

**UNITED STATES OF AMERICA  
BEFORE THE  
FEDERAL ENERGY REGULATORY COMMISSION**

**California Independent System  
Operator Corporation**

**Docket No. ER12-1630**

**ANSWER OF THE CALIFORNIA INDEPENDENT SYSTEM OPERATOR  
CORPORATION TO MOTIONS TO INTERVENE AND COMMENTS  
AND MOTION TO FILE ANSWER**

**I. Introduction**

The California Independent System Operator Corporation (ISO)<sup>1</sup> files this answer to motions to intervene and comments submitted in response to the ISO's April 27, 2012 tariff amendment to comply with Order 755.<sup>2</sup> The ISO requests that the Commission accept this answer as well as its tariff amendment with the changes the ISO agrees to make on further compliance.

Order 755 requires regional transmission operators and independent system operators to compensate regulation resources based on the actual service provided, including a capacity payment that reflects the marginal unit's opportunity costs and a performance payment that reflects the quantity of regulation service actually provided by a resource when the resource accurately follows a dispatch signal. The ISO's tariff

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<sup>1</sup> The ISO is also sometimes referred to as the CAISO. Capitalized terms not otherwise defined herein have the meanings set forth in Appendix A to the ISO tariff.

<sup>2</sup> *Frequency Regulation Compensation in the Organized Wholesale Power Markets*, 137 FERC ¶ 61,064 (October 2011) (Order 755); *rehearing denied* 138 FERC ¶ 61,123 (February 2012) (Order 755-A). The ISO submits this answer pursuant to Rules 212 and 213 of the Commission's Rules of Practice and Procedure, 18 C.F.R. §§ 385.212, 385.213 (2010). The ISO requests waiver of Rule 213(a)(2), 18 C.F.R. § 385.213(a)(2), to permit it to answer the comments filed in this proceeding. Good cause for this waiver exists because the ISO's answer will provide additional information to assist the Commission in the decision-making process, and help to ensure a complete and accurate record in this case. *See, e.g., Entergy Services, Inc.*, 116 FERC ¶ 61,286, at P 6 (2006); *Midwest Independent Transmission System Operator, Inc.*, 116 FERC ¶ 61,124, at P 11 (2006); *High Island Offshore System, L.L.C.*, 113 FERC ¶ 61,202, at P 8 (2005).

amendment seeks to comply with these requirements in part by calculating a market clearing price for mileage on which to base performance payments for resources providing regulation.

Several parties filed motions to intervene and substantive comments supporting the ISO's tariff amendment.<sup>3</sup> As part of their comments, however, PG&E, SCE and CDWR ask the Commission to direct the ISO to modify its cost allocation rules for regulation services in connection with its proposal. Order 755 did not direct changes to cost allocation rules for regulation. The ISO asks that the Commission forbear from directing the ISO to revise its allocation of regulation costs by a specific date in this docket. SCE also asks the Commission to direct the ISO to modify its proposal with respect to bid cost recovery rules and the treatment of self-provided regulation. The ISO agrees to make modifications on further compliance to address these comments.

**II. The Commission should not require the ISO to modify its cost allocation rules for regulation services in this proceeding.**

In their comments, PG&E, SCE and CDWR argue the Commission should direct the ISO to modify its cost allocation rules for regulation service.<sup>4</sup> PG&E argues that the Commission should direct the ISO to develop and submit to the Commission by February 2013 a cost allocation proposal for this initiative that reflects cost causation principles. SCE objects to the ISO's proposal to allocate the costs of this initiative to scheduling coordinators with ancillary service obligations and asks the Commission to

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<sup>3</sup> The following entities filed motions to intervene: the California Energy Storage Alliance (CESA); the California Department of Water Resources (CDWR); Pacific Gas and Electric Company (PG&E); Southern California Edison Company (SCE); NRG Companies; the Electricity Storage Association, Beacon Power LLC; and ENBALA Power Networks (USA), Inc. CDWR, CESA, PG&E and SCE also filed substantive comments.

<sup>4</sup> PG&E comments at 4-5; SCE comments at 11-12; CDWR comments at 1-2.

direct the ISO to redesign the cost allocation structure for compensating regulation resources in accordance with cost causation principles and to file a proposal with the Commission within nine months. Similarly, CDWR asks the Commission evaluate and adjust the allocation of costs for regulation services based on cost causation criteria.

In Order 755, the Commission did not direct independent system operators or regional transmission operators to revise the manner in which they allocate costs for regulation service to market participants. In its tariff amendment, the ISO proposes to allocate the cost of regulation performance payments to scheduling coordinators with ancillary service obligations.<sup>5</sup> This approach is identical to how the ISO currently allocates the cost of regulation capacity payments.<sup>6</sup> Requiring the ISO to implement a new cost allocation methodology for regulation services in this proceeding exceeds the scope of the compliance directives of Order 755.

The comments filed by PG&E, SCE and CDWR, however, underscore that it is important to reexamine cost allocation issues in an environment in which load as well as supply contribute to variability on the electric system. The ISO has commenced this effort by identifying cost allocation principles to help guide a dialogue with stakeholders. In May, the ISO briefed its Board of Governors on these principles and explained that initially it intends to apply these principles to the ISO's flexible ramping product that the ISO is currently developing.<sup>7</sup> As part of that briefing, the ISO explained that it intends to commence a stakeholder initiative later this year to review cost allocation for existing

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<sup>5</sup> ISO transmittal letter at 11-12 and proposed tariff sections 11.10.2.1.5 and 11.10.2.2.4.

<sup>6</sup> See ISO tariff sections 11.10.2.1.1 and 11.10.2.2.

<sup>7</sup> See May 9, 2012 Memorandum to ISO Board of Governors Briefing on Cost Allocation Guiding Principles. <http://www.caiso.com/Documents/BriefingCostAllocationGuidingPrinciples-Memo-May2012.pdf>

market products to ensure the ISO is allocating the costs of those products consistent with the identified cost allocation principles. This process will require a significant amount of resources and stakeholder input and, at this time, the ISO has not established a schedule to address the allocation of regulation costs under these cost allocation principles. The ISO respectfully requests, therefore, that the Commission forbear from issuing an order that directs the ISO to modify its cost allocation rules for regulation services in this proceeding by a date certain.

**III. The ISO is willing to modify its bid cost recovery rules to address SCE's comments.**

In its comments, SCE argues that the Commission should require changes to the ISO's proposed bid cost recovery rules.<sup>8</sup> Specifically, SCE asks the Commission to require the ISO to calculate bid cost recovery for mileage based on actual performance of a resource rather than instructed mileage. The ISO agrees in principle with this change and is willing to modify its proposed tariff language on compliance. SCE also asks that the Commission require the ISO to apply a tunable parameter to adjust resource-specific mileage awards to mitigate instances in which the ISO may dispatch resources for more mileage than the ISO estimated the resource would provide as part of the market optimization to determine clearing prices for mileage. Again, the ISO agrees in principle with SCE's proposal and is willing to identify this parameter as part of its tariff on further compliance.

In its tariff amendment, the ISO proposed to calculate mileage bid costs for purposes of bid cost recovery using instructed mileage.<sup>9</sup> Based on SCE's comments,

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<sup>8</sup> SCE comments at 2-8.

<sup>9</sup> See proposed changes to tariff sections 11.8.2.1.6 and 11.8.4.1.6.

the ISO recognizes this formulation may inflate bid cost recovery payments to resources because instructed mileage alone does not reflect the accuracy of the resource's response to the ISO's energy management system signal. Under this initiative, the ISO is proposing to pay resources providing regulation a performance payment based on their actual performance. Bid cost recovery should also reflect actual performance. To address SCE's comments, the ISO is willing to change proposed tariff language in sections 11.8.2.1.6 and 11.8.4.1.6 to reflect that mileage bid costs for either the day-ahead market or real-time market shall reflect the instructed mileage *as adjusted for accuracy*.

The ISO proposes to make the following incremental changes to tariff sections 11.8.2.1.6 and 11.8.4.1.6 on further compliance to address SCE's concerns.

Underscored language in grey shading reflects incremental proposed additions as compared to the black line version of these sections filed on April 27, 2012.

#### **11.8.2.1.6 IFM AS Bid Cost**

For any Settlement Interval, the IFM AS Bid Cost shall be the product of the IFM AS Award from each accepted IFM AS Bid and the relevant AS Bid Price, divided by the number of Settlement Intervals in a Trading Hour. The CAISO will determine and calculate IFM AS Bid Cost for a Multi-Stage Generating Resource at the Generating Unit or Dynamic Resource-Specific System Resource level. The IFM AS Bid Cost shall also include Mileage Bid Costs. For any Settlement Interval, the IFM Mileage Bid Cost shall be the product of Instructed Mileage associated with a Day Ahead Regulation capacity award, as adjusted for accuracy consistent with Section 11.10.1.7, and the relevant Mileage Bid price, divided by the number of Settlement Intervals in a Trading Hour. The CAISO will determine and calculate IFM Mileage Bid Cost for a Multi-Stage Generating Resource at the Generating Unit or Dynamic Resource-Specific System Resource level.

#### 11.8.4.1.6 RTM AS Bid Cost

For each Settlement Interval, the Real-Time Market AS Bid Cost shall be the product of the average Real-Time Market AS Award from each accepted AS Bid submitted in the Settlement Interval for the Real-Time Market, reduced by any relevant tier-1 No Pay capacity in that Settlement Interval (but not below zero), with the relevant AS Bid price. The average Real-Time Market AS Award for a given AS in a Settlement Interval is the sum of the 15-minute Real-Time Market AS Awards in that Settlement Interval, each divided by the number of 15-minute Commitment Intervals in a Trading Hour and prorated to the duration of the Settlement Interval (10/15 if the Real-Time Market AS Award spans the entire Settlement Interval, or 5/15 if the Real-Time Market AS Award spans half the Settlement Interval). For a Multi-Stage Generating Resource the CAISO will determine the RTM AS Bid Cost based on the Generating Unit or Dynamic Resource-Specific System Resource level. The Real-Time Market AS Bid Cost shall also include Mileage Bid Costs. For each Settlement Interval, the Real-Time Mileage Bid Cost shall be the product of Instructed Mileage associated with a Real-Time Regulation capacity award, as adjusted for accuracy consistent with Section 11.10.1.7, and the relevant Mileage Bid price divided by the number of Settlement Intervals for the Real-Time Market in a Trading Hour. The CAISO will determine and calculate the Real Time Market Mileage Bid Cost for a Multi-Stage Generating Resource at the Generating Unit or Dynamic Resource-Specific System Resource level.

SCE also asks the Commission to direct the ISO to apply a parameter to adjust resource-specific mileage awards to mitigate instances in which the ISO may dispatch resources for more mileage than the ISO estimated the resource would provide as part of the day-ahead optimization. In its tariff amendment, the ISO has proposed to make mileage awards to resources based on mileage bids, which will establish a market clearing price that will serve as the basis for performance payments to resources providing regulation.<sup>10</sup> The ISO also awards regulation capacity to resources based on bids. Awarded mileage, while not financially binding, will seek to approximate the actual

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<sup>10</sup> See proposed changes to ISO tariff section 8.2.3.1 and proposed tariff section 27.1.3 submitted on April 27, 2012.

mileage for which the ISO may dispatch a resource so that the ISO's optimization may select the lowest cost resources to meet the ISO's regulation capacity and mileage requirements. Under the ISO's proposal that involves separate bids for each component of regulation service (capacity and mileage), a resource with a high mileage bid may receive a capacity award even though the market clearing mileage price is below the resource's mileage bid. If the ISO dispatches the resource at a level greater than anticipated, the resource may obtain bid cost recovery for this mileage. SCE's proposal seeks to mitigate this unanticipated bid cost recovery and the ISO agrees that it is reasonable to make resource-specific adjustments to avoid this outcome. The tunable parameter proposed by SCE would allow the ISO to adjust a resource's minimum awarded mileage to reflect the expected actual mileage the resource may provide and, therefore, help ensure the efficient selection of resources to satisfy mileage and regulation capacity requirements.<sup>11</sup> For this reason, the ISO proposes to make the following incremental changes to the third paragraph of proposed tariff section 27.1.3 on further compliance to address SCE's concerns. Underscored language in grey shading reflects incremental proposed additions as compared to the black line version of these sections filed on April 27, 2012.

The CAISO will calculate resource specific Mileage multipliers and apply these multipliers to resources' Bid-in Regulation Up and Regulation Down capacity. The resource specific Mileage multipliers will reflect resources' Historic Regulation Performance Accuracy and certified 10-minute ramp capability. The CAISO will apply resource specific Mileage multipliers to Bid-in Regulation Up and Regulation Down capacity to determine the expected Mileage. In the event that a resource has not provided Regulation over the prior thirty (30) days, the CAISO will use the simple

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<sup>11</sup> SCE's comments address a fast ramping resource that submits a high mileage bid and a low capacity bid. A resource may also submit a low mileage bid and a high capacity bid that could require the ISO to make a downward adjustment to a resource's awarded mileage to reflect the expected actual mileage the resource may provide.

average Historic Regulation Performance Accuracy for all resources from the prior thirty (30) days as an initial adjustment factor. Upon request, the CAISO will provide a resource with historical data used to derive its Mileage multipliers. A resource will receive a Mileage award that is at least as much as its self-provided or awarded Regulation Up or Regulation Down capacity, but not more than the product of its resource specific mileage multiplier and its self-provided or awarded capacity. The CAISO may adjust a resource's Mileage award to align its awarded Mileage with the resource's expected Mileage. The CAISO will use Mileage awards to determine a uniform clearing mileage price for Regulation Up and Regulation Down, but the Mileage quantity awards will not be financially binding. Resources will receive payments based upon Instructed Mileage as calculated pursuant to Section 11.10.1.7. The CAISO will publish on OASIS the Mileage clearing prices for each hour of the Day-Ahead Market and each fifteen (15) minute period in Real-Time for the Trading Day.

If the Commission accepts this tariff language, the ISO intends to examine the need to make adjustments to resource specific mileage awards as part of its commitment to conduct a review of its market design to comply with Order 755 based on one year of operation data.<sup>12</sup>

**IV. The ISO is willing to clarify that it will treat self-provided regulation as a \$0/MWh capacity bid and \$0 mileage bid.**

In its comments, SCE requests that the Commission direct the ISO to clarify that any self-provided regulation will reflect a \$0/MWh capacity bid and a \$0 mileage bid. SCE also seeks clarification that the ISO will use these \$0 values to determine market clearing prices and to calculate bid cost recovery for the portion of the resource self-providing regulation.<sup>13</sup> The ISO is willing to clarify that it will treat self-provided regulation as a \$0/MWh capacity bid and a \$0 mileage bid. This approach ensures that resources self-providing regulation capacity cannot set a high market clearing price for mileage and also that self-provided capacity and mileage will not earn bid cost recovery

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<sup>12</sup> ISO transmittal at 17.

<sup>13</sup> SCE comments at 8-9.

payments. To effect this change, the ISO proposes to make the following incremental change to the third paragraph of proposed changes to tariff section 30.5.2.6.1 on further compliance. Underscored language in grey shading reflects incremental proposed additions as compared to the black line version of these sections filed on April 27, 2012.

### **30.5.2.6.1 Regulation Up or Regulation Down Bid Information**

In the case of Regulation Up or Regulation Down, the Ancillary Services Bid or submission to self-provide must also contain: (a) the upward and downward range of generating capacity over which the resource is willing to provide Regulation ~~in~~within a range from a minimum of ten (10) minutes; to a maximum of thirty (30) minutes; and (b) the Bid price of the capacity reservation, stated separately for Regulation Up and Regulation Down (\$/MW) and (c) the Bid price (\$) of the Mileage stated separately for Regulation Up and Regulation Down. For submissions to self-provide Regulation Up or Regulation Down, the price for the capacity reservation shall be \$0/MWh and the price for Mileage shall be \$0. In the case of Regulation Up or Regulation Down from Dynamic System Resources, the Ancillary Services Bid must also contain the Contract Reference Number, if applicable. Scheduling Coordinators may include inter-temporal opportunity costs in their Regulation capacity bids, but these inter-temporal opportunity costs must be verifiable. Ancillary Services Bids submitted to the Day-Ahead or Real-Time Market for Regulation need not be accompanied by an Energy Supply Bid that covers the Ancillary Services capacity being offered. A Regulation Down Bid will be erased unless there is an Energy Supply Bid or Energy Self-Schedule at a level that would permit the resource to provide Regulation Down to its lower Regulation Limit. A submission to self-provide Regulation Down will be erased unless there is an Energy Self-Schedule at a level that would permit the resource to provide Regulation Down to its lower Regulation Limit. A Regulation Up Bid will be erased unless there is an Energy Supply Bid or Energy Self-Schedule at a level that would permit the resource to provide Regulation Up within its Regulation Limit. A submission to self-provide Regulation Up will be erased unless there is an Energy Self-Schedule at a level that would permit the resource to provide Regulation Up within its Regulation Limit.

## V. Conclusion

The ISO requests that the Commission accept the ISO's tariff amendment filed on April 27, 2012, with the changes impacting bid cost recovery rules and self-provided regulation that the ISO agrees to make on further compliance. The ISO requests that the Commission forbear from ordering the ISO to revise its cost allocation rules for regulation in this proceeding by a date certain.

Respectfully submitted,

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Dated: June 4, 2012

## CERTIFICATE OF SERVICE

I hereby certify that I have served the foregoing document upon all of the parties listed on the official service lists for the above referenced proceedings, in accordance with the requirements of Rule 2010 of the Commission's Rules of Practice and Procedure (18 C.F.R. § 385.2011).

Dated at Folsom, California this 4<sup>th</sup> day of June, 2012.

*/s/ Anna Pascuzzo*

Anna Pascuzzo