Settlements and Billing

Configuration Guide: Monthly Resource Adequacy Availability Incentive Mechanism Allocation  
CC 8831

Version 5.1

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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 Resource Adequacy Availability Incentive Mechanism (RAAIM) was part of the Reliability Services Initiative, a suite of policies to address rules and process surrounding RA resources.

RAAIM enhances grid reliability and market efficiency by providing an incentive for RA resources that meet their bidding obligation and provide energy bids to the market. The new incentive mechanism replaces the previously existing Standard Capacity Product and utilizes a resource’s economic and self schedule bids to evaluate Resource Adequacy and Capacity Procurement Capacity availability. Similar to SCP, RAAIM establishes a monthly standard that RA resources are expected to perform. RA resource’s that fail to meet the threshold are subject to a penalty, while resources that exceed the threshold may receive a payment.

Under SCP, a large number of resources were exempted due to the limitation of evaluating availability based on forced outages. A resources availability was used in the evaluation of RA and CPM Capacity, but calculated separately under SCP and CPM settlement. In reality, RA and CPM capacity share the same must offer rules and adhere to inter-related rules. Additionally, the Flexible Resource Adequacy Criteria and Must Offer Obligation (FRAC-MOO) initiative created economic bidding requirements that were impossible to measure using an outage availability value. A new incentive mechanism was thus necessary in order to expand, integrate, and evaluate more resources on the grid. and accommodate the new bidding obligations introduced with FRAC-MOO.

## Description

The Monthly Resource Adequacy Availability Incentive Mechanism Allocation (CC8831) is the payment to any RA Resource that exceeds the monthly Availability Standard plus the tolerance band of 2.0%. The availability payments will be applied on a monthly basis to RA resources that achieve the Availability Standard plus 2.0% during that month.

# Charge Code Requirements

## Business Rules

| Bus Req ID | Business Rule |
| --- | --- |
| 1.0 | Resource Adequacy Availability Incentive Mechanism Monthly Charge or payment shall be assessed to resources with CPM RA, and non-CPM (RAAIM) RA capacity whose Monthly Availability Percentage falls below or above the Availability Incentive Standard Percentage’s respective threshold. |
| 1.1 | Self-Funding. The Availability Incentive Payment will be funded entirely through the monthly Non-Availability Charges assessed. |
| 2.0 | The Availability Incentive Standard Percentage is 96.5%. |
| 3.0 | There is a tolerance band of 2% above the availability incentive standard percentage used to calculate the Availability Incentive Payment performance threshold. |
| 4.0 | The monthly average generic RA capacity MW shall be the total sum of the daily generic RA capacity MW that is prorated to the total number days of generic obligation within the trade month. |
| 4.1 | The monthly average flexible RA capacity MW shall be the total sum of the daily flexible RA capacity MW that is prorated to the total number days of category’s flexible obligation within the trade month. |
| 4.2 | The monthly average generic CPM capacity MW shall be the total sum of the daily generic CPM capacity MW that is prorated to the total number of days of generic obligation within the trade month. |
| 4.3 | The monthly average flexbile CPM capacity MW shall be the total sum of the daily flexbile CPM capacity MW that is prorated to the total number of days of category’s flexible obligation within the trade month. |
| 5.0 | RAAIM payment performance percentage is the equal to the resources Monthly Availability Percentage above the RAAIM monthly availability charge threshold. |
| 6.0 | The monthly generic availability incentive payment rate will equal the total Non-Availability Charges assessed for generic RA/CPM capacity for the month plus any unpaid funds under Section 40.9.6.2(d), divided by the total generic RA/CPM capacity eligible to receive the generic availability incentive payment that month. |
| 6.1 | The monthly flexible availability incentive payment rate will equal the total Non-Availability Charges assessed for flexible RA/CPM capacity for the month plus any unpaid funds under Section 40.9.6.2(d), divided by the total flexible RA/CPM capacity eligible to receive the flexible availability incentive payment that month. |
| 6.2 | The Availability Incentive Payment rate for generic RA/CPM and flexible RA/CPM capacity shall not exceed three times the Non-Availability Charge rate. |
| 7.0 | The Incentive Payment the CAISO shall pay to each eligible resource shall equal the product of its eligible capacity and the Availability Incentive Payment rate. |
| 7.1 | Generic CPM Capacity:  Generic CPM RAAIM Monthly Payment =(-1)\* min(3\*Non-Availability Charge rate, Availability Incentive Payment rate) \* (Monthly Average Generic CPM capacity MW \* Generic Availability Incentive performance percentage) |
| 7.2 | Flexible CPM Capacity:  Flexible CPM RAAIM Monthly Payment =(-1)\* min(3\*Non-Availability Charge rate, Availability Incentive Payment rate) \* (Monthly Average Flexible CPM capacity MW \* Flexible Availability Incentive performance percentage) |
| 7.3 | Generic (Non-CPM) RA Capacity:  Generic RA RAAIM Monthly Payment = (-1)\*min(3\* Non-Availability Charge rate, Availability Incentive Payment rate) \* (Monthly Average Generic RA capacity MW \* Generic Availability Incentive performance percentage) |
| 7.4 | Flexible (Non-CPM) RA Capacity:  Flexible RA RAAIM Monthly Payment = (-1)\*min(3\* Non-Availability Charge rate, Availability Incentive Payment rate) \* (Monthly Average Flexible RA capacity MW \* Flexible Availability Incentive performance percentage) |
| 8.0 | Unpaid Funds. Any Non-Availability Charge funds from generic RA/CPM capacity that are not distributed to generic RA/CPM capacity eligible to receive Availability Incentive Payments in a month will be added to the funds available for Availability Incentive Payments for generic RA/CPM capacity in the next month and will continue to roll over to the successive month until paid out or December 31, at which time the funds will be distributed to Load Serving Entities based on their load ratio share for the year. |
| 8.1 | Unpaid Funds. Any Non-Availability Charge funds from flexible RA/CPM capacity that are not distributed to flexible RA/CPM capacity eligible to receive Availability Incentive Payments in a month will be added to the funds available for Availability Incentive Payments for flexible RA/CPM capacity in the next month and will continue to roll over to the successive month until paid out or December 31, at which time the funds will be distributed to Load Serving Entities based on their load ratio share for the year. |
| 9.0 | In order to facilitate implementing the advisory period under Section 40.9.1, a RAAIM advisory flag will be incorporated into the reporting hierarchy of CC 8830 and CC 8831 such that Settlement amounts will calculate but never be billed or invoiced |

## Predecessor Charge Codes

| Charge Code/ Pre-Calc Name |
| --- |
| Monthly Resource Adequacy Availability Incentive Mechanism Settlement (CC 8830) |

## Successor Charge Codes

| Charge Code/ Pre-calc Name |
| --- |
|  |

## Inputs - External Systems

| **Row #** | **Variable Name** | **Description** |
| --- | --- | --- |
| 1 | RAAIMNonAvailabiltyChargePrice | The "price" value of the Non-Availability Charge is 60% of the CSP soft offer cap. |
| 2 | RAAIMAvailabilityStandard m | Monthly Availability Standard. |
| 3 | UpperToleranceBand | Tolerance Band of 2.0% |
| 4 | PTBIncentiveAdjustmentRAAIM BJm | RAAIM incentive PTB charge adjustment for resource specific resources. |
| 5 | PTBIncentiveAdjustmentGenericRAAIM BrJm | Generic RAAIM incentive PTB charge adjustment for resource specific resources. |
| 6 | PTBIncentiveAdjustmentFlexibleRAAIM BrJm | Flexible RAAIM incentive PTB charge adjustment for resource specific resources. |

## Inputs - Predecessor Charge Codes or Pre-calculations

| **Row #** | **Variable Name** | **Predecessor Charge Code/ Pre-calc Configuration / Description** |
| --- | --- | --- |
| 1 | MonthlyAssessmentGenericPerformance BrtF’S’m | Monthly Resource Adequacy Availability Incentive Mechanism Settlement (CC 8830)  Represents a resource’s generic RA/CPM availability as a percentage of all assessment days the resource had an obligation to bid. |
| 2 | MonthlyAssessmentGenericPerformance BrtF’S’m | Monthly Resource Adequacy Availability Incentive Mechanism Settlement (CC 8830)  Represents a resource’s generic RA/CPM availability as a percentage of all assessment days the resource had an obligation to bid. |
| 3 | MonthlyAssessmentFlexiblePerformance BrtF’S’j’m | Monthly Resource Adequacy Availability Incentive Mechanism Settlement (CC 8830)  Represents, for the specified flexible RA category, a resource’s flexible RA/CPM availability as a percentage of its obligations over all assessment days the resource had an obligation to bid. |
| 4 | MonthlyGenericCPMObligationQuantity BrtF’S’m | Monthly Resource Adequacy Availability Incentive Mechanism Settlement (CC 8830)  Represents the average daily generic CPM obligation for the month for RAAIM assessment |
| 5 | MonthlyGenericRAObligationQuantity BrtF’S’m | Monthly Resource Adequacy Availability Incentive Mechanism Settlement (CC 8830)  Represents the average daily generic RA obligation for the month for RAAIM assessment |
| 6 | MonthlyFlexibleCPMObligationQuantity BrtF’S’j’m | Monthly Resource Adequacy Availability Incentive Mechanism Settlement (CC 8830)  Represents the average daily flexible RA category CPM obligation for the month for RAAIM assessment |
| 7 | MonthlyFlexibleRAObligationQuantity BrtF’S’j’m | Monthly Resource Adequacy Availability Incentive Mechanism Settlement (CC 8830)  For a flexible RA category, represents the average daily flexible RA obligation for the month for RAAIM assessment |
| 8 | CAISOMonthlyGenericRAAIMNonAvailabilitySettlementAmount m | Monthly Resource Adequacy Availability Incentive Mechanism Settlement (CC 8830)  The sum of Non Availability settlement amounts for all resources that receive generic RAAIM penalty charges for the month. |
| 9 | CAISOMonthlyFlexibleRAAIMNonAvailabilitySettlementAmount m | Monthly Resource Adequacy Availability Incentive Mechanism Settlement (CC 8830)  The sum of Non Availability settlement amounts for all resources that receive flexible RAAIM penalty charges for the month. |
| 10 | MonthlyGenericAdjustmentFromPreviousMonthAmount\_View | Output of a custom view taking the previous month’s CAISOMonthlyUnallocatedGenericNonAvailabilitySettlementAmount m |
| 11 | MonthlyFlexibleAdjustmentFromPreviousMonthAmount\_View | Output of a custom view taking the previous month’s CAISOMonthlyUnallocatedFlexibleNonAvailabilitySettlementAmount m |

## CAISO Formula

The formulas herein are effective on an advisory basis starting on 4/1/2018 and on a production basis starting on 6/1/2018.

The formula for the Settlements Amount in any given month is as follow:

### RAAIM Availability Settlement Amount

#### MonthlyResourceTotalRAAIMIncentSettlementAmount

MonthlyResourceTotalRAAIMIncentSettlementAmount BrtF’S’m = MonthlyResourceTotalGenericRAAIMIncentiveSettlementAmount + MonthlyResourceTotalFlexibleRAAIMIncentiveSettlementAmount BrtF’S’m

#### CAISOMonthlyUnallocatedGenericNonAvailabilitySettlementAmount

#### CAISOMonthlyUnallocatedGenericNonAvailabilitySettlementAmount m =

Max(0,CAISOMonthlyGenericRAAIMNonAvailabilitySettlementAmount m + MonthlyGenericAdjustmentFromPreviousMonthAmount m + CAISOMonthlyGenericRAAIMIncentiveSettlementAmount m)

#### CAISOMonthlyGenericRAAIMIncentiveSettlementAmount

CAISOMonthlyGenericRAAIMIncentiveSettlementAmount m =

 MonthlyResourceTotalGenericRAAIMIncentiveSettlementAmount BrtF’S’m

#### MonthlyResourceTotalGenericRAAIMIncentiveSettlementAmount

MonthlyResourceTotalGenericRAAIMIncentiveSettlementAmount BrtF’S’m = MonthlyResourceGenericCPMIncentiveSettlementAmount BrtF’S’m + MonthlyResourceGenericRAIncentiveSettlementAmount BrtF’S’m+ MonthlyPTBIncentiveAdjustmentGenericRAAIMAmount Brm

The equation above will directly accept any monthly PTB adjustments due to the requirement to separately provide both Generic and Flexible PTB functionality which the charge codes hierarchy structure cannot provide

#### MonthlyPTBIncentiveAdjustmentGenericRAAIMAmount Brm =

PTBIncentiveAdjustmentGenericRAAIM BrJm

#### MonthlyResourceGenericCPMIncentiveSettlementAmount

MonthlyResourceGenericCPMIncentiveSettlementAmount BrtF’S’m =

(-1) \* MonthlyResourceGenericCPMIncentiveQuantity BrtF’S’m \* MIN(3 \* RAAIMNonAvailabiltyChargePrice, MonthlyGenericAvailabilityIncentivePaymentRate m)

#### MonthlyResourceGenericRAIncentiveSettlementAmount

MonthlyResourceGenericRAIncentiveSettlementAmount BrtF’S’m =

(-1) \* MonthlyResourceGenericRAIncentiveQuantity BrtF’S’m \* MIN(3 \* RAAIMNonAvailabiltyChargePrice, MonthlyGenericAvailabilityIncentivePaymentRate m)

#### MonthlyGenericAvailabilityIncentivePaymentRate

MonthlyGenericAvailabilityIncentivePaymentRate m = (CAISOMonthlyGenericRAAIMNonAvailabilitySettlementAmount m + MonthlyGenericAdjustmentFromPreviousMonthAmount) / MonthlyTotalGenericIncentiveQuantity m

#### CAISOMonthlyUnallocatedFlexibleNonAvailabilitySettlementAmount

#### CAISOMonthlyUnallocatedFlexibleNonAvailabilitySettlementAmount m =

Max(0,CAISOMonthlyFlexibleRAAIMNonAvailabilitySettlementAmount m + MonthlyFlexibleAdjustmentFromPreviousMonthAmount m + CAISOMonthlyFlexibleRAAIMIncentiveSettlementAmount m)

#### CAISOMonthlyFlexibleRAAIMIncentiveSettlementAmount

CAISOMonthlyFlexibleRAAIMIncentiveSettlementAmount m =

(MonthlyResourceTotalFlexibleRAAIMIncentiveSettlementAmount BrtF’S’m + MonthlyPTBIncentiveAdjustmentFlexibleRAAIMAmount Brm )

The equation above will directly accept any monthly PTB adjustments due to the requirement to separately provide both Generic and Flexible PTB functionality which the charge codes hierarchy structure cannot provide

#### MonthlyPTBIncentiveAdjustmentFlexibleRAAIMAmount Brm =

PTBIncentiveAdjustmentFlexibleRAAIM BrJm

#### MonthlyResourceTotalFlexibleRAAIMIncentiveSettlementAmount

MonthlyResourceTotalFlexibleRAAIMIncentiveSettlementAmount BrtF’S’m =

(MonthlyResourceFlexCPMIncentSettlementAmount BrtF’S’j’m + MonthlyResourceFlexibleRAIncentiveSettlementAmount BrtF’S’j’m )

#### MonthlyResourceFlexCPMIncentSettlementAmount

MonthlyResourceFlexCPMIncentSettlementAmount BrtF’S’j’m =

(-1) \* MonthlyResourceFlexibleCPMIncentQuantity BrtF’S’j’m \* MIN(3 \* RAAIMNonAvailabiltyChargePrice, MonthlyAvailabilityFlexibleIncentivePaymentRate m)

#### MonthlyFlexibleAvailabilityIncentivePaymentRate

MonthlyFlexibleAvailabilityIncentivePaymentRate m = (CAISOMonthlyFlexibleRAAIMNonAvailabilitySettlementAmount m + MonthlyFlexibleAdjustmentFromPreviousMonthAmount m) / MonthlyTotalFlexibleIncentiveQuantity m

#### MonthlyResourceFlexibleRAIncentiveSettlementAmount

MonthlyResourceFlexibleRAIncentiveSettlementAmount BrtF’S’j’m =

(-1) \* MonthlyResourceFlexibleRAIncentiveQuantity BrtF’S’j’m \* MIN(3 \* RAAIMNonAvailabiltyChargePrice, MonthlyFlexibleAvailabilityIncentivePaymentRate m)

#### MonthlyGenericAdjustmentFromPreviousMonthAmount

IF

TRADE\_MONTH (m) >= Initial binding (non-advisory) settlement month + 1 [ 7/2018 ]

THEN

#### MonthlyGenericAdjustmentFromPreviousMonthAmount m =

MonthlyGenericAdjustmentFromPreviousMonthAmount\_View m

ELSE

MonthlyGenericAdjustmentFromPreviousMonthAmount m =

MonthlyGenericAdjustmentInitialPriorMonthCarryForwardAmount m

END IF

**Note:** MonthlyGenericAdjustmentFromPreviousMonthAmount\_View m is an output of a custom view. If the most recent prior Trading Month and current Trading Month are both binding or the current Trading Month is advisory in terms of settlement, the view conveys as a carry-forward amount to the current Trading Month’s calculation the value of variable CAISOMonthlyUnallocatedGenericNonAvailabilitySettlementAmount m (CAISO\_MTH\_UNALLOC\_GENERIC\_NON\_AVAIL\_STLMT@AMOUNT), as calculated in settlement charge code CC8830 for the most recent prior Trading Month of the current Trading Year. If RAAIM settlement is binding for the current Trading Trading Month in terms of settlement, but the prior Trading Month is adivisory, then the view output would reflect the carry-forward amount from the most recent binding CC8830 settlement run. For the first Trading Month for which the current configuration version is in effect, MonthlyGenericAdjustmentFromPreviousMonthAmount m will be undefined (i.e., NULL).

#### MonthlyGenericAdjustmentInitialPriorMonthCarryForwardAmount

IF

MonthlyTotalIncentiveQuantity m > 0

THEN

MonthlyGenericAdjustmentInitialPriorMonthCarryForwardAmount m

=

(MonthlyTotalGenericIncentiveQuantity m / MonthlyTotalIncentiveQuantity m) \* MonthlyInitialAdjustmentFromPreviousMonthAmount m

ELSE

MonthlyGenericAdjustmentInitialPriorMonthCarryForwardAmount m

=

(MonthlyGenericObligationQuantity m / MonthlyTotalObligationQuantity m) \* MonthlyInitialAdjustmentFromPreviousMonthAmount m

END IF

Where Trading Month (m) = Initial binding (non-advisory) settlement month [ 6/2018 ]

#### MonthlyInitialAdjustmentFromPreviousMonthAmount

MonthlyInitialAdjustmentFromPreviousMonthAmount m =

MonthlyInitialAdjustmentFromPreviousMonthAmount\_View m

**Note:** MonthlyInitialAdjustmentFromPreviousMonthAmount\_View m is an output of a custom view. The view returns the value of Charge Type variable CAISOMonthlyUnallocatedNonAvailabilitySettlementAmount m (CAISO\_MTH\_UNALLOC\_NON\_AVAIL\_STLMT@AMOUNT) for a prior-occurring settlement-bindingTrading Month in the same Trading Year as the current Trading Month m. The view is provided to support the calculations of the current configuration for the initial Trading Month (6/2018) of the current configuration’s effective date range. The returned output of the view provides the unallocated RAAIM incentive amount of the Trading Year’s last binding (non-advisory) settlement Trading Month (3/2018) for which the prior configuration is in effect ahead of an initial advisory period that begins when the current configuration goes in effect. Refer to the BPM Configuration Guide in effect for Trading Month 3/2018 for details of the CAISOMonthlyUnallocatedNonAvailabilitySettlementAmount m calculation.

#### MonthlyFlexibleAdjustmentFromPreviousMonthAmount

IF

TRADE\_MONTH (m) >= Initial binding (non-advisory) settlement month + 1 [ 7/2018 ]

THEN

MonthlyFlexibleAdjustmentFromPreviousMonthAmount m =

MonthlyFlexibleAdjustmentFromPreviousMonthAmount\_View m

ELSE

MonthlyFlexibleAdjustmentFromPreviousMonthAmount m =

MonthlyFlexibleAdjustmentInitialPriorMonthCarryForwardAmount m

END IF

**Note:** MonthlyFlexibleAdjustmentFromPreviousMonthAmount\_View m is an output of a custom view. If the most recent prior Trading Month and current Trading Month are both binding or the current Trading Month is advisory in terms of settlement, the view conveys as a carry-forward amount to the current Trading Month’s calculation the value of variable CAISOMonthlyUnallocatedFlexibleNonAvailabilitySettlementAmount m (CAISO\_MTH\_UNALLOC\_FLEX\_NON\_AVAIL\_STLMT@AMOUNT), as calculated in settlement charge code CC8830 for the most recent prior Trading Month. If RAAIM settlement is binding for the current Trading Trading Month in terms of settlement, but the prior Trading Month is adivisory, then the view output would reflect the carry-forward amount from the most recent binding CC8830 settlement run. For the first Trading Month for which the current configuration version is in effect, MonthlyFlexibleAdjustmentFromPreviousMonthAmount m will be undefined (i.e., NULL).

#### MonthlyFlexibleAdjustmentPriorMonthCarryForwardAmount

IF

MonthlyTotalIncentiveQuantity m > 0

THEN

MonthlyFlexibleAdjustmentInitialPriorMonthCarryForwardAmount m

=

(MonthlyTotalFlexibleIncentiveQuantity m / MonthlyTotalIncentiveQuantity m) \* MonthlyInitialAdjustmentFromPreviousMonthAmount m

ELSE

MonthlyFlexibleAdjustmentInitialPriorMonthCarryForwardAmount m

=

(MonthlyFlexibleObligationQuantity m / MonthlyTotalObligationQuantity m) \* MonthlyInitialAdjustmentFromPreviousMonthAmount m

END IF

Where Trading Month (m) = Initial binding (non-advisory) settlement month [ 6/2018 ]

### RAAIM Availability Quantity

#### MonthlyTotalIncentiveQuantity

MonthlyTotalIncentiveQuantity m =

MonthlyTotalGenericIncentiveQuantity m + MonthlyTotalFlexibleIncentiveQuantity m

Where Trading Month (m) = 6/2018

#### MonthlyTotalGenericIncentiveQuantity

MonthlyTotalGenericIncentiveQuantity m =

 MonthlyResourceGenericCPMIncentiveQuantity BrtF’S’m + MonthlyResourceGenericRAIncentiveQuantity BrtF’S’m

#### MonthlyTotalFlexibleIncentiveQuantity

MonthlyTotalFlexibleIncentiveQuantity m =

MonthlyResourceFlexibleCPMIncentQuantity BrtF’S’j’m +MonthlyResourceFlexibleRAIncentiveQuantity BrtF’S’j’m



#### MonthlyResourceGenericCPMIncentiveQuantity

MonthlyResourceGenericCPMIncentiveQuantity BrtF’S’m = MonthlyGenericCPMObligationQuantity BrtF’S’m \* MonthlyGenericIncentivePercentage BrtF’S’m

#### MonthlyResourceGenericRAIncentiveQuantity

MonthlyResourceGenericRAIncentiveQuantity BrtF’S’m = MonthlyGenericRAObligationQuantity BrtF’S’m \* MonthlyGenericIncentivePercentage BrtF’S’m

#### MonthlyResourceFlexibleCPMIncentQuantity

MonthlyResourceFlexibleCPMIncentQuantity BrtF’S’j’m = MonthlyFlexibleCPMObligationQuantity BrtF’S’j’m \* MonthlyFlexibleIncentivePercentage BrtF’S’j’m

#### MonthlyResourceFlexibleRAIncentiveQuantity

MonthlyResourceFlexibleRAIncentiveQuantity BrtF’S’j’m = MonthlyFlexibleRAObligationQuantity BrtF’S’j’m \* MonthlyFlexibleIncentivePercentage BrtF’S’j’m

### RAAIM Obligation Quantity

#### MonthlyTotalObligationQuantity

MonthlyTotalObligationQuantity m =MonthlyGenericObligationQuantity m + MonthlyFlexibleObligationQuantity m

Where Trading Month (m) = 6/2018

#### MonthlyGenericObligationQuantity

MonthlyGenericObligationQuantity m = (MonthlyGenericRAObligationQuantity BrtF’S’m + MonthlyGenericCPMObligationQuantity BrtF’S’m )

Where Trading Month (m) < 7/2018

#### MonthlyFlexibleObligationQuantity

MonthlyFlexibleObligationQuantity m = (MonthlyFlexibleRAObligationQuantity BrtF’S’j’m + MonthlyFlexibleCPMObligationQuantity BrtF’S’j’m )

Where Trading Month (m) < 7/2018

### RAAIM Availability Performance

#### MonthlyGenericIncentivePercentage

MonthlyGenericIncentivePercentage BrtF’S’m = MAX(0, (MonthlyAssessmentGenericPerformance BrtF’S’m – (RAAIMAvailabilityStandard m + UpperToleranceBand))

#### MonthlyFlexibleIncentivePercentage

MonthlyFlexibleIncentivePercentage BrtF’S’j’m = MAX(0, (MonthlyAssessmentFlexiblePerformance BrtF’S’j’m – (RAAIMAvailabilityStandard m + UpperToleranceBand))

## Outputs

| Output Req ID | Name | Description |
| --- | --- | --- |
|  | In addition to any outputs listed below, all inputs shall be included as outputs. |  |
|  | MonthlyResourceTotalRAAIMIncentSettlementAmount BrtF’S’m | The total monthly Incentive settlement amout applied to RA, flexible RA, generic CPM, and flexible CPM capacity of a resource that performs above the Availability Standard threshold. |
|  | CAISOMonthlyUnallocatedGenericNonAvailabilitySettlementAmount m | The total net of the three determinants representing the penalty amounts for generic RA/CPM capacity that were unallocated  Note:  CAISOMonthlyGenericRAAIMNonAvailabilitySettlementAmount m (+)  MonthlyGenericAdjustmentFromPreviousMonthAmount (+)  CAISOMonthlyGenericRAAIMIncentiveSettlementAmount m (-) |
|  | CAISOMonthlyGenericRAAIMIncentiveSettlementAmount m | The sum of generic RA/CPM incentive settlement amounts for all resources for month m |
|  | MonthlyResourceTotalGenericRAAIMIncentiveSettlementAmount BrtF’S’m | Total monthly incentive settlement amout applied to generic RA/CPM capacity of a resource that performs above the Availability Standard threshold |
|  | MonthlyPTBIncentiveAdjustmentGenericRAAIMAmount Brm | This output solely exists to sum over attributes which would otherwise conflict with the business driver in a subsequent equation |
|  | MonthlyResourceGenericCPMIncentiveSettlementAmount BrtF’S’m | The monthly Incentive settlement payment amount applied to generic CPM capacity of a resource that performs above the Availability Standard threshold. |
|  | MonthlyResourceGenericRAIncentiveSettlementAmount BrtF’S’m | The monthly Incentive settlement payment amount applied to generic RA capacity of a resource that performs above the Availability Standard threshold. |
|  | MonthlyGenericAvailabilityIncentivePaymentRate m | The monthly generic availability incentive payment rate will equal the total Non-Availability Charges for generic RA/CPM capacity assessed for the month plus any unpaid funds from prior month, divided by the total generic RA/CPM availability incentive quantities eligible to receive the generic availability incentive payment that month |
|  | CAISOMonthlyUnallocatedFlexibleNonAvailabilitySettlementAmount m | The total net of the three determinants representing the penalty amounts for flexible RA/CPM capacity that were unallocated  Note:  CAISOMonthlyFlexibleRAAIMNonAvailabilitySettlementAmount m (+)  MonthlyFlexibleAdjustmentFromPreviousMonthAmount m (+)  CAISOMonthlyFlexibleRAAIMIncentiveSettlementAmount m (-) |
|  | CAISOMonthlyFlexibleRAAIMIncentiveSettlementAmount m | The sum of flexible RA/CPM incentive settlement amounts for all resources for month m |
|  | MonthlyResourceTotalFlexibleRAAIMIncentiveSettlementAmount BrtF’S’m | Total monthly incentive settlement amout applied to flexible RA/CPM capacity of a resource that performs above the Availability Standard threshold |
|  | MonthlyPTBIncentiveAdjustmentFlexibleRAAIMAmount Brm | This output solely exists to sum over attributes which would otherwise conflict with the business driver in a subsequent equation |
|  | MonthlyResourceFlexCPMIncentSettlementAmount BrtF’S’m | The monthly Incentive settlement payment amount applied to flexible CPM capacity of a resource that performs above the Availability Standard threshold. |
|  | MonthlyFlexibleAvailabilityIncentivePaymentRate m | The monthly flexible availability incentive payment rate will equal the total Non-Availability Charges flexible RA/CPM capacity assessed for the month plus any unpaid funds from prior month, divided by the total flexible RA/CPM availability incentive quantities eligible to receive the flexible availability incentive payment that month |
|  | MonthlyResourceFlexibleRAIncentiveSettlementAmount BrtF’S’m | The monthly incentive settlement payment amount applied to flexible RA capacity of a resource that performs above the Availability Standard threshold. |
|  | MonthlyGenericAdjustmentFromPreviousMonthAmount m | Any Non-Availability Charge funds from generic RA/CPM capacity that are not distributed to generic RA/CPM capacity eligible to receive Availability Incentive Payments in a month will be added to the funds available for Availability Incentive Payments for generic RA/CPM capacity in the next month and will continue to roll over to the successive month until paid out or December 31, at which time the funds will be distributed to Load Serving Entities based on their load ratio share for the year.  In order to facilitate the distribution just described, this value will be derived as a result of a special process which will carry over the prior month’s CAISOMonthlyUnallocatedGenericNonAvailabilitySettlementAmount m up to the end of the year. |
|  | MonthlyGenericAdjustmentInitialPriorMonthCarryForwardAmount m | Amount (in $) apportioned to generic capacity from the carry-forward amount provided by the month prior to the first month when the current configuration version is in effect.  Any Non-Availability Charge funds from RA/CPM capacity that are not distributed to RA/CPM capacity eligible to receive Availability Incentive Payments in the month prior to the first month when the current configuration version is in effect will be apportioned and added to the funds available for Availability Incentive Payments for generic and flexible RA/CPM capacity of the first month for which the current configuration is in effect.  The output is available to support the calculations of the current configuration for the initial Trading Month of the current configuration’s effective date range. |
|  | MonthlyInitialAdjustmentFromPreviousMonthAmount m | Any Non-Availability Charge funds that are not distributed to Resource Adequacy Resources eligible to receive Availability Incentive Payments in a month will be added to the funds available for Availability Incentive Payments in the next month and will continue to roll over to the successive month until paid out or December 31, at which time the funds will be distributed to Load Serving Entities based on their load ratio share for the year.  In order to facilitate the distribution just described, this value will be derived as a result of a special process which will carry over the prior month’s CAISOMonthlyUnallocatedNonAvailabilitySettlementAmount m up to the end of the year.  This output, defined for the prior configuration version, is used by the current configuration for the single Trading Month 6/2018 in order to provide a carry-forward amount into the first month for which the current configuration calculates. |
|  | MonthlyFlexibleAdjustmentFromPreviousMonthAmount m | Any Non-Availability Charge funds from flexible RA/CPM capacity that are not distributed to flexible RA/CPM capacity eligible to receive Availability Incentive Payments in a month will be added to the funds available for Availability Incentive Payments for flexible RA/CPM capacity in the next month and will continue to roll over to the successive month until paid out or December 31, at which time the funds will be distributed to Load Serving Entities based on their load ratio share for the year.  In order to facilitate the distribution just described, this value will be derived as a result of a special process which will carry over the prior month’s CAISOMonthlyUnallocatedFlexibleNonAvailabilitySettlementAmount m up to the end of the year. |
|  | MonthlyFlexibleAdjustmentInitialPriorMonthCarryForwardAmount m | Amount (in $) apportioned to flexible capacity from the carry-forward amount provided by the month prior to the first month when the current configuration version is in effect.  Any Non-Availability Charge funds from RA/CPM capacity that are not distributed to RA/CPM capacity eligible to receive Availability Incentive Payments in the month prior to the first month when the current configuration version is in effect will be apportioned and added to the funds available for Availability Incentive Payments for generic and flexible RA/CPM capacity of the first month for which the current configuration is in effect.  The output is available to support the calculations of the current configuration for the initial Trading Month of the current configuration’s effective date range. |
|  | MonthlyTotalIncentiveQuantity m | Total RA/CPM availability incentive quantities (as the sum of the total genericand flexible RA/CPM available incentive quantities) eligible to receive availability incentive payments for month m |
|  | MonthlyTotalGenericIncentiveQuantity m | Total generic RA/CPM availability incentive quantities eligible to receive availability incentive payments for month m |
|  | MonthlyTotalFlexibleIncentiveQuantity m | Total flexible RA/CPM availability incentive quantities eligible to receive availability incentive payments for month m |
|  | MonthlyResourceGenericCPMIncentiveQuantity BrtF’S’m | The portion of the monthly generic CPM capacity that is above the Availability Standard threshold. |
|  | MonthlyResourceGenericRAIncentiveQuantity BrtF’S’m | The portion of the monthly generic RA capacity that is above the Availability Standard threshold. |
|  | MonthlyResourceFlexibleCPMIncentQuantity BrtF’S’j’m | For a specified RA category, the portion of the monthly flexible CPM capacity that is above the Availability Standard threshold. |
|  | MonthlyResourceFlexibleRAIncentiveQuantity BrtF’S’j’m | For a specified RA category, the portion of the monthly flexible RA capacity that is above the Availability Standard threshold. |
|  | MonthlyTotalObligationQuantity m | Represents the average daily overall generic and flexible obligation for the month for RAAIM assessment |
|  | MonthlyGenericObligationQuantity m | Represents the average daily generic obligation for the month for RAAIM assessment |
|  | MonthlyFlexibleObligationQuantity m | Represents the average daily flexible obligation for the month for RAAIM assessment |
|  | MonthlyGenericIncentivePercentage BrtF’S’m | For resources with generic RA/CPM capacity that perform above the Availability Standard, this value represents the difference between the resource’s performance and the threshold. |
|  | MonthlyFlexibleIncentivePercentage BrtF’S’m | For resources with flexible RA/CPM capacity of a given flexible RA capacity category that perform above the Availability Standard, this value represents the difference between the resource’s performance and the threshold. |

# Charge Code Effective Dates

| Charge Code/  Pre-calc Name | Document Version | Effective Start Date | Effective End Date | Version Update Type |
| --- | --- | --- | --- | --- |
| Monthly Resource Adequacy Availability Incentive Mechanism Allocation (CC 8831) | 5.0 | 11/1/2016 | 10/31/16 | Initial Version |
| Monthly Resource Adequacy Availability Incentive Mechanism Allocation (CC 8831) | 5.0a | 11/1/16 | 03/31/18 | Documentation Update |
| Monthly Resource Adequacy Availability Incentive Mechanism Allocation (CC 8831) | 5.1 | 04/1/18 |  | Configuration Impacted |