

December 17, 2013

The Honorable Kimberly D. Bose
Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

**Re: California Independent System Operator Corporation
Docket No. ER14-_____
Order 784 Compliance Filing**

Dear Secretary Bose:

The California Independent System Operator Corporation (ISO) submits this filing in compliance with the Federal Energy Regulatory Commission's Order 784 issued as part of RM11-24-000 and AD10-13-000 to address third-party provision of ancillary services as well as accounting and financial reporting for new electric storage technologies.¹ Among other directives, Order 784 places an obligation on public utility transmission providers to take into account speed and accuracy of regulation resources in determining reserve requirements for regulation service.² Order 784 also directs each public utility transmission provider to post historical one-minute and ten-minute average Area Control Error (ACE) data on their Open Access Same Time Systems (OASIS).³ The ISO submits this filing to describe how its tariff is consistent with or superior to the Commission's directive for transmission providers to take into account speed and accuracy of regulation resources and that the ISO will comply with the requirement to post historical ACE data.⁴

¹ *Third-Party Provision of Ancillary Services; Accounting and Financial Reporting for New Electric Storage Technologies*, 144 FERC ¶ 61,056 (July 2013) (Order 784).

² Order 784 at P 111-115.

³ Order 784 at P 116.

⁴ Order 784 became effective on November 27, 2013 and directed public utility transmission providers to revise their tariffs within 30 days to provide greater transparency with regard to reserve requirements for regulation and frequency response. (Order 784 at P 203.)

I. Background

A. Order 784

On July 18, 2013, the Commission issued a final rule revising its regulations governing the sale of ancillary services at market-based rates to public utility transmission providers as well as accounting and financial reporting for new electric storage technologies. As part of its final rule, the Commission directed that each public utility transmission provider add to its open access transmission tariff a statement that it will take into account the speed and accuracy of regulation resources in its determination of reserve requirements for regulation and frequency response service, including as it reviews whether a self-supplying customer has made “alternative comparable arrangements” as required by the schedule.⁵

The final rule also requires each public utility transmission provider to post historical one minute and ten minute area control error data on OASIS to facilitate this requirement.⁶ The final rule states that this data release requirement is to aid transmission customers’ ability to make comparisons of the transmission provider’s regulation resources versus its own resources that it might use to self-supply its regulation requirements.⁷ The final rule states that historical data for the most recent calendar year, updated once per year, should satisfy this requirement.⁸

B. Overview of ISO’s Market for Regulation Up and Regulation Down

Under the ISO’s Commission-approved tariff, the ISO procures four ancillary services through its markets: regulation up, spinning reserve, non-spinning reserve, and regulation down.⁹ The ISO establishes minimum procurement requirements for these ancillary services in order to meet applicable reliability standards, but may also establish more stringent criteria for the procurement of ancillary services or procure additional ancillary services as conditions warrant.¹⁰ Scheduling coordinators submit bids and submissions to

⁵ Order 784 at P 111.

⁶ *Id.*

⁷ *Id.* at P 116.

⁸ *Id.*

⁹ See generally ISO tariff section 8.1 *et seq.*

¹⁰ See ISO tariff section 8.2.3, 8.2.3.1, and 8.2.3.2.

self-provide ancillary services from resources that meet technical certification requirements. The ISO attempts to procure 100 percent of its ancillary services requirements in the day-ahead market based on the ISO's day-ahead demand forecast net of self-provided ancillary services.¹¹ The ISO market pays a marginal clearing price for ancillary service awards and provides a reduction to a scheduling coordinator's ancillary service obligations based on the market value of the scheduling coordinator's accepted self-provided ancillary services.

Regulation up and regulation down are provided by resources certified to respond automatically to control signals in an upward or downward direction to balance demand and resources in real-time. The ISO day-ahead market procures regulation up and regulation down for many reasons including frequency response and market imbalances that occur between 5 minute dispatch intervals, as well as for forecast inaccuracies or supply deviations. The ISO market also procures incremental regulation up and regulation down in the real time unit commitment process.

II. The ISO's Order 755 market design complies with the directive in Order 784 for public utility transmission providers to take into account speed and accuracy of regulation resources in determining reserve requirements for regulation service.

In October 2011, the Commission issued Order 755¹², which adopted a final rule for compensation of frequency regulation in organized wholesale power markets. The Commission determined that current compensation methods for regulation service in organized markets failed to acknowledge the inherently greater amount of regulation service provided by faster-ramping resources and that certain practices result in economically inefficient dispatch of resources providing regulation service. To remedy these issues, the Commission's final rule required organized markets 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. Order 755 requires the use of a market-based rather than administrative price on which to base performance payments.¹³

¹¹ See ISO tariff section 8.3.1.

¹² *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).

¹³ *Order 755* at P 128.

In response to the final rule, the ISO developed an Order 755 market design, which the Commission has accepted.¹⁴ The design uses a two-part structure to establish capacity and performance payments for bid-in and self-provided regulation. The ISO establishes capacity requirements that are informed by a system wide mileage multiplier that estimates the performance of resources with a regulation up or regulation down capacity award.

Under the ISO's market design, resources that receive regulation capacity awards must also receive a mileage award and vice versa. The ISO, accordingly, considers both capacity and mileage bids in determining the marginal clearing price for both attributes of regulation service. In addition, since a performance payment reflects resources' actual movement in response to a control signal, the ISO's design uses a resource specific mileage multiplier to estimate resource performance in selecting which resources are awarded regulation capacity and/or regulation mileage.

The ISO's Order 755 market design takes into account the speed and accuracy of resources as part of its processes to ensure it meets regulation requirements whether through economic bids or accepted self-provisions. As part of its *Order 755* market design, the ISO calculates resource-specific mileage multipliers (which is the expected mileage from 1 MW of regulation capacity in a given hour) to identify the maximum mileage award or self-provision that a resource can receive through the market optimization. The ISO then accepts economic bids and quantities for regulation capacity and economic bids for mileage to meet its requirements based on its forecasts and historical data. The resource specific mileage multiplier allows the ISO to assess the expected actual mileage the resource may provide and, therefore, helps ensure the efficient selection of resources to satisfy mileage and regulation capacity requirements as part of the co-optimization. Once selected to provide regulation capacity, the ISO uses a control signal to instruct mileage from these resources during the relevant operating intervals and makes a performance payment to resources based on how accurately the resource responds to the control signal. Under this approach, resources that respond faster to a control signal can offer more of their capacity as regulation and resources that respond with greater accuracy will also receive higher performance payments. This design is consistent with or superior to the directive of Order 784 because speed and accuracy of a resource are explicit factors in assessing how much capacity a resource may offer as regulation up or

¹⁴ *Cal. Indep. Sys. Operator Corp.*, 140 FERC ¶ 61,206 (2012). See also *Cal. Indep. Sys. Operator Corp.* 142 FERC ¶ 61,233 (2013).

regulation down as well as informing performance payments a resource receives for responding to the ISO's control signal.¹⁵

III. The ISO will annually post historical one-minute and ten-minute average ACE data from the prior year on its OASIS starting in the spring of 2014.

Order 784 requires each public utility transmission provider to post historical ACE data on its OASIS website.¹⁶ Specifically, Order 784 requires public utility transmission providers to annually post historical one-minute and ten-minute ACE data on OASIS for the most recent calendar year.¹⁷ The Commission determined that this information is necessary for transmission customers to make decisions about whether to procure regulation from a transmission provider or self-supply this service using their own resources or purchases from a third-party. As referenced above, the ISO market allows scheduling coordinators to self-provide regulation. The ISO market also procures regulation from resources through its day ahead and real-time market processes. The ISO proposes to comply with the Commission's directive by annually posting historical one-minute and ten-minute ACE data on OASIS for the most recent calendar year. The ISO plans to build the necessary software functionality to post this data on OASIS as part of its spring 2014 market release. This effort involves querying the ISO's energy management system for the historical ACE data and then providing a user the means to download the ACE data from OASIS. Accordingly, the ISO will post 2013 historical ACE information on OASIS in the spring of 2014.

IV. Conclusion

The ISO requests that the Commission accept this filing as complying with the directives of the Commission's Order 784. The ISO's existing market design to procure regulation up and regulation down takes into account the speed and accuracy of resources in assessing capacity bids and self-provisions. The ISO also compensates resources providing regulation service based on the accuracy of their response to a control signal. All else being equal, resources that respond faster and more accurately to an ISO control signal will have greater

¹⁵ See e.g. *Preventing Undue Discrimination and Preference in Transmission Service*, Order No. 890, 72 Fed Reg. 12,266 (Mar. 15, 2007), FERC Stats. & Regs. ¶ 31,241, at P 109 in which the Commission stated that departures from a *pro forma* open access transmission tariff must be consistent with or superior to the *pro forma* open access transmission tariff.

¹⁶ Order 784 at P 111, amending Part 35 of the Commission Regulations by adding a new section (k) to Section 37.6.

¹⁷ Order 784 at P 116.

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opportunities to provide regulation capacity in the ISO market and will receive greater performance payments for the accurate movement they provide in response to a control signal. For these reasons, the ISO's tariff is consistent with or superior to the directive in Order 784 that public utility transmission providers take into account speed and accuracy of regulation resources in determining reserve requirements for regulation service. With respect to the Commission's directive to post historical ACE data on OASIS, the ISO will do so for the 2013 calendar year as part of its spring 2014 market release. Please contact the undersigned if you have any questions.

Respectfully submitted,

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