

**Dispute Submittal Guide: Ancillary Services Cost Allocation****Ancillary Services (A/S) Cost Allocation**

Charge Types 111, 112, 115, 116, and 1011

Description

Ancillary Services are reserve generation, load or import capacity that is on “standby”, meaning they are available to be dispatched by the ISO as energy in real-time in order to meet reliability needs and/or to manage the differences between what energy that is scheduled and what really consumed/produced in real-time (balancing energy). There are four different types of A/S procured by the ISO through the D/A and H/A markets, Regulation, Spinning Reserves, Non-Spinning Reserves, and Replacement Reserves.

This section of the Dispute Submittal Guide describes the allocation of the cost of procuring the various Ancillary Services on behalf of the market through charge types 111, 112, 115, 116, and 1011. Replacement Reserves will not be covered in this guide as the ISO typically does not procure that service.

CT 111 and 112

CT 111 is the allocation for the D/A and H/A ancillary services costs for Spin capacity, while CT 112 allocates the Non Spin capacity costs. The billable quantity is each SC’s net obligation, and is based on metered demand (metered Load and real-time Exports) per SC, taking into consideration on demand obligation, inter-SC A/S trades, and self-provision. The price is a calculated weighted average price, based on the amount of the service in question that was procured and paid for in the markets.

CT 115 and 116

CT 115 is the allocation for AGC / Regulation Up (Reg Up) payments to the market, while CT 116 allocated the AGC / Regulation Down (Reg Down) payments to the market. The billable quantity for each is the SC’s net AGC Reg Up/Down obligation that is not self-provided. The price is the AGC / Reg user rate.

CT 1011

CT 1011 is for the Rational Buyer Adjustment. The Rational Buyer algorithm compares the prices of the various Ancillary Services offered into the Market for each hour and will procure higher quality A/S to substitute for lower quality A/S if it is cheaper to do so. The process calculates the lowest priced combination of A/S procurement that still meets the A/S requirement, altering the amount of each service procured, as well as the Marginal Clearing Prices (MCPs) for the services. For the Suppliers of A/S, the Rational Buyer procured quantities and MCPs will be used in settlement of each Service, and for the Users of A/S, the pre-Rational Buyer quantities (A/S requirement quantities) will be used along with the Rational Buyer MCPs. This creates an imbalance in between the payments

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to the market and the allocation of those payments. CT 1011 was created to true-up the difference between the two.

1. Minimum Supplemental Information Required for Dispute Submittal

In order to support its claim when submitting a dispute, the SC must identify what specific component(s) of the calculation it disagrees with, and provide an explanation of why the SC believes the ISO data is incorrect or the SC's suggested correction is correct. The SC needs to be very specific, and describe exactly why the dispute is being submitted within the Detailed Description field of the SDS ticket. In addition to this standard information required for all disputes, as discussed in Section 3 of the Dispute Submittal Guide, disputes in this charge type category should also include the following additional data elements/information:

- Zone ID
- Evidence in support of the SC's suggested correction, such as:
 - Final Schedules reflecting A/S Self Provision

Discussion of Potential A/S Allocation Disputes:

Billable Quantity Disputes:

If a SC disagrees with its CT 111 Billable Quantity, it will need to specify which of the four BQ components it believes is in error.

- Does the SC disagree with its effective Spin Self Provision quantity, or its Inter-SC Traded quantity? If so, the SC should indicate how much Spin it believes it self provided (or traded) and why (i.e. it was reflected in its HA Final Schedules?). Any evidence the SC can provide in support of its claimed self-provided Spin quantity should be attached to the dispute (such as HA Final Schedules downloaded from the ISO).
- If the SC disagrees with its Base Obligation, the SC needs to identify if it is disagreeing with its Metered Load, Metered Hydro, Imports, etc. The same logic would apply if the dispute was based on CT 112, 115, or 116.

For CT1011, since the BQ is really the sum of all of the SC's Ancillary Services allocation charges, disputes based on the BQ should typically be filed under the respective allocation charge type (111, 112, 115 or 116).

Price Disputes:

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For pricing disputes for the Ancillary Service cost allocation charge types, the SC will need to specify what specific component it disagrees with and its source. All of the Price Components are located both on OASIS and in the Settlement Detail file.

2. Calculation Components

The below listed calculation components and the simplified equations provided in the next section are provided to aide SCs in understanding their Settlements charges. By determining the components identified below and plugging them into the simplified formulas in Section 3, a SC should be able to validate its charge, as well as identify where discrepancies exist between its data and the ISO data. If a SC is using a different value for a component, it should describe the difference in a dispute and demonstrate how the SC's value was derived. This explanation is necessary if the SC wishes to disprove the ISO data.

For CT 111, CT 112, CT 115, and CT 116 the components of the calculation are as follows:

Price Components:

- D/A Procurement Qty
- H/A Procurement Qty
- Buy Back Qty (D/A Self Provided – H/A Self Provided)
- D/A Procurement Price (MCP)
- H/A Procurement Price (MCP)

BQ Components:

- Base Obligation (Spin & Non-Spin, CT 111 & 112)
 - Region DA & HA Procurement (Spin or Non-Spin)
 - Region DA & HA Self Provided (Spin or Non-Spin)
 - SC Non-Firm Import
 - SC Metered Load
 - SC Firm Import
 - SC Firm Export
 - SC Metered Hydro Generation
- Base Obligation (Regulation, CT 115 & 116)
 - SC Metered Load
 - Region Metered Load
 - Region DA & HA Procured Regulation
 - Region DA & HA Self Provided Regulation
- SC's InterSC Purchases of applicable service

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- SC's InterSC Sales of the applicable service
- SC's Effective Self Provision

For CT 1011 the components of the calculation are as follows:

Price Components:

- D/A Procurement Price (for all services)
- H/A Procurement Price (for all services)
- Total D/A & H/A Ancillary Service Procurement (for all services)
- Total D/A & H/A Ancillary Service Requirement (for all services)

BQ Component:

- SC's A/S Settlement Charges (all services)

3. Explanation of Charge Type Calculations

The below equations are simplified to aid the reader in understanding the various concepts, and are not intended to capture every potential scenario or nuance of each Charge Type algorithm. For the actual detailed calculations, refer to the ISO Settlement Charge Matrix and/or the Settlements Guide documents posted on the ISO Website.

CT 111, CT 112, CT 115 and CT 116:

Total Charge = Price * Billable Quantity

= Service Rate/MWh * SC's Obligation for Applicable Service, where:

Price = Service Rate/MWh

$$= \frac{(\text{DA Qty} * \text{DA Proc. Price} + (\text{HA Qty} - \text{BB Qty}) * \text{HA Proc. Price})}{\text{DA Qty} + \text{HA Qty}}$$

Billable Quantity = SC's Base Obligation for Service + InterSC Purchases – InterSC Sales – Effective Self Provision

where:

CT 111 & 112 Base Obligation = (SC's Base Operating Reserve Requirement / \sum Region Base Operating Reserve Requirement) * Service Total

and,

SC's Base Operating Reserve Requirement = [(1) * (SC's Non Firm Import MW)] + [5% * (Max [0, Min [Base Demand 3, SC's Metered Hydro Generation]])] + [7% * (Max [0, Base Demand 4])]

Base Demand 3 = Metered Load + Firm Export – Firm Import – Non-Firm Import

Base Demand 4 = Base Demand 3 – Metered Hydro Generation

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and,

Service Total = DA Procured Spin (or Non-Spin) + HA Procured Spin (or Non-spin) + Self Provided Spin (or Non-spin)

CT 115 & 116 Base Obligation = [Regulation Total * (SC Metered Load / Metered Load for Region)]

and,

Regulation Total = DA Procured Regulation + HA Procured Regulation + Self Provided Regulation

When validating these charge types, it is important to note a calculation rule that can cause confusion if not taken into consideration, where the (HA Non Self Provided Qty – BB Qty) is a negative number, it becomes zero, and as such, the procurement cost is \$0 as well, regardless of the MCP posted on OASIS.

CT 1011:

Total Charge = Price * Billable Quantity, where:

Price = Rational Buyer Adjustment %
= Total Imbalance Amount / Total Allocation Base
= $\frac{(\sum \text{D/A and H/A A/S Pmt to Sellers}) - (\sum \text{D/A and H/A A/S Chg to Buyers})}{\text{Total D/A and H/A charge to Buyers}}$

where,

Total D/A and H/A payment to Sellers = \sum Procurement Quantity * Procurement Price for each service and market (D/A and H/A)

and,

Total D/A and H/A Charge to Buyers = \sum Requirement Quantity * Procurement Price for each service and market

Billable Quantity = \sum SC's A/S Settlement Charges

4. Validation Sources

For the Ancillary Service Cost Allocation charge types, the Settlements Guide documents posted on the ISO Website provide a wealth of detail on the validation source information for the various charge components. Rather than repeating the information here, we are referring you to the Settlement Guide documentation at <http://www.caiso.com/clientserv/settlements/SettlementsGuide/index.html>.



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CT 111 and 112 Validation Components

CT Component	Source	Validation Information
All	Multiple	See Spinning and Non-Spinning Reserve (Due ISO) section in Settlements Guide

CT 115 and 116 Validation Components

CT Component	Source	Validation Information
All	Multiple	See Automatic Generation Control (AGC Regulation Due ISO) section in Settlements Guide

CT 1011 Validation Components

CT Component	Source	Validation Information
All	Multiple	See Rational Buyer section in Settlements Guide