

MEMORANDUM

Date : April 7, 2011

To : The Commission
(Meeting of April 14, 2011)

From : Elizabeth Dorman, Legal Division
Charles Mee, Energy Division

Subject : Staff Seeks Authority to File Comments on the FERC's Proposed Rulemaking on Frequency Regulation Compensation in the Organized Wholesale Power Markets (Docket No. RM11-7, AD10-11)

EXECUTIVE SUMMARY: Maintaining the frequency of the transmission system within a certain range is critical to reliable grid operations. System operators have historically used traditional generation resources to correct frequency deviations. The FERC is concerned that current compensation mechanisms used by Independent System Operators (ISO) and Regional Transmission Organizations (RTO) may inadvertently discriminate against non-traditional technologies for the performance of frequency regulation services. Such non-traditional technologies include large-scale battery systems, flywheels, electric vehicle-to-grid systems and demand response resources. Thus, the FERC proposes to require that ISO/RTOs adopt tariff revisions that ensure resources that provide frequency regulation are compensated in a specific, uniform manner discussed below to reward resources for the quality and accuracy of their capabilities and dispatched services.

The CPUC Staff (Staff) proposes to generally support the FERC's proposal for several reasons. Increased frequency regulation services may be necessary to achieve California's aggressive renewable resource procurement goals.¹ While the FERC's proposal is specifically designed to be technology-neutral, its proposed payment system appears likely to expand income potential for a variety of resources that are either highly

¹ California's Renewable Portfolio Standard (RPS) was established in 2002 under Senate Bill 1078 (Stats. 2002, Ch. 516, Sec. 3) and accelerated in 2006 under Senate Bill 107 (Stats. 2006, Ch. 464, Sec. 13).

valued within California's Loading Order,² may assist in the achievement of California's goal to significantly reduce the state's greenhouse gas emissions, in addition to providing high quality frequency regulation services.³ Staff proposes to urge the FERC, however, that ISO/RTOs should be allowed some flexibility in the implementation of its proposed payment system in order to reflect existing market structures and to allow for the development of alternative just and reasonable compensation mechanisms.

BACKGROUND: In April of 2010, the FERC opened Docket Number AD10-11 to consider the value of new energy technologies that have the potential to respond to a regulation dispatch signal faster and follow it more accurately than traditional generation resources. During the ensuing FERC Technical Conference, it was discussed that some studies have shown that increasing the volume of faster ramping resources to the grid may decrease the overall volume of generation capacity necessary to provide grid stability, which may reduce overall energy procurement costs. A higher volume of faster ramping resources may also aid in the integration of intermittent renewable resources by filling in for their inconsistent power production and/or easing grid stress caused by daily ramping up and down of power production from such resources.

DISCUSSION: Staff requests authority to file comments generally supporting the principles and goals of the FERC's proposed rulemaking, along the lines of the points discussed below:

1. Staff supports the FERC's "technology neutral" approach to frequency regulation compensation. The FERC's proposed compensation method would include a) a uniform (i.e., not unit-specific) capacity payment that includes opportunity costs; b) a performance payment based on the amount of up and down movement, or "mileage" provided by the resource. This "mileage" payment would reflect the accuracy of the resource's accuracy in providing frequency correction. Unlike the current payments that many ISO/RTOs provide, in which the resource's up and down movement is netted rather than accumulated, the proposed payment system could provide greater payments for resources that provide greater reliability services to the grid. Such an outcome would likely facilitate market fairness, system reliability and opportunities for a more varied portfolio of grid resources.
2. While the FERC's proposal is based on sound reasoning, it may be premature for the FERC to mandate that ISO/RTOs implement any one particular payment

² California's Loading Order is described in the state's Energy Action Plan, available at: www.energy.ca.gov/energy_action_plan/2005-09-21_EAP2_FINAL.PDF.

³ Assembly Bill 32 (AB 32) Stats. 2006, ch. 488 (California's Global Warming Solutions Act, requires a reduction in statewide greenhouse gas (GHG) emissions to 1990 levels by 2020.)

structure to the exclusion of other options. As discussed by Commissioner Spitzer in his partial dissent to the FERC's proposal, the FERC should not foreclose the option that either with increased experience or analysis, ISO/RTOs may develop other just and reasonable compensation approaches that could achieve the stated objectives.

3. A Frequency Regulation payment mechanism should account for all characteristics associated with individual resource performance. For example, while a battery is able to quickly respond to control signals, it will be limited in its ability to ramp up or down depending on whether it is relatively charged or discharged at any given time. Such use limitations should be reflected in the various types of payments to such resources.
4. Payments and charges associated with the FERC's proposed methodology should be subject to flexible implementation based on the ISO/RTOs' existing market structures in order to avoid disruption to the overall market structure and efficiencies. For example, within the CAISO, it may make sense that frequency regulation payments should be settled in the same manner as other ancillary services, and not be mingled with the market's imbalance energy settlement. Such comingling could impair and/or add unnecessary complication to the function and effectiveness of the CAISO's current market design. Additionally, it may be efficient to use the CAISO's existing five minute dispatch system to fulfill frequency regulation needs.
5. The proposed payment system may not compensate new technologies enough to foster the expansion of such resources. California is considering whether to implement energy storage procurement requirements⁴ and may thus eventually provide additional facilitation for the development of storage and other novel technologies in order to enhance the diversity of the state's pool of resources⁵ as well as possibly facilitating California's greenhouse gas reduction goals.

ACTION REQUESTED: Staff request authority to submit comments due on or before May 2nd in the FERC's Docket Numbers RM11-7 and AD10-11 issued by the FERC on February 17, 2011 consistent with the discussion above.

⁴ Assembly Bill 2514 (AB 2514) Stats. 2010 – ch. 469, directs the CPUC to open a proceeding to determine appropriate targets, if any, for each load-serving entity (LSE) as defined by Pub. Util. Code Section 380 (j) to procure viable and cost-effective energy storage systems and, by October 1, 2013, to adopt an energy storage system procurement target, if determined to be appropriate, to be achieved by each LSE in 2015; and a second target to be achieved by each LSE in 2020. The CPUC accordingly instituted such an Order Instituting Rulemaking on December 21, 2010.

⁵ See Cal. Pub. Utils. Code, § 454.5, subd. (b)(11).

For questions or further information, please contact the assigned staff: **Elizabeth Dorman (EDD/3-1415)**.

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