.Metered Demand Over TAC Area And CPM Pre-calculation. |
| 2.0 | BAMonthlyResourceCPMCapacityPaymentPrice Brto’k’m  | Monthly CPM Capacity Price by resource. Metered Demand Over TAC Area And CPM Pre-calculation. |

## CAISO Formula

The Monthly settlement of CPM for each Business Associate is derived according to the formulation below.

### BAMonthlyTotalCPMSigEventCapacityAssessmentAmount Bo’UU’m =

BAMonthlyTotalCPMSettlementAmount Bo’UU’m

WHERE o’ = SIGEVT

### BAMonthlyTotalCPMLocalCapacityAssessmentAmount Bo’UU’m =

BAMonthlyTotalCPMSettlementAmount Bo’UU’m

WHERE o’ = LOCAL

### BAMonthlyTotalCPMAnnualLocalAndCollectiveCapacityAssessmentAmount Bo’UU’m = BAMonthlyTotalCPMSettlementAmount Bo’UU’m

WHERE o’ = ANCOL

### BAMonthlyTotalCPMExcepDispCapacityAssessmentAmount Bo’UU’m =

BAMonthlyTotalCPMSettlementAmount Bo’UU’m

WHERE o’ = ED

### BAMonthlyTotalCPMInsufRACapacityAssessmentAmount Bo’UU’m =

BAMonthlyTotalCPMSettlementAmount Bo’UU’m

WHERE o’ = CADEF

### BAMonthlyTotalCPMAnnualInsufRACapacityAssessmentAmount Bo’UU’m = BAMonthlyTotalCPMSettlementAmount Bo’UU’m

WHERE o’ = ANCADEF

### BAMonthlyTotalCPMFlexibleRACapacityAssessmentAmount Bo’UU’m =

BAMonthlyTotalCPMSettlementAmount Bo’UU’m

WHERE o’ = FRDEF

### BAMonthlyTotalCPMAnnualFlexibleRACapacityAssessmentAmount Bo’UU’m = BAMonthlyTotalCPMSettlementAmount Bo’UU’m

WHERE o’ = ANFRDEF

### CAISOMonthlyCPMSettlementAmount m =

 CAISOMonthlyTotalCPMSettlementAmount o’UU’m

### CAISOMonthlyTotalCPMSettlementAmount o’UU’m =

 BAMonthlyTotalCPMSettlementAmount Bo’UU’m

### BAMonthlyTotalCPMSettlementAmount Bo’UU’m = BAMonthlyResourceCPMSettlementAmount Brto’UU’k’m

### BAMonthlyResourceCPMSettlementAmount Brto’UU’k’m =

 (-1) \* BAMonthlyResourceCPMCapacityHourlyAveragedDesignatedQuantity Brto’UU’k’m \* BAMonthlyResourceCPMCapacityPaymentPrice Brto’k’m + BAMonthlyResourceCPMSettlementAdjustmentAmount Brto’UU’k’m

### BAMonthlyResourceCPMSettlementAdjustmentAmount Brto’UU’k’m =

 PTBBAResourceCPMSettlementAdjustmentAmount BrtJo’UU’k’m

*Monthly CPM Settlement Reporting Bill Determinants*

### BAMonthlyResourceCPMSettlementReportingAmount Brto’UU’m =

BAMonthlyResourceCPMSettlementAmount Brto’UU’k’m

### BAMonthlyResourceCPMSettlementReportingQuantity Brto’UU’m =

###  BAMonthlyResourceCPMCapacityHourlyAveragedDesignatedQuantity Brto’UU’k’m

### BAMonthlyResourceCPMSettlementReportingPrice Brto’UU’m

### IF

### BAMonthlyResourceCPMSettlementReportingQuantity Brto’UU’m = 0

 THEN

### BAMonthlyResourceCPMSettlementReportingPrice Brto’UU’m = 0

 ELSE

BAMonthlyResourceCPMSettlementReportingPrice Brto’UU’m =

### BAMonthlyResourceCPMSettlementReportingAmount Brto’UU’m / BAMonthlyResourceCPMSettlementReportingQuantity Brto’UU’m

## Outputs

| Output Req ID | Name | Description |
| --- | --- | --- |
|  | In addition to any outputs listed below, all inputs shall be included as outputs. | All inputs |
|  | BAMonthlyTotalCPMSigEventCapacityAssessmentAmount Bo’UU’m | Assessment amount for Significant Event CPM for Business Associate B, by CPM Type o’ during Settlement Billing Period that extends from Bill Period Start Date U’ to Bill Period End Date U for Trading Month m |
|  | BAMonthlyTotalCPMLocalCapacityAssessmentAmount Bo’UU’m | Assessment amount for CPM due to Insufficient Local Capacity Area for Business Associate B, by CPM Type o’ during Settlement Billing Period that extends from Bill Period Start Date U’ to Bill Period End Date U for Trading Month m |
|  | BAMonthlyTotalCPMAnnualLocalAndCollectiveCapacityAssessmentAmount Bo’UU’m | Assessment amount for CPM due to Annual Local and Annual Collective Deficiency in Local Capacity Area for Business Associate B, by CPM Type o’ during Settlement Billing Period that extends from Bill Period Start Date U’ to Bill Period End Date U for Trading Month m |
|  | BAMonthlyTotalCPMAnnualInsufRACapacityAssessmentAmount Bo’UU’m | Assessment amount for CPM due to Annual Insufficient Resource Adequacy for Business Associate B, by CPM Type o’ during Settlement Billing Period that extends from Bill Period Start Date U’ to Bill Period End Date U for Trading Month m |
|  | BAMonthlyTotalCPMAnnualFlexibleRACapacityAssessmentAmount Bo’UU’m | Assessment amount for CPM due to Annual cumulative deficiency in the total Flexible RA Capacity for Business Associate B, by CPM Type o’ during Settlement Billing Period that extends from Bill Period Start Date U’ to Bill Period End Date U for Trading Month m |
|  | BAMonthlyTotalCPMExcepDispCapacityAssessmentAmount Bo’UU’m | Assessment amount for CPM due to Exceptional Dispatch for Business Associate B, by CPM Type o’ during Settlement Billing Period that extends from Bill Period Start Date U’ to Bill Period End Date U for Trading Month m |
|  |  |  |
|  | BAMonthlyTotalCPMInsufRACapacityAssessmentAmount Bo’UU’m | Assessment amount for CPM due to Insufficient Resource Adequacy for Business Associate B, by CPM Type o’ during Settlement Billing Period that extends from Bill Period Start Date U’ to Bill Period End Date U for Trading Month m |
|  | BAMonthlyTotalCPMFlexibleRACapacityAssessmentAmount Bo’UU’m | Assessment amount for CPM due to cumulative deficiency in the total Flexible RA Capacity for Business Associate B, by CPM Type o’ during Settlement Billing Period that extends from Bill Period Start Date U’ to Bill Period End Date U for Trading Month m |
|  | CAISOMonthlyCPMSettlementAmount m | CAISO CPM payment during Settlement Billing Period that extends from Bill Period Start Date U’ to Bill Period End Date U for Trading Month m |
|  | CAISOMonthlyTotalCPMSettlementAmount o’UU’m  | CAISO Total CPM monthly payment for by CPM Typeo’ during Settlement Billing Period that extends from Bill Period Start Date U’ to Bill Period End Date U for Trading Month m |
|  | BAMonthlyTotalCPMSettlementAmount Bo’UU’m  | Total CPM monthly payment for Business Associate B, by CPM Type o’ during Settlement Billing Period that extends from Bill Period Start Date U’ to Bill Period End Date U for Trading Month m |
|  | BAMonthlyResourceCPMSettlementAmount Brto’UU’k’m | CPM monthly payment for Business Associate B, resource r, resource type t , by, CPM Type o’ during Settlement Billing Period that extends from Bill Period Start Date U’ for CPM ID k’ to Bill Period End Date U for Trading Month m |
|  | BAMonthlyResourceCPMSettlementAdjustmentAmount Brto’UU’k’m | CPM monthly payment adjustment through PTB for Business Associate B, resource r, resource type t , by, CPM Type o’ during Settlement Billing Period that extends from Bill Period Start Date U’ for CPM ID k’ to Bill Period End Date U for Trading Month m |
|  | BAMonthlyResourceCPMSettlementReportingAmount Brto’UU’m | CPM Settlement amount used for reporting in General Ledger |
|  | BAMonthlyResourceCPMSettlementReportingQuantity Brto’UU’m | CPM Settlement quantity used for reporting in General Ledger |
|  | BAMonthlyResourceCPMSettlementReportingPrice Brto’UU’m | CPM Settlement price used for reporting in General Ledger |

# Charge Code Effective Date

| Charge Code/Pre-calc Name | Document Version | Effective Start Date | Effective End Date | Version Update Type |
| --- | --- | --- | --- | --- |
| CC 7891 – Monthly CPM Settlement | 5.0 | 11/1/2016 | 10/31/16 | Configuration Impacted |
| CC 7891 – Monthly CPM Settlement | 5.0a | 11/1/2016 | 12/31/17 | Documentation Edits |
| CC 7891 – Monthly CPM Settlement | 5.0b | 1/1/2018 | 4/30/19 | Documentation Edits |
| CC 7891 – Monthly CPM Settlement | 5.1 | 5/1/19 | 12/31/19 | Documentation Edits and Configuration Impacted |
| CC 7891 – Monthly CPM Settlement | 5.2 | 1/1/20 | Open | Configuration Impacted |