UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

California Independent System Operator Corporation	)	**Docket No. ER12-2539-000**

MOTION FOR LEAVE TO ANSWER PROTESTS AND ANSWER TO PROTESTS AND COMMENTS OF THE CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION

The California Independent System Operator Corporation ("ISO") hereby submits this motion for leave to answer protests and answer to protests and comments filed in this proceeding regarding the ISO's August 28, 2012, proposed tariff amendment to expand its mitigation authority for certain exceptional dispatches and residual imbalance energy.[1] As discussed below, the ISO has presented sufficient evidence to justify the mitigation of payments when it must use exceptional dispatch to move resources to their minimum dispatchable levels in order to eliminate the ability of these resources to exercise market power and be paid up to $1,000 per megawatt-hour. The ISO has also provided sufficient evidence to justify eliminating the "as bid" payment for residual imbalance energy in order to eliminate incentives for adverse market behavior that the current structure provides. Intervening parties fail to provide any basis for concluding that the ISO's proposed revisions are not just and reasonable or are unduly discriminatory. Therefore, the Commission should approve the proposed amendment as filed.

[1] The ISO submits this filing pursuant to Rules 212 and 213 of the Commission's Rules of Practice and Procedure, 18 C.F.R. §§ 385.212 and 385.313 (2012).

I. SUMMARY

This proceeding concerns the ISO's request for additional mitigation authority in response to the observed and potential exercise of market power in connection with certain exceptional dispatches and residual imbalance energy settlements. An exceptional dispatch is a manual out-of-market dispatch required to address a reliability need that the market is not able to address. Residual imbalance energy is the energy generated ramping up to meet an ISO dispatch instruction or ramping down following an ISO dispatch instruction. Of the parties that have intervened, two parties have protested the ISO's proposal and two parties have filed critical comments.

J. P. Morgan Ventures Energy Corporation and BE CA LLC (together, "JPM") contend that the ISO failed to show the existence of, or the potential to exercise, market power in connection with exceptional dispatches to bring a resource to its minimum dispatchable level because it has not defined the relevant geographic or product markets and has not evaluated competitive substitutes. Such an analysis is not necessary here. The ISO demonstrated the *actual* exercise of market power through unrebutted evidence that resources engage in behavior that forces the ISO to issue an exceptional dispatch and to pay $1,000 per megawatt-hour to move the resource from its minimum load level to its minimum dispatchable level. JPM would have the Commission leave unabated the potential for the continued exercise of that *proven* market power because the ISO has not performed a *theoretical* analysis. Although the Commission has required such a theoretical analysis in connection with mergers and market-based rate authorization, it does not require it in the face of unrebutted evidence that a market participant is using market power to reap excessive profits.

JPM also contends that the ISO has not shown that a scheduling coordinator for a resource can have a reasonable expectation of receiving an exceptional dispatch. A scheduling coordinator, however, does not need certainty in order to exercise market power. It need only know that the probability of receiving an exceptional dispatch is great enough that, despite instances where it does not receive an exceptional dispatch, it can profit from its real-time economic withholding. The ISO's evidence demonstrates that a limited set of resources have an average frequency of exceptional dispatch to minimum load as high as 90 percent in high load conditions. This is certainly frequent enough that the gains from exceptional dispatches at $1,000 per megawatt-hour bids will more than compensate for foregone market revenues on days when the ISO does not dispatch the resources in the competitive market for real-time energy. The simple fact is that the observed bidding behavior demonstrates that the resource engaging in such behavior must have known that it had a high degree of probability of exceptional dispatch. There is no other rational reason to bid low enough to get the resource dispatched into the market, and then bid so high that the market will not dispatch the resource, other than the expectation that the ISO would need to issue an exceptional dispatch for the unit.

JPM further contends that the ISO's proposal is unduly discriminatory because it applies only to resources with operating characteristics such that their minimum loads are below their minimum dispatchable levels. Undue discrimination, however, is differential treatment of *similarly situated* entities. Resources with certain operating characteristics are *not* similarly situated to resources that do not have such characteristics and there is thus no undue discrimination. This operating characteristic

captures a set of older resources that have extremely slow ramp rates for a substantial portion of their operating range that render the resources effectively non-dispatchable unless they move to a higher operating level. Moreover, this characteristic enables the exercise of market power.

JPM, Calpine Corporation ("Calpine"), and NRG Power Marketing LLC and various affiliates[2] contend that, instead of seeking additional mitigation authority, the ISO should revise its software or develop new products to account for the reliability constraints that give rise to the exceptional dispatches. Although the ISO is committed to improving its software and to developing new products as necessary, mitigation authority is necessary now in order to address the ongoing exercise and potential for exercise of market power. In addition, operational and market enhancements take time to design with stakeholder input, file with the Commission for its review and approval, and implement. In the meantime, a demonstrated exercise of market power should not go unaddressed.

JPM further contends that because the ISO has not observed actual instances of inflated residual imbalance energy prices due to persistent uninstructed deviations, the ISO's proposal to mitigate residual imbalance energy payments is unwarranted. JPM's characterization of the ISO's testimony about its observations is incomplete, but more importantly, the potential that scheduling coordinators may deviate from ramping schedules in order to inflate residual imbalance energy payments is not the only basis for the ISO's proposal. Rather, the ISO makes the proposal because (1) the recent increased use of exceptional dispatch has increased residual imbalance energy

[2] NRG Power Marketing LLC, Cabrillo Power I LLC, Cabrillo Power II LLC, El Segundo Power, LLC, Long Beach Generation LLC, NRG Solar Blythe LLC, and Avenal Solar Holdings LLC (collectively, "NRG").

payments, which are not mitigated even if the exceptional dispatch is mitigated, (2) the exercise of market power in connection with exceptional dispatches has contributed to this increase, and (3) the current payment structure provides an inappropriate incentive to engage in uninstructed deviations. The Commission need not wait until the ISO can determine how much of the increased cost is due to uninstructed deviations before acting to eliminate this opportunity to exercise market power.

Finally, some parties ask the Commission to set this matter for hearing or to open a proceeding under section 206 of the Federal Power Act or to hold a technical conference on unmodeled constraints and the ISO's use of exceptional dispatch. The ISO has supported its demonstration of market power with undisputed facts, so there is no reason for a hearing. The requests for a 206 proceeding or technical conference are based on concerns that are beyond the scope of the proposed tariff amendment. Moreover, there is no necessity for a technical conference on unmodeled constraints, which the ISO is aware of and working on. There is also no evidence that the ISO has misused its exceptional dispatch authority so as to justify a proceeding under section 206.

II. BACKGROUND

The ISO's August 28 filing seeks to amend its tariff to address market power in two areas of the ISO market that, if left unchecked, can result in unjust and unreasonable payments to resources that exercise such market power. Although the ISO has, to date, observed only one market participant taking advantage of these opportunities to exercise market power, and available mitigation measures have limited the excess payments caused by this behavior, the ISO has concluded that the exercise

of market power in this manner necessitates additional mitigation authority to protect the market.

The first arises when the ISO identifies a reliability need in real-time to have a resource available to respond to a contingency. If only one, or a few, resources are online that can address the contingency, and the resource is an older resource scheduled at its minimum load, the ISO may need to position a resource at an output level, its "minimum dispatchable level," where its ramp rate is high enough that it can provide the necessary energy in the period of time required to respond to the contingency. A scheduling coordinator with a reasonable expectation that the ISO will have this need can employ bidding strategies in the day-ahead market that result in the ISO committing the resource at minimum load in the day-ahead market. Once the resource is committed, the resource is the only resource that the ISO can use to respond to the need in real-time. The scheduling coordinator can bid in real-time at a price well in excess of its costs, up to the $1,000 per megawatt-hour bid cap. When the ISO needs to exceptionally dispatch the resource to its minimum dispatchable level despite its uncompetitive bid, the current tariff provisions require ISO to pay the resource as-bid, *i.e.,* at this excessively high bid price, unless the exceptional dispatch falls into one of the existing categories that justifies mitigation.

This problem is not merely theoretical. To the contrary, the ISO has recently observed instances of this bidding behavior that have resulted in roughly $2.8 million in excessive cost to the market.[3] To remedy this exercise of market power, the ISO proposes to expand the circumstances under which it is permitted to mitigate

[3] *See* Direct Testimony of Dr. Jeffrey D. McDonald, Exh. ISO-2 ("Direct McDonald Testimony") at 17-18.

exceptional dispatch energy payments to include all exceptional dispatches to move a resource from its minimum physical operating level to its minimum dispatchable level.

The second circumstance involves residual imbalance energy. Residual imbalance energy is energy attributable to a resource ramping down from a real-time dispatch at the end of a previous hour or ramping up to a real-time dispatch at the beginning of an upcoming hour. The ISO created this category of energy for settlement purposes because ramping energy that occurs as a result of market instructions issued by the ISO in a preceding or subsequent hour is settled differently than ramping energy that occurs within a given hour. The ISO settles ramping energy that occurs within the same hour in which the instruction is issued based on the locational marginal price ("LMP") and guarantees the resource's bid through the bid cost recovery process. Residual imbalance energy, however, is paid under the current ISO tariff "as bid" based on the bid from a prior or subsequent hour. This payment structure creates an opportunity for the exercise of unilateral market power through which resources can inflate payments for such energy to levels that far exceed their costs of producing that energy. To address this issue, the ISO proposes to pay the resources the LMP unless the LMP is lower than their bid, in which case the ISO will pay the resource the lesser of the resource's bid price or the default energy bid.

Six parties moved to intervene without substantive comments.[4] Seven parties moved to intervene and provided comments.[5] Two parties filed protests.[6] The ISO does not object to any of the motions to intervene.

[4] California Department of Water Resources State Water Project; Dynegy Moss Landing, LLC, Dynegy Morro Bay, LLC, Dynegy Oakland, LLC, and Dynegy Marketing and Trade, LLC; GenOn Energy Management, LLC, GenOn Delta, LLC, and GenOn West, LP; and Powerex Corp.

II. MOTION TO FILE ANSWER

Rule 213(a)(2) of the Commission's Rules of Practice and Procedure generally prohibits answers to protests.[7] The Commission has accepted answers that are otherwise prohibited if such answers clarify the issues in dispute[8] and where the information assists the Commission in making a decision.[9]

As discussed below, some protesters and commenters contend that the ISO has failed to demonstrate the exercise of market power that would justify the proposed mitigation. These arguments fail to address the ISO's evidentiary showing and its analysis. The ISO believes that understanding the ISO's response to these arguments will clarify the issues and assist the Commission's understanding. The ISO therefore requests that the Commission accept this answer.

III. ANSWER

A. The ISO Has Demonstrated the Existence and Exercise of Market Power in Connection with Exceptional Dispatches to Minimum Dispatchable Levels.

1. A resource that is on-line and has a reasonable expectation that the ISO will need to exceptionally dispatch it to its minimum dispatchable level has market power.

JPM contends that the ISO failed to show the existence of market power or the potential to exercise market power in connection with exceptional dispatches to bring a

---

5 California Public Utilities Commission; Cities of Anaheim, Azusa, Banning, Colton, Pasadena, and Riverside, California; Northern California Power Agency; NRG; Pacific Gas and Electric Company; Southern California Edison Company; and Western Power Trading Forum ("WPTF"). NRG also filed a motion for technical conference.

6 Calpine and JPM.

7 18 C.F.R. § 385.213(a) (2) (2012).

8 *See Southwest Power Pool, Inc.,* 89 FERC ¶ 61,284 at 61,888 (1999).

9 *See El Paso Electric Co., et al. v. Southwestern Pub. Serv. Co.*, 72 FERC ¶ 61,292 at 62,256 (1995).

resource to its dispatchable minimum level.[10] Specifically, it asserts that the ISO has not demonstrated the existence of market power because it has not defined the relevant geographic or product markets and has not evaluated competitive substitutes.[11] JPM misunderstands what is necessary in order to demonstrate market power in these circumstances.

Although, in connection with mergers and consideration whether to grant market-based rate authority, the Commission conducts an analysis defining specific geographic and product markets and competitive substitutes to determine whether a resource has the potential to exercise market power, it does not need to undertake the same type of analysis here. Where, as here, there is concrete evidence a resource has engaged in the bidding behavior that the ISO described and significantly influenced the price paid for its service by economically withholding, the Commission does not need a theoretical analysis. The ISO has shown that (1) the ISO must address certain contingencies or changes in market conditions that are not modeled in the ISO's software; (2) certain pivotal suppliers of the capacity necessary to address these needs are unable to provide the capacity unless they are operating at their minimum dispatchable level; (3) these resources have knowledge that there is a high probability that if they are online and the market does not dispatch them, the ISO will exceptionally dispatch them to meet these needs; (4) these resources can and do engage in bidding practices such that they will be online when needed but will not receive a market dispatch; and (5) as a result, they can require the ISO to pay them whatever they bid.

---

[10] JPM Protest at 17.

[11] *Id.* at 18.

Prior to implementation of the ISO's nodal market design in April 2009, the Commission concluded that the ISO had not shown the existence of market power to justify mitigating exceptional dispatches to move a resource to its dispatchable operating level in similar, but narrower circumstances.[12] The ISO based its proposal on the theoretical opportunity for the exercise of market power under the new market design, but the ISO had no actual abuse because the new market had not yet begun to operate. The ISO now has that evidence.

JPM is simply incorrect when it asserts that the Commission does not have enough information to determine whether market power exists without conducting a full-throated market power analysis.[13] JPM itself recognizes that when the Commission first approved payment mitigation in connection with certain types of exceptional dispatches, it found that "the CAISO has met its burden of demonstrating the potential to exercise market power."[14] It made this finding without the type of analysis JPM argues is the required minimum here. The Commission has made similar findings in other instances without a formal analysis of markets.[15] A theoretical market power analysis is not necessary when the ability to command a price is evident from the factual circumstances.

This is not to say that the market power being exercised is of a different character from that considered in a traditional market based rate analysis. There is indeed a geographic market; it depends, however, upon the particular contingency

---

[12] *Cal. Indep. Sys. Operator Corp.*, 126 FERC ¶ 61,150 at P 71. *See* JPM Protest at 20-21; Calpine Protest at 6; WPTF Comments at 5.

[13] *See* JPM Protest, Pope Affidavit at 7-8.

[14] *Cal. Indep. Sys. Operator Corp.*, 126 FERC ¶ 61,150 at P 74. *See also id.* at P 75.

[15] *See, e.g., N.Y. Indep. Sys. Operator Corp*., 131 FERC ¶ 61,169 at P 78 (2010); *PJM Interconnection, L.L.C.,* 126 FERC ¶ 61145 (2009).

against which the ISO must protect, and thus varies temporally. Because the geographic market is transitory, a formal analysis of a specific geographic market is not practical.

Similarly, there is also a product involved, albeit not a NERC- or WECC-defined product. That product – online capacity that can produce the energy needed to respond to a contingency in the time required by reliability standards – however, is also temporal, *i.e.,* it is only available from units already online and operating at a level at which they can ramp up to the necessary output within the specified time. The precise nature of the need also varies according to the nature of the particular constraints and contingencies at issue. There is no practical means of measuring market concentration in such circumstances. Thus, a formal analysis of competitive substitutes is also not practical.

JPM's arguments about the existence of alternative suppliers[16] ignore the temporal dimension of the market power at issue. If resources had been available to address the potential contingency, then the ISO would not have needed to dispatch the resource that had engaged in the bidding behavior that positioned it to provide the necessary capacity. The potential, of which Dr. McDonald spoke, that other scheduling coordinators could exercise similar market power does not mean they were available when the ISO made the exceptional dispatches at issue; their market power would arise at different times and in different locations if they engaged in the bidding behavior. Rather than suggesting the existence of competitive substitutes, this supports the

[16] JPM Protest, Pope Affidavit at 8.

conclusion that swift action is necessary here to avoid a larger exercise of market power resulting in more excessive costs than have been observed to date.

2. Certain resources can have a reasonable expectation of receiving a real-time exceptional dispatch to minimum dispatchable levels.

JPM also contends that the ISO has not shown that a generator can reasonably expect an exceptional dispatch.[17] It notes that only 0.3 percent of system energy in 2011 resulted from exceptional dispatch. That statistic, however, is not relevant. The question here is not how much of the total system energy delivered is due to exceptional dispatch; rather, it is the frequency and predictability of the exceptional dispatches (1) to specific resources units that have a distinct difference between their ramp rates at minimum load and minimum dispatchable level and (2) under circumstances where the ISO must ensure that the units are operating at their minimum dispatchable level. As Dr. McDonald explained, the set of resources that have received such exceptional dispatches since June 1, 2012, received on average at least two such exceptional dispatches per week.

The predictability and frequency of these exceptional dispatches also increases as system load increases, particularly for resources of the scheduling coordinator that engaged in the bidding behavior at issue. The figure below shows the frequency of the exceptional dispatches that these units received to operate at their minimum dispatchable levels according to daily peak load levels from April 1, 2012, through August 15, 2012.[18] The overall average frequency of real-time exceptional dispatch for

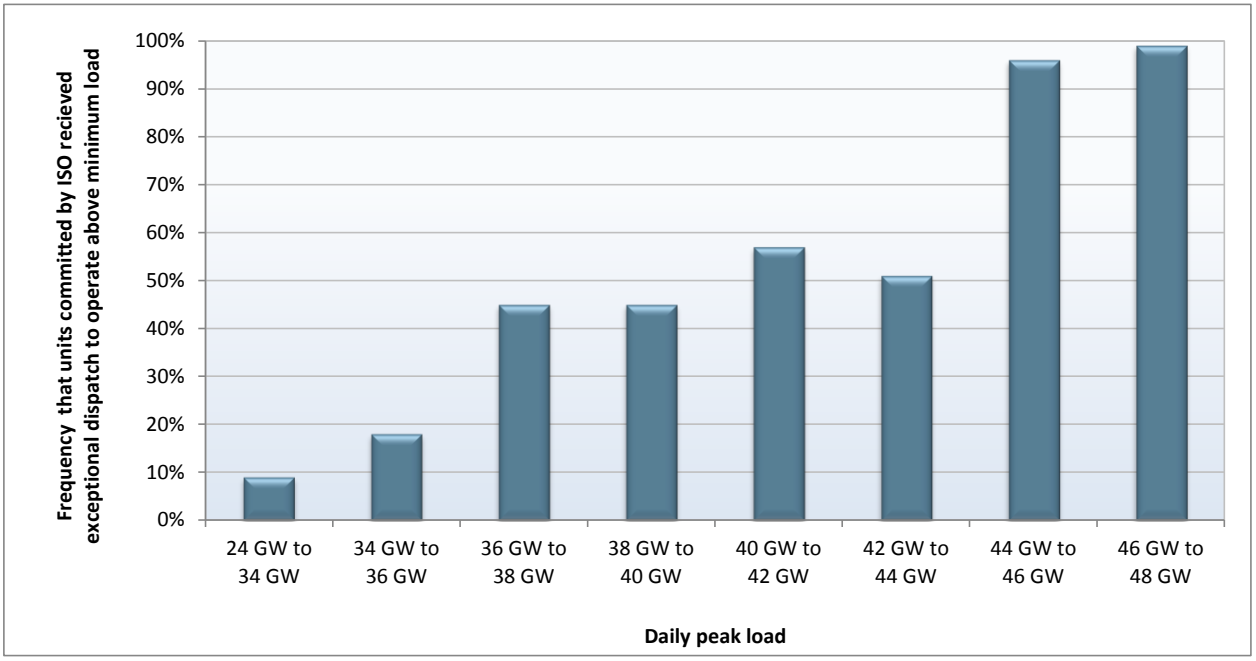
---

[17] JPM Protest at 19-20.

[18] These figures are based on the set of six resources that received an exceptional dispatch to their minimum dispatchable level while bidding $1,000 per megawatt-hour for energy at some point during the

this set of resources during this period was 22 percent. This predictability increased to over 90 percent during the highest load conditions. This is easily frequent enough for the gains from exceptional dispatches at $1,000 per megawatt-hour bids to more than compensate for foregone market revenues on days when the ISO does not dispatch the resources in the competitive market for real-time energy.

Figure 1
Frequency of exceptional dispatch for six units bidding $1,000/MWh in real-time market (April 1 to August 15, 2012)



Moreover, a scheduling coordinator does not need certainty that it will receive such an exceptional dispatch in order to exercise market power. It only needs to know that the probability of receiving an exceptional dispatch while bidding at or close to the price cap is great enough that, despite instances where it does not receive an exceptional dispatch, it can profit overall from real-time economic withholding. The $1,000 per

period April 1, 2012, through August 15, 2012. The days included in the analysis include all days when these units were committed at minimum load through and ISO day-ahead process.

megawatt hour payment on exceptional dispatch energy and associated residual imbalance energy reflects a considerable profit margin compared to expected profits from economic dispatch in the real-time market where peak prices average between $30 and $40 per megawatt hour.[19] Collectively, this potential for extremely high profit when exceptionally dispatched, the expected frequency of being exceptionally dispatched (Figure 1 above), and the expected duration of exceptional dispatch of 10 hours, as testified by Dr. McDonald can result in an optimal strategy to withhold from the real-time market over extended periods to capture high profits when exceptionally dispatched.[20] In her affidavit, Dr. Pope acknowledges that this economic tradeoff (based on probability, not certainty) is expected from a market participant and that it is reasonable to expect suppliers to offer at the bid price cap under exceptional dispatch conditions.[21]

The simple fact, which JPM does not address, is that the observed bidding behavior itself demonstrates that the resource engaging in such behavior must have known that it had a high degree of probability of exceptional dispatch. There is no other rational reason to bid low enough to get the resource dispatched into the market at minimum load and then bid high enough that the market will not dispatch the resource above that level, forcing the ISO to use exceptional dispatch. As the Commission has explained, in response to a similar argument that generators had no way of knowing that they would be called upon:

---

[19] See, e.g., ISO Department of Market Monitoring, Q2 2012 Report on Market Issues and Performance (Aug. 14, 2012) at Figure 1.1, available at: http://www.caiso.com/Documents/2012SecondQuarterReport-MarketIssues-Performance-August2012.pdf.

[20] Direct McDonald Testimony at 14.

[21] JPM Protest, Pope Affidavit at 10-11.

> Competitive behavior only requires that a generator be able to determine and bid its marginal cost. The record reflects that Specified Generators expected to be committed for reliability needs, albeit infrequently, and consistently bid at levels above their marginal cost with that expectation in mind. That conduct constitutes an attempt to exercise market power if such circumstances arise even though they might not have known in advance which particular days or hours they would be committed to meet reliability needs.[22]

3. The observations of the *ex ante* withholding strategy support the request for mitigation authority.

JPM contends that the ISO's observations of the *ex ante* withholding strategy do not support the request for mitigation.[23] JPM asserts that the ISO erroneously contends that it is anti-competitive to submit bids in the day-ahead market lower than bids of competitors. JPM further asserts that the ISO cannot argue that it is anti-competitive for a resource to position itself through the day-ahead market to be operating below its minimum dispatchable level, because the ISO itself uses exceptional dispatch to commit units at their minimum loads.[24] The ISO has made no such contentions. Neither practice would present market power issues were it not for the subsequent real-time bidding behavior.

Rather, the anti-competitive behavior occurs when, after the resource is at minimum load, knowing that it is highly probable that the ISO will need the resource to be at dispatchable minimum level, the resource then bids in real-time at a noncompetitive level such that the real-time market will not dispatch it up to its minimum dispatchable level and the ISO will need to use exceptional dispatch.

---

[22] *N.Y. Indep. Sys. Operator Corp*., 131 FERC ¶ 61,169 at P 78 (2010).

[23] JPM Protest at 22-23. The *ex ante* withholding strategy involves the scheduling coordinator for a resource bidding low day-ahead for off-peak hours so that the ISO will commit the resource to operate at minimum load. It then bids high in the real-time peak hours, at or close to the market cap of $1000 per megawatt hour, in expectation of receiving an exceptional dispatch to minimum dispatchable level.

[24] *Id.* at 23-24.

4. The observations of the *ex post* withholding strategy support the request for mitigation authority.

JPM also contends that the ISO's observations of the *ex post* withholding strategy do not support the request for mitigation.[25] JPM contends that the ISO does not always dispatch a resource for the full megawatts or hours stated in the exceptional dispatch notice, and the scheduling coordinator therefore cannot have a reasonable expectation that it will be able to command payment as-bid for the entire period. JPM offers no evidence in this regard, and the ISO's practice is to the contrary. It is the ISO's standard practice to inform a scheduling coordinator of an exceptional dispatch only in the event one will be or has been issued[26]. While the ISO may reconsider the need for an exceptional dispatch from a specific resource and decide not to issue it subsequent to notifying the scheduling coordinator, this would be a very rare occurrence. Even if, on occasion, the ISO does not dispatch the unit for the full period identified in an exceptional dispatch notice, that fact would not diminish the resource's perfect market power with regard to the hours for which the exceptional dispatch continues.

In addition, the ISO does not alter the target operating level in an exceptional dispatch to move a resource to its dispatchable minimum level, which is a fixed unit characteristic. Although the initial dispatch instructions may specify a level lower than the dispatchable minimum level, that is simply the result of the time required for the resource to ramp up.[27]

---

[25] JPM Protest at 24. The *ex post* withholding occurs when the ISO uses exceptional dispatch to bring a resource up to its minimum dispatchable level and the scheduling coordinator for the resource thereafter increases its real-time bid up to or close to the market cap.

[26] *See* Attachment A, Testimony of John Phipps, Exh. ISO-4, at 2.

[27] *Id.* at 3.

In addition, although the duration of an exceptional dispatch may change, the dispatch is almost always sufficiently long that the scheduling coordinator can alter its bid and benefit greatly. The exceptional dispatches to the scheduling coordinator that engaged in the bidding strategy discussed in Dr. McDonald's testimony had an average duration of about 9 hours from April 1 to August 15, 2012. During this period about 16% of the exceptional dispatches made above minimum load were less than three hours. The remaining 84% were sufficiently long for the scheduling coordinator to increase its bid to $1,000 (if not already there) and benefit from the higher bid price for at least an hour, in addition to residual imbalance energy payments.[28]

B. The Requested Mitigation Authority Is Not Unduly Discriminatory.

JPM also contends that the ISO's proposal is unduly discriminatory because it applies only to resources with minimum loads below their minimum dispatchable levels[29]. Undue discrimination, however, is differential treatment of *similarly situated* entities that *is not justified* by some legitimate factor.[30] Resources with certain operating characteristics are *not* similarly situated to resources that do not have such characteristics. Treating them differently is thus not impermissible discrimination. For example, the Commission has approved ISO tariff has provisions that accommodate the special operating characteristics of intermittent power producers,[31] regulatory must-take resources,[32] and resources with forbidden operating regions.[33]

---

28 *See* Attachment B, Supplemental Testimony of Jeffrey McDonald, Exh. ISO-5, at 2-3.

29 JPM Protest at 25.

30 *Cal. Indep. Sys. Operator Corp.,* 132 FERC 61,148 at P 40 (2010).

31 *See* ISO Tariff § 11.12 and Appendix Q.

32 *See* ISO Tariff § 4.6.3.

33 *See* ISO Tariff § 34.15.1(b).

Moreover, even if the resources were considered similarly situated, the differential treatment would be justified and not *undue*. If a resource does not have a minimum dispatchable level that is greater than its minimum load, then the ISO will never need to dispatch that unit to ramp it up to its minimum dispatchable l level. The resource thus does not have the opportunity to exercise temporal market power based on the probability of such a dispatch.

C. Additional Mitigation Authority Is the Only Appropriate Remedy To Address the Temporal Market Power in Connection with Exceptional Dispatches To Minimum Dispatchable Level.

JPM, Calpine, and NRG contend that, instead of seeking additional mitigation authority, the ISO should revise its software or develop new products to account for the reliability constraints that give rise to the exceptional dispatches.[34] The ISO agrees that it should continue to develop operational enhancements and alternative market mechanisms to address more fully the reliability constraints that give rise to the exceptional dispatches. Although it may not be cost effective to attempt to model the specific unit characteristics of some older resources, additional enhancements could significantly reduce the need for exceptional dispatches to address these constraints and the ability of schedule coordinators for certain resources to anticipate that the resource will receive a real-time exceptional dispatch. As discussed below, the ISO takes the concerns seriously and pursues both near term and longer term operational and market enhancements.

As part of this effort, the ISO has an ongoing process for exploring additional products that may be necessary to increase system reliability and efficiency. The ISO's

[34] JPM Protest at 26-28; Calpine Protest at 7-9; NRG Comments at 5, 12.

list of potential processes to be considered includes new products to reduce the need for various types of exceptional dispatches and to incorporate associated costs into market clearing prices. Moreover, the ISO is willing to explore with stakeholders the potential for new products to reduce the need for various types of exceptional dispatches, including whether a 30-minute product is needed. As the Commission is also aware, however, the ISO establishes its priority for stakeholder processes in consultation with the stakeholders themselves. The ISO is currently in the midst of such an effort to determine priorities.

Nonetheless, software revisions and new market mechanisms take significant time to develop, test, and implement. In the interim, the ISO must continue to use exceptional dispatch. Load should not have to bear the cost of the exercise of market power during while software is being revised or products are being developed.

WPTF contends the proposal is overbroad because the minimum dispatchable level is the lower limit of the fastest ramp rate segment, and thus the ISO's proposal seeks to mitigate the bids of all units' output below their fastest ramping levels when exceptionally dispatched by the ISO. Calpine contends the ISO's proposal is too broad because all thermal units have faster ramp rates at different, often much higher output levels, and the proposal thus gives the ISO unbridled authority to exceptionally dispatch and mitigate any unit to a higher output level in order to allow access to faster ramp rates.[35] These arguments fail to take into consideration the practical application of the ISO's proposal. When considered in context, there is no issue of overbreadth.

[35] Calpine Protest at 4-5.

Although the meaning of WPTF's contentions is not entirely clear, the ISO takes it to mean that the ISO proposes to mitigate any exceptional dispatch that takes a unit from below its minimum dispatchable level to an output above that level. That is not the case. The proposal only provides for mitigation when the exceptional dispatch is to the minimum dispatchable level, not above. This is likely to happen only when the ISO issues the exceptional dispatch specifically to position the resource to be able to respond to a contingency. That need should not arise with regard to units that do not have a significant disparity between their lower and higher ramp rate segments.

Mr. Rothleder explains that there are only about 23 resources within the ISO balancing authority area that have a significantly higher ramping capability at the point of their fastest ramp rate relative to their ramping capacity at their minimum load (i.e. which can provide at least 50 percent more capacity within 30 minutes when operating at this higher level).[36] These are the only units that the ISO might need to exceptionally dispatch to their minimum dispatchable level. As a practical matter, they are the only units even potentially exposed to mitigation.

Moreover, in actual practice, the universe is even much smaller. As Mr. Rothleder also explained, the ISO has rarely or never had reason to issue exceptional dispatches to most of these 23 units to ensure that they operate above their physical minimum load to increase their ramping capability. For example, to date in 2012, just ten resources account for about 95 percent of the energy exceptionally dispatched to position the resources at their minimum dispatchable levels.

[36] *See* Attachment C, Supplemental Testimony of Mark A. Rothleder, Exh. ISO-6 at 1-2. In Mr. Rothleder's Direct Testimony, he stated that there were 36 such units. Subsequent refinements of his analysis reduced the number.

Calpine also argues the mitigation is not necessary because the bidding behavior is infrequent and the ISO has conceded that the one observed market participant's bidding practice has already been foreclosed through the ISO's earlier mitigation proposal that addressed infeasible or "stranded" ancillary services or RUC capacity awards. The ISO made no such concession. It simply noted that the excessive gains for some exceptional dispatches had been limited, not eliminated, through existing mitigation.[37] In fact, as Dr. McDonald explained, the ISO has paid out $2.8 million more as of the date of the filing than if the payments had been mitigated. Regardless of the frequency of the successful implementation of the bidding strategy in question, California load should not have to pay for these profits from the exercise of market power.

D. The Proposed Settlement of Residual Imbalance Energy Is Just and Reasonable.

As discussed above, the ISO proposes to pay resources for residual imbalance energy at the LMP unless the LMP is lower than their bid, in which case the ISO will pay the resource the lesser of the resource's bid price or the default energy bid. JPM contends that because the ISO has not observed actual instances of inflated residual imbalance energy prices due to persistent deviations, the ISO's proposal is unwarranted.[38] JPM misunderstands the ISO's arguments in support of immediately modifying the residual imbalance energy payments as set forth in the filing.

---

[37] In addition to stranded ancillary services and RUC capacity awards, exceptional dispatches for non-competitive constraints are subject to mitigation per ISO tariff section 39.10.

[38] JPM Protest at 29.

First, the primary need for proposed modification arises not because of the potential that scheduling coordinators may deviate from ramping schedules in order to inflate residual imbalance energy payments, but because, under the payment structure, a resource will be paid as bid for its residual imbalance energy resulting from an exceptional dispatch in the preceding hour, even though the exceptional dispatch is itself subject to mitigation.[39] That inconsistency, if not eliminated, would provide an incentive for market participants to continue to engage in the bidding behavior that the ISO observed in the months preceding the filing even if the exceptional dispatch is mitigated as the ISO proposes.

Mr. Cooper also indicated in his testimony that, in the course of its pending stakeholder process, the ISO identified the incentive for participants to inflate residual imbalance energy payments through deviations. The ISO had planned to work through the stakeholder process to resolve this issue because it had not seen a significant amount of residual imbalance energy payments resulting from this behavior *per se.* The recent increase in exceptional dispatches, including those mitigated under the mitigation rules in effect prior to this filing, highlighted the adverse market impact of the current payment scheme.[40]

JPM's argument would have the Commission ignore the inherent inconsistency in the residual imbalance energy settlement related to mitigated exceptional dispatches and require empirical evidence of deviations intended to increase unmitigated payments as a prerequisite to fixing this flawed payment scheme.

---

[39] *See* Direct Testimony of Bradford Cooper at 15-16.

[40] *See* Cooper Testimony at 16-19, 30.

Moreover, JPM's statement that the ISO has not observed instances of inflated residual imbalance energy prices due to persistent deviations does not tell the full story. Mr. Cooper did not testify that there were none. Rather he testified that the preliminary analysis indicated that the incidences of residual imbalance energy inflated by over-generation were limited, but not that they were simply hypothetical. Mr. Cooper testified that while the stakeholder process considered the use of a tool that would eliminate payments for residual imbalance energy if resources deviated from ISO instructions, that tool could not be implemented for some time and there is the current potential for the adverse behavior to occur. He also explained that the tool the stakeholder process was considering would potentially penalize resources that deviated inadvertently[41].

The ISO proposal for paying residual imbalance energy ensures the resource is paid the market value of the energy in the interval by paying it the LMP and also ensures the resource is provided adequate compensation to cover its costs in the event that the LMP is not sufficient. Residual imbalance energy is in fact the only type of energy that in the ISO markets continues to be paid as bid. All other energy payments are based on the market clearing price and bid cost recovery. The ISO's proposal eliminates the incentive to bid into the ISO market in search of inflated residual imbalance energy payments through the exercise of market power.[42] The adverse market outcomes identified in the preceding stakeholder process and most recently through the observed increase in residual imbalance energy payments related to exceptional dispatches indicates that the current payment scheme provides an incentive for adverse market behavior. JPM provides no valid argument why the proposed

[41] Cooper Testimony at 23.

[42] *See* Direct McDonald Testimony at 32.

residual imbalance energy payment structure is not just and reasonable and no reason why the ISO should perpetuate the market inefficiencies created by the current compensation scheme

E. The ISO Has Provided Sufficient Evidence to Support the Amendment.

JPM asks the Commission to set this matter for hearing or institute a section 206 review of the ISO's use of exceptional dispatch.[43] There is no reason for a hearing. No party disputes the ISO's description either of the exceptional dispatch and bidding strategy that prompted the request for additional statutory authority or of the issues presented by the current settlement of residual imbalance energy. Although JPM has made some factual assertions that the ISO questions, such as the conformity of the actual exceptional dispatches with the exceptional dispatch notices, JPM has presented no evidence to support those assertions and, as the ISO has explained above, JPM's asserted facts do not diminish the ISO's demonstration of temporal market power.

F. Requests for a Technical Conference or a Proceeding Under Section 206 Are Not Relevant to this Proceeding.

JPM's request for a section 206 proceeding regarding the ISO's use of exceptional dispatch is not relevant to, and is beyond the scope of, the ISO's requested mitigation authority. Moreover, there is also no basis for a section 206 proceeding regarding the ISO's use of exceptional dispatch. JPM offers no evidence that the ISO issues exceptional dispatches "whenever a CAISO operator believes that a generating resource may be needed in a period more than one hour into the future."[44]

---

[43] JPM Protest at 5, 33-34.

[44] JPM Protest at 34.

Further, contrary to JPM's assertion, Dr. McDonald did not indicate that the ISO is issuing exceptional dispatches to avoid extreme LPMs[45]. He simply explained that such prices are occasionally the result of the type of economic withholding that the ISO has observed. Indeed, because the ISO issues exceptional dispatches to minimum dispatchable level only to address reliability concerns that the market cannot address, there can be no "avoided" dispatches that would have increased the LMP.[46]

Finally, NRG asks for a technical conference to evaluate the effect of unmodeled operating constraints on ISO market schedules and prices and a stakeholder process to address the resulting problems and inefficiencies.[47] As an initial matter, this request is also not relevant to the ISO's proposal. Moreover, however, there is no reason for such a technical conference. Despite NRG's implication that the use of exceptional dispatch is increasing, the chart it included in its comments (from an ISO report) demonstrates that the August spike in exceptional dispatches was an anomaly.

G. Other Matters.

NRG contends that the Commission should confirm that the CPM designation based on an exceptional dispatch to minimum dispatchable level must be based on the engineering assessment of the level to which the generating unit would have been dispatched following a contingency, not the level to which it was exceptionally

---

[45] JPM Protest at 35-36.

[46] JPM is also errs when it concludes from a statement in the ISO's July 20, 2012 Issue Paper and Straw Proposal in an unrelated proceeding that the ISO is using exceptional dispatch preemptively to prevent simple congestion. The ISO stated, "Preemptive Exceptional Dispatch made to manage transmission constraints may have the effect of relieving the anticipated congestion such that it does not materialize in the market." This simply states the effect that exceptional dispatches to manage a constraint may have; it does not state that the ISO has used exceptional dispatch to prevent congestion that the market can solve.

[47] NRG Comments at 11-12.

dispatched.[48] This argument is outside the scope of the ISO's proposed amendment and the Commission should disregard it. Moreover, the ISO recently filed a settlement on this issue.[49]

IV. CONCLUSION

For the reasons explained above and in the ISO's petition, the Commission should approve the amendment as filed.

Respectfully submitted,

/s/ Michael E. Ward
Michael E. Ward

Nancy Saracino
General Counsel
Sidney M. Davies
Assistant General Counsel
Burton Gross
Senior Counsel
Anna A. McKenna
Senior Counsel
California Independent System
Operator Corporation
250 Outcropping Way
Folsom, CA 95630
Tel: (916) 351-4400
Fax: (916) 351-4436

E-mail: sdavies@caiso.com
amckenna@caiso.com

Sean A. Atkins
Michael E. Ward
Alston & Bird LLP
The Atlantic Building
950 F Street, NW
Washington, DC 20004
Tel: (202) 239-3300
Fax: (202) 654-4875
E-mail: sean.atkins@alston.com
michael.ward@alston.com

Counsel for the California Independent System Operator Corp.

Dated: October 3, 2012

[48] NRG Comments at 11.

[49] *Cal. Indep. Sys. Operator Corp.*, 138 FERC ¶ 61,112 (2012).

Attachment A

Exhibit No. ISO-4

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

California Independent System Operator Corporation	**)** **)**	**Docket No. ER12-2539-000**

TESTIMONY OF
JOHN PHIPPS
ON BEHALF OF THE
CALIFORNIA INDEPENDENT SYSTEM
OPERATOR CORPORATION

Q. Please state your name, title, and business address.

A. My name is John Phipps. I am employed as Shift Supervisor for the California Independent System Operator Corporation ("ISO"). I have been employed by the ISO since January of 2000. My business address is 250 Outcropping Way, Folsom, CA 95630.

Q. What are your responsibilities as Shift Supervisor?

A. As Shift Supervisor, I supervise and direct the real-time operations staff in managing the California ISO Balancing Authority Area.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to provide information in response to the contention of J.P. Morgan Ventures Energy Corporation and BE CA LLC in their protest in this proceeding that the ISO does not always dispatch a resource for the full megawatts or hours stated in the exceptional dispatch

notice, and the scheduling coordinator therefore cannot not have a reasonable expectation that it will be able to command payment as-bid for the entire period.

Q. Are the ISO's practices such that a scheduling coordinator that receives an exceptional dispatch notice from the ISO can reasonably expect to be exceptionally dispatched?

A. It is the ISO's standard practice to inform a scheduling coordinator of an exceptional dispatch only in the event one will be or has been issued. Although the ISO may reconsider the need for an exceptional dispatch from a specific resource and decide not to issue it subsequent to notifying the scheduling coordinator, and I do not have a basis to conclude definitively that this has never happened, it would be a very rare occurrence.

Q. What is the ISO's process for issuing an exceptional dispatch notice to a scheduling coordinator.

A. The scheduling coordinator receives a binding dispatch instruction electronically from the ISO via the automated dispatch system that indicates whether the instruction is an exceptional dispatch. This information is readily available to the scheduling coordinator in the associated interface and reflects the nature of the instruction. The system

sends these instructions roughly every five minutes and the scheduling coordinator confirms receipt to the ISO electronically with a time stamp.

Q. When the ISO issues an exceptional dispatch to a resource to move it to its minimum dispatchable level, does the ISO thereafter modify the target level of the exceptional dispatch?

A. The ISO does not reduce the target operating level in an exceptional dispatch to move a resource to its dispatchable minimum level, which is a fixed output specific to the resource, although the ISO may raise the target. The initial five-minute dispatch instructions may specify a level lower than the dispatchable minimum level, but that is simply the result of the time required for the resource to ramp up over a period of five-minute intervals.

Q. When the ISO issues an exceptional dispatch to a resource to move it to its minimum dispatchable level, does the ISO thereafter modify the duration of the exceptional dispatch?

A. The duration of an exceptional dispatch to move a resource to its minimum dispatchable load may change after the dispatch. Dr. McDonald, however, provides information that the exceptional dispatches at issue in this proceeding are almost always for significant hours – an average of nine hours, for the resources and period that Dr. McDonald reviewed.

Q. Thank you. I have no further questions.

DECLARATION OF WITNESS

I, John Phipps, declare under penalty of perjury that the statements contained in the foregoing Testimony of John Phipps on behalf of the California Independent System Operator Corporation in this proceeding are true and correct to the best of my knowledge, information, and belief.

Executed on this 3rd day of October, 2012.

/s/ John Phipps

John Phipps
California Independent System Operator Corporation

Attachment B

Exhibit No. ISO-5

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

California Independent System Operator Corporation	**)** **)**	**Docket No. ER12-2539-000**

SUPLEMENTAL TESTIMONY OF
JEFFREY D. MCDONALD
ON BEHALF OF THE
CALIFORNIA INDEPENDENT SYSTEM
OPERATOR CORPORATION

Q. Please state your name, title, and business address.

A. My name is Jeffrey D. McDonald. I am employed as Manager, Market Analysis and Mitigation for the Department of Market Monitoring (DMM) of the California Independent System Operator Corporation (ISO). My business address is 250 Outcropping Way, Folsom, CA 95630.

Q. Are you the same Jeffrey McDonald that previously provided testimony in this proceeding?

A. Yes, I am.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to authenticate Figure 1 in the ISO's Answer to Protests and Comments in this proceeding and to provide data on the duration of the exceptional dispatches that the ISO issued between

April 1, 2012 and August 15, 2012 to the scheduling coordinator that engaged in the bidding strategies described in my earlier testimony.

Q. What is Figure 1?

A. Figure 1 compares the frequency of the exceptional dispatches for six units at different levels of peak loads on the ISO system. The six units are those that bid $1000 per megawatt-hour in the ISO's real-time market and had been exceptionally dispatched at least once between April 1 and August 15, 2012.

Q. Did you prepare Figure 1?

A. Yes. I prepared it from information available in the ISO's Enterprise Data Repository system. It is accurate to the best of my information and belief.

Q. What additional information do you have regarding the duration of exceptional dispatches to the scheduling coordinator whose bidding behavior you discussed in your direct testimony?

A. I have reviewed the duration of the dispatches to that scheduling coordinator during the period from April 1, 2012 to August 15, 2012. During that time, the average duration was about 9 hours. There were 17 exceptional dispatches of less than three hours out of 109 exceptional dispatches made above minimum operating level, or about 16%. The remaining 84% were sufficiently long for the scheduling coordinator to

increase its bid to $1,000 (if not already there) and benefit from the higher bid price for at least an hour, in addition to payments for residual imbalance energy while ramping down.

Q. Thank you. I have no further questions.

DECLARATION OF WITNESS

I, Jeffrey D. McDonald, declare under penalty of perjury that the statements contained in the foregoing Supplemental Testimony of Jeffrey D. McDonald on behalf of the California Independent System Operator Corporation in this proceeding are true and correct to the best of my knowledge, information, and belief.

Executed on this 3rd day of October, 2012.

/s/ Jeffrey D. McDonald

Jeffrey D. McDonald
California Independent System Operator Corporation

Attachment C

Exhibit No. ISO-6

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

California Independent System Operator Corporation	**)** **)**	**Docket No. ER12-2539-000**

SUPPLEMENTAL TESTIMONY OF
MARK A. ROTHLEDER
ON BEHALF OF THE
CALIFORNIA INDEPENDENT SYSTEM
OPERATOR CORPORATION

Q. Please state your name, title, and business address.

A. My name is Mark A. Rothleder. I am employed as Executive Director of Market Analysis and Program Development for the California Independent System Operator Corporation ("ISO"). My business address is 250 Outcropping Way, Folsom, CA 95630.

Q. Are you the same Mark Rothleder that previously provided testimony in this proceeding?

A. Yes, I am.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to update information regarding the number of resources within the ISO balancing authority area that have a significantly higher ramping capability at the point of their fastest ramp rate relative to their ramping capacity at their minimum load level (i.e.

resources that can provide at least 50 percent more capacity within 30 minutes when operating at this higher level).

Q. What updated information do you wish to provide?

A. My initial analysis concluded that there were 36 such units. After refining my analysis, I have concluded that there were fewer such units.

Q. What refinements did you make to your analysis?

A. There were two such refinements. First, the initial analysis did not limit the amount of upward 30 minute ramping capability by the resources' maximum operating level. This resulted in an overstatement of the gain and therefore overstated the number of resources with greater than a 50 percent gain.

Q. What was the second refinement?

A. The second refinement was the incorporation of the implicit ramp rate through the forbidden operating region into the resource operational ramp rate. Adjusting the resources' operational ramp rate for the forbidden operating region changed the minimum dispatchable level of some resources. This in turn affected the 30 minute ramping capability for some resources.

Q. What was the result of your refinements?

A. Based on these refinements, I have now concluded that there are only 23 units that can provide at least 50 percent more capacity within 30 minutes when operating at minimum dispatchable level. Of these 23 resources, the top 10 resources reflected the 95% of the resources dispatched to minimum dispatchable level from April 1, 2012 through August 15, 2012.

Q. Thank you. I have no further questions.

DECLARATION OF WITNESS

I, Mark A. Rothleder, declare under penalty of perjury that the statements contained in the foregoing Supplemental Testimony of Market A. Rothleder on behalf of the California Independent System Operator Corporation in this proceeding are true and correct to the best of my knowledge, information, and belief.

Executed on this 3rd day of October, 2012.

/s/ Mark A. Rothleder

Mark A. Rothleder
California Independent System Operator Corporation

CERTIFICATE OF SERVICE

I hereby certify that I have this day served the foregoing document upon each party listed on the official service list for these proceedings, in accordance with the requirements of Rule 2010 of the Commission's Rules of Practice and Procedure (18 C.F.R. § 385.2010).

Executed at Washington, DC, on this 3d day of October, 2012.

/s/ Michael E. Ward
Michael E. Ward