

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Joseph T. Kelliher, Chairman:
Nora Mead Brownell, and Suedeen G. Kelly.

Intertie Bidding in the California
Independent System Operator's
Supplemental Energy Market

Docket No. IN05-8-000

ORDER AUTHORIZING PUBLIC DISCLOSURE OF STAFF REPORT OF
INVESTIGATION

(Issued September 26, 2005)

1. In this Order, we approve the public issuance of the attached Staff Report on the Investigation of Intertie Bidding Practices in the California Independent System Operator's Supplemental Energy Market (Report). We further note our agreement with the Report's findings and conclusions.
2. Pursuant to Rule 1b.9 of the Commission's regulations (18 C.F.R. § 1b.9 (2005)), all information and documents obtained during the course of an investigation and all investigative proceedings shall be treated as nonpublic except to the extent the Commission directs or authorizes the disclosure of the investigation.¹ The investigation in this matter began at the request of the California Independent System Operator (CAISO) as more fully set forth in the attached Report to investigate potential manipulative bidding at interties in the CAISO's supplemental energy market. It was conducted as a nonpublic investigation in accordance with Rule 1b.9.
3. Although authorizations to publicly disclose investigations conducted pursuant to Rule 1b.9 are rare and not to be granted lightly, the Commission believes there are extraordinary reasons in favor of publicly disclosing staff's Report in this case. First, the investigation concerned an allegation that the subject had violated Market Behavior Rule 2, which, inter alia, prohibits manipulation. *Investigation of Terms and Conditions of Public Utility Market-Based Rate Authorizations*, 105 FERC ¶ 61,218 (2003) (the Market

¹ Information and documents obtained in the course of an investigation may also be made a matter of public record during the course of an adjudicatory proceeding or if required by the Freedom of Information Act, 5 U.S.C. § 552. 18 C.F.R. § 1b.9 (2005).

Behavior Rules Order). The Commission is aware that market participants have expressed uncertainty about how Market Behavior Rule 2 will be applied. Further, in adopting Market Behavior Rule 2, we noted that we would clarify the rule on a case-by-case basis. Market Behavior Rules Order at P172. Thus, the attached Report will assist in providing guidance on meaning of Market Behavior Rule 2.

4. Second, another reason that we take this unusual step in making the Report public is that the CAISO publicly disclosed its referral of the matter during its general session teleconference meeting of the CAISO Board of Governors on March 22, 2005.² Thus, numerous market participants are already aware of the investigation into intertie bidding practices in the CAISO's supplemental energy market.

5. Therefore, the Commission believes that disclosure of staff's Report is in the public interest, presents a useful opportunity for the Commission to provide general guidance on the application of Market Behavior Rule 2, and provides closure on the intertie bidding issue.

6. The Commission finds that the staff's investigation was thorough and its findings and conclusions set forth in the Report are well-reasoned and therefore adopts them as its own.

7. Finally, the Commission notes that although the attached Report is hereby publicly released, nothing herein shall be construed to release any other document related to the investigation, including those documents and information obtained during the course of the investigation.

² *CAISO General Session Minutes, Board of Governors Teleconference* at pp.1-2 (March 22, 2005), available at <http://www.caiso.com/pubinfo/BOG/minutes/docs/050322gensessteleconminutes.pdf>.

The Commission orders:

The attached Report on the Investigation of Intertie Bidding Practices in the California Independent System Operator's Supplemental Energy Market is hereby publicly disclosed.

By the Commission.

(S E A L)

Magalie R. Salas,
Secretary.

FEDERAL ENERGY REGULATORY COMMISSION

Investigation of Inertie Bidding Practices in the California Independent System Operator's Supplemental Energy Market



Staff Report

Office of Market Oversight and Investigations
Division of Enforcement

I. Executive Summary

Commission Staff conducted a preliminary non-public investigation into reports by the California Independent System Operator (CAISO) Department of Market Analysis (DMA) of potentially manipulative bidding in the CAISO's supplemental energy market. The CAISO alleged that from October 1, 2004, to early March 2005 importers were submitting bids for the purpose of collecting "uplift" payments without delivering any net energy to the CAISO. "Uplift" is the difference between the CAISO's market clearing price and an importer's bid price and, under the CAISO Tariff, is awarded to importers to encourage competitive bidding at the CAISO interties. The CAISO estimated the alleged manipulative bidding behavior to have resulted in approximately \$18.5 million in uplift payments from October 1, 2004 through March 22, 2005,¹ with uplift payments to Powerex Corp. (Powerex) accounting for the majority.

As a result of Staff's initial discussions with the CAISO, Commission and CAISO Staff agreed that the Commission could best address the CAISO's concerns by: (1) quickly acting on an interim tariff amendment that would reduce or eliminate uplift payments; and (2) investigating whether the referred bidding activity violated the CAISO Tariff or the Commission's Market Behavior Rules. On March 23, 2005, the CAISO filed a request for approval of Tariff Amendment 66, which would decrease the magnitude of uplift payments.² On April 7, 2005, the Commission approved Amendment 66 as an interim solution, and made the change effective as of March 24, 2005.³

Staff investigated whether Powerex's⁴ alleged conduct violated the Commission's Market Behavior Rule 2 and section 7.1 of the CAISO's Enforcement Protocol, both of which prohibit "[a]ctions or transactions that are without a legitimate business purpose and that are intended to or foreseeably could manipulate market prices, market

¹ *California Independent System Operator Corp. submits Amendment 66 to its Tariff pursuant to Section 205 of the Federal Power Act etc. under ER05-718* at p.5 (Mar. 23, 2005), available at <http://elibrary.ferc.gov/idmws/search/fercadvsearch.asp> (e- Library Accession No. 20050325-0008) (the Amendment 66 Proposal).

² See Amendment 66 Proposal at p.7.

³ See *California Independent System Operator Corp., Order on Tariff Filing*, 111 FERC ¶ 61,008 at P3 (2005) (the Amendment 66 Order).

⁴ According to data and an analysis provided by the CAISO's DMA, Powerex accounted for 97 percent of all profits earned from bidding behavior questioned by the CAISO. On this basis, the CAISO referred Powerex's bidding behavior to the Commission for review and stated that the relatively low level of offsetting bid quantities and profits for other companies did not warrant a referral to the Commission at that time.

conditions, or market rules for electric energy or electricity products.”⁵ However, after conducting a non-public, preliminary investigation, we conclude that Powerex did not violate these rules against market manipulation because:

- Powerex’s supplemental energy bids were made pursuant to Powerex’s legitimate business purpose of maximizing its physical energy purchases and sales in the CAISO;
- Powerex reasonably could not have foreseen that its increased bidding activity would result in the uplift costs complained of by the CAISO; and
- Uplift payments to Powerex were the result of a CAISO-requested and Commission-approved rule that provided an incentive for liquidity (in the form of increased supplemental energy bids) at the CAISO interties.

The uplift costs complained of by the CAISO were caused not by wrongdoing by Powerex or others, but were due to the CAISO’s rules then in effect that have now been adjusted in CAISO Tariff Amendment 66. Therefore, Staff recommends that this investigation be closed.

II. Background

Powerex is a corporation organized under the Business Corporations Act of British Columbia and is a FERC-regulated power marketer with market-based rate authority. As a wholly-owned subsidiary of the British Columbia Hydro and Power Authority (BC Hydro), a Crown corporation owned by the Canadian Province of British Columbia, Powerex serves as the sole marketer of BC Hydro’s primarily hydroelectric resources⁶ outside of British Columbia. BC Hydro makes approximately ten percent of its annual energy production available to Powerex for sale into the Western Electricity Coordinating Council (WECC) area outside of British Columbia.⁷ In addition to marketing power

⁵ *Investigation of Terms and Conditions of Public Utility Market-Based Rate Authorizations*, 105 FERC ¶ 61,218 at P35 (2003) (the Market Behavior Rules Order); CAISO FERC Electric Tariff, ISO Enforcement Protocol § 7.1(a) (Nov. 20, 2004) available at <http://www.caiso.com/docs/2005/02/17/200502171233333722.pdf>.

⁶ Approximately five percent of BC Hydro’s generation resources are thermal. Additionally, under the Treaty between the United States of America and Canada Relating to Cooperative Development of the Water Resources of the Columbia River Basin, Jan. 17, 1961, U.S.-Can., 15 U.S.T. 1555, BC Hydro currently receives substantial hydro power generation benefits from the Bonneville Power Administration (BPA).

⁷ The WECC area includes the Pacific Northwest, Pacific Coast, Rocky Mountain, and Southwestern regions of the US, a portion of Baja California, and the Canadian

received from BC Hydro, Powerex purchases power throughout the WECC to serve BC Hydro's system supply needs, replenish BC Hydro's reservoirs, and meet Powerex's sales commitments. BC Hydro is a net importer of electricity on an annual basis. In order to make sales of energy into U.S. markets, including the CAISO supplemental energy market, Powerex must be able to buy back power from WECC resources to satisfy BC Hydro's load.⁸ Net income above a specified threshold from BC Hydro's consolidated operations, including Powerex's operations, is distributed to the Province of British Columbia.

A. Overlapping Import and Export Bids

In its referral, the CAISO complained about "overlapping" incremental energy ("inc") and decremental energy ("dec") bids⁹ submitted by individual market participants. The CAISO described two aspects of a bid overlap: quantity overlap and price overlap. Because, under certain conditions, imported energy can cancel exported energy, the CAISO characterizes a "quantity overlap" between an inc and a dec of equal quantity as resulting in no net energy imported into or exported from the CAISO grid. The amount of a quantity overlap between different-quantity dec and inc bids is equal to the lesser quantity bid. For instance, there is a 400 megawatt (MW) quantity overlap between an accepted 500 MW inc bid and an accepted 400 MW dec bid and 100 MW of net energy is imported into the CAISO.¹⁰

A "price overlap" occurs when a dec bid price is greater than an inc bid price. In other words, one market participant is willing to buy power at a price greater than the price at which another participant is willing to sell power. A price overlap between a dec and an inc will always involve a quantity overlap. For instance, a 20 MW dec bid priced at \$40 per MW hour (MWh) and a 15 MW inc bid priced at \$30 per MWh involves a quantity overlap of 15 MW and a price overlap of \$10 per MWh. If both bids are dispatched, only 5 MWh of net energy will be exported from the CAISO grid.

provinces of British Columbia and Alberta.

⁸ See Don Whiteley, Relationship rift between Powerex and U.S. customers is bad news for California, *The Vancouver Sun*, May 25, 2005, at D4.

⁹ Inc bids are offers to import and sell power to the CAISO. Dec bids are offers to buy and export power from the CAISO. According to the CAISO, an accepted decremental bid also can be satisfied by canceling an equal quantity of previously-scheduled, incremental energy on the same intertie.

¹⁰ Although Staff agrees with the CAISO that equal quantity inc and dec bids on the same intertie cancel each other out and result in no net energy or benefit provided to the CAISO, Staff do not agree that equal quantity inc and dec bids on different interties necessarily result in no net benefit to the CAISO. This is more fully discussed below.

Quantity and price overlaps between dec and inc bids submitted by different market participants are an expected feature of all energy markets. Market participants long on power may place a lower value on their surplus energy than participants short on power who must address a deficit. In a competitive market, market participants will often reflect these differing values in their bids. Under CAISO Tariff rules in effect since October 1, 2004,¹¹ the CAISO acts as a clearing house for overlapping inc and dec bids on the interties during a period 45 minutes before the top of each hour known as “pre-dispatch.”¹² Under the Phase 1b rules,¹³ during pre-dispatch, in addition to dispatching its predicted energy import and export needs for the next hour at each intertie, the CAISO accepts all remaining overlapping same-intertie inc and dec bids.¹⁴

Although price overlaps are expected among different market participants, it is not expected that an individual market participant would submit price overlapping dec and inc bids because this would appear to represent a seemingly irrational offer to “buy high and sell low.” The alleged lack of a legitimate business purpose for price overlaps among individual bidders’ bids was a concern that the CAISO’s DMA communicated to Staff in explaining why it thought Powerex’s bidding activity violated the Commission’s Market Behavior Rules and the CAISO Tariff. Furthermore, because of the CAISO market-clearing function, an individual market participant submitting inc and dec bids with a price overlap arguably increased the probability that its inc and dec bids would both be dispatched¹⁵ and, due to the quantity overlap between the inc and dec bids, it is possible that little, if any, energy would be imported into or exported from the CAISO as a result of the overlapping bids.¹⁶

¹¹ *California Independent System Operator Corp., Order on Proposed Tariff Amendment No. 54*, 105 FERC ¶ 61,091 (2003) (the Phase 1b Order).

¹² Amendment 66 Order at P3.

¹³ Phase 1b is a part of the CAISO’s Comprehensive Market Design 2002 (MD02). On May 1, 2002 the CAISO submitted MD02 to be implemented in three phases. The CAISO divided Phase 1 of MD02 into two sub-Phases: Phase 1a, consisting of the market design elements approved by the Commission without conditions; and Phase 1b, real-time economic dispatch (including the “bid-or-better” and “market clearing” features discussed below). 105 FERC ¶ 61,091 at P2 (2002).

¹⁴ *Id.*; see also, Phase 1b Order at P2.

¹⁵ The DMA argued that overlapping bids are certain to clear in pre-dispatch. Powerex’s bid data show that in only 45 percent of hours in which it submitted overlapping inc and dec bids were overlapping bids dispatched by the CAISO. Thus, market participants with overlapping bids do not know for certain whether or not their bids will be dispatched by the CAISO.

¹⁶ Later, Staff found that a substantial amount of energy was imported into or

B. Bid-or-Better Settlement Rules and Uplift

The CAISO pre-dispatches out-of-system supplemental energy bids 45 minutes before the top of the hour to allow out-of-system market participants, called “system resources,” to obtain transmission for imports into and exports out of the CAISO control area. Because pre-dispatch occurs before the real-time market clearing price (MCP) is determined, the CAISO pre-dispatches out-of-system bids based on its estimate of the MCP. Furthermore, under the CAISO Tariff, imports from system resources outside the CAISO control area cannot set the MCP. Because of these constraints, if intertie bids were settled at the MCP, some importers would be paid prices lower than their inc bid prices and some exporters would pay prices above their dec bid prices. For system resources pricing their bids near short-term marginal costs, settlement based on the MCP could leave them unable to cover those costs. Therefore, to increase incentives for importers to bid into California markets, the Commission accepted the CAISO’s proposal to settle imports at the higher of their bid price or the MCP.¹⁷ The CAISO makes an “uplift” payment to system resources to make up the difference between the MCP and their bid prices in instances when their bid price is more advantageous.¹⁸ This “bid-or-better” settlement scheme ensures bid cost recovery for out-of-system resources and is an incentive for them to submit competitive bids at the interties. Increased incentives for bids from out-of-system resources, and their associated benefits, particularly liquidity, are important because, as the Commission has stated, “California’s load is substantially served by power that is imported into the CAISO footprint.”¹⁹

C. The CAISO DMA’s Allegation of Manipulation

On Friday, March 4, 2005, the CAISO DMA, notified Staff by telephone of certain bidding activity by several market participants that might violate the anti-manipulation sections of the Commission’s Market Behavior Rules and the CAISO’s

exported out of the CAISO as a result of these overlapping bids.

¹⁷ Phase 1b Order at P123 (“The Commission will accept the CAISO’s proposal to pay imports the higher of their bid or the MCP. ... [W]e find that the benefits of increased incentives for imports to bid into California markets outweigh the possible risks.”).

¹⁸ *Id.* at P114; Amendment 66 Order at P5 n.4 (according to the CAISO importers are charged little or no uplift since uplift is allocated first to Scheduling Coordinators based on their net negative deviations, and then to all in-system metered demand).

¹⁹ *California Independent System Operator Corp., Order on Tariff Amendment No. 55*, 106 FERC ¶ 61,179 at PP1, 100, *order on reh’g*, 107 FERC ¶ 61,118 at P99 (2004) (the Amendment 55 Order).

Enforcement Protocol.²⁰ The DMA alleged that certain market participants outside of the CAISO control area, most prominently Powerex, were placing “overlapping” decremental and incremental energy bids at the same or geographically proximate²¹ interties for the sole purpose of gaining “uplift” payments without importing or exporting any net energy into or out of the CAISO.

By Monday, March 7, 2005, the DMA notified Staff that total uplift payments to all market participants had reached approximately \$400,000 per day during the previous weekend. Commission Staff immediately scheduled teleconferences later that day with the DMA to discuss the issue in detail and devise potential solutions. As a result of these teleconferences, DMA and Commission Staff agreed that the Commission could best address the CAISO’s concerns by: (1) quickly acting on an interim tariff amendment that would reduce or eliminate uplift payments; and (2) investigating whether the referred bidding activity violated the CAISO Tariff or the Commission’s Market Behavior Rules. To those ends, the CAISO began drafting its proposed interim tariff amendment. The DMA later estimated that the CAISO had incurred approximately \$18.5 million in improper uplift costs between October 1, 2004 and March 22, 2005.²²

Staff contacted Powerex on March 7, 2005, to discuss its bidding activity and bid data provided by the DMA allegedly supporting the DMA’s allegations of market manipulation.²³ Staff’s initial review of the CAISO data showed that total uplift

²⁰ CAISO FERC Electric Tariff, ISO Enforcement Protocol, (Nov. 20, 2004) available at <http://www.caiso.com/docs/2005/02/17/200502171233333722.pdf>. The Commission, “to ensure clarity and uniformity,” ordered the CAISO “to replace the proposed language” for Enforcement Protocol § 7 forbidding market manipulation with the Commission’s Market Behavior Rule 2, thereby guaranteeing “market participants will be subject to consistent rules both in the ISO Tariff and the market-based rate rate authorizations.” Amendment 55 Order at PP1, 100; *California Independent System Operator Corp.*, 109 FERC ¶ 61,087 at PP1, 83 (2004). Additionally, the Commission ordered that its Division of Enforcement will enforce the CAISO Enforcement Protocol until the CAISO demonstrates its independence. Amendment 55 Order at P154.

²¹ By “geographically proximate” the CAISO denotes interties with bids and schedules sourced from one of two geographic regions: the Northwest (e.g., the California-Oregon Intertie, Cascade, Nevada-Oregon Border); and the Southwest (e.g., Palo Verde, Lake Mead, Four Corners).

²² Amendment 66 Proposal at p.5.

²³ As a result of Staff’s inquiry, on March 8, 2005, Powerex voluntarily suspended making supplemental energy bids into the CAISO. On March 11, 2005, after reviewing the DMA data and discussing it with Staff, Powerex resumed making supplemental energy bids to the CAISO.

payments to Powerex based on the 109 bids flagged by the DMA (entered in 48 hours over 37 days) totaled approximately \$108,000, far short of the \$400,000 per day complained of by the DMA. Additionally, Powerex informed Staff that these 109 bids represented just 0.083 percent of the approximately 132,000 supplemental energy bids entered by Powerex and an even smaller percentage of Powerex's gross revenues in the CAISO from October 1, 2004, to March 7, 2005.

On March 10, 2005, the DMA provided additional data comprised of 954 hours of overlapping bids made by Powerex between October 1, 2004 and March 7, 2005. According to the DMA, these data showed that Powerex entered overlapping dec and inc bids at different but geographically proximate interties for the sole purpose of obtaining uplift payments without importing or exporting any net energy into or out of the CAISO.²⁴ Needing additional data and information to determine whether or not Powerex's bidding activity violated any Commission order or regulation or CAISO Tariff provision, on March 11, 2005, Staff opened a preliminary, non-public investigation of Powerex's supplemental energy bidding activity in the CAISO since October 1, 2004.

A week later, in a March 18, 2005 CAISO letter to Staff, the CAISO formally requested that Staff investigate overlapping bids submitted for the purpose of obtaining uplift payments, alleging that such bids violated the Commission's Market Behavior Rule 2 and section 7.1 of the CAISO's Enforcement Protocol, both of which prohibit market manipulation.²⁵ Because Staff had initiated a preliminary investigation, Staff was not at liberty to inform the CAISO or the public that an investigation had commenced under section 1b.9 the Commission's regulations.²⁶

²⁴ This second set of CAISO data shows total uplift payments to Powerex based on overlapping bids at geographically proximate interties of about \$3.7 million. Based on Staff's estimate, about half of this amount of uplift appears to be attributable to actual imports into or exports from the CAISO. Staff's later review of all of Powerex's supplemental energy bids to the CAISO during the relevant period shows total uplift payments based on overlapping bids at all interties of approximately \$4.6 million; well short of the CAISO's \$18.5 million figure.

²⁵ Additionally, the CAISO stated in its referral letter that the high uplift payments could be the result of collusion or conscious parallel behavior. However, during further discussions with the CAISO, DMA Staff disavowed any allegations of collusion or joint action by market participants. Therefore, Staff focused its investigation on overlapping bids submitted by individual participants resulting in uplift payments.

²⁶ 18 C.F.R. § 1b.9(a) (2004) (provides that information and documents obtained during the course of a Commission investigation, whether or not obtained by subpoena, must be treated as non-public by the Commission and its Staff unless the Commission authorizes public disclosure).

D. Tariff Amendment 66 Has Prospectively Eliminated the Uplift Problem

On March 23, 2005, the CAISO filed the Amendment 66 Proposal, a request for a tariff amendment seeking to change its settlement practice from the “bid or better” practice described above to a “pay-as-bid” practice in which importers’ bids are settled at their bid price, even if the MCP price is more advantageous. On April 7, 2005, the Commission approved the CAISO’s interim solution, Amendment 66, and made the change effective as of March 24, 2005.²⁷ As part of its Order, the Commission directed the DMA to report to the Commission weekly on the effectiveness of the interim solution and its market effects; specifically, intertie bid sufficiency and liquidity.

Under the CAISO’s “pay-as-bid” interim solution to the uplift problem, accepted system resource bids are settled at the bid price regardless of whether the MCP is more favorable than the bid price. Thus, the CAISO’s interim “pay-as-bid” solution effectively eliminates uplift payments to market participants. Nevertheless, in approving the tariff amendment as an “immediate, stopgap solution” on April 7, 2005, with an effective date of March 24, 2005,²⁸ the Commission cautioned the CAISO to remain alert to any “potential unintended consequences.”²⁹ Accordingly, the Commission directed the DMA to provide it with weekly reports on “the effects of this interim solution,” specifically “whether liquidity of bids at the interties will be diminished,” and “the extent to which the ‘as bid’ policy may cause bidders to change the level of their bids to the expected clearing price, and the resulting effect on the overall costs to customers from both of these possible problems.”³⁰

In its First Weekly Report to the Commission, the DMA stated that since the

²⁷ See Amendment 66 Order at P3.

²⁸ *Id.* at P20. The Commission originally ordered the CAISO to submit a longer-term solution no later than September 30, 2005. On July 26, 2005, the CAISO requested that the Commission approve the “pay-as-bid” settlement scheme as the longer-term solution until the CAISO can implement its Market Redesign and Technology Upgrade in 2007. *Request for Extension of Tariff Authority for “As-Bid” Settlement of Pre-dispatched Intertie Transactions*, Docket No. ER05-718-0003 at pp.1-2 (July 26, 2005), available at <http://elibrary.ferc.gov/idmws/search/fercadvsearch.asp> (e-Library Accession No. 20050728-0050).

²⁹ *Id.* at P21.

³⁰ *Id.* at P22 (the Commission ordered the DMA to produce weekly reports until a long-term solution is implemented or September 30, 2005, whichever is earlier); see also, Mark Rothleder, CAISO Dir. of Market Operations, *Intertie Proposed Solutions*, (Apr. 28, 2005), available at <http://www.caiso.com/docs/09003a6080/35/ac/09003a608035ac8e.pdf>.

Commission approved the pay-as-bid settlement rule, “[t]he amount of ‘overlapping’ inc and dec bids cleared by the CAISO dropped dramatically,” reflecting a drop from “an average of about 600 MW per hour in the month prior to the implementation of Amendment 66” to an “average of only about 19 MW of off-setting inc and dec bids” in the two weeks since the implementation of Amendment 66.³¹ Similarly, the costs to the CAISO associated with “clearing the market,” or uplift, “have been essentially eliminated” since the implementation of Amendment 66. Since the effective date of Amendment 66, an average of only 26 MW of off-setting inc and dec bids have been pre-dispatched each hour, as opposed to an average of 600 MW per hour in the month preceding Amendment 66.³²

Addressing the Commission’s concerns regarding the effect the pay-as-bid policy may have on bidders changing the level of their bids to the expected clearing price, the CAISO stated in its Fourth Weekly Report that since the implementation of Amendment 66, the net price paid by the CAISO for net incremental energy, and received by the CAISO for net decremental energy, “has been much closer to the prices reported for the hourly spot markets.”³³ The CAISO’s Seventh and Eighth Weekly Reports, however, have shown a dramatic “divergence between pre-dispatch bid prices and the ex-post real time price over the last few weeks.”³⁴ However, DMA stated that it does not believe this divergence is in any way caused by the ‘as bid’ settlement rule. Instead, DMA explained

³¹ *Report on Market Impacts of Amendment 66: “As Bid” Settlement of Pre-dispatched Inter-tie Bids for Real Time Energy* (Apr. 15, 2005), available at <http://elibrary.ferc.gov/idmws/search/fercadvsearch.asp> (e-Library Accession No. 20050419-0165). Staff notes, however, that the CAISO’s public referral to the Commission requesting an investigation also may have been a key factor affecting the bidding behavior of CAISO market participants following Amendment 66.

³² *Report on Market Impacts of Amendment 66: “As Bid” Settlement of Pre-dispatched Inter-tie Bids for Real Time Energy* at p.2 (Aug. 29, 2005), available at <http://elibrary.ferc.gov/idmws/search/fercadvsearch.asp> (e-Library Accession No. 20050831-0015) (Twentieth Weekly DMA Report).

³³ *Report on Market Impacts of Amendment 66: “As Bid” Settlement of Pre-dispatched Inter-tie Bids for Real Time Energy* (May 6, 2005), available at <http://elibrary.ferc.gov/idmws/search/fercadvsearch.asp> (e-Library Accession No. 20050509-0342).

³⁴ *Report on Market Impacts of Amendment 66: “As Bid” Settlement of Pre-dispatched Inter-tie Bids for Real Time Energy* at p.9 (June 3, 2005), available at <http://elibrary.ferc.gov/idmws/search/fercadvsearch.asp> (e-Library Accession No. 20050607-0050) (“...prices received by the CAISO for net decremental energy pre-dispatched over inter-ties dropped well below ex post prices for real time energy within the CAISO.”).

to Staff that it believed the divergence was due to low pre-dispatch pricing due to seasonal operational trends in hydro generation. Since that time, Staff has observed that the divergence has normalized and does not believe it is a cause for concern.³⁵

E. Rule 2 of the Market Behavior Rules

Staff focused its investigation on whether Powerex's bidding activity violated Rule 2 of the Commission's Market Behavior Rules.³⁶ On November 17, 2003, the Commission issued its *Order Amending Market-Based Rate Tariffs and Authorizations*,³⁷ making the Market Behavior Rules applicable to all jurisdictional entities selling wholesale electric power at market-based rates, including Powerex.³⁸ The Market Behavior Rules "are designed to provide market participants adequate opportunity to detect, and the Commission to remedy, market abuses."³⁹ Market Behavior Rule 2 provides in pertinent part:

Actions or transactions that are without a legitimate business purpose and that are intended to or foreseeably could manipulate market prices, market conditions, or market rules for electric energy or electricity products are prohibited. Actions or transactions undertaken by Seller that are explicitly contemplated in Commission-approved rules and regulations of an applicable power market (such as virtual supply or load bidding) or taken at the direction of an ISO or RTO are not in violation of this Market Behavior Rule.⁴⁰

³⁵ Twentieth Weekly DMA Report at p.8.

³⁶ Although the DMA's referral alleged a potential violation of both Market Behavior Rule 2 and its Enforcement Protocol § 7, § 7 of the CAISO Protocol is identical to Market Behavior Rule 2. Amendment 55 Order (noting that CAISO Enforcement Protocol 7 and FERC Market Behavior Rule 2 are identical).

³⁷ See Market Behavior Rules Order.

³⁸ Powerex's market-based rate authority was first approved in 1997, and renewed in 2000. See *British Columbia Power Exchange Corp.*, 80 FERC ¶ 61,343 (1997) and *British Columbia Power Exchange Corp.*, Docket No. ER97-4024-012 (Sept. 12, 2000).

³⁹ Market Behavior Rules Order at P12; cf. Hon. Joseph T. Kelliher, *Market Manipulation, Market Power, And The Authority Of The Federal Energy Regulatory Commission*, ENERGY L.J. 26, at 15, 15 n.77 (2005) (supporting FERC's prohibition of market manipulation by stating that "[b]oth the Commodity Exchange Act and the Securities Exchange Act of 1934 include express prohibitions of market manipulation that reflect a recognition by Congress that commodities, and securities markets cannot operate properly if subject to market manipulation.").

⁴⁰ Market Behavior Rules Order at P35.

The Commission has explained that Market Behavior Rule 2 “is designed to prohibit market-based rate sellers from taking actions which interfere with the prices that would otherwise be set by competitive forces, or from manipulating market conditions or market rules.”⁴¹ In looking at the facts surrounding the bidding activity in question, Staff focused on the three key elements of Market Behavior Rule 2: (1) the existence or absence of a legitimate business purpose; (2) evidence of intent or reasonable foreseeability that bidding activity would interfere with CAISO import/export settlement rules; and (3) whether the bidding activity in question was explicitly contemplated in Commission-approved CAISO rules.

1. Legitimate Business Purpose

In promulgating Market Behavior Rule 2, the Commission was careful to clarify that the term “legitimate business purpose” includes only “transactions with economic substance, in which a seller offers and provides service to a willing buyer and where value is exchanged for value...”⁴² To have “economic substance” a transaction must involve economic risk and result in an exchange of value between a willing buyer and seller.⁴³ Further, the Commission stated that “an action or transaction which is anticompetitive (even though it may be undertaken to maximize seller’s profits), could not have a legitimate business purpose attributed to it under our rule.”⁴⁴ Therefore, profit maximization alone does not constitute a legitimate business purpose. As the Commission stated, “[b]ehaviors and transactions with economic substance will thus be recognized as reflecting a legitimate business purpose consistent with just and reasonable rates.”⁴⁵ Moreover, if established, a legitimate business purpose is a complete defense to an allegation of market manipulation under Market Behavior Rule 2.⁴⁶

2. Intent and Foreseeability

In adopting Market Behavior Rule 2, the Commission also stated that the rule “is designed to prohibit market-based rate sellers from taking actions without a legitimate

⁴¹ *Id.* at P36, P38 n.25. The Commission also noted that it will decide “on a case-by-case basis ... whether the motives ascribed to transactions by sellers are legitimate or not legitimate.”

⁴² *Id.* at P37.

⁴³ *Id.* at PP37, 53.

⁴⁴ *Id.* at P38.

⁴⁵ *Id.* at P37.

⁴⁶ *Id.* at PP35-40, 42.

business purpose which *intend to or foreseeably could* interfere with the prices that would be set by competitive forces.”⁴⁷ Thus, to show a violation of Market Behavior Rule 2, in addition to the absence of a legitimate business purpose, Staff must also find that a market participant intended to disrupt or reasonably could have foreseen that it would disrupt prices set by competitive forces.

Direct evidence of intent to manipulate a market is rare.⁴⁸ However, the Commission recognized that “manipulation of energy markets does not happen by accident,” and “that intent must often be inferred from the facts and circumstances present.”⁴⁹ Foreseeability is typically established on the basis of evidence that an actor of ordinary intelligence and prudence reasonably should have anticipated the effects of its actions in question.⁵⁰

3. Transactions Contemplated in Commission-Approved Rules or Taken at the Direction of an ISO

As noted above, transactions explicitly contemplated in Commission-approved rules and regulations of an applicable power market or taken at the direction of an ISO or RTO do not violate Market Behavior Rule 2.⁵¹ Therefore, Staff looked for evidence of whether the CAISO’s Commission-approved rules and regulations contemplated Powerex’s bidding activity and questioned the CAISO as to whether it had ever specifically authorized Powerex’s bidding activity.

⁴⁷ *Id.* at P40 (emphasis added). The rule covers actions or transactions “regardless of whether these actions actually accomplish their purpose.” *Id.* at P40 n.27.

⁴⁸ See generally, 2003 Senate Energy Report at 153, citing *In the Matter of Graystone Nash, Inc., et al.*, 1996 LEXIS 3545 (SEC Jun. 27, 1996). (Discerning intent in energy market cases will likely be difficult, and will probably require careful examination of factual and market data, including e-mails trading books, and call logs because “smoking gun-type” evidence is rarely available. Proof of intent must usually be inferred, found in “mass[es] of factual data,” with “findings gleaned from patterns of behavior, from apparent irregularities, and from trading data.”).

⁴⁹ Market Behavior Rules Order at P43. The Commission has also stated that “[o]f course, the concept of foreseeability includes the concept of reasonableness. As defined by Webster’s Third New International Dictionary, “foreseeable” means: ‘being such as may be reasonably anticipated.’” 107 FERC ¶ 61,175 at P42 n.26.

⁵⁰ See *Bezanson v. Thomas*, 402 F.3d 257 (1st Cir. 2005); and *Kellner v. Budget Car & Truck Rental, Inc.*, 359 F.3d 399, 407 (6th Cir. 2004).

⁵¹ Market Behavior Rules Order at P35.

III. Investigative Steps

In Market Behavior Rule 2, the Commission employed a flexible definition of market manipulation and chose to “inquire into all of the surrounding facts and circumstances to understand the purpose for which the behavior was undertaken and the intended or foreseeable outcome of the behavior.”⁵² This case-by-case approach to analyzing potential market manipulation affords market participants the opportunity to “establish that the behavior at issue was undertaken to provide service to a buyer with rates, terms, and conditions disciplined by the competitive forces of the market...”⁵³ Therefore, during its investigation, Staff undertook to become familiar with all of the significant facts relevant to the bidding activity at issue.

Between the time when the DMA first contacted Staff and March 11, 2005, Staff conducted numerous teleconferences with the DMA and Powerex to discuss Powerex’s bidding activity. Staff reviewed in detail bid data and market analyses provided by the DMA. Additionally, Staff reviewed responses to data requests sent to Powerex, the CAISO, and three investor-owned utilities operating in California (Southern California Edison, San Diego Gas & Electric, and Pacific Gas & Electric). Staff analyzed the quantitative and qualitative data received, and held several follow-up calls with the DMA, Powerex, and Powerex’s outside counsel, including video conference interviews with two Powerex traders involved in the bidding activity, and three supervisory personnel involved with Powerex’s supplemental energy trading.

IV. Staff Findings

Staff interviews with Powerex trading personnel and analysis of data and documents submitted by Powerex under oath reveal several aspects of Powerex’s bidding activity at the CAISO interties.

First, according to the DMA, Powerex is the largest participant in the CAISO’s supplemental energy market. During Phase 1b, Powerex submitted 132,000 supplemental energy bids to the CAISO, resulting in accepted bids for approximately 1,700,000 MWh. In MWh terms, Powerex had more than twice the quantity of accepted

⁵² *Id.* at P41. Market Behavior Rule 2 also forbids four specific types of market manipulation which the Commission determined cannot have a legitimate business purpose: wash trades; transactions predicated on the submission of false information; transactions relating to the creation of artificial congestion followed by the “relief” of such artificial congestion; and collusion for the purpose of manipulating power market prices, conditions, or rules. Staff has not found evidence suggesting that Powerex engaged in any of these types of misconduct.

⁵³ *Id.* at P42.

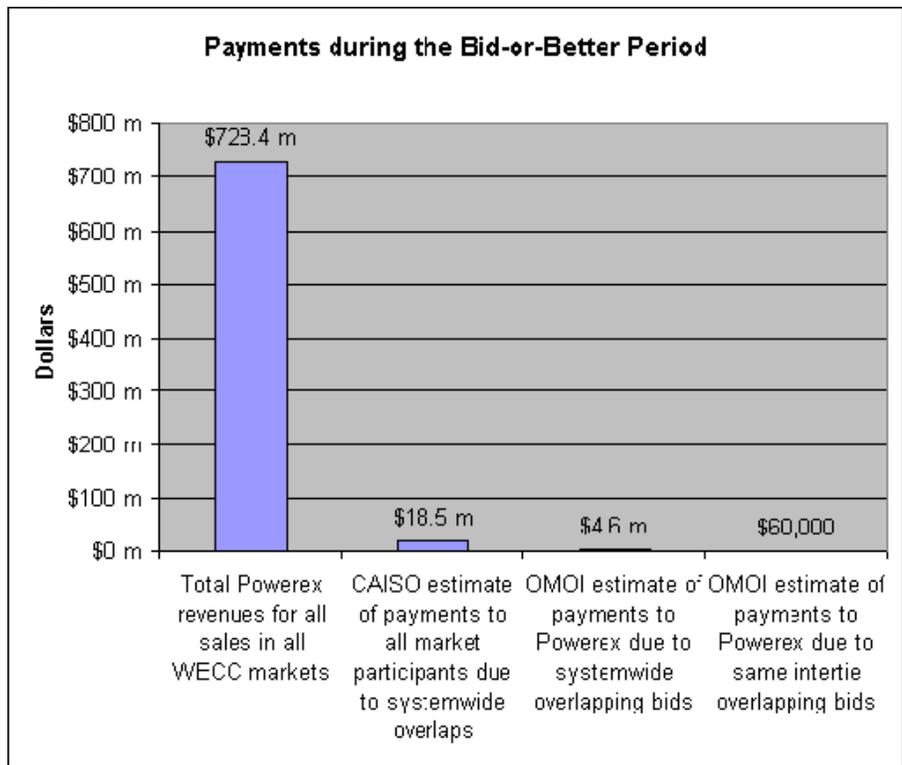
bids than its nearest competitor and accounted for 48 percent of the total supplemental energy market. One reason why Powerex is able to buy and sell so much energy in the CAISO is that it prepared well in advance for the CAISO's Phase 1b rule changes by implementing new software, strengthening its contacts with counterparties throughout the WECC, and implementing other improvements to its trading operations.⁵⁴ Nevertheless, as Figure 1 below illustrates, the \$4.6 million in uplift paid to Powerex under Phase 1b represents a small portion of its total \$728.4 million in revenue derived from WECC energy trading.

Despite its large volume of trading in the CAISO, Powerex states that it does not have a real-time trading desk dedicated solely to the CAISO market. Instead, Powerex states that it takes a "holistic" approach to energy trading by cultivating relationships with generation and transmission resources throughout the WECC, including areas remote from

BC Hydro in the Southwest. Powerex submits its bids based on its entire portfolio of resources, transmission access into and out of the CAISO grid, market conditions, and other factors. In addition to Powerex's preparations for Phase 1b, its success in California was also made possible by its familiarity with the WECC markets and its ability to rapidly obtain resources, which made it possible for Powerex to bid large quantities of energy into the CAISO.

According to Powerex, in an effort to avoid the appearance of gaming or other impropriety, Powerex's traders developed an operating practice prior to the

Figure 1



⁵⁴ Telephone Interview with a Powerex Trading Manager; Videoconference Interview with Powerex Real Time Traders and Trading Managers (referring to Powerex documents discussing preparations for implementation of Phase 1b).

implementation of Phase 1b of not submitting to the CAISO overlapping bids at the same intertie.⁵⁵ The existence of this practice was apparent from the fact that in the five months of trading between October 1, 2004, and March 7, 2005, Powerex deviated from this operating practice 109 times out of 132,000 bids. In five instances where it discovered that it had violated its operating practice prior to the top of the hour Powerex did not dispatch the overlapping inc and dec schedule.

Powerex claims that at each intertie it submits equal price inc and dec bid that provide the CAISO with significant liquidity benefits. However, each of the interties is bid at its own unique price level reflecting: the value of generation; transmission costs; loss factors and import charges; physical curtailment risks; counter-party performance risks; and different expectations and risks of settlement prices. Under these bidding practices, it is unavoidable that across the CAISO control area some dec bid prices would be greater than some inc bid prices. Powerex emphasized that each of its bids at any of the twelve interties between the CAISO grid and adjacent control areas during the relevant period represented an independent offer to buy or sell energy at that intertie, and not a deliberate bidding strategy. Powerex further explained that its bids are submitted with the understanding and expectation that they would be dispatched independently of any dispatches on other interties.

Staff found evidence corroborating these statements by Powerex and found the responses of Powerex traders obtained during several teleconferences, videoconferences, and in-person meetings regarding the operating practice to be credible and consistent with Powerex's bidding data. Furthermore, Staff disputes the CAISO's assumption that overlapping bids at the same intertie equate with bids at geographically proximate interties because incremental and decremental bids at geographically proximate interties do not necessarily cancel each other out as they do on the same intertie.⁵⁶

⁵⁵ Response of Powerex Corp. to a Staff Data Request.

⁵⁶ Staff's position is that it is incorrect to equate overlapping bids on the same intertie with overlapping bids on geographically proximate interties. Overlapping dec and inc bids at the same intertie cancel each other because the bids have the same power injection and withdrawal points and they are associated with the same set of generating units that decrease or increase their output in order to execute the bids. Consequently, the generating units' output is not changed and no inc or dec physical flow at the intertie occurs. In contrast, when inc and dec bids are placed on different interties, however geographically proximate, they do not have the same power injection and withdrawal points, and it is likely that they are not associated with the same set of generating units. The generating units that should decrease their output to execute the decremental bids are different than the generating units that should increase their output to execute the incremental bids. The changes in the output of these two different generators likely affects the physical flow over the interties.

Finally, Powerex traders are not compensated based on the level of profit they generate. According to Powerex's sworn statements, the aggregate "bonus pool" for all Powerex employees is determined by a formula based on the level of net income earned by Powerex; however, an individual trader's bonus is not tied to level of revenue or profit they generate, but on subjective criteria such as their ability to execute deals in a timely manner.⁵⁷ Thus, Staff did not find in Powerex's compensation plan any incentive for traders to engage in manipulative conduct.

A. Powerex's Bidding Had a Legitimate Business Purpose

Under Phase 1b, Powerex's overlapping bids on *different* interties have a legitimate business purpose because the transactions have "economic substance" within the meaning of Market Behavior Rule 2 (Market Manipulation); the transactions involve economic risk and result in an exchange of value between a willing buyer and seller.⁵⁸ However, under Phase 1b, "overlapping" bids at the *same* intertie involve no economic risk and no value exchange, and hence, no "economic substance." Therefore, overlapping bids at the same intertie are unlikely to have a legitimate business purpose within the meaning of Market Behavior Rule 2 (Market Manipulation).

As discussed above, for a transaction to have a legitimate business purpose, it must have "economic substance," that is, the action or transaction must involve economic risk, and result in the exchange of value between a willing buyer and seller.⁵⁹ After detailed analysis of data,⁶⁰ Staff views Powerex's submission of overlapping inc and dec bids on different interties as involving economic risk for three reasons. First, it was impossible for Powerex to guarantee that both its inc and dec bids would be dispatched.⁶¹ The CAISO controls the specific volume to be dispatched, the specific interties to be dispatched, and the hour in which to dispatch. The uncertainty associated with the real-time supplemental energy market made it difficult, if not impossible, for Powerex to forecast which, if any, of its inc and dec bids at different interties would be dispatched.

⁵⁷ Deposition of Mr. Kenneth Grant Peterson in Wholesale Electricity Antitrust Cases I & II; Videoconference Interview with Powerex Real Time Traders and Trading Managers (Powerex traders stated that they "never" placed bids for the purpose of gaming uplift payments).

⁵⁸ Market Behavior Rules Order at PP37, 53.

⁵⁹ *Id.*

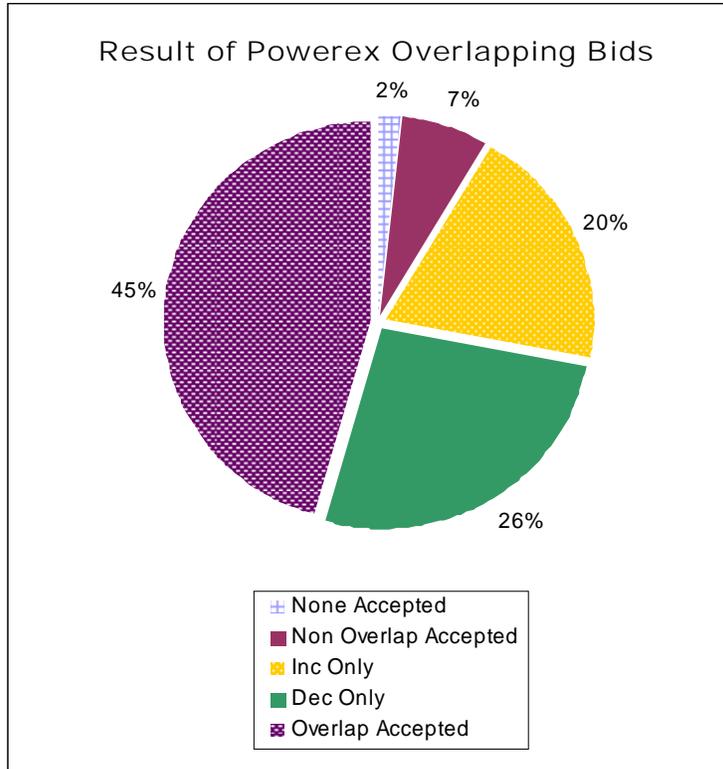
⁶⁰ Staff reviewed bid data from Powerex and a record of accepted bids from the CAISO that span the relevant period.

⁶¹ For example, it is possible the CAISO could have a physical imbalance requiring it to dispatch either the inc or dec bid, but not both.

The data support this finding. For the duration of Phase 1b, Staff found 2,983 hours where Powerex’s bids included at least one bid price overlap. As Figure 2 below illustrates:

- In 20 percent of these hours only the inc portion of the overlapping schedule was accepted.
- In 26 percent of these hours only the dec portion was accepted.
- No bids were accepted in two percent of the hours.
- In seven percent of these hours, only non-price overlapping Powerex incs and decs were accepted.
- Thus, in only 45 percent of these hours, both inc bids and dec bids were accepted.

Figure 2



As Figure 1 above illustrates, the \$4.6 million of uplift paid to Powerex accounts for only a small portion of the \$728.4 million of revenue Powerex generates from WECC trading.

Second, even if Powerex could predict that both its inc and dec bids would be accepted, it could not guarantee, under Phase 1b, that those bids would result in net payments to Powerex from the CAISO because it lacks perfect information, specifically, the CAISO’s expected demand at the interties and the bids of other market participants. Again, the data supports this finding: out of the 1,359 hours where the CAISO accepted the allegedly “overlapping” bids from Powerex, Powerex’s overlapping bids resulted in net payments to the CAISO approximately 21 percent of the time. In these cases, the uplift payment to Powerex was not sufficient to offset the net payment to the CAISO due to the overlapping bids.

Unlike the economic risk associated with “overlapping” bids at different interties, overlapping bids at the same intertie do not involve economic risk. At the same intertie, overlapping bids are certain to clear and, under Phase 1b’s “bid or better” settlement methodology, the resulting price paid by the CAISO for imports almost always will be

greater than the price paid to the CAISO for the export.⁶² Thus, it is impossible for the bidder to lose money on overlapping bids at the same intertie. Therefore, Powerex's 48 hours of bids at the same intertie out of 132,000 total bids during the relevant period were not subject to economic risk. It is important to note, however, that these 48 hours of bids yielded Powerex \$60,000, a *de minimis* amount considering the \$728.4 million in revenue that Powerex generates from WECC energy trading. Furthermore, Powerex had a voluntary operating practice against submitting overlapping bids at the same intertie. Powerex followed its operating practice 99.917 percent of the time. Therefore, Staff views the small number of overlapping bids at the same intertie and their associated uplift payments as *de minimis*.

Phase 1b's process of clearing bids in pre-dispatch instead of real-time led to the unintended consequence of higher-than expected uplift costs for the CAISO. However, the uplift paid to Powerex was in exchange for value, namely real-time supplemental energy bids at the CAISO interties, which provided the CAISO with its desired intertie bid sufficiency or liquidity. Thus, although the market design was problematic, the mere fact that Powerex received \$4.6 million in uplift over six months does not mean it manipulated the market, especially when one considers the \$728.4 million in revenue Powerex generated from WECC energy trading. In fact, uplift payments to Powerex were commensurate with the liquidity it provided to the CAISO in the form of large quantities of inc and dec energy bids at different interties supported by Powerex's wherewithal to deliver the power if called upon. Staff analysis supports Powerex's claims that when it was called upon by the CAISO to physically deliver energy it did so 99.65 percent of the time.

In addition to the risks described above, Powerex's bids in the CAISO were subject to risks in other markets and with other counterparties. According to Powerex's data responses, in situations where it had overlapping bids at different interties, Powerex was taking on two unrelated risks that could lead to losses. On a dec bid, Powerex expected that it could sell the exported energy at a price higher than it would pay the CAISO. On an inc bid, Powerex anticipated that it could buy the imported energy at a price lower

⁶² For example, assume 10 MW of dec energy is bid at \$51.00 and 10 MW of inc energy is bid at \$50.00 at the same intertie. These overlapping bids will be accepted by the CAISO. If the MCP is \$60.00, the dec price stays at \$51.00 and the inc price earned by the market participant is increased by \$10.00 of uplift to \$60.00, for a net "profit" of \$9.00. If the MCP is \$50.50, the dec price goes down to \$50.50 and the inc price goes up to \$50.50 and there is no loss or gain. If the MCP is \$40.00, the dec price goes down to \$40.00 after \$21.00 of uplift and the inc price stays at \$50.00, for a net "profit" of \$10.00. Thus, for overlapping bids on the same intertie, only when the MCP falls between the dec and the inc prices will the market participant fail to earn a gain. Narrowing the spread between the dec and inc bids reduces the likelihood of failing to earn a gain.

than the price offered to the CAISO. Supplemental energy bids are due to the CAISO one hour before and accepted by the CAISO 45 minutes before the top of the hour. Additionally, Powerex has until 30 minutes before the hour to provide NERC E-tags at real time checkout. Thus, if its bids are accepted by the CAISO, Powerex has less than 15 minutes to locate the requisite transmission and generation resources and provide NERC E-tag information to the CAISO. According to Powerex, it can do this because of its unique ability to obtain generation and transmission resources throughout the WECC area. However, in situations where Powerex is unable to find a higher price for exported energy or low-cost energy to import into the CAISO, it may take a loss on the transaction.

Our investigation has corroborated this explanation. Powerex has documented its proficiency at quickly entering into and provisioning numerous transactions involving large amounts of transmission and generation. Powerex's 99.65 percent delivery record shows that Powerex has the wherewithal to deliver on its bids. Furthermore, based on Staff's analysis of Powerex's NERC E-tag data and WECC area transmission information, it appears that approximately 93 percent⁶³ of Powerex's overlapping bids involved completely separate transactions with different sources and sinks.

B. Powerex Did Not Intend to Increase Uplift Payments

With regard to overlapping bids at different interties, Staff has determined that Powerex did not intend to increase uplift payments and could not have foreseen that its increased bidding activity would lead to the uplift costs complained of by the CAISO. As described above, Powerex had a practice of entering dec and inc bids at the same price at each intertie with bid levels between interties varying depending on regional market-related factors. A result of this bidding practice is that price overlaps would occur between inc and dec bids at different interties.⁶⁴

However, a reasonable market participant with Powerex's knowledge of the CAISO's rules could not have foreseen that increased import and export bids at the CAISO interties would cause uplift costs to rise to a level far above what the CAISO was willing to pay for enhanced liquidity. Uplift costs for all imports and exports are determined by the accuracy of the CAISO's import/export requirements forecasts. Powerex could not have foreseen when it was preparing for the implementation of Phase 1b that the CAISO would experience difficulty in accurately estimating its import needs.

⁶³ This figure is based on the 45 hour sample selected by Staff out of the 954 hours provided by the DMA. The margin of error of this figure is seven percent.

⁶⁴ For instance, if Powerex priced dec and inc bids at the Malin intertie at \$35.00 and dec and inc bids at Four Corners at \$35.50, a price overlap would result between the dec bid at Four Corners and the inc bid at Malin.

C. Powerex's Conduct Was Approved By The CAISO Rules

As noted above, when the CAISO filed its proposed tariff amendment that resulted in the Phase 1b rules, uplift was the incentive for importers to place inc and dec bids at the interties and provide the increased liquidity desired by the CAISO. The Commission approved this incentive scheme to increase liquidity in its order approving the CAISO's requested Phase 1b amendments. Powerex recognized at that time that the CAISO clearing market was an opportunity to increase its volume of California imports and exports and accordingly invested in improvements to its trading operations. Therefore, Staff has determined that Powerex's actions, increasing its volume of imports and exports in the CAISO, were explicitly contemplated in the Phase 1b order.⁶⁵

Powerex could have avoided making overlapping bids only by entering all of its bids at the same price or require that system-wide no dec bid was greater than any inc bid. In addition to not making economic sense, Staff believes that either pricing constraint would have compromised the effectiveness of the CAISO's incentive scheme and dampened Powerex's incentives for entering competitive bids at the interties.

V. Conclusion

Powerex's overlapping bids at different interties did not violate Market Behavior Rule 2 or Section 7.1 of the CAISO Enforcement Protocol because: (1) they were made pursuant to Powerex's legitimate business purpose of maximizing its physical energy sales and purchases in the CAISO, an unintended result of which was overlapping bids at different interties; (2) it was not reasonably foreseeable that Powerex's increased bidding activity would lead to uplift costs increasing to a level found unacceptable by the CAISO since uplift costs were out of Powerex's control; and (3) uplift payments were a CAISO-requested and Commission-approved incentive for increased bidding activity like Powerex's and Powerex's overlapping bids at different interties were a natural result of its increased bidding and policy of entering same-priced inc and dec bids at each intertie.

Powerex's overlapping bids at the same intertie were the result of a failure to comply with its operating practice against entering overlapping bids at the same intertie. These bids represent less than 0.083 percent of Powerex's bids and resulted in less than 0.022 percent of Powerex's gross revenues in the CAISO during the relevant period. Staff does not believe that this *de minimis* level of bidding represents a deliberate strategy by Powerex to manipulate the CAISO's supplemental energy market.

⁶⁵ Phase 1b Order at P123 ("The Commission will accept the CAISO's proposal to pay imports the higher of their bid or the MCP. ... [W]e find that the benefits of increased incentives for imports to bid into California markets outweigh the possible risks.").