UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Uplift Cost Allocation and Transparency in Markets Operated by Regional Transmission Organizations and Independent System Operators	)	**Docket No. RM17-2-000**

COMMENTS OF THE
CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION

The California Independent System Operator Corporation (CAISO) submits these comments on the Federal Energy Regulatory Commission's (Commission) Notice of Proposed Rulemaking (Uplift NOPR)[1] issued in this docket on January 19, 2017.[2] The NOPR proposes to revise the Commission's regulations to require that each regional transmission organization (RTO) and independent system operator (ISO) that allocates the costs of real-time uplift to deviations should only do so to those market participants whose transactions are reasonably expected to have caused the real-time uplift costs. The Commission also proposes to require additional reporting of market uplift costs and operator initiated actions.

The CAISO supports the Commission's efforts to enhance price formation in ISO/RTO energy and ancillary services markets but has concerns with certain directives in the Uplift NOPR. The CAISO supports the Commission's decision not to require ISO/RTOs to allocate real-time uplift costs based on deviations from schedules because

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[1] *Uplift Cost Allocation and Transparency in Markets Operated by Regional Transmission Organizations and Independent System Operators*, 158 FERC ¶ 61,047 (2017) (Uplift NOPR).

[2] The CAISO also joins the comments submitted today by the ISO/RTO Council.

doing so can create adverse market signals and result in unjust and unreasonable rates. Although the CAISO does not allocate real-time commitment uplift costs based on deviations, the CAISO still has concerns with the Commission's proposed application of cost causation principles. The proposed measures are infeasible, impose undue burdens, and create conflicting market signals. In addition, the cost and complexity of implementing the proposed mitigation measures likely will outweigh any benefits they would provide. The CAISO respectfully requests that the Commission consider factors other than cost causation, such as the reasonableness of the costs, feasibility of the refinements, the benefits they provide, and the potential adverse market signals they may send, in any final cost allocation rule.

The CAISO supports greater market transparency and has already developed a process that allows market participants and other stakeholders to propose data releases. The CAISO considers each request based on the need, cost, and feasibility of providing the requested data.[3] The additional reports requested by the Commission are overly burdensome and will be costly to produce. Further, the reports do not appear to provide any additional value compared to the monthly uplift and exceptional dispatch reports the CAISO already produces. The Commission should instead allow the CAISO and its stakeholders to prioritize data releases to ensure market participants have the information they most need at a reasonable cost. The CAISO respectfully requests that the Commission not expand monthly reporting on uplift, but instead allow each ISO/RTO to demonstrate that its reports are sufficient and appropriate for its market. In

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[3] *See* http://www.caiso.com/informed/Pages/StakeholderProcesses/CompletedStakeholderProcesses/DataReleaseAccessibilityPh3-MarketEfficiency.aspx

addition, the Commission should not require that operator-actions be reported within four hours. This would be overly burdensome and problematic for the CAISO. Instead, the Commission should continue to allow the CAISO to produce these reports monthly.

I. COMMENTS

A. The CAISO supports the Commission's direction not to require ISO/RTOs to allocate real-time uplift costs to deviations.

The Uplift NOPR preliminarily finds that allocating real-time uplift costs to deviations does not reflect cost causation and therefore may distort market outcomes, potentially producing unjust and unreasonable rates.[4] The Commission states that allocating real-time uplift costs to deviations "that could not reasonably be expected to have caused those uplift costs can distort market outcomes by inappropriately penalizing behavior that can improve price formation."[5] The Commission describes deviations as schedule differences between the day-ahead and real-time markets. The Commission recognizes that such deviations may require operator actions that cause real-time uplift, *e.g.,* committing additional units in real-time to address generation shortfalls or load increases. The Commission recognizes there are methods for allocating uplift costs other than based on deviations, *e.g.,* allocations based on load obligations. The Commission acknowledges that the Uplift NOPR does not address the allocation of all uplift costs.[6]

The CAISO supports the Commission's decision not to require ISO/RTOs to allocate real-time uplift costs to deviations from schedules. The Uplift NOPR provides

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4 Uplift NOPR at 36.

5 Uplift NOPR at 4.

6 Uplift NOPR at 36.

no basis for finding that other allocation methodologies are unjust and unreasonable. Allocating real-time uplift costs based on load obligations does not create the same concerns the Commission has identified with allocating such costs to deviations.

The CAISO recently had been conducting a stakeholder initiative considering alternative methods for allocating real-time uplift costs in response to Commission directives to consider two-tiered allocation of real-time commitment uplift costs, which it suspended pending the outcome of the Uplift NOPR. The CAISO and stakeholders faced difficulties developing a deviation-based cost allocation that strictly follows cost-causation because it is almost impossible to isolate the single factor or factors that cause a real-time commitment resulting in uplift. The market optimization considers a multitude of factors including bids and self-schedules, transmission and resource constraints, and system conditions. It is difficult to decipher definitively what caused the commitment costs in any market run. In real-time, the CAISO commits resources on a fifteen-minute basis, looking out up to four-and-a-half hours into the future. This makes identifying the proximate cause of a unit commitment and then allocating the cost of that commitment to an entity or entities causing the uplift very difficult.

B. The proposed rules fail to consider other important considerations.

In 2012, the CAISO conducted a stakeholder initiative to develop a set of guiding principles for allocating market related costs among market participants.[7] The CAISO and stakeholders developed seven equally weighted principles for allocating costs developing: (1) causation; (2) comparable treatment; (3) accurate price signals; (4)

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[7] *See* http://www.caiso.com/informed/Pages/StakeholderProcesses/CompletedStakeholderProcesses/CostAllocationGuidingPrinciples.aspx.

incentivize behavior; (5) manageable; (6) synchronized; and (7) rational. These principles guide the CAISO's development of all cost allocation mechanisms and reflect a balanced approach to allocating market uplift costs. The CAISO determined that although it may be ideal to pursue cost allocation methodologies based solely on cost causation, it is often difficult and costly to identify and accurately target the causal factors, thus undermining such an approach. In addition, there may be reasons not to allocate costs based on causation alone, *e.g.,* if the market operator and stakeholders want to send market signals to incentivize certain types of behavior.

The CAISO agrees that providing the proper incentives is critical to an economically efficient market, and allocating uplift costs to entities causing such costs may incentivize parties to modify their behavior and not contribute to such uplifts. However, the Commission must also recognize when existing market mechanisms are already incentivizing the same behavior, thus obviating the need to allocate uplift costs based on those factors. In the CAISO market, market participants that deviate from day-ahead schedules are exposed to real-time market prices. This sufficiently incentivizes market participants not to deviate from day-ahead schedules to the extent possible when such deviations are not beneficial to the system, without having to quantify and allocate real-time uplift to market participants with such deviations.

Market participants should be able to manage their exposure to uplift allocation. Any cost allocation design should minimize variability and complexity and maximize the transparency of cost drivers. This will result in a more predictable cost allocation. This principle is important for ensuring that cost allocations have the desired effect. Allocating unmanageable costs to specific market participants based on cost causation alone may not enable market participants to minimize the cost drivers because they cannot control them. The focus should instead be on developing tools and products to allow market participants to control their behavior and manage such costs.

A myriad of factors drive the CAISO's market clearing process and commitment decisions. Allocating commitment costs to a specified cause may not be effective if the market participant has no opportunity to change its behavior so that the CAISO does not need to commit a resource that causes uplift. The combination of resource operating characteristics, system conditions, and transmission capacity may require the CAISO to commit or decommit a resource in real-time, regardless of the market participant's behavior. In addition, the CAISO market may commit resources for reasons having nothing to do with market participants' behavior. For example, the CAISO market may commit a resource to manage unscheduled flow caused by other activities or conditions in the Western interconnection. Capturing the exact allocation may be so tenuous that the market operator may be better off adopting a more simplistic but equally effective load-obligation approach.

In the Uplift NOPR, the Commission appears focused on two allocation principles: (1) cost-causation; and (2) if cost-causation cannot be accurately identified, then the beneficiary pays. The Commission should also consider other factors as the CAISO's guiding principles, such as practicality, feasibility, and implementation costs. The CAISO has struggled with these considerations in examining cost allocation refinements, particularly if a cost allocation approach sends market signals that contradict other necessary market signals.

In the Uplift NOPR, the Commission's proposed rules target cost-causation and seek to incentivize behavior. However, several of the proposed rules are inconsistent with important CAISO cost allocation principles. First, by requiring netting between one entity's load-serving functional role and its supply-scheduling functional role, similarly situated market participants would not be treated similarly. The netting would treat entities that schedule supply and load differently when it is not clear that they caused different impacts on the real-time commitment costs. Second, allocating any sizeable uplift to supply deviations could cause the CAISO to violate its accurate price signals principle by incentivizing suppliers to include the risk of incurring additional, and perhaps unpredictable, uplift costs in their economic bids, rather than pricing for actual variable operating costs. Third, a complex categorization and helpful/harmful determination may violate the "manageable" principle if they prevent participants from managing their exposure to the allocation. Finally, adopting complicated cost allocation categories that do not relate to real-time unit commitments can violate the "rational" principle if implementation costs and complexity exceed the benefits intended by the categorization.

The CAISO urges the Commission to consider that it is neither practical nor desirable to fashion uplift cost allocation rules based solely on cost causation principles. The CAISO operates complex systems that, if rendered too costly and complex, will create burdens for all market participants and ultimately ratepayers. The Commission should balance the benefits of cost causation-based rules against the efficacy and costs of achieving allocations based solely on cost causation.

C. The Commission's proposed rules are not warranted in the CAISO market.

The Commission proposes to define a deviation as a megawatt hour difference between a market participant's scheduled deliveries or receipts at particular points cleared in the day-ahead market and the amounts delivered or received at those points in real-time that are not related to real-time economic or reliability-related operator dispatch instructions. The CAISO market employs a five-minute economic dispatch, and all resources are expected to follow that five-minute dispatch. The CAISO's five-minute economic dispatch incorporates various reliability constraints and issues instructions for resources to follow. The Commission's characterization of "helpful and unhelpful" deviations might incentivize a resource to follow, or not follow, the real-time dispatch based on its level of tolerance to be allocated real-time uplift costs. Market rules should not explicitly incentivize a resource to deviate from dispatch instructions based on market participants' understanding of what is a helpful versus harmful deviation.

In the CAISO's market, the real-time dispatch determines the "helpful" movement. For a resource with day-ahead schedule, a deviation in the CAISO real-time market would be: (1) a deviation between the five-minute economic dispatch and the metered delivery or receipt; (2) a forced outage of generation; (3) a real-time self-schedule; or (4) any deviation of load from its day-ahead schedule. A resource cannot control most of these, and the CAISO does not believe it can incentivize market participants to deviate in a "helpful" direction. Therefore, within the CAISO market, the proposed rule may run contrary to the need for a resource to follow its dispatch instructions by distinguishing between deviations that may "help" or "harm" any real-time unit commitment decision. The CAISO instead supports efforts to design and implement policies that re-inforce the importance of the five minute economic dispatch and discourage any deviation from that dispatch, whether or not it may have inadvertently been "helpful" in a specific circumstance.

D. The proposed system-wide capacity and congestion management categories for allocating real-time uplift costs are problematic for the CAISO.

The Commission proposes that each RTO/ISO allocate real-time uplift costs allocated to two categories of deviations based on the reason the uplift cost was incurred: (1) a system-wide capacity category; and (2) a congestion management category. However, it is not clear whether the proposed rule applies to the categorization of the cost incurred (*i.e.*, the unit commitment), the categorization of another entity's deviation, or both. In paragraph 40, the Uplift NOPR appears to require the categorization of the costs incurred into two buckets, but the example in paragraph 42 indicates that the deviation should be categorized into one of the two proposed categories.

Given the CAISO's market optimization technique, the proposed categorizations are problematic. The CAISO's real-time market optimization does not distinguish between whether a unit is committed for a system-wide capacity need or to resolve congestion on a particular constraint. The generation mix solves both problems simultaneously. It is not possible to parse the specific reason the CAISO market committed a particular unit in any interval. For example, the CAISO market may have committed the resource to resolve an anticipated transmission constraint in a future interval because the economics are more favorable in the real-time market or for needed ramping capacity. The optimization solves all issues with one commitment and dispatch pattern. Once the CAISO commits and dispatches resources, there is no specific information that explains whether an individual commitment resolved an individual constraint within the market solution.[8]

E. Netting of deviations could provide certain entities unduly preferential treatment.

In the Uplift NOPR, the Commission proposes to require each RTO/ISO to distinguish between deviations that are "helping" efforts to address system needs and those that are "harming" efforts. The CAISO is not only concerned this proposal may send the wrong signals to resources to follow dispatch instructions, it also may unduly discriminate against similarly situated entities.

The proposed rule could give preferential treatment to a market participant that schedules load and supply over a market participant that only schedules load**.** However, loads a scheduling coordinator schedules without supply resources can affect an operators' unit commitment decisions similar to loads scheduled by a scheduling coordinator with supply resources. Allocating real-time uplift costs based on deviations should treat deviations across all functional entities equally, *i.e.*, one megawatt of effective "harmful" deviation of load should equal one megawatt of effective "harmful" deviation of another load in the relevant timeframe. The CAISO recommends that the Commission not adopt a specific netting rule as proposed in the Uplift NOPR. Rather, the Commission should provide each ISO or RTO flexibility to determine with its

[8] Commitment costs include minimum load and start-up costs. Unlike commitments for energy, there is no shift factor that measures that the commitment was made to relieve a given constraint.

stakeholders what, if any, netting of load and supply is appropriate in their markets for new cost allocation rules.

F. The CAISO tariff already includes the transmission constraint penalty factors as proposed by the Commission.

The Commission proposes to require that all RTOs/ISOs include certain provisions regarding transmission constraint penalty factors in their tariffs because they can significantly affect market-clearing prices.[9] The Commission proposes that RTOs/ISOs include an explanation whether transmission constraint penalty factors may set locational marginal prices in their tariffs. The Commission also proposes that if RTOs/ISOs desire the flexibility to change temporarily transmission constraint penalty factors to account for changes in system conditions, they must include such procedures in their tariffs. Finally, the Commission proposes to require RTOs/ISOs to provide market participants with notice of the temporary change in transmission constraint penalty factors.[10]

Section 27.4.3.1 of the CAISO tariff contains the scheduling parameters for transmission constraint relaxation, which are the penalty factors used in the scheduling run of each of the day-ahead and real-time. This tariff section states separately the different penalty price used in the integrated forward market, residual unit commitment, and in the real-time market. This section also describes the effect this scheduling parameter value has on the market outcome and how the market clearing software will use the penalty factors to re-dispatch resources at costs below the identified penalty factors, but will relax transmission constraints if the cost exceeds stated penalty factors.

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9 Uplift NOPR at P 96.

10 Uplift NOPR at PP 97-99.

Tariff section 27.4.3.2 sets forth the pricing parameters for transmission constraint relaxation, which are different those used in the scheduling run. The section also describes how with contingency-related transmission constraints, the CAISO will determine the amount of relaxation required to clear the market using the most limiting condition among the contingencies and the base case. The pricing penalty parameters are pegged to the respective bids caps in each market.

The CAISO cannot change temporarily these penalty prices. The CAISO does not object to obtaining such flexibility and believes it is reasonable to include the conditions in its tariff under which it would exercise such flexibility.

G. The CAISO already provides significant transparency on uplift payments and exceptional dispatches, and the Commission should consider the cost-effectiveness and value of requiring further transparency.

The Commission proposes that each ISO/RTO post on its website at least two reports regarding uplift payments. One report would include the total uplift payments paid daily to the resources in each transmission zone, subject to certain exceptions. The other report would include the resource name and the total uplift paid aggregated across the month to each resource that received uplift payments.[11]

The CAISO already posts significant information on uplift payments monthly.[12] The Commission's proposed reports would require the CAISO to post on its website significantly more information than the CAISO already posts and more frequently. This will cause the CAISO to incur significant costs to modify its reporting tools and systems to ensure accurate and timely delivery of the requested information. Given the

[11] Uplift NOPR at P 83.

[12] *See e.g.*, http://www.caiso.com/Documents/MarketPerformanceReportforJan2017.pdf.

numerous market changes the CAISO is considering to address rapid and significant changes on its system, this technology effort could undermine or delay the CAISO's efforts to timely deliver needed market products. Therefore, the final rule should take into account the uplift cost information each ISO and RTO already provides already and that some ISOs and RTOs may require significant time to develop and implement the tools and procedures necessary to create the proposed reports.

The Commission also proposes that ISOs and RTOs provide these reports within 20 days after the end of the month. This is unreasonable given the CAISO's significant, existing reporting requirements. The Commission views 20 days as reasonable because it might take time for settlements data to be available. However, the Commission overlooks the significant work and verification required to ensure such monthly reports are accurate. If the Commission institutes this requirement, the Commission should permit the CAISO to include the requested information in the monthly reports it already produces, which the CAISO posts to its website at the end of the month following the month of reported data.[13] The Commission has articulated no benefit in having the reports produced sooner, and the 20 days reporting requirement will create an unnecessary and undue burden on the CAISO.

H. Requiring an ISO to post operator-initiated commitments on its website within four hours after a commitment is infeasible.

The Commission proposes to require that each ISO/RTO post all operator-initiated commitments on its website. The Commission proposes to define "operator-

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[13] *See e.g.,* *http://www.caiso.com/Documents/Mar30_2017_ExceptionalDispatchReport_Dec_2016_Chart2Data_ER08-1178_EL08-88.pdf, and http://www.caiso.com/Documents/Mar15_2017_ExceptionalDispatchReport_Jan2017_Chart1Data_ER08-1178_EL08-88.pdf.*

initiated commitments" as a commitment not associated with a resource clearing the day-ahead or real-time market based on economics and that is not self-scheduled. This includes any commitment made after execution of the day-ahead market outside the real-time market.[14] The report posted on the ISO/RTO website must include: (1) the upper economic operating limit of the committed resource in MW (*i.e.*, its economic maximum); (2) the transmission zone in which the resource is located; and (3) the reason for commitment.

The CAISO already provides much of the information the Commission proposes to require monthly. The CAISO generally prepares these reports manually because they require collecting operator log information and presenting such data in a reporting format. It is not feasible for the CAISO to implement systems and procedures to expedite this process so it can deliver the reports within four hours of the operator-initiated commitment.

The Commission states these reports are needed to address concerns regarding the lack of transparency surrounding operator-initiated commitments and their effect on prices and uplift. The Commission believes that greater transparency will allow stakeholders to better assess the RTO's/ISO's operator-initiated commitment practices and raise any issues of concern through the stakeholder process.

The CAISO sees no reason why ISOs/RTOs must provide this information within four hours. It is unclear what actions market participants could even take to address these issues if the information is provided within four hours. Market participants can make more intelligent assessments of issues raised by exceptional dispatches based on

[14] Uplift NOPR at P 90.

the monthly trends and evaluating the reasons, frequency, and locations of the operator-initiated commitments. That assessment can appropriately inform CAISO stakeholder processes and lead to enhancements in the CAISO's market design. The Commission should modify its proposal to allow ISO/RTOs to post such information as part of existing monthly reports they already provide.

II. CONCLUSION

The CAISO respectfully requests that the Commission consider these comments and issue a final rule consistent with them.

Respectfully submitted,

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CERTIFICATE OF SERVICE

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

Dated at Folsom, California this 10th day of April, 2017.

/s/ Grace Clark
Grace Clark