

137 FERC ¶ 61,217  
UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Jon Wellinghoff, Chairman;  
Philip D. Moeller, John R. Norris,  
and Cheryl A. LaFleur.

California Independent System Operator  
Corporation

Docket No. ER11-4100-000

ORDER ACCEPTING IN PART AND REJECTING IN PART COMPLIANCE FILING  
AND REQUIRING COMPLIANCE FILING

(Issued December 15, 2011)

1. On July 22, 2011, the California Independent System Operator Corporation (CAISO) submitted a compliance filing containing tariff revisions regarding its demand response program to comply with Commission Order No. 745.<sup>1</sup> CAISO's compliance filing is accepted in part, subject to further compliance, effective as of the date of this order, and rejected in part, as discussed below.

**I. Background**

**A. CAISO's Existing Demand Response Programs**

2. Under CAISO's existing Proxy Demand Resource program, a Proxy Demand Resource is defined as a load or an aggregation of loads capable of measurably and verifiably reducing their electric demand in response to CAISO dispatch instructions, and is represented by a Demand Response Provider that aggregates such retail load.<sup>2</sup> CAISO compensates market participants at the locational marginal price (LMP) for such reductions.

3. Demand Response Providers are authorized to take part in CAISO's day-ahead and real-time markets for the provision of energy and some ancillary services, once they

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<sup>1</sup> *Demand Response Compensation in Organized Wholesale Energy Markets*, Order No. 745, 76 FR 16,658 (Mar. 24, 2011), FERC Stats. & Regs. ¶ 31,322 (2011) (Order No. 745), *reh'g pending*.

<sup>2</sup> For a more complete description of CAISO's Proxy Demand Resource program, see *Cal. Indep. Sys. Operator Corp.*, 132 FERC ¶ 61,045 (2010).

have executed a *pro forma* Proxy Demand Resource agreement with CAISO and have satisfied other applicable requirements, including any local regulatory authority requirements.

4. Under the Proxy Demand Resource program, payment is based on the verified performance of Proxy Demand Resources as compared with historical metered demand represented by a customer baseline. Demand Response Providers submit information that allows CAISO to establish customer baselines using historical load meter data. The customer baseline represents an estimate of metered demand that normally would be expected for a particular Proxy Demand Resource in the absence of a demand response event.

5. The load serving entity schedules forecasted load, while the Demand Response Provider schedules and bids its Proxy Demand Resources into the CAISO market to curtail load.<sup>3</sup> For settlement purposes, the load serving entity schedules load and pays the price at the default load aggregation point (Default LAP). CAISO settles with Proxy Demand Resource scheduling coordinators by paying the LMP at more granular sub-load aggregation points (Sub-LAPs) for Proxy Demand Resources whose bids are economic and clear the market.

6. For settlement purposes, under CAISO's Proxy Demand Resource program, the total amount of Proxy Demand Resource energy measurement (calculated by comparing the customer baseline of a Proxy Demand Resource against its actual underlying load for a demand response event) is added to the demand of the load serving entity in which the Proxy Demand Resource is located. This add-back is intended to prevent the load serving entity from being compensated for demanding less energy than scheduled in the day-ahead market because of the Proxy Demand Resource's load reduction. However, this add-back of the demand reduction results in the load serving entity paying for load it does not ultimately serve.<sup>4</sup> This add-back is referred to as the "default load adjustment."

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<sup>3</sup> Schedules and bids in CAISO are made through a scheduling coordinator. A single scheduling coordinator could represent both a load serving entity and a Demand Response Provider.

<sup>4</sup> CAISO indicated that this issue would be appropriately resolved by the California Public Utilities Commission (CPUC), potentially through bilateral agreements between the load serving entity and the Demand Response Providers. In its order on the Proxy Demand Resource proposal, the Commission declined to address the impact of these agreements stating,

the terms of such an agreement are not presently before the Commission, and the Commission does not address here such a potential agreement.... Nor does the

(continued...)

7. In May 2011, CAISO proposed the addition of a new demand response program – the Reliability Demand Response Product, which it characterized as a means by which emergency-triggered demand response could be integrated into CAISO’s energy markets.<sup>5</sup> This proposed addition would build on the existing Proxy Demand Resource program platform and incorporates many of the same elements, including the default load adjustment.<sup>6</sup> The Commission notes that CAISO’s Reliability Demand Response proposal is pending in Docket Nos. ER11-3616-000 and 001, but CAISO’s present filing incorporates changes proposed in that filing. The Commission leaves issues related to the Reliability Demand Response Proposal to that proceeding.

**B. Order No. 745**

8. On March 15, 2011, the Commission issued Order No. 745, a Final Rule amending the Commission’s regulations under the Federal Power Act (FPA), regarding compensation for demand response resources participating in wholesale energy markets, i.e., the day-ahead and real-time markets, administered by Regional Transmission Organizations (RTOs) and Independent System Operators (ISOs). Specifically, Order No. 745 requires each RTO and ISO to pay a demand response resource the market price for energy, i.e., the LMP, when two conditions are met. First, the demand response resource must have the capability to balance supply and demand as an alternative to a generation resource. Second, dispatching the demand response resource must be cost-effective as determined by a net benefits test in accordance with Order No. 745. The net benefits test, as described more fully below, is necessary to ensure that the overall benefit of the reduced LMP that results from dispatching demand response resources exceeds the costs of dispatching and paying LMP to those resources.

9. In order to implement the net benefits test, the Commission directed each RTO and ISO to develop a mechanism to approximate the price level at which dispatching demand response resources will be cost-effective. The Commission required each RTO and ISO to make a compliance filing by July 22, 2011, proposing tariff revisions necessary to implement the compensation approach adopted in Order No. 745, including

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Commission address here the on-going process before the CPUC regarding demand response participation in the CAISO market by aggregators of retail load. *Cal. Indep. Sys. Operator*, 132 FERC ¶ 61,045, at P 32 n.20 (2010).

<sup>5</sup> CAISO May 20, 2011 Reliability Demand Response Product Filing, Docket No. ER11-3616-000.

<sup>6</sup> CAISO also has an existing Participating Load program, but as explained below, the Commission finds that the requirements of Order No. 745 do not apply to Participating Load.

the net benefits test, a cost allocation mechanism, and an assessment of their demand response measurement and verification protocols and any modifications to those protocols that may be necessary to ensure adequate baseline measurement and verification of demand response performance. This order addresses CAISO's compliance filing.

## **II. Notice and Responsive Pleadings**

10. Notice of the compliance filing was published in the *Federal Register*, 76 Fed. Reg. 45,246 (2011), with interventions and comments due on or before August 12, 2011. Timely motions to intervene were filed by the Electric Power Supply Association (EPSA), EnerNOC, Inc., Comverge, Inc., NRG Power Marketing LLC, Cabrillo Power I LLC, Cabrillo Power II LLC, El Segundo Power LLC, Long Beach Generation LLC and NRG Solar Blythe LLC (collectively, the NRG Companies), GenOn Energy Management, LLC, GenOn Delta, LLC, GenOn West, LP, (collectively, the GenOn Parties), Cities of Anaheim, Azusa, Banning, Colton, Pasadena and Riverside, California (collectively, "Six Cities"), Constellation Energy Commodities Group, Inc., Constellation NewEnergy, Inc. (collectively, "Constellation"), Southern California Edison Company, Modesto Irrigation District, Northern California Power Agency, Alliance for Retail Energy Markets, and Pacific Gas & Electric Company. EPSA later filed timely comments. Timely motions to intervene and comments were filed by California Demand Response Advocates (DR Advocates), the CPUC, and California Department of Water Resources State Water Project (SWP). An out-of-time motion to intervene was filed by EnergyConnect, Inc.

11. On August 29, 2011, CAISO filed an answer to the motions to intervene and comments. On September 23, 2011, EPSA filed an Answer.

## **III. Discussion**

### **A. Procedural Matters**

12. Pursuant to Rule 214 of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.214 (2011), the notices of intervention and timely, unopposed motions to intervene serve to make the entities that filed them parties to this proceeding.

13. Rule 213(a)(2) of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.213(a)(2) (2011), prohibits an answer to a protest unless otherwise ordered by the decisional authority. We are not persuaded to accept CAISO's answer or EPSA's answer and will, therefore, reject them in this proceeding.

14. Pursuant to Rule 214(d) of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.214(d) (2011), the Commission will grant EnergyConnect's late-filed

motion to intervene given its interest in the proceeding, the early stage of the proceeding, and the absence of undue prejudice or delay.

**B. Substantive Matters**

**1. Net Benefits Test**

15. In Order No. 745, the Commission recognized that, depending on the change in the LMP relative to the size of the energy market, dispatching demand response resources may result in an increased cost per unit (\$/MWh) to the remaining wholesale load, due to the inherent, overall decreased amount of load paying the bill, which is referred to as the “billing unit effect.”<sup>7</sup> In order to address this effect, the Commission required each RTO and ISO to implement a net benefits test to determine whether a demand response resource is a cost-effective alternative to generation for balancing supply and demand in any given hour.<sup>8</sup>

16. Specifically, Order No. 745 directed each RTO and ISO to undertake an analysis on a monthly basis, based on historical data and the prior year’s supply curve, to identify a price threshold to estimate where customer net benefits would occur. The Commission further explained that the RTO or ISO should determine the threshold price corresponding to the point along the supply stack for each month at or beyond which the benefit to load from the reduced LMP resulting from dispatching demand response resources exceeds the increased cost to load associated with the billing unit effect, and update the calculation monthly as new information becomes available.<sup>9</sup>

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<sup>7</sup> Order No. 745, FERC Stats. & Regs. ¶ 31,322 at P 3.

<sup>8</sup> Although the Commission noted that integrating the billing unit effect into the RTO/ISO dispatch processes has the potential to more precisely identify when demand response resources are cost effective, the Commission acknowledged the position of several RTOs and ISOs that it may be difficult to modify their dispatch algorithms in the near term. Therefore, the Commission required RTOs and ISOs to perform a net benefits test on a monthly basis to determine under which conditions it is cost-effective to pay full LMP to demand response resources. Additionally, the Commission directed RTOs and ISOs to study the feasibility of developing a dynamic net benefits approach to dispatching demand response resources that takes into account the billing unit effect in the economic dispatch in both the day-ahead and real-time energy markets and file the results of their study with the Commission by September 21, 2012.

<sup>9</sup> Order No. 745, FERC Stats. & Regs. ¶ 31,322 at P 79.

17. The Commission further explained that the threshold point along the supply stack for each month will fall in the area where the supply curve becomes inelastic, rather than the extreme steep portion at the peak or in the flat portion of the supply curve. In other words, LMP will be paid to demand response resources during periods when the nature of the supply curve is such that small decreases in generation being called to serve load will result in price decreases sufficient to offset the billing unit effect.<sup>10</sup>

18. Order No. 745 also directed each RTO and ISO to post on its website the Commission-approved net benefits test methodology with supporting documentation.<sup>11</sup> Also, Order No. 745 directed the RTO or ISO to post the price threshold levels that would have been in effect in the previous 12 months. Further, Order No. 745 directed that when the net benefits test becomes effective, the supply curve analysis for the historic month that corresponds to the effective month should be updated for current fuel prices, generating unit availability and any other significant changes. Also, the Commission directed that the supply curve analysis for all months should be updated and posted on the RTO or ISO website if a significant change to the composition or slope of the historic monthly curves occurs.

### **CAISO Filing**

19. CAISO's tariff revisions apply only to the net benefits test.<sup>12</sup> CAISO proposes to apply a net benefits test to determine whether Proxy Demand and Reliability Demand Response Resource bids qualify for such resources to be included in a schedule.<sup>13</sup>

20. To implement its net benefits test, CAISO proposes new tariff section 30.6.3.1 to generate supply curves for each month depicting the market clearing price for specified amounts of supplied power in the CAISO market within that month. CAISO states that, consistent with a methodology set forth in the business practice manual, it will generate two supply curves for each month, one for on-peak hours and one for off-peak hours.<sup>14</sup> CAISO adds that the curves will be created by: (1) selecting representative supply curve

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<sup>10</sup> *Id.* P 80.

<sup>11</sup> *Id.* P 81.

<sup>12</sup> CAISO, July 22, 2011 Filing at 6 (CAISO Filing).

<sup>13</sup> CAISO's proposal applies to its existing Proxy Demand Resource program and its pending Reliability Demand Response Resource proposal because CAISO presumes Order No. 745 applies to both programs but not to Participating Load. CAISO Filing at 6.

<sup>14</sup> CAISO Filing at 8.

data for the same month from the previous year, (2) adjusting the representative supply curve data to reflect significant changes in generation resource availability and fuel prices, and (3) mathematically smoothing the supply curves.<sup>15</sup> Once CAISO generates these supply curves, it will use the supply curves to determine a threshold market clearing price for the on-peak and off-peak periods.<sup>16</sup> CAISO estimates that in the 12 month period from July 2010 to June 2011, the off-peak threshold prices range from \$46.59 to \$54.38, and the on-peak threshold price range from \$46.30 to \$53.79.<sup>17</sup>

21. According to CAISO, threshold prices would correspond to the point on each supply curve at or beyond which the benefits of dispatching Proxy Demand and Reliability Demand Response Resources would exceed the cost of compensating those resources.<sup>18</sup> Specifically, for market prices at or above the threshold price on each supply curve, a reduction in load would lead to a large enough drop in market price that the cost savings to the remaining load would be greater than the compensation at LMP paid to the Demand Response Provider. So, it would be cost effective for the market to pay LMP for a reduction in load at market prices at or above the threshold price.

22. In proposed tariff section 30.6.3.2, CAISO adds that it would apply the net benefits test to establish a threshold price and would reject bids by Proxy Demand and Reliability Demand Response Resources below that threshold price.<sup>19</sup> CAISO contends that this policy is consistent with the test for payment of the LMP outlined in Order No. 745.<sup>20</sup>

23. CAISO proposes to post the threshold market clearing prices for each month on its website by the fifteenth day of the immediately preceding month. CAISO also proposes to provide supporting documentation regarding the proposed calculations and processes. Also, CAISO states that it would post and update information regarding the net benefits test calculations on its website, consistent with the Order No. 745 requirements.<sup>21</sup>

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<sup>15</sup> *Id.* at 8.

<sup>16</sup> *Id.* at 8.

<sup>17</sup> CAISO Filing, Attachment C, Demand Response Net Benefits Test at 11-12.

<sup>18</sup> *Id.* at 8.

<sup>19</sup> *Id.* at 10.

<sup>20</sup> *Id.* at 9 (noting that Order No. 745 did not require ISOs and RTOs to propose alternative payment approaches for demand response resource below the threshold price).

<sup>21</sup> *Id.* at 10-11.

However, CAISO did not include provisions regarding posting its net benefits test methodology, or providing historical information for updating the net benefits test calculations in its tariff.

### Comments

24. The CPUC states that it opposes the implementation of the net benefits test in California, since it applies a price floor for demand response that does not exist for other resources, and thus is unduly discriminatory.<sup>22</sup> The CPUC argues that although the net benefits test is designed to reduce overall procurement costs, it sets a price floor for demand response bids that is not applied to other types of bids, limiting the price reduction that lower demand response bids can cause.<sup>23</sup> The CPUC states that its protest should be viewed as, “a continuing protest to the implementation of Order No. 745 in California.”<sup>24</sup>

25. The CPUC argues that the net benefits test interferes with the state’s ability to order retail rate adjustments for Demand Response Providers, and to encourage the long term development and dispatch of demand response. Further, the CPUC notes that California has chosen to prioritize environmentally friendly resources over fossil-fired generation.<sup>25</sup> The CPUC argues that the net benefits test frustrates this priority by preventing the retirement of non-economic fossil fuel generation which would be replaced by cheaper demand response.<sup>26</sup> The CPUC claims that this would undermine California’s authority to determine the resource mix upon which it chooses to rely, as well as the price to be paid for the portfolio of resources. The CPUC notes that the Federal Power Act left local service issues, including integrated resource planning and portfolio composition to states.<sup>27</sup>

26. EPSCA states that Order No. 745 did not adequately explain or support the change to demand response compensation for any one RTO, or the implementation of a standard

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<sup>22</sup> CPUC Comments at 9.

<sup>23</sup> *Id.* at 10.

<sup>24</sup> *Id.* at 3, 8.

<sup>25</sup> *Id.* at 10.

<sup>26</sup> *Id.* at 12.

<sup>27</sup> *Id.* at 13 (citing *New York v. FERC*, 535 U.S. 1, 24 (2002)).



pricing element across RTOs.<sup>28</sup> EPSA argues that the Commission should have tailored demand response compensation in order to address specific market barriers where they exist. EPSA argues that the pricing system mandated by Order No. 745 subsidizes one set of market participants in order to provide an incentive for them, thus creating substantial market inequities and unjust and unreasonable rates.

### **Commission Determination**

27. The Commission finds CAISO's proposed net benefits test is compliant with the direction provided in Order No. 745. However, because CAISO has not complied with other, related requirements of Order No. 745, the Commission directs CAISO to submit a further compliance filing as discussed below.

28. In proposed tariff section 30.6.3.1, CAISO proposes to establish threshold prices for peak and off-peak periods at the points where the the dispatch of demand response results in a net decrease in the cost of energy. CAISO proposes to calculate the threshold price where the supply elasticity is equal to one using supply curves based on historical data.<sup>29</sup> When the LMP is at or above this threshold price, demand response resources receive the LMP. These provisions are consistent with our direction in Order No. 745. Accordingly, the Commission finds CAISO's proposed net benefits test complies with Order No. 745.

29. Also, the Commission directed that the Commission-approved net benefits test methodology be posted on the RTO's or ISO's website, with supporting documentation along with the price thresholds that would have been in effect in the previous 12 months and any updated supply curve analysis.<sup>30</sup> While CAISO's tariff provides for the determination of threshold prices consistent with the direction provided in Order No. 745, and provides that the threshold prices will be posted on the CAISO website, the proposed tariff provisions do not include the requirements for posting updated supply curve analysis, net-benefits methodology, the threshold price for the previous 12 months, and supporting documentation. CAISO mentions that it intends to follow the Commission's direction in its transmittal letter, but it does not include corresponding tariff provisions.<sup>31</sup> Accordingly, the Commission directs CAISO to submit a compliance filing within 90

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<sup>28</sup> EPSA Comments at 2.

<sup>29</sup> This methodology is equivalent to that directed in Order No. 745, since it would ensure that the benefit to customers overcomes the billing unit effect.

<sup>30</sup> Order No. 745, FERC Stats. & Regs. ¶ 31,322 at P 81.

<sup>31</sup> CAISO Filing at 11.

days of the date of this order to revise tariff section 30.6.3.1 to include such provisions regarding the posted threshold price and providing the directed information in its tariff in a compliance filing.

30. Furthermore, CAISO's proposed tariff language states that its methodology for generating two supply curves each month and determining the monthly threshold prices will be set forth in its business practice manual. Decisions on whether to place an item in the CAISO tariff or the business practice manual are shaped by the Commission's "rule of reason" policy,<sup>32</sup> which dictates that provisions which "significantly affect rates, terms, and conditions" must be included in the tariff.<sup>33</sup> As the determination of the monthly threshold prices will directly affect rates, the Commission directs CAISO to make a compliance filing within 90 days of the date of this order to include in its tariff a detailed description of the methodology it will utilize to determine the supply curves and threshold prices.

31. The Commission rejects CAISO's proposed tariff section 30.6.3.2. The Commission finds CAISO's proposal to reject bids by Proxy Demand and Reliability Demand Response Resources that are below the threshold price when the net benefits test is satisfied (that is, the LMP is equal to or greater than the applicable threshold price) is inconsistent with the requirements of Order No. 745. Order No. 745 did not direct RTOs and ISOs to reject demand response bids below the threshold price, nor did it determine that only bids at or above the threshold price could result in cost-effective demand reductions. Rather, under Order No. 745, when the LMP is greater than or equal to the threshold price, all demand response resources that qualify for compensation will receive the LMP payment.<sup>34</sup> Demand response resources must be compensated at the LMP when it is cost-effective, regardless of whether their bids were below the threshold price.<sup>35</sup>

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<sup>32</sup> See *Cal. Indep. Sys. Operator Corp.*, 122 FERC ¶ 61,271, at P 16 (2008) (citing *Cleveland v. FERC.*, 773 F.2d 1368, 1376 (D.C. Cir. 1985) (finding that utilities must file "only those practices that affect rates and service significantly, that are reasonably susceptible of specification, and that are not so generally understood in any contractual arrangement as to render recitation superfluous"); *Public Serv. Comm'n of N.Y. v. FERC.*, 813 F.2d 448, 454 (D.C. Cir. 1987); *Midwest Indep. Transmission Sys. Operator, Inc.*, 98 FERC ¶ 61,137, at 61,401, *clarification granted*, 100 FERC ¶ 61,262 (2002)).

<sup>33</sup> *Cal. Indep. Sys. Operator Corp.*, 119 FERC ¶ 61,076, at P 656 (2007) (citing *ANP Funding I, LLC v. ISO-NE*, 110 FERC ¶ 61,040, at P 22 (2005); *Prior Notice and Filing Requirements under Part II of the FPA*, 64 FERC ¶ 61,139, at 61,986-89 (1993), *order on reh'g*, 65 FERC ¶ 61,081 (1993)).

<sup>34</sup> Order No. 745, FERC Stats. & Regs. ¶ 31,322 at P 47 ("when dispatching and paying LMP to that demand response resource is shown to be cost-effective as

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32. Further, tariff section 30.6.3.2 serves as CAISO's mechanism for not paying demand response resources when the LMP is less than the threshold price. Order No. 745's directives regarding compensation are limited to the level of payment that a demand response resource should receive if market conditions satisfy the net benefits test, i.e., when the LMP is equal to or greater than the threshold price.<sup>36</sup> As we further explain in the concurrently-issued order on rehearing of Order No. 745, the Commission's action in Order No. 745, undertaken pursuant to section 206 of the FPA, was limited to situations where a demand response resource has the capability to balance supply and demand as an alternative to a generation resource, and where dispatch of the demand response resource is cost-effective as determined by a net benefits test.<sup>37</sup> The Commission's section 206 action did not extend to situations where the LMP is not greater than or equal to the threshold price, and as a result, compensation of demand response resources in those situations is beyond the scope of this compliance proceeding. CAISO exceeds the scope of Order No. 745 by attempting to include, on compliance, tariff provisions regarding the level of compensation a demand response resource can receive when market conditions do not satisfy the net benefits test, i.e., when the LMP does not equal or exceed the threshold price. Proposed tariff changes to alter compensation to such resources when the net benefits test is not satisfied would be more appropriately made in a separate FPA section 205 Filing.

33. Also, the CPUC and EPSA's comments are beyond the scope of this compliance filing. The sole issue in a compliance filing is whether the filing complies with the

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determined by the net benefits test... payment by an RTO or ISO of compensation other than the LMP is unjust and unreasonable.”).

<sup>35</sup> Order No. 745-A, 137 FERC ¶ 61,215, at P 131 (2011) (“We clarify that pursuant to this section 206 directive, each RTO and ISO must revise its tariff to provide that when the LMP is greater than or equal to the threshold price, all demand resources that qualify for compensation will receive the LMP payment.”).

<sup>36</sup> Order No. 745, FERC Stats. & Regs. ¶ 31,322 at P 2 stating,

when a demand response resource participating in an organized wholesale market administered by an RTO or ISO has the capability to balance supply and demand as an alternative to a generation resource and when dispatch of that demand response resource is cost-effective *as determined by the net benefits test*... that demand response resource must be compensated for the service it provides to the energy market at the market clearing price for energy, referred to as the [LMP]. (emphasis added).

<sup>37</sup> Order No. 745-A, 137 FERC ¶ 61,215 at P 131.

Commission's direction.<sup>38</sup> Both sets of comments regarding the net benefits test concern the Commission's determination in Order No. 745 to require RTOs and ISOs to develop a net benefits test. These issues are raised and appropriately addressed in the Commission's Order on Rehearing being issued contemporaneously with this order.<sup>39</sup>

## 2. Cost Allocation

34. The Commission explained in Order No. 745 that while dispatching demand response resources results in lower LMPs, transmission constraints may affect which customers benefit from those lower LMPs. In hours without transmission constraints, RTOs establish a single LMP for their entire system, in which case demand response would result in a benefit to all customers on the system. In hours when transmission constraints exist, LMPs may vary by zone or other geographic area and dispatching a demand response resource in a particular geographic region may not reduce LMPs system-wide and, consequently, not all system customers would benefit.<sup>40</sup>

35. For these reasons, the Commission determined that it is just and reasonable to allocate the costs associated with demand response compensation proportionally to all entities that purchase from the relevant energy market in the area(s) where the demand response reduces the market prices for energy at the time the demand response resource is committed or dispatched.<sup>41</sup> Thus, the Commission required each RTO and ISO to make a compliance filing that either demonstrates that its current demand response cost allocation methodology appropriately allocates costs to those that benefit from the demand reduction or proposes revised tariff provisions that conform to this requirement.<sup>42</sup>

### CAISO Filing

36. CAISO claims that its existing tariff provisions satisfy the requirements of Order No. 745 regarding cost allocation because the existing tariff provisions already require

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<sup>38</sup> See *PJM Interconnection, LLC*, 111 FERC ¶ 61,257, at P 14 (2005); *Ameren Services Co. v. Midwest Indep. Transmission Service Operator, Inc.*, 131 FERC ¶ 61,120, at P 22 (2010).

<sup>39</sup> See Order No. 745-A, 137 FERC ¶ 61,215.

<sup>40</sup> Order No. 745, FERC Stats. & Regs. ¶ 31,322 at P 100.

<sup>41</sup> *Id.* P 102.

<sup>42</sup> *Id.*

demand response costs to be allocated to those that benefit.<sup>43</sup> CAISO argues that payments of LMP made to Proxy Demand Resources are allocated to the load that benefits from the load reduction, which it characterizes as all load scheduled in the day-ahead market and deviations from day-ahead schedules in real-time. CAISO notes that day-ahead dispatch costs from Proxy Demand Resources are allocated to buyers of energy in the day-ahead market, just like for other supply resources. CAISO also notes that real-time energy costs for Proxy Demand Resources are allocated to those that deviated from their schedules in real-time. CAISO contends that this allocation satisfies the requirements of Order No. 745 and does not propose any revisions to the allocation methodology set forth in its tariff.

37. CAISO contends that the default load adjustment is consistent with or superior to the requirements of Order No. 745 because it is important to demand response in California.<sup>44</sup> CAISO argues that eliminating the default load adjustment would slow the development of additional Proxy Demand Resources and the implementation of Reliability Demand Response Resources pursuant to the CPUC-approved settlement.<sup>45</sup> CAISO adds that the settlement that created Reliability Demand Response resolved years of discussion in various CPUC proceedings regarding how emergency demand response resources can participate in the CAISO market. CAISO contends that elimination of the default load adjustment could jeopardize this agreement.

### **Comments**

38. DR Advocates argue that CAISO's default load adjustment mechanism is inconsistent with Order No. 745.<sup>46</sup> DR Advocates claim that the default load adjustment allocates the cost of demand response exclusively to the load serving entity associated with the demand response.<sup>47</sup> DR Advocates maintain that the Commission adopted a cost allocation process where the cost of demand response would be allocated proportionally to those entities that purchase from the area where demand response reduced the price of

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<sup>43</sup> CAISO Filing at 15.

<sup>44</sup> CAISO notes that on April 14, 2011 its motion for clarification or, in the alternative, request for rehearing, it stated that Order No. 745 did not directly address the default load adjustment. But, in that filing, CAISO requests clarification or rehearing that the default load adjustment was consistent with Order No. 745. *Id.* at 11.

<sup>45</sup> *Id.* at 13.

<sup>46</sup> DR Advocates Protest at 4.

<sup>47</sup> *Id.* at 5.

purchased energy.<sup>48</sup> DR Advocates further contend that the Commission specifically rejected allocating all of the costs of demand response to the load serving entity associated with that demand response.<sup>49</sup>

39. DR Advocates further argue that CAISO's compliance filing incorrectly asserts that modifications to its demand response system would upset CPUC decisions related to its Proxy Demand Resource program and settlements related to Reliability Demand Response.<sup>50</sup> DR Advocates note that it can find no reference to the default load adjustment in the CPUC decisions referenced by CAISO. DR Advocates add that the decisions referenced by CAISO limit demand response to current pilot programs. Thus, DR Advocates argue that eliminating the default load adjustment would not affect many customers.<sup>51</sup> DR Advocates add that CPUC has not adopted any position on the appropriate compensation for demand response resources, and, thus, Order No. 745 cost allocation provisions cannot conflict with CPUC decisions.<sup>52</sup>

40. DR Advocates also dispute CAISO's contention that eliminating the default load adjustment would threaten the CPUC-approved settlement on Reliability Demand Response.<sup>53</sup> First, DR Advocates argue that CAISO submitted its Reliability Demand Response Filing to the Commission with a default load adjustment after the issuance of Order No. 745, despite knowing that the default load adjustment is contrary to Order No. 745. Second, DR Advocates state that cost allocation is not referenced anywhere in the Reliability Demand Response settlement. DR Advocates also note that settlement was submitted before the Commission's decision on the Proxy Demand Resource program was known.

41. SWP notes Order No. 745 requires that the costs of retail demand response subject to this rule should be specifically allocated by the area where the demand response reduces the price.<sup>54</sup> SWP notes that the Commission's conclusion here aligns with

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<sup>48</sup> *Id.* at 5 (citing Order No. 745, FERC Stats. & Regs. ¶ 31,322 at P 102).

<sup>49</sup> *Id.* at 5-6 (citing Order No. 745, FERC Stats. & Regs. ¶ 31,322 at P 101).

<sup>50</sup> *Id.* at 7.

<sup>51</sup> *Id.* at 8.

<sup>52</sup> *Id.* at 9.

<sup>53</sup> *Id.* at 9-10.

<sup>54</sup> SWP Comments at 5.

SWP's longstanding concern about the mismatch between retail load payments at the Default LAP level and compensation at the LMP level. SWP notes that CAISO's Filing contains no provisions for Default LAP level cost allocation and instead states its intent to continue to socialize demand response costs to all load in the day-ahead market and to deviations from day-ahead schedules in real time.

42. EPSA, however, agrees with CAISO that the default load adjustment is a critical element of CAISO's demand response program, and was the product of an extensive stakeholder process and settlement. Similarly, CPUC calls the default load adjustment a "critical" element for its decision to support CAISO's Proxy Demand Resource proposal.<sup>55</sup> EPSA states that the Commission should confirm CAISO's ability to retain the default load adjustment, and agrees with CAISO that the elimination of the default load adjustment would result in double payments and "devastating practical consequences."<sup>56</sup> EPSA argues that to the extent the Commission does not grant clarification or rehearing it should find that CAISO's default load adjustment is consistent with or superior to the requirements of Order No. 745.<sup>57</sup>

### **Commission Determination**

43. The Commission finds that CAISO has not demonstrated that its current cost allocation methodology, including the default load adjustment, appropriately allocates costs to those that benefit from the demand reduction. CAISO's argument that costs are allocated to the load that benefits from the price reductions, which it characterizes as all load in the day-ahead market and deviations from day-ahead schedules in the real-time market, ignores the effect of the default load adjustment.

44. The default load adjustment is a mechanism used for settlement purposes that adds the amount of a demand response reduction to the amount of actual load served by the host load serving entity under which the demand response resource are located. Therefore, the default load adjustment settlement process requires the load serving entity to pay for load that it does not ultimately serve.<sup>58</sup> By doing so, the default load

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<sup>55</sup> *Id.* at 8.

<sup>56</sup> EPSA Comments at 5.

<sup>57</sup> *Id.* (citing Order No. 745, FERC Stats. & Regs. ¶ 31,322 at P 4 n.7).

<sup>58</sup> As noted above, demand response is compensated at the Sub-LAP level whereas demand pays at the Default LAP level, a price based on a wider range of LMPs, so there may be some difference in the price paid to the Demand Response Provider for demand response and the price paid by the load serving entity for the additional load.

adjustment effectively allocates the cost of demand response to the host load serving entity even though the benefits of demand response may extend beyond the host load serving entity.

45. We find that CAISO has not demonstrated that its cost allocation methodology is compliant with the requirements of Order No. 745, and therefore we reject it. In Order No. 745, the Commission required the allocation of demand response costs to those entities that benefit from the price impacts of demand reduction at times when demand response resources are cost effective when committed or dispatched. RTOs and ISOs were to develop demand response cost allocation methodologies that allocated the revenue shortfall—which results from the difference between the amount owed by the RTO or ISO to resources and the revenue it derives from the load—proportionally to all entities that purchase from the relevant energy market in the areas where the demand response reduces the market price.<sup>59</sup> RTOs and ISOs were directed to either demonstrate that its current cost allocation methodology appropriately allocates costs to those that benefit from the demand reduction or propose revised tariff provisions that conform to this requirement.<sup>60</sup> The Commission rejected cost allocation methodologies that assigned all costs to the load serving entity associated with the demand response provider.<sup>61</sup>

46. We find that CAISO's proposed cost allocation methodology for demand response allocates to the host load serving entity the entire cost of the revenue shortfall caused by the demand response purchase. However, the Commission directed RTOs and ISOs to allocate the cost of the demand response purchase proportionally to the entities that benefit. Accordingly, we reject CAISO's proposed cost allocation methodology. CAISO has not demonstrated that the benefits of demand response are limited to the host load serving entity and thus has not demonstrated that its proposed methodology is in compliance with the requirements of Order No. 745. CAISO is directed to file a compliant cost allocation methodology within 90 days after the issuance of this order.

### **3. Measurement and Verification**

47. In Order No. 745, the Commission noted concerns that compensating demand response resources at the LMP during all hours could make it difficult to determine baselines for demand response providers. However, because Order No. 745 required payment of LMP for demand response subject to a net benefits test -- and not during all hours -- the Commission found that implementation of Order No. 745 would not appear

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<sup>59</sup> Order No. 745, FERC Stats. & Regs. ¶ 31,322 at P 102.

<sup>60</sup> *Id.*

<sup>61</sup> *Id.* P 99-101.



to prevent the determination of appropriate baselines.<sup>62</sup> Nonetheless, noting that measurement and verification protocols are critical to the integrity and success of demand response programs, the Commission directed each RTO and ISO to include in its compliance filing an explanation of how its current measurement and verification procedures will continue to ensure that appropriate baselines are set, and that demand response will continue to be adequately measured and verified as necessary to ensure the performance of each demand response resource. The Commission directed each RTO and ISO to propose, if necessary, any changes needed to ensure that measurement and verification of demand response will adequately capture the performance (or non-performance) of each participating demand response market participant to be consistent with the requirements of Order No. 745.<sup>63</sup>

### **CAISO Filing**

48. CAISO claims that its existing protocols ensure accurate measurement and verification of demand response performance consistent with the requirements of Order No. 745.<sup>64</sup> CAISO notes that such protocols were included in its Proxy Demand Resource Filing and accepted by the Commission. CAISO maintains that the methodology already satisfies the requirements in Order No. 745 to accurately measure and verify the performance of demand response resources. Therefore, CAISO does not propose any revisions to the methodology currently in its tariff.<sup>65</sup>

### **Comments**

49. DR Advocates submit that, to the extent the CPUC alters its baseline methodology, CAISO should also change its baseline methodology. DR Advocates argue that retail and wholesale programs should be consistent, and that to the extent the CPUC has decided that features of the baseline methodology need to be revisited for the sake of accuracy, CAISO should also revisit its methodology.<sup>66</sup>

50. SWP states that it was aware of no stakeholder process to address the Commission mandate that ISOs develop revisions to their measurement and verification standards to

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<sup>62</sup> *Id.* P 94.

<sup>63</sup> *Id.*

<sup>64</sup> CAISO Filing at 14.

<sup>65</sup> *Id.* at 14.

<sup>66</sup> DR Advocates Protest at 11-12.

ensure that they are accurate.<sup>67</sup> SWP notes that the filing simply asserts that CAISO's current measurement and verification protocols are sufficient.

51. SWP asserts that use of the baseline combined with the mismatch between retail demand payments for energy consumption at the Default LAP level and the compensation for load curtailment at the LMP level requires careful ongoing evaluation.<sup>68</sup> SWP states that CAISO's market surveillance committee has noted that this invites gaming.

52. SWP contends that, in terms of providing demand response in the form of Participating Load, a baseline is not appropriate in determining performance.<sup>69</sup> SWP states because its operations are limited by numerous regulatory restrictions it will require an alternative to the baseline.

### **Commission Determination**

53. The Commission finds that CAISO's existing measurement and verification protocols are sufficient to ensure that appropriate baselines are set and that demand response will continue to be adequately measured and verified in light of the changes required in Order No. 745. The measurement and verification protocols previously approved by the Commission have not been altered by CAISO's compliance filing, and therefore the Commission does not direct modifications to those protocols at this time.<sup>70</sup>

54. The Commission declines to address SWP's concerns regarding the "mismatch" between Default LAP and LMP prices because this issue is beyond the scope of this compliance filing. Further, as discussed below, the Commission finds that the Participating Load program is not affected by CAISO's compliance filing, thus SWP's concerns about the baseline methodology are not relevant here.

## **4. Participating Load**

55. SWP states that CAISO's Order No. 745's net benefits test should not apply to wholesale participating load.<sup>71</sup> SWP states that Participating Load both pays for energy

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<sup>67</sup> SWP Comments at 3.

<sup>68</sup> *Id.* at 4.

<sup>69</sup> *Id.* at 1-2.

<sup>70</sup> *Cal. Indep. Sys. Operator Corp.*, 132 FERC ¶ 61,045 (2010); *Cal. Indep. Sys. Operator Corp.*, 134 FERC ¶ 61,004 (2011).

<sup>71</sup> SWP Comments at 2.

at LMP and receives LMP compensation, as would a generation resource, for its curtailments. SWP notes that unlike retail demand response, SWP effectively buys its baseline as negative generation in the day-ahead market and resells energy when it responds to CAISO curtailment dispatch. SWP also notes that the entity providing demand response and the load serving entity are the same in SWP's Participating Load.<sup>72</sup>

### **Commission Determination**

56. The Commission agrees with SWP that Participating Load is not subject to the net benefits test. Unlike aggregated demand response resources in other CAISO demand response programs, Participating Loads bid in their demand as negative generation and are compensated for demand reductions as deviations in real-time. Therefore, Participating Loads do not use an administrative baseline against which curtailments are measured, and do not have a billing unit effect. Because Participating Loads do not have a billing unit effect, CAISO does not need to utilize a net benefits test to ensure that the lowest cost resource is selected in real-time.<sup>73</sup> Accordingly, we clarify that Order No. 745's net benefits test does not apply to wholesale participating loads.

### **5. Effective Date**

57. CAISO states that, consistent with Order No. 745, the proposed tariff revisions are to be effective prospectively from the date of the Commission order on this filing.<sup>74</sup> CAISO adds that solely for purposes of submitting the proposed tariff revisions in eTariff, CAISO tentatively identified October 1, 2011 as the effective date for the tariff revisions. CAISO states that if necessary, it will revise the October 1 effective date in a further compliance filing in this proceeding to coincide with the date of the Commission order, as provided in Order No. 745.<sup>75</sup>

### **Commission Determination**

58. The Commission directs CAISO, on compliance, to revise its proposed effective date to coincide with the date of this order, within 90 days of the date of this order.

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<sup>72</sup> *Id.* at 2-3.

<sup>73</sup> Order No. 745, FERC Stats. & Regs. ¶ 31,322 at P 3 (describing the billing unit effect).

<sup>74</sup> CAISO Filing at 16 (citing Order No. 745, FERC Stats. & Regs. ¶ 31,322 at P 6).

<sup>75</sup> *Id.* at 16 n.63.

The Commission orders:

(A) CAISO's compliance filing is hereby accepted in part and rejected in part, effective as of the date of this order, as discussed in the body of this order.

(B) CAISO is hereby directed to submit a compliance filing in this docket within 90 days of the date of this order, as discussed in the body of this order.

By the Commission. Commissioner Moeller is dissenting in part with a separate statement attached.

( S E A L )

Kimberly D. Bose,  
Secretary.

UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION

California Independent System Operator Corp. Docket Nos. ER11-4100-000

PJM Interconnection, L.L.C. ER11-4106-000

Midwest Independent Transmission System Operator, Inc. ER11-4337-000

Midwest Independent Transmission System Operator, Inc. ER09-1049-000

ER09-1049-002

ER09-1049-003

(not consolidated)

(Issued December 15, 2011)

MOELLER, Commissioner, *dissenting in part*:

Demand response plays a very important role in markets by providing significant economic, reliability, and other market-related benefits when properly deployed.

For the reasons set forth in my dissents on Orders No. 745 and 745-A, I respectfully dissent.<sup>1</sup> While consumers may pay lower rates if some consumers voluntarily agree to use less electricity, the Federal Power Act requires this Commission

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<sup>1</sup> *Demand Response Compensation in Organized Wholesale Energy Markets*, 134 FERC ¶ 61,187 (2011) (*Moeller Dissenting*) (“Order No. 745”) and *Demand Response Compensation in Organized Wholesale Energy Markets*, 137 FERC ¶ 61,215 (2011) (*Moeller Dissenting*) (“Order No. 745-A”), respectively.

to establish just and reasonable rates that are not discriminatory.<sup>2</sup> If the Commission requires the RTOs and ISOs to overcompensate for providing demand response, the resulting rates are both discriminatory and not just and reasonable.

In addition, as stated in my dissent today in Order No. 745-A, rather than impose a nationwide approach to demand response compensation, the Commission's objective of promoting demand response would have been better served if the regions were free to propose compensation methods that recognize the very real differences in the structures of the regional markets.

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Philip D. Moeller  
Commissioner

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<sup>2</sup> 16 U.S.C. § 824d (2006).