

144 FERC ¶ 61,068
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

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

In Re Make-Whole Payments
and Related Bidding Strategies

Docket Nos. IN11-8-000
IN13-5-000

ORDER APPROVING STIPULATION AND CONSENT AGREEMENT

(Issued July 30, 2013)

1. The Commission approves the attached Stipulation and Consent Agreement (Agreement) between the Office of Enforcement (Enforcement) and JP Morgan Ventures Energy Corporation (JPMVEC). The Commission determines this order is in the public interest because it provides fair and equitable resolution of Enforcement's pending investigations of JPMVEC under Part 1b of the Commission's regulations, 18 C.F.R. Part 1b (2013).
2. The investigations examined JPMVEC's bidding and offering (collectively "bidding") of power plants into the markets operated by the California Independent System Operator Corporation (CAISO) and the Midwest Independent Transmission System Operator, Inc. (MISO)¹ between September 2010 and November 2012. Enforcement investigated potential violations of the Commission's Anti-Manipulation Rule, 18 C.F.R. § 1c.2, and of tariff provisions.
3. JPMVEC admits the facts set forth in Section II of the Agreement, neither admits nor denies the violations set forth in Section III, agrees to pay a civil penalty of \$285,000,000, agrees to disgorge alleged unjust profits of \$125,000,000, agrees to waive claims for additional Bid Cost Recovery and Exceptional Dispatch payments from CAISO, and agrees to implement additional compliance measures.

¹Effective April 26, 2013, MISO changed its name from "Midwest Independent Transmission System Operator, Inc." to "Midcontinent Independent System Operator, Inc."

4. As set forth below, Enforcement has determined that, through the 12 strategies investigated here, JPMVEC violated the Commission's Anti-Manipulation Rule, 18 C.F.R. § 1c.2, by intentionally submitting bids to CAISO and MISO that falsely appeared economic to CAISO and MISO's market software but that were intended to, and in almost all cases did, lead CAISO and MISO to pay JPMVEC at rates far above market prices.

5. In the Energy Policy Act of 2005, Congress directed the Commission to use its new anti-manipulation authority to combat gaming of energy markets. Consistent with that direction, and based on all of the circumstances of this case, the Commission finds that the agreed relief is fair and equitable and in the public interest.

I. Background

6. As described in the Agreement, JPMVEC is a wholly-owned subsidiary of JPMorgan Chase & Co. During the period under investigation, JPMVEC had market-based rate authority, although its authority was suspended by the Commission for six months starting on April 1, 2013, for violations of the Commission's Market Behavior Rule, 18 C.F.R. § 35.41(b).² For the period investigated (September 2010 through November 2012), JPMVEC bid the output of several gas-fired power plants into the CAISO and MISO markets.

7. Following multiple referrals by the CAISO and MISO Departments of Market Monitoring, in August 2011 the Commission directed Enforcement to conduct a formal, non-public investigation of potentially abusive bidding into the CAISO and MISO markets up to that point. *Order Accepting Tariff Revisions and Order of Non-Public, Formal Investigation*, 136 FERC ¶ 61,118 (2011). In October 2012, the Commission directed Enforcement to conduct a formal, non-public investigation of new, potentially abusive bidding practices in the CAISO and MISO markets during 2012. *Order Accepting Tariff Revisions and Order of Non-Public, Formal Investigation*, 141 FERC ¶ 61,069 (2012). In all cases, the entity that had engaged in the practices was JPMVEC.

8. JPMVEC's bidding practices have been the subject of four emergency tariff filings by CAISO or MISO during 2011 and 2012 in which they asked for a tariff change to be effective as of the date of filing, rather than on the date of the Commission's Order, to prevent what the ISO viewed as further abuse while the filing was pending.³ In addition, CAISO made a fifth tariff filing in 2011 in which it asked for expedited action

²*Order Suspending Market-Based Rate Authority*, 141 FERC ¶ 61,131 (2012).

³*Order Accepting Tariff Revisions and Order of Non-Public, Formal Investigation*, 141 FERC ¶ 61,069 (2012) (granting CAISO tariff filing); *Cal. Indep. Sys. Operator Corp.*, 136 FERC ¶ 61,118 (Aug. 19, 2011) (granting CAISO tariff filing); *Midwest* (continued...)

by the Commission to block what it viewed as an improper bidding practice.⁴ Although respondent was not named in these filings, it was JPMVEC's bidding practices that prompted each of them. In each case, the Commission approved the requested tariff change and made the change effective as of the date of filing (or other early requested date).

II. Stipulation and Consent Agreement

A. Background

9. JPMVEC stipulates to the facts recited in Section II of the Agreement.

10. In both California and the Midwest, entities regulated by the Commission, called Independent System Operators (ISOs), operate wholesale markets for electricity. CAISO operates the California market, and MISO operates the Midwest (now Midcontinent) market.

11. In these regional markets, sellers (generators like JPMVEC's plants) and buyers (such as "load-serving entities," i.e., entities that provide electricity to retail customers) submit prices at which they are willing to transact. In wholesale markets, the units in which energy are traded are megawatt-hours (MWhs).

12. The prices at which electricity is bought and sold in ISOs vary to some extent from one location to another (called "nodes") within the same region. For that reason, market prices for energy are called "Locational Marginal Prices," or "LMPs."

13. CAISO and MISO operate both "Day Ahead" and "Real Time" markets for energy. As the name indicates, the Day Ahead market operates one day ahead of the date on which the energy actually flows through power lines. The Real Time market operates on the day the energy is transmitted, and prices and dispatch levels are resolved shortly before the hour in which the energy is delivered.

14. JPMVEC acquired the right to control the output of most of the power plants at issue in 2008. Those assets came to JPMVEC, along with many others, as part of its parent company's spring 2008 acquisition of the Bear Stearns firm, at a time when Bear Stearns was in severe financial distress.

Indep. Transmission Sys. Operator, Inc., 136 FERC ¶ 61,025 (July 12, 2011) (granting MISO tariff filing); *Cal. Indep. Sys. Operator Corp.*, 135 FERC ¶ 61,110 (May 4, 2011) (granting CAISO tariff filing).

⁴ *Cal. Indep. Sys. Operator Corp.*, Docket Nos. ER11-3510-000 and ER11-3510-001 (May 27, 2011) (unpublished letter order) (granting CAISO tariff filing under delegated authority).

15. The plants for which JPMVEC inherited rental (or “tolling”) agreements from Bear Stearns included several gas-fired power plants owned by AES in Southern California. The AES plants could collectively produce about 4000 MW of electricity, and were known as the “AES 4000” units. JPMVEC’s agreement with AES for these plants extended through May 2018. Under the agreement, JPMVEC was required to pay \$170 million in annual rent (called “demand payments”) for the AES 4000 plants. JPMVEC also inherited from Bear Stearns bidding rights to a 545 MW gas-fired plant in Michigan called Kinder Jackson.

16. Through the end of 2010, the AES 4000 units had all been subleased (or “retolled”) to Southern California Edison. But absent an extension (or a new agreement with a different firm), JPMVEC would control four of the units starting on January 1, 2011, six more starting on January 1, 2012, and others at a later date.

17. The AES 4000 units have relatively high heat rates (that is, they are less efficient than more modern plants). For that reason, the marginal costs of running the plants were typically higher than Day Ahead market prices in CAISO (which averaged about \$30 to \$35/MWh during this period). Based on their costs, therefore, the units were typically out of the money. JPMVEC’s Kinder Jackson plant in Michigan also faced competition from lower-priced sources of energy.

18. The bids under investigation were developed by JPMVEC’s Houston-based Principal Investments unit, then headed by Francis Dunleavy. During the relevant period, Dunleavy was one of eight direct reports to Blythe Masters, the head of JP Morgan’s Global Commodities Group. Starting in 2010, Dunleavy supervised Andrew Kittell and John Bartholomew, including with respect to bids developed by Principal Investments into CAISO and MISO.

19. In part to develop experience with CAISO before the AES 4000 units began returning to its control starting in 2011, JPMVEC decided to acquire short-term rights to two other Southern California plants (Huntington Beach 3&4, or HB3&4) starting in January 2010.

B. Payment at Market Prices vs. Payment “As Bid”

20. CAISO and MISO ordinarily pay generators at market rates, that is, price times quantity, or $LMP * MWhs$. In some instances, however, ISOs also pay generators “make-whole” or “uplift” payments, which provide additional compensation to generators when market revenues would not cover what is called the “bid cost” of a resource the ISO has committed. Under the CAISO tariff, bid cost does not mean the unit’s actual operating costs (such as fuel costs), but the price the unit has submitted to CAISO. These prices include (a) the unit’s bundled price for running at its lowest operating level (called “Pmin”) and (b) its per-MWh price for energy above Pmin.

21. If the CAISO system commits a unit in the Day Ahead market that bid at \$50/MWh, for example, but the market price (LMP) comes in at \$30, the ISO will make a \$20/MWh make-whole payment to ensure the unit is paid at least its bid price. In addition, if the CAISO system commits a unit, CAISO will pay the unit at least its Minimum Load Cost for running at Pmin, even if that cost is above market rates. For example, if a unit's Minimum Load Cost is \$5,000 for 50 MWh (or \$100/MWh), and market prices come in at \$30/MWh, the tariff obligates the ISO to provide a \$70/MWh make-whole payment to the unit for the MWhs it provided up to Pmin.

22. In CAISO, the principal type of make-whole payment is Bid Cost Recovery (BCR). MISO has several different types of make-whole payments, including Revenue Sufficiency Guarantee (RSG) payments and Day Ahead Market Assurance Payments (DAMAP).

23. The CAISO tariff authorizes the ISO to issue "exceptional dispatches," that is, manual out-of-market dispatch instructions that are not the result of the operation of the automated market system. Exceptional dispatches may include commitments to Pmin (usually given the day before energy actually flows), "incremental" dispatches above Pmin (usually given on the same day the energy flows), or both. Energy delivered pursuant to an exceptional dispatch is typically paid at the higher of the plant's bid price or market rates. Units that have been exceptionally dispatched may also receive certain additional payments for Residual Imbalance Energy.

C. JPMVEC's Bidding Strategies

1. JPMVEC's "Strategy A" in CAISO

24. During the two periods under investigation (September 2010 through June 2011 and March through November 2012), JPMVEC engaged in 12 bidding strategies investigated by Enforcement. JPMVEC began 10 of these strategies while Enforcement's investigation was ongoing.

25. JPMVEC implemented the first strategy (labeled "Strategy A" in the Agreement) starting in September 2010. Over the course of the next six months, JPMVEC collected tens of millions of dollars in make-whole payments (in this case, Bid Cost Recovery) after submitting bids using this strategy.

26. Before JPMVEC began employing Strategy A (that is, from January through August 2010), the HB3&4 plants were infrequently dispatched. With little in revenue from CAISO and substantial demand payments that JPMVEC owed to AES, the two units ran at a loss for those eight months.

27. In September, JPMVEC began employing Strategy A. With this strategy, the economics of the HB3&4 plants changed: instead of losing money, the plants became

highly profitable after BCR payments were taken into account. On September 22, 2010, for example, HB4 made \$71,962 in market revenues and paid \$106,567 in gas and operating costs, for a loss of \$34,605 at market rates. But the units received \$159,987 in BCR payments from CAISO, for a daily profit (on a marginal cost basis) of \$125,382, despite losing money at market rates.

28. As these numbers reflect, when implementing Strategy A, JPMVEC was frequently paid (as BCR) twice its costs of running at Pmin, along with market revenues for the same Pmin energy.

29. In October 2010, Principal Investments personnel provided Masters and other JPMVEC executives with a spreadsheet projecting future revenues and costs for JPMVEC's California power plants, on the assumption that the firm would successfully use the new bidding strategy for all of the units through 2018. On that basis, the spreadsheet projected net margin (i.e., profits), after demand payments and gas and other operating costs, of between \$1.5 and \$2.0 billion through 2018.

30. Starting in January 2011, JPMVEC also employed Strategy A with the four AES 4000 plants that returned to JPMVEC's control that month.

31. The particulars of Strategy A are described in the Settlement Agreement. The strategy is also described in CAISO's March 2011 tariff filing, which sought (and received) approval from the Commission to block what CAISO described as "the observed exploitation of the existing bid cost recovery tariff rules."⁵

32. When generators submit bids to CAISO for energy, they specify two prices that are relevant here. First, they submit a bundled price for the energy produced at the lowest level of output (called "Pmin") that the plant can reliably produce. The CAISO tariff allows generators to bid their Pmin energy at up to twice the unit's estimated actual costs.

33. Although generators submit a bundled price (called "Minimum Load Cost") for Pmin energy, that price can be translated into a per-MWh price. In the case of HB3&4, for example, JPMVEC's bundled price of \$8,199 for the first 91 MWhs from HB3 translated to a per-MWh price of about \$90/MWh (or twice its estimated costs of about \$45/MWh). By comparison, Day Ahead market rates in CAISO during this period averaged around \$30 to \$35.

34. Any time CAISO commits a unit in the Day Ahead market, it is obligated to pay the unit at least its stated price for Pmin energy (i.e., its Minimum Load Cost), even if that price is above market rates. If JPMVEC's bids resulted in a Day Ahead award,

⁵California Independent System Operator Corporation, *Tariff Revision and Request for Expedited Treatment*, at 1, Docket No. ER11-3149-000 (March 25, 2011).

therefore, JPMVEC would be paid as bid (at \$90/MWh) for its Pmin energy, at twice its costs, even if market prices were much lower.

35. In addition to a bundled price for energy up to Pmin, generators submit per-MWh prices for energy above Pmin, up to the unit's maximum output level (called Pmax). Although JPMVEC's price for its Pmin energy (\$90/MWh) was much higher than average Day Ahead market prices of \$30 to \$35/MWh, JPMVEC submitted the lowest permissible priced bid (-\$30/MWh) for energy above Pmin. That is, JPMVEC offered to pay CAISO \$30/MWh to take JPMVEC's energy between Pmin and Pmax.

36. JPMVEC's -\$30 bids for energy above Pmin were designed to try to achieve an overall average energy price – despite JPMVEC's costly \$90/MWh energy up to Pmin – to secure Day Ahead awards from CAISO. Once this happened, JPMVEC would be assured of being paid, at a minimum, twice its costs of running at Pmin.

37. Even if a generator has gotten a Day Ahead award for energy above Pmin, it may not actually produce that energy. In particular, a generator may “buy back” its Day Ahead award – in effect, pay another generator to produce that energy – in the Real Time market. If a generator buys back its entire Day Ahead award, it is described as being “dec'ed down to Pmin” and will be told by CAISO (or “dispatched”) to run at that level.

38. In JPMVEC's Strategy A, the firm submitted bids that were generally above Real Time market prices, but only by a small amount. In response to these bids, CAISO often dec'ed JPMVEC's plants down to their Pmin in the Real Time market, and the plants often ran at that level. Real Time bids at higher prices (e.g., \$1,000) would have made a dec-down more likely, but could also have reduced JPMVEC's BCR payments.

39. Like other generators, JPMVEC received daily reports from CAISO about whether their units had received awards, in what amounts, and at what price.

40. As JPMVEC was aware, a dec-down to Pmin meant that one element of CAISO's BCR formula, the Metered Energy Adjustment Factor (or MEAF) would be zero. As explained in the Agreement, a dec-down to zero (and hence a zero MEAF) had two important effects in increasing JPMVEC's payments from CAISO.

41. When JPMVEC employed Strategy A, its units typically received Day Ahead energy awards from CAISO above Pmin, and then were dec'ed down to Pmin in the Real Time market. As a result, JPMVEC was paid (as BCR) its full bid price (e.g., \$90/MWh) for its Pmin energy, even with market prices averaging \$30 to \$35/MWh. In addition, JPMVEC received market revenues (i.e., the amount it was paid at market rates in the Day Ahead market less its Real Time buyback expense) for the same energy.

42. JPMVEC employed Strategy A through March 2011 for the HB3&4 plants. During the months it did so, JPMVEC collected market revenues of \$21.9 million for

these two plants while spending \$29.5 million on gas and operating costs, for a loss at market rates of \$7.6 million. But because of \$34.6 million in BCR payments, the units generated profits on a marginal cost basis of \$27 million over those months, for units that had rarely been dispatched by CAISO before JPMVEC employed this strategy.

43. In January 2011, a team of JPMVEC employees provided Masters with a Powerpoint that discussed both the impact of California's new cap-and-trade program and the firm's BCR revenues. The Powerpoint stated that JPMVEC had "successfully executed a new asset optimization strategy for HB3&4" since September 2010, which "capture[d] the Bid Cost Recovery (BCR) energy revenue." The Powerpoint showed that between September and December 2010, JPMVEC had received \$24 million in BCR revenues for the HB3&4 plants. It also showed that during that period for those two plants, JPMVEC received \$14 million in market revenues from CAISO and that gas and other operating costs were \$17.7 million. In other words, the Powerpoint showed that the units lost millions of dollars at market rates but had a profit of about \$20 million (on a marginal cost basis) because of BCR.

2. JPMVEC's Dealings with the CAISO Market Monitor about Strategy A

44. In phone calls with the CAISO Market Monitor (MMU) in March and April 2011, when asked about the reasons for the company's bids to CAISO, the Principal Investments personnel who spoke on behalf of JPMVEC stated that their goal was to have the units picked up by CAISO and to respond to the Real Time market. The Principal Investments personnel did not mention BCR or the MEAF as relevant factors.

45. When asked by the CAISO MMU why it submitted negative Day Ahead bids (i.e., -\$30/MWh) rather than energy self-schedules, JPMVEC stated that self-scheduling would result in unknowable compensation and could cause JPMVEC to receive payment at a level that is too low. The JPMVEC representatives made this statement to the MMU even though, during January-March 2011, JPMVEC voluntarily self-scheduled units as part of Strategies B and C (see Agreement, ¶¶ 42-45). In response to the MMU's question about JPMVEC's choice of negative bids over self-schedules, the JPMVEC representatives did not mention that, under the CAISO tariff, self-scheduling would make JPMVEC ineligible for BCR.

46. In the spring of 2011, senior representatives from Principal Investments, Compliance, and Global Commodities, along with counsel, participated in discussions about inquiries from the CAISO Market Monitor relating to the firm's bidding into CAISO.

47. In late March 2011, and again in May 2011, the CAISO MMU's office asked JPMVEC for "spreadsheets or other tools used to assess the actual profitability of [the HB3&4 and RB7] units' [schedules] prior to receiving any settlement statements from the

ISO.” The company maintained accounting profit and loss (P&L) reports relied on for certain financial purposes but which Principal Investments did not use. On June 13, 2011, JPMVEC provided the Market Monitor with these accounting P&L reports.

48. The Real Time Desk at JPMVEC maintained daily estimate P&L spreadsheets for the plants the company bid into CAISO, which a Principal Investments employee periodically consulted. JPMVEC first provided the Real Time Desk’s estimate P&L spreadsheets to the CAISO MMU on October 18, 2011. On February 13, 2012, CAISO imposed a penalty of \$486,000 on JPMVEC for what it deemed to be late production of these documents.

3. ISO Issues Relevant to JPMVEC’s Other Strategies

49. **Ancillary services.** For reliability reasons, CAISO sometimes needs to externally control generators through a system called Automatic Generation Control (AGC). CAISO obtains the right to do this by purchasing “ancillary services” from generators. Among these services are Regulation Down (or “Reg Down”), which is used to make small downward adjustments in the amount of energy then on the grid. To provide Reg Down or other ancillary services, a generator must be at an output level, usually well above Pmin, at which CAISO can externally control it via AGC.

50. **Self-schedules.** A “self-schedule” in CAISO is a price-taker bid: the generator will accept any price set by the market. The CAISO system implements self-schedule bids by treating them as though the generator had offered to pay CAISO a large sum to accept the generator’s services. For example, the CAISO tariff treats an energy self-schedule as though the generator had submitted a bid of -\$825/MWh (before April 1, 2011), or -\$1100/MWh (after that date), far below the floor (for priced bids) of -\$30.⁶ Similarly, CAISO implements Regulation Down self-schedules by treating them as though the generator had submitted a priced bid of -\$285.⁷ A self-schedule, whether for energy or ancillary services, is therefore more attractive than any priced bid.

51. **Respect for operating constraints.** In giving awards to power plants, CAISO and MISO respect the physical limitations of the plants. For example, CAISO’s system takes into account that, just as cars can only accelerate or brake at a certain rate, a power plant can only increase or decrease its output (i.e., “ramp up” or “ramp down”) at a certain speed, called its “ramp rate.” Similarly, ISOs respect the Minimum Run Times submitted by power plants, that is, the shortest period for which the generator may be given an award.

⁶ CAISO Business Practice Manual for Market Operations, §§ 2.5.2.1 & 6.6.5.

⁷CAISO Business Practice Manual for Market Operations, § 6.6.5.

52. **Day Ahead bidding on two consecutive days.** In both CAISO and MISO, Day Ahead markets operate as their name suggests, namely one day at a time. For example, on Monday, generators submit their Day Ahead bids for Tuesday, and on Monday afternoon the ISO tells generators what awards they have gotten and where Day Ahead market prices for Tuesday have settled. On Monday, when the ISO's system is evaluating Day Ahead bids for Tuesday, it does not "know" what bids generators will submit for the Day Ahead market for Wednesday. Only on Tuesday, after the ISO has already committed itself in the Day Ahead market for all 24 hours of that same day, does the ISO receive a generator's bids for Wednesday. Whatever Day Ahead bids a generator may submit for the opening hours of Wednesday, the ISO does not have the option of changing its Day Ahead awards for Tuesday.

4. JPMVEC's "Strategy B" in CAISO

53. In January 2011, JPMVEC submitted energy self-schedules to CAISO every third hour, while submitting prices of \$73/MWh to \$98/MWh for the intervening hours. (Again, Day Ahead market prices averaged around \$30 to \$35/MWh during this period.)

54. In response to these bids, the CAISO system gave JPMVEC large Day Ahead awards during the self-scheduled hour (*i.e.*, every third hour). To respect the units' ramp rates, however, the CAISO system gave the units ramping awards, paid as bid (at \$73 to \$98/MWh) during the intervening hours.

5. JPMVEC's "Strategy C" in CAISO

55. During January through March 2011, JPMVEC submitted Day Ahead self-schedules to CAISO for the ancillary service Regulation Down. (As discussed above, a self-schedule is a price-taker bid, and more attractive than any priced bid.) For the same hours, JPMVEC submitted Day Ahead energy bids priced at \$60 to \$88/MWh.

56. The CAISO system honored JPMVEC's Reg Down self-schedules, and also gave it Day Ahead energy awards for the energy needed to support the Reg Down awards, even when the firm's energy bids were out of the money. For the energy provided under those awards, CAISO paid JPMVEC not at market prices but as bid, that is, at \$60 to \$88/MWh.

6. JPMVEC's "Strategy D" in CAISO

57. From April through June 2011, JPMVEC submitted -\$30/MWh Day Ahead bids to CAISO for the end of Day 1. The next day, when it submitted bids for Day 2, it set the price for energy for the hours between midnight and 2 a.m. at \$999/MWh.

58. Because CAISO's system evaluated only one day's bids at a time, CAISO gave JPMVEC large Day Ahead awards for the final hours of Day 1. But because CAISO's system honors the physical limitations of power plants (such as ramp rates), the next day

it gave JPMVEC ramp-down Day Ahead awards in the first two hours of Day 2. CAISO paid JPMVEC for those awards at the units' bid price of \$999, even though market prices for the period between midnight and 2 a.m. were about \$12/MWh.

7. JPMVEC's "Strategy E" in CAISO

59. Between April 14 and 22, 2011, JPMVEC submitted low-priced bids (at \$1/MWh) for ancillary services for certain hours, which were awarded by the CAISO system. As discussed above, ancillary service awards require that a generator be at an output level well above Pmin.

60. For the hours in which it had received Day Ahead ancillary service awards, JPMVEC submitted Real Time energy bids at \$999. A Real Time bid at that price is likely to result in a dec-down to Pmin, and the CAISO system did in fact dispatch these units at Pmin after receiving those bids. With JPMVEC's plants operating at Pmin – too low a level to perform the ancillary services they had been awarded – CAISO dispatchers issued exceptional dispatches to ramp the units to a higher level at which they could fulfill those awards. CAISO paid JPMVEC at its Real Time bid price (\$999/MWh) for these exceptional dispatches.

8. JPMVEC's "Strategy F" in MISO

61. On Friday, October 29, 2010, JPMVEC sent MISO its Day Ahead bids for the Kinder Jackson plant for the next three days (October 30-November 1). For all three days, it set the unit's Minimum Run Time at four hours, No Load Cost (akin to Minimum Load Cost in CAISO) at -\$10,000, and energy costs at the end of the day between -\$50/MWh and -\$60/MWh.

62. The next day, on Saturday afternoon, October 30, Principal Investments personnel learned that Kinder Jackson had gotten a Day Ahead award for the final four hours of Sunday, October 31. Later that Saturday afternoon, Principal Investments personnel changed the Day Ahead bid prices and Minimum Run Times for Monday, November 1: a planned four-hour Minimum Run Time became 20 hours; planned \$80/MWh energy prices for the first 14 hours of Monday became \$1,000/MWh; and a planned -\$10,000 No-Load Cost rose by \$20,000 to positive \$10,000.

63. Absent a manual intervention by a MISO operator, the strategy would have earned JPMVEC about \$2.5 million in make-whole ("Revenue Sufficiency Guarantee") payments, while costing it \$123,000 for gas; in other words, MISO would have paid JPMVEC more than 20 times the firm's costs. Without the manual override, the MISO system would have honored JPMVEC's (new) 20-hour Minimum Run Time by giving the plant a Day 2 award for 16 hours (20 minus 4). Through make-whole payments, MISO would have paid the plant as bid, at \$1,000/MWh, for 14 hours.

64. In an October 29, 2010 email, JPMVEC compliance staff wrote: “JPMVEC violated MISO’s tariff in offers submitted for Kinder Jackson. . . . A Minimum Run Time of 20 hours is inconsistent with the design of the equipment and does not comport with the tariff requirements set forth in Section 39.2.5.c[.]”

9. JPMVEC’s “Strategy G” in MISO

65. On February 16, 2011, certain Principal Investments personnel’s Day Ahead bids to MISO for the next day alternated from low to high every other hour: around \$10/MWh in odd-numbered hours but as high as \$178/MWh in even-numbered hours. Although the MISO system gave the units ramping awards based on these bids, it blocked payment of Revenue Sufficiency Guarantee or other make-whole payments during the ramping periods. Without make-whole payments, JPMVEC lost \$139,000 that day.

10. JPMVEC’s “Strategy H” in MISO

66. In late April 2011, Principal Investments personnel provided low or negative bids in the Day Ahead market in MISO. In the Real Time market, they submitted positive bids, in response to which MISO dec’ed the units to their lowest operating level in Real Time.

67. At that time, MISO’s tariff provided that the size of a make-whole payment called Day Ahead Market Assurance Payments (“DAMAP”) was determined by multiplying (i) the amount of the unit’s dec-down (e.g., 300 MW) by (ii) the difference between the Real Time LMP and the generator’s Day Ahead bid (e.g., \$30 - (-\$15) = \$45). (That is, as MISO’s May 2011 tariff filing explained, larger dec-downs, and greater differences between a generator’s bid price and the Real Time LMP, resulted in larger DAMAP payments.) An internal JPMVEC Compliance memo stated that this MISO bidding strategy “may not be compensatory without unnecessary uplift payments.”

11. JPMVEC’s 2012 Strategies in CAISO

68. Between March and November 2012, Principal Investments was again given responsibility for submitting bids to CAISO. During that period, JPMVEC employed the following bidding strategies:

(a) For units with a 24-hour Minimum Run Time, JPMVEC submitted Day Ahead bids of -\$30/MWh for three hours before midnight on Day 1, and then high-priced bids on Day 2. CAISO’s daily notices to JPMVEC showed that the CAISO system often gave the units Day Ahead awards at Pmin for 21 hours on Day 2, while paying JPMVEC the highest Minimum Load Cost permitted by the tariff, i.e., twice the units’ estimated actual costs of Pmin energy during those 21 hours.

(b) Again for units with a 24-hour Minimum Run time, JPMVEC self-scheduled units in the Day Ahead market for one hour of the day, while submitting high-

priced Day Ahead bids for the other 23 hours of that same day. JPMVEC's self-schedule for one hour was more attractive to CAISO than any priced bid for that hour could have been. CAISO's daily notices to JPMVEC showed that, in addition to the self-scheduled hour, the units received Day Ahead awards at Pmin for the other 23 hours of the day (24-1), while collecting from CAISO twice their estimated actual costs for Pmin energy during those 23 hours.

(c) After receiving a notice that CAISO planned to exceptionally dispatch one of its units during the upcoming hours of a day, JPMVEC changed the unit's Real Time price from below \$50/MWh to \$1,000/MWh for those upcoming hours.

(d) JPMVEC submitted Day Ahead bids to CAISO at \$250/MWh or higher, and Real Time bids of \$1,000/MWh, even though those bids would be expected to preclude marketplace awards at high LMPs, to position units to receive exceptional dispatches paid at JPMVEC's \$1,000 bid price.

D. Enforcement's Determinations about JPMVEC's Bidding Strategies

69. In the Agreement, JPMVEC acknowledges the elements of its 12 bidding strategies and the awards it received from CAISO and MISO when it implemented those strategies, including many millions of dollars of BCR, DAMAP, and exceptional dispatch payments at above-market rates.

70. Enforcement determined that JPMVEC did in fact design its bidding strategies with the intent to obtain the above-market payments that, over many months, it actually did receive.

71. As explained in Order No. 670, the Commission's Anti-Manipulation Rule, 18 C.F.R. § 1c.2 (2012), prohibits an entity from:

(1) us[ing] a fraudulent device, scheme or artifice, or mak[ing] a material misrepresentation or a material omission as to which there is a duty to speak under a Commission-filed tariff, Commission order, rule or regulation, or engag[ing] in any act, practice, or course of business that operates or would operate as a fraud or deceit upon any entity; (2) with the requisite scienter; (3) in connection with the purchase or sale of...electric energy...subject to the jurisdiction of the Commission.

72. Enforcement determined that through each of the bidding schemes described above, JPMVEC violated the Anti-Manipulation Rule by engaging in conduct that satisfied each of the three elements set forth in Order No. 670.

73. Each day, JPMVEC received written reports from CAISO and MISO about whether the firm's power plants had been dispatched, at what output levels, and at what price. Enforcement determined that, by reviewing how the CAISO and MISO market

software responded when it tested its strategies, JPMVEC could usually predict the awards that CAISO and MISO would give to JPMVEC. The firm anticipated and intended that its bids would trigger make-whole payments, exceptional dispatch payments, and Residual Imbalance Energy payments to JPMVEC at prices above market rates.

74. Enforcement determined that JPMVEC employed a fraudulent device, scheme or artifice, made false statements or material omissions, or engaged in a course of business that operated or would operate as a fraud on electricity market participants in CAISO and MISO.

75. Enforcement determined that, to make profits from power plants that were usually out of the money, JPMVEC submitted Day Ahead bids that falsely appeared economic to CAISO and MISO's automated market software and that were intended to, and did, lead CAISO and MISO to pay it at rates far above market prices.

76. Enforcement further determined that JPMVEC's bids were not grounded in the normal forces of supply and demand, and they were expected to, and did, lose money at market rates. JPMVEC's purpose in submitting the bids was not to make money based on market fundamentals, but to create artificial conditions that would cause the CAISO system to pay JPMVEC outside the market at premium rates.

77. Enforcement determined that JPMVEC made money-losing bids in the Day Ahead and Real Time markets to trigger payments from out-of-market compensation systems designed to ensure fair results to units that had been bid in good faith to seek to make money in the marketplace.

78. Enforcement determined that JPMVEC's low-priced bids induced (or sought to induce) the CAISO and MISO systems into giving JPMVEC (i) unnecessary uplift payments (such as BCR, DAMAP, or RSG), (ii) other improper as-bid payments (such as exceptional dispatches at \$999/MWh to enable CAISO to get the benefit of otherwise infeasible Ancillary Service awards to JPMVEC), and (iii) improper Residual Imbalance Energy payments. Enforcement determined that through the strategies, JPMVEC received millions of dollars in unnecessary payments from CAISO and MISO, and would have received more if all of the strategies had worked as JPMVEC had hoped.

79. Enforcement determined that JPMVEC knew that the ISOs received no benefit from making inflated payments to JPMVEC, and thus defrauded the ISOs by obtaining payments for benefits (beyond the routine provision of energy) that JPMVEC did not deliver.

80. Enforcement determined that JPMVEC's Day Ahead bids (such as -\$30/MWh in CAISO and -\$15/MWh in MISO) displaced other generation and altered Day Ahead and

Real Time LMPs and congestion values from the prices that would have resulted had JPMVEC not submitted these bids.

81. Enforcement determined that all of these schemes interfered with and distorted well-functioning markets in CAISO and MISO.

82. Enforcement also determined that JPMVEC violated Section 39.2.5.c of the MISO tariff when it increased the Minimum Run Time of the Kinder Jackson unit from the plant's actual Minimum Run Time of four hours to 20 hours on multiple trade dates in October and November 2010, including trade date November 1, 2010.

E. The Relationship Between Tariff Violations and Market Manipulation

83. Market manipulation under the Commission's Rule 1c is not limited to tariff violations.⁸ That Rule 1c is not so limited is by design. In the wake of Enron's schemes in the CAISO market, the Energy Policy Act of 2005 gave the Commission "broad authority to prohibit manipulation"⁹ and "an intentionally broad proscription against all kinds of deception, manipulation, deceit and fraud."¹⁰ Both the breadth of Congress' authorization to the Commission and the breadth of the Anti-Manipulation Rule itself are a response to what courts have long recognized: the impossibility of foreseeing the "myriad means" of misconduct in which market participants may engage.¹¹ For that

⁸Many of the Commission's major enforcement actions under Rule 1c (whether litigated or settled) have concerned, either in whole or in part, market manipulation in the absence of a violation of a specific tariff provision or comparable specific market rule. See *Barclays Bank PLC, Daniel Brin, Scott Connelly, Karen Levine, and Ryan Smith*, 144 FERC ¶ 61,041 (2013); *In re PJM Up-To Congestion Transactions (Oceanside Power)*, 142 FERC ¶ 61,088 (2013); *Deutsche Bank Energy Trading, LLC*, 142 FERC ¶ 61,056 (2013); *Gila River Power, LLC*, 141 FERC ¶ 61,136 (2012); *Rumford Paper Co.*, 140 FERC ¶ 61,030 (2012); *Constellation Energy Commodities Group, Inc.*, 138 FERC ¶ 61,168 (2012); *Energy Transfer Partners, L.P.*, 128 FERC ¶ 61,269 (2009); *Amaranth Advisors, LLC*, 128 FERC ¶ 61,154 (2009); see also *In re Amanat*, Exchange Act Release No. 54,708, 89 SEC Docket 672, 2006 WL 3199181, at *7-8 (Nov. 3, 2006) (fraud under SEC's Rule 10b-5 for submission of sham trades to earn payment based on high trade volume, where no specific rule barred submission of sham trades), *aff'd mem. sub nom. Amanat v. SEC*, 269 Fed. App'x 217 (3d Cir. 2008).

⁹*Order Denying Rehearing (Amaranth)*, 121 FERC P 61,224, at P 17 (2007).

¹⁰*Id.* P 21.

¹¹*Cargill, Inc. v. Hardin*, 452 F.2d 1154, 1163 (8th Cir. 1971) ("The methods and techniques of manipulation are limited only by the ingenuity of man."); see also *Order Denying Rehearing (AEP)*, 106 FERC ¶ 61,020, at P 48 (2004).

reason, as the Commission observed in 2006, “[N]o list of prohibited activities could be all-inclusive.”¹² Instead, as Order No. 670 emphasizes, fraud is a question of fact to be determined by all the circumstances of a case,¹³ not by a mechanical rule limiting manipulation to tariff violations.

84. Conduct, as opposed to a specific false oral or written statement, is sufficient to establish a violation of Rule 1c, which is patterned on the SEC’s Rule 10b-5. See *Stoneridge Investment Partners, LLC v. Scientific-Atlanta, Inc.*, 552 U.S. 148, 158 (2008) (“If [the Court of Appeals’] conclusion were read to suggest there must be a specific oral or written statement before there could be liability under § 10(b) or Rule 10b-5, it would be erroneous. Conduct itself can be deceptive, as respondents concede.”); *In re Amanat*, Exchange Act Release No. 54,708 (Nov. 3, 2006), *aff’d mem. sub nom. Amanat v. SEC*, 269 Fed. App’x 217 (3d Cir. 2008) (liability based on falsehoods communicated through conduct, namely submission of market data based on sham transactions).

F. Agreed Relief

85. As set forth in the Agreement, JPMVEC has agreed to pay a civil penalty of \$285,000,000, to disgorge alleged unjust profits of \$125,000,000, and to implement

¹² *Order Revising Market-Based Rate Tariffs and Authorizations*, 114 FERC ¶ 61,165, P 24 (2006) (“Furthermore, we recognize that fraud is a very fact-specific violation, the permutations of which are limited only by the imagination of the perpetrator. Therefore, no list of prohibited activities could be all-inclusive. The absence of a list of specific prohibited activities does not lessen the reach of the new anti-manipulation rule, nor are we foreclosing the possibility that we may need to amplify section 1c.2 as we gain experience with the new rule, just as the SEC has done.”); see Order No. 670, FERC Stats. & Regs. ¶ 31,202 at P 50 (“Fraud is a question of fact that is to be determined by all the circumstances of a case.”); see also *Order Denying Rehearing (Gaming Order)*, 106 FERC ¶ 61,020, at P 45 (2004) (“Enron (and others) would demand that a regulatory agency have the prescience to include in a rate schedule *all* specific misconduct in which a particular market participant could conceivably engage. That standard is unrealistic and would render regulatory agencies impotent to address newly conceived misconduct and allow them only to pursue, to phrase it simply, last year’s misconduct – essentially, to continually fight the last war and deny the capability to fight the present or next one.”) (emphasis in original); *Amendments to Blanket Sales Certificate*, Order No. 644, 105 FERC ¶ 61,217, at P 33 (2003) (“The courts have recognized, in this regard, that specific regulations cannot begin to cover all of the infinite variety of cases to which they may apply and that ‘[b]y requiring regulations to be too specific, [courts] would be opening up large loopholes allowing conduct which should be regulated to escape regulation.’”) (citation omitted).

¹³ Order No. 670, FERC Stats. & Regs. ¶ 31,202 at P 50.

additional compliance procedures, including a comprehensive external assessment of its policies and practices in the power business. JPMVEC has also agreed to waive any claims for additional BCR payments (for awards through March 25, 2011) or for additional payments for exceptional dispatches between April 12, 2012 and the Effective Date (i.e., the date of this Order).

III. Determination of the Appropriate Sanctions

86. In determining the appropriate remedy, Enforcement considered the factors described in section 316A(b) of the Federal Power Act and in the Revised Policy Statement on Penalty Guidelines. Specifically, Enforcement considered, among other things, the large financial gains that JPMVEC obtained from its conduct; the large financial losses to others caused by that conduct; the intentional nature of the conduct; the involvement of high level personnel; JPMVEC's large size; JPMVEC's continuation of the conduct for more than 350 days; the company's failure to self-report any of the conduct; and the serious harm that JPMVEC's conduct caused in the Commission's jurisdictional markets.

87. Under the Energy Policy Act of 2005, one of the Commission's core responsibilities is detecting, preventing, and appropriately sanctioning the gaming of energy markets. The Commission concludes that the civil penalty, disgorgement of unjust profits, and compliance improvements set forth in the Agreement are fair and equitable resolutions of the matters concerned and are in the public interest, as they reflect the nature and seriousness of JPMVEC's conduct and recognize the company-specific considerations as stated above and in the attached Agreement.

88. The Commission directs CAISO to promptly allocate JPMVEC's \$124 million disgorgement payment for the benefit of current CAISO ratepayers through an internal accounting procedure, and directs MISO to promptly allocate JPMVEC's \$1 million disgorgement payment for the benefit of current MISO ratepayers through an internal accounting procedure.

89. Finally, in light of the record here, we remind all persons under investigation of the importance of candor and accuracy during all stages of Market Monitor inquiries and Commission investigations.

The Commission orders:

(A) The attached Stipulation and Consent Agreement is hereby approved without modification.

(B) This order terminates Docket Nos. IN11-08-000 and IN13-05-000.

By the Commission.

(S E A L)

Kimberly D. Bose,
Secretary.

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

In Re Make-Whole Payments) Docket Nos. IN11-08 & IN13-05
and Related Bidding Strategies)

STIPULATION AND CONSENT AGREEMENT

I. Introduction

1. The staff of the Office of Enforcement (Enforcement) of the Federal Energy Regulatory Commission (Commission) and J.P. Morgan Ventures Energy Corporation (JPMVEC) enter into this Stipulation and Consent Agreement (Agreement) to resolve an investigation conducted under Part 1b of the Commission's regulations, 18 C.F.R. Part 1b (2012). The investigation examined JPMVEC's bidding and offering (collectively "bidding") of power plants into the markets operated by the California Independent System Operator Corporation (CAISO) and the Midwest (now Midcontinent) Independent Transmission System Operator, Inc. (MISO) between September 2010 and November 2012. Enforcement examined potential violations of the Commission's Anti-Manipulation Rule, 18 C.F.R. § 1c.2, and ISO tariff provisions.

II. Stipulations

Enforcement and JPMVEC (on its own behalf) hereby stipulate and agree to the following facts:

Background: JPMVEC's Power Plant Assets

2. In the spring of 2008, as Bear Stearns (Bear) faced economic troubles, JP Morgan acquired Bear. Among the assets JP Morgan acquired with that deal were rights relating to gas-fired power plants in California and Michigan. In particular, a Bear entity had long-term tolling agreements (through May 2018) to several gas-fired power plants owned by AES in Southern California. (A tolling agreement allows a firm to purchase fuel for the plant and sell the plant's output.) Because these AES plants could collectively produce about 4000 MW of electricity, the plants were known as the "AES 4000" units. Under the contract with AES, each year JPMVEC owed approximately \$170 million in "demand payments" (effectively, rent payments for the tolling rights). Bear also had (and JP Morgan acquired) rights to a gas-fired plant in Michigan called Kinder Jackson.

With both the AES 4000 and Kinder Jackson plants, the relevant rights were held by JPMVEC, a direct subsidiary of JPMorgan Chase & Co.

3. As of 2008, the rights to control the AES 4000 units had all been subleased (in industry terms, “retolled”) to Southern California Edison (SCE). The retolling agreements were for fixed periods, and absent an extension (or a new agreement with a different firm), JPMVEC would itself control four of the units starting on January 1, 2011, six more starting on January 1, 2012, and others at a later date. The four plants that returned to JPMVEC’s control in 2011 were Alamitos 3 & 4 (AL3&4), Huntington Beach 1 (HB1), and Redondo Beach 7 (RB7).

4. The AES 4000 units are steam boiler plants, which were built in the 1950s and 1960s and have relatively high “heat rates” (that is, they are less efficient than more modern plants). For that reason, the costs of running the units were often higher than “Day Ahead” market prices (discussed below) in the California markets. JPMVEC’s Kinder Jackson plant in Michigan, although more modern than the AES 4000 plants, also faced competition from lower-priced sources of energy.

5. As of June 2013, JPMVEC had effectively sold its interest in the AES 4000 units by retolling them to third parties for the remainder of the contract term with AES. JPMVEC currently owns the Kinder Jackson plant. Beginning in the summer of 2010, JP Morgan made extensive efforts to sell its interests in the Kinder Jackson plant and is actively engaged in the sales process.

6. During the relevant period, JPMVEC’s energy business included activities such as energy-related merchant banking and structured transactions for the firm and its clients and related hedging and risk-mitigation transactions (“transactional activities”); bidding power from generation on behalf of the firm and others; and purchasing and selling physically and financially settled power and gas.

7. The bids under investigation were developed by JPMVEC’s Houston-based Principal Investments unit, then headed by Francis Dunleavy. Dunleavy moved (along with many other Bear employees) to JP Morgan in 2008. He was one of eight direct reports to Blythe Masters, the head of the Global Commodities Group, which employed more than 650 people in 20 countries during the period under investigation. Andrew Kittell likewise came to JP Morgan from Bear. In July 2010, John Bartholomew, who was familiar with the California market from his previous job at SCE, joined the Principal Investments team. Starting in 2010, Dunleavy supervised Kittell and Bartholomew, including with respect to bids developed by Principal Investments for the company’s California

and Michigan power plants into the CAISO and MISO markets. (Dunleavy, Kittell, and Bartholomew are referred to below as the “Principal Investments personnel.”) The Principal Investments personnel are currently employed at JP Morgan. Because the firm retolled the AES 4000 units in June 2013, the Principal Investments personnel are going to work only on transactional activities.

8. Knowing that certain of the AES 4000 units would be returning to its control starting in 2011, JPMVEC decided to acquire short-term rights to two other Southern California plants (Huntington Beach 3&4, or HB3&4) starting in January 2010. One reason JPMVEC did this was to develop experience with the California market before the AES 4000 plants began returning to JPMVEC’s control in January 2011.

9. During the first eight months of 2010, JPMVEC experimented with a variety of ways of bidding HB3&4 into the California market, but the units were infrequently dispatched. With little in revenue from the market and substantial demand payments owing to AES, the two units ran a loss for those eight months. In the months that followed, JPMVEC developed new bidding strategies in the CAISO and MISO markets, as described below.

Background: Regional Electricity Markets

10. In both California and the Midwest, entities regulated by the Commission, called Independent System Operators (ISOs), operate wholesale markets for electricity. CAISO runs the California market and MISO runs the Midwest (now Midcontinent) market.

11. In these regional markets, sellers (generators like the plants that JPMVEC controlled) and buyers (in particular, “load-serving entities,” that is, companies that provide electricity to retail customers) submit prices at which they are willing to transact. The units in which energy is traded in wholesale markets are megawatt-hours (MWhs), equivalent to 1,000 kilowatt-hours.

12. The prices at which electricity is bought and sold in ISOs vary to some extent from one location to another (called “nodes”) within the same region. For that reason, market prices for energy are called “Locational Marginal Prices,” or “LMPs.”

13. CAISO and MISO operate both “Day Ahead” and “Real Time” marketplaces for energy. In both cases, market participants learn about market prices each day but do not get contemporaneous information about other generators’ bids or awards. Market participants do receive daily information from the ISO about whether they have received awards, in what amounts, and at what price.

14. As its name suggests, the Day Ahead market operates one day ahead of the date on which the energy is actually delivered. The Real Time market operates on the day the energy is transmitted, and prices and dispatch levels are resolved shortly before the hour in which the energy flows on power lines. Day Ahead and Real Time prices may be different for the same hour. A unit's actual dispatch instructions in Real Time may be different than its Day Ahead award if, for example, the unit "buys back" its Day Ahead award in the Real Time market or sells additional energy to the ISO in that market.

15. In the Day Ahead market, generators submit prices to ISOs for three different components of energy production. In the case of CAISO, the two that are relevant here are as follows: *First*, once each month, generators provide CAISO with a bundled price for the energy a plant produces up to Pmin, which is the lowest level of output that the plant can reliably produce. (For the HB3&4 units that JPMVEC controlled during 2010 and 2011, for example, the Pmin was 91 MW.) The bundled price for the energy a plant produces at Pmin is called "Minimum Load Cost" in CAISO.

16. Under the CAISO tariff, generators are allowed to submit Minimum Load prices of up to twice their actual costs (or more precisely, twice their estimated actual costs). For example, for the month of September 2010, JPMVEC submitted a Minimum Load Cost price for HB3 of \$8,199. This was the highest price that JPMVEC was permitted to submit to CAISO under the tariff, at twice the plant's "proxy cost" (estimated actual operating cost) of about \$4,100.

17. *Second*, generators submit daily prices (which may vary by hour and are not required to be at marginal cost) for "incremental" energy between their Pmin and their maximum output level, called Pmax. For example, for the HB3&4 units, JPMVEC submitted hourly prices for the energy between Pmin (91 MW) and Pmax (around 225 MW). The CAISO tariff allowed these prices to range between -\$30/MWh and \$750/MWh, later raised to \$1,000/MWh, and JPMVEC's bids all fell within that range.

18. In the terminology used by CAISO and MISO, if the ISO agrees to buy energy from a generator, the ISO gives the unit an "award" or "picks the unit up." The smallest award a generator can get is at the unit's Pmin.

19. If a generator receives a Day Ahead award from CAISO or MISO, that does not mean it will actually produce all of the energy for which it has received a Day Ahead award. For example, a generator that has received a Day Ahead award to its Pmax could receive a Real Time instruction from the ISO requiring it either to (a) produce the energy itself or (b) buy the award back in the Real Time market. If the generator buys back a Day Ahead award, it is described

as receiving a “decremental” energy award, and is said to have been “dec’ed down.” If a generator buys back its entire incremental energy award, it is “dec’ed down to Pmin,” and is directed by the ISO to operate at that level.

20. In the Real Time market, a generator is a potential buyer as to whatever MWhs it has been awarded (above its Pmin) in the Day Ahead market. If a generator has received a Day Ahead award to its Pmax, for example, it can submit bids in the Real Time market seeking to buy back its incremental energy above Pmin. If its Real Time bids are higher than the Real Time market price (LMP), the generator will buy back its Day Ahead award at the Real Time LMP.

21. If a generator has not sold all of its output in the Day Ahead market, it has the opportunity to sell additional energy in the Real Time market. The sale of incremental energy in the Real Time market is called “inc’ing.” In this situation, if a generator’s Real Time bids are lower than the Real Time market price (LMP), the generator will sell additional energy to the ISO at the Real Time LMP.

22. CAISO and MISO ordinarily pay generators at market rates, that is, price times quantity, or $LMP * MWhs$. Generators that are given awards are paid at the market rate (LMP), even if their bids were lower than the LMP.

23. In some instances, however, ISOs also pay generators “make-whole” or “uplift” payments pursuant to the applicable tariff, which provide additional compensation to generators when market revenues are insufficient to cover the “bid cost” of a resource the ISO has committed. Under the tariff, bid cost means the price the unit has submitted to CAISO (e.g., the unit’s Minimum Load Cost and its bid prices for incremental energy), not its actual costs of operating. If CAISO commits a unit in the Day Ahead market that bid at \$50/MWh, for example, but the market price (LMP) comes in at \$30, the ISO will make a \$20/MWh make-whole payment to ensure the unit is paid at least its bid price. In addition, if CAISO commits a unit, the tariff obligates it to pay the unit at least its Minimum Load Cost for running at Pmin, even if that cost is above market rates. For example, if a unit’s Minimum Load Cost is \$5,000 for 50 MWh (or \$100/MWh), and market prices come in at \$30/MWh, the tariff obligates the ISO to provide a \$70/MWh make-whole payment to the unit for the MWhs it provided up to Pmin.

24. In CAISO, the principal type of make-whole payment is Bid Cost Recovery (BCR). MISO has several different types of make-whole payments, including Revenue Sufficiency Guarantee (RSG) payments and Day Ahead Market Assurance Payments (DAMAP).

25. CAISO sometimes issues “exceptional dispatches,” that is manual out-of-market dispatch instructions that are not the result of the operation of market software. These may include commitments to Pmin (usually given the day before energy flows), incremental dispatches above Pmin (usually given the day the energy flows), or both. Such exceptional dispatches are typically paid at the higher of the plant’s bid price or market rates (LMPs). Units that have been exceptionally dispatched may also receive certain additional payments for Residual Imbalance Energy.

JPMVEC’s Bid Strategies in CAISO and MISO
Between September 2010 and June 2011

26. Enforcement investigated bidding strategies employed by JPMVEC in CAISO and MISO during this period. The strategies are described here.

CAISO Strategies

27. **Strategy A (September 2010 to March 2011)**. Beginning on September 8, 2010 for the HB3 and HB4 units, JPMVEC implemented a new bid strategy developed by Principal Investments personnel. JPMVEC used the strategy with HB3&4 through March 2011, as well as (at least some of the time) with the four AES 4000 plants that returned to JPMVEC’s control in January 2011.

28. During the first month in which the new strategy was implemented (September 2010), revenues from the HB3&4 units increased to several million dollars, up from much lower amounts during the preceding eight months. In October 2010, Principal Investments personnel provided numerous people at JPMVEC, including Masters, with spreadsheets showing a variety of revenues, hedges and costs for JPMVEC’s California power plant assets, as well as estimated projections for several years out. While the specific bid strategy being employed was not described, the document included a “blue sky” estimate that if it continued to make similar bids and receive similar awards from CAISO for another eight years, the AES 4000 and HB3&4 units could generate net margin (profits), after demand payments and gas and other operating costs, of between \$1.5 and \$2.0 billion through 2018. If the units received no revenues of any kind, JPMVEC would still need to pay more than \$1.5 billion in demand payments and other fixed costs. Masters forwarded the document to others to evaluate the “risk/opportunity” presented.

29. With this strategy, JPMVEC submitted the lowest Day Ahead bids allowed under the CAISO tariff, namely -\$30/MWh. (That is, JPMVEC offered to pay CAISO \$30 for each MWh of energy that CAISO purchased above the unit’s Pmin.) JPMVEC also submitted Minimum Load Costs at the highest permissible level allowed under the CAISO tariff (i.e., twice the units’ estimated actual costs of

running at Pmin). For the HB3&4 units, a Minimum Load Cost of about \$8,200/hour for running at Pmin (91 MWs) translated to a per-MWh price of about \$90/MWh.

30. The -\$30 Day Ahead bids for energy above Pmin were designed to try to make the average price of JPMVEC's energy low enough to secure Day Ahead awards, even with energy up to Pmin priced at \$90/MWh. When making -\$30 Day Ahead bids, JPMVEC was (like other generators) paid at the Day Ahead LMP, which is almost always a positive number. (Day Ahead LMPs in CAISO during this period averaged in the range of \$30 to \$35, which was below the operating costs of JPMVEC's California units during this period.) In the Real Time market, for hours in which it had obtained Day Ahead awards, JPMVEC generally submitted bids at around 120% of Day Ahead LMPs. After receiving those bids, the CAISO system often responded by dec'ing the units down to Pmin.

31. The Principal Investments personnel were aware of the CAISO Bid Cost Recovery formula and its Metered Energy Adjustment Factor, or MEAF, and of the impact of a zero MEAF. The MEAF is a measure of the extent to which a generator actually ran at the level of its Day Ahead award above Pmin. If a generator runs at the level of its Day Ahead award, for example, the MEAF is 1.0. At the other extreme, if the generator instead is dec'ed down all the way to its Pmin, the MEAF is zero.

32. JPMVEC's buyback bids at 120% of Day Ahead prices were intended to be above Real Time LMPs, but only by a small amount. Although Real Time bids at higher prices would have made a dec-down more likely, higher bids could also have reduced JPMVEC's BCR payments. In response to JPMVEC's bids, CAISO often dec'ed JPMVEC's units down to their Pmin in the Real Time Market, resulting in a MEAF of zero.

33. JPMVEC's bids took into account that, under the BCR formula as then applied, a zero MEAF had two important impacts on payments from CAISO. First, a zero MEAF largely neutralized reductions to BCR that would otherwise have resulted from JPMVEC's -\$30 Day Ahead bids. Second, a zero MEAF enabled JPMVEC to collect not only its full Minimum Load Cost (i.e., twice its estimated actual costs) but also market revenues for the same Pmin energy, for an effective per-MWh price well above market rates for the unit's Pmin energy.

34. In phone calls with the CAISO Market Monitor (MMU) in March and April 2011, when asked about the reasons for the company's bids to CAISO, the Principal Investments personnel who spoke on behalf of JPMVEC stated that their goal was to have the units picked up by CAISO and to respond to the Real

Time market. The Principal Investments personnel did not mention BCR or the MEAF as relevant factors.

35. When asked by the CAISO MMU why it submitted negative Day Ahead bids rather than energy self-schedules, JPMVEC stated that self-scheduling would result in unknowable compensation and could cause JPMVEC to receive payment at a level that is too low. JPMVEC did not mention that under the CAISO tariff, self-scheduling would make JPMVEC ineligible for BCR.

36. Between September 8, 2010 and March 10, 2011, JPMVEC collected market revenues of \$21.9 million for HB3&4, while spending \$29.5 million on gas and other operating costs (i.e., not including fixed costs, such as demand payments). During those months, the HB3&4 plants collected \$34.6 million in BCR payments.

37. On September 22, 2010 for HB4, for example, JPMVEC received \$143,930 from CAISO in Day Ahead market revenues, and paid \$71,968 in the Real Time market as the unit was dec'ed to or around Pmin in most hours. Its market revenues from HB4 were therefore ($\$143,930 - \$71,968 = \$71,962$). JPMVEC spent \$106,567 on gas and operating costs, for a loss of \$34,605 at market rates. Because of BCR payments of \$159,987, the unit showed a daily profit (on a variable cost basis) of \$125,382.

38. In December 2010, when California's cap-and-trade program was announced, Masters requested an analysis of the impact of the new rules on the value of the AES 4000 units. In January 2011, a team of JPMVEC employees, including staff from the Risk and Finance groups, provided a Powerpoint that included the requested analysis. While the specific bid strategy being employed was not described, the Powerpoint also noted that JPMVEC had "successfully executed a new asset optimization strategy for HB3&4" since September 2010, which "capture[d] the Bid Cost Recovery (BCR) energy revenue." The PowerPoint indicated that between September and December 2010, JPMVEC had received \$24 million in BCR revenues for the HB3&4 plants. It also indicated that during that period for those two plants, JPMVEC had received \$14 million in market revenues from CAISO and that gas and other operating costs were \$17.7 million.

39. In the spring of 2011, senior representatives from Principal Investments, Compliance, and Global Commodities, along with counsel, participated in discussions about inquiries from the CAISO Market Monitor relating to the firm's bidding into CAISO.

40. In late March 2011, and again in May 2011, the CAISO Market Monitor's office asked JPMVEC for "spreadsheets or other tools used to assess the

actual profitability of [the HB3&4 and RB7] units' [schedules] prior to receiving any settlement statements from the ISO." The company maintained accounting profit and loss (P&L) reports relied on for certain financial purposes but which Principal Investments did not use. On June 13, 2011, JPMVEC provided the Market Monitor with the accounting P&L reports.

41. Separately, the Real Time Desk at JPMVEC maintained daily estimate P&L spreadsheets for the plants the company bid into CAISO, which a Principal Investments employee periodically consulted. JPMVEC provided the Real Time Desk's estimate P&L spreadsheets to the CAISO MMU on October 18, 2011. On February 13, 2012, CAISO imposed a penalty of \$486,000 on JPMVEC for what it deemed to be late production of these documents.

42. **Strategy B (January 2011)**. On January 1, 2011, JPMVEC took over responsibility for four additional plants. JPMVEC developed a new bidding strategy for two of the plants (AL3&4): for every third hour, submitting an energy self-schedule while submitting prices of between \$73/MWh and \$98/MWh in the two hours in between. (A self-schedule means that the generator is a price taker, that is, the unit will accept any price set by the market, making a self-schedule more attractive than any price a generator can submit to CAISO.)

43. CAISO gave Day-Ahead awards for the hours in which JPMVEC had submitted self-schedules. JPMVEC's bids in the intervening hours would typically be out of the money. But CAISO's software needed to take into account the physical limitations of plants, including the fact that just as cars can only accelerate or brake at a certain rate, a power plant can only increase or decrease its output (i.e., "ramp up" or "ramp down") at a certain speed, called its "ramp rate." The CAISO system gave the units large Day Ahead awards every third hour due to the self-schedules and also gave JPMVEC Day Ahead awards in the intervening hours to respect the units' ramp rates that JPMVEC had registered with CAISO. JPMVEC was paid as bid (via BCR) at the \$73/MWh to \$98/MWh prices it submitted to CAISO for the intervening hours.

44. **Strategy C (January to March 2011)**. In mid-January 2011, for the AL3 and AL4 units, JPMVEC submitted self-schedule bids for the ancillary service called Regulation Down (or Reg Down). To perform a Reg Down award, a generator must be at an output level, usually well above Pmin, at which it can be externally controlled by the ISO via Automatic Generation Control (AGC) for reliability purposes. When the CAISO system gives a Reg Down award to a generator, it must also give the unit an energy award sufficient to compensate the generator for producing energy at its AGC level.

45. For the same hours for which it was submitting a self-schedule for Reg Down (a more attractive bid to CAISO than any priced bid), JPMVEC also submitted priced bids for energy at between \$60/MWh and \$88/MWh. The CAISO system honored the Reg Down self-schedules even where the energy bids were out of the money by giving JPMVEC Day Ahead energy awards to the unit's AGC levels. CAISO paid JPMVEC as bid (at \$60-88/MWh) for the energy needed to support the Reg Down awards.

46. **Strategy D (April to June 2011).** In early April 2011, JPMVEC submitted -\$30/MWh bids at the end of the day and in the next day's Day Ahead market submitted bids of \$999 for the hours between midnight and 2 a.m. Because CAISO's system evaluated only one day's bids at a time, CAISO gave JPMVEC large Day Ahead awards in the closing hours of Day 1. Because CAISO's system respected the physical limitations of power plants, including the units' ramp rates that JPMVEC had filed with CAISO, the CAISO system gave JPMVEC "ramping" awards in the first two hours of Day 2 to respect these ramp rates. Under the then-existing tariff rules, CAISO paid JPMVEC for those "ramping" awards at the unit's bid price of \$999, although market prices for the midnight to 2 a.m. period were about \$12/MWh during those hours of low demand. Between April 1 and June 18, 2011, JPMVEC collected from CAISO approximately \$17 million in payments at market rates and \$6 million from exceptional dispatches, spent approximately \$29 million on gas and other operating costs (i.e, not including fixed costs, such as demand payments), and received approximately \$26 million in BCR payments.

47. **Strategy E (April 2011).** Between April 14 and 22, 2011, JPMVEC submitted low-priced bids (at \$1/MWh) for ancillary services for certain hours, which were accepted by the CAISO system. Ancillary service awards can be performed only if a generator is at an output level well above Pmin.

48. For hours in which it had received Day Ahead ancillary service awards, JPMVEC submitted Real Time energy bids at \$999. As market participants know, a Real Time bid of \$1,000/MWh is likely to result in a dec-down to Pmin, and the CAISO system dispatched JPMVEC to run its units only at Pmin in Real Time during those hours. Finding JPMVEC's plants operating in the Real Time at too low a level to provide the ancillary services, CAISO dispatchers issued exceptional dispatches to ramp the units to levels where they could fulfill their ancillary service awards.

49. Under the tariff as then in place, CAISO paid JPMVEC at its Real Time bids (at \$999/MWh) for exceptional dispatches to move the units up to their

AGC levels so that CAISO could implement the ancillary service awards that JPMVEC had received.

MISO Strategies

50. **Strategy F (October-November 2010).** In the final week of October 2010, certain Principal Investments personnel began providing combinations of prices and Minimum Run Times for the Kinder Jackson plant. (Minimum Run Times are the shortest period for which an ISO may give an award to a unit.)

51. On Friday, October 29, certain Principal Investments personnel provided Day Ahead bids for the Kinder Jackson plant for Saturday, Sunday, and Monday (October 30-November 1). For all three days, it set Minimum Run Time at four hours, No Load Cost (the equivalent of Minimum Load Cost in CAISO) at -\$10,000, and energy costs at the end of the day between -\$50/MWh and -\$60/MWh for most output levels.

52. In MISO, generators submit Day Ahead bids in the morning and learn that afternoon whether their plant(s) received Day Ahead awards for the next day. Day Ahead bids for Monday, November 1, 2010, for example, had to be submitted in final form by the morning of Sunday, October 31, 2010, and generators learned that afternoon whether they had received awards based on those bids.

53. On the afternoon of Saturday, October 30, 2010, certain Principal Investments personnel learned that JPMVEC's Day Ahead bids for the final four hours of Sunday, October 31, had been awarded by the MISO system. Later that same afternoon, certain Principal Investments personnel changed the Day Ahead bid prices and Minimum Run Times for Monday, November 1: a four-hour Minimum Run Time became 20 hours; \$80/MWh energy prices for the first 14 hours of Monday became \$1,000/MWh; and a -\$10,000 No-Load Cost was increased by \$20,000 to positive \$10,000.

54. But for a manual intervention by a MISO operator, the strategy would have earned JPMVEC about \$2.5 million in RSG payments, while costing \$123,000 for gas. This is because the MISO system would have respected the (new) 20-hour Minimum Run Time by giving the plant a Day 2 award for 16 hours (20 minus 4). Under the tariff, MISO would have paid the plant as bid, via make-whole (RSG) payments, for those 16 hours on Day 2.

55. Having noticed that certain Principal Investment personnel were providing varying Minimum Run Times, JPMVEC Compliance staff stated in an October 29, 2010 email: "...JPMVEC violated MISO's tariff in offers submitted

for Kinder Jackson. . . . A Minimum Run Time of 20 hours is inconsistent with the design of the equipment and does not comport with the tariff requirements set forth in Section 39.2.5.c[.]”

56. **Strategy G (February 17, 2011).** On February 16, 2011, certain Principal Investments personnel provided MISO bids that alternated from low to high every other hour: around \$10/MWh in odd-numbered hours but as high as \$178/MWh in even-numbered hours. One outcome of these bids would be for the MISO system to give the plant Day Ahead awards during the low-priced hours and then pay JPMVEC as bid (at above-market prices) via make-whole payments as the unit was given ramping awards during the high-priced hours. Although the MISO system gave the unit ramping awards, it blocked payment of RSG or other make-whole payments during the ramping periods. Without make-whole payments, the bidding strategy lost \$139,000 that day.

57. **Strategy H (April 27 to May 6, 2011).** In late April 2011, the Principal Investments personnel provided low or negative bids in the Day Ahead market. They subsequently provided positive Real Time bids and the MISO dec’ed the units in Real Time. MISO’s tariff provided that DAMAP payments were determined by multiplying (i) the amount of the unit’s dec-down (e.g., 300 MW) by (ii) the difference between the Real Time LMP and the generator’s Day Ahead bid (e.g., \$30 - (-\$15) = \$45). An internal JPMVEC Compliance memo stated that this MISO bidding strategy “may not be compensatory without unnecessary uplift payments.”

JPMVEC’s Bidding Strategies in CAISO Between March and November 2012

58. From July 2011 through February 2012, JPMVEC utilized marginal cost-based bids while it assessed alternative bid strategies.

59. Starting in March 2012, Principal Investments was again given responsibility for providing bids to CAISO, within certain parameters set by JPMVEC. Between March and November 2012, JPMVEC employed bidding strategies in CAISO that were similar in some respects to those described above. These strategies included:

a. Submission of Day Ahead bids of -\$30/MWh for three hours before midnight on Day 1, along with high-priced bids on Day 2, for units that had a 24-hour Minimum Run Time (i.e., the shortest period that a unit may be given an award). CAISO sent JPMVEC notices each day about how the plants were awarded. The notices showed that the CAISO system often gave the units Day Ahead awards at Pmin for 21 hours on Day 2, while paying JPMVEC at the

highest Minimum Load Cost permitted by the tariff, i.e., twice the units' estimated actual costs for Pmin energy during those 21 hours.

b. Self-scheduling a unit in the Day Ahead market for the hour between 11 p.m. and midnight, while submitting high-priced Day Ahead bids for the first 23 hours of that same day, for units that had a 24-hour Minimum Run Time. CAISO sent JPMVEC notices each day about how the plants were awarded. The notices showed that the CAISO system often gave the units Day Ahead awards at Pmin for the first 23 hours of the day, while paying JPMVEC twice the units' estimated actual costs for Pmin energy during those 23 hours.

c. Within the 75-minute window permitted by the tariff, changing a unit's Real Time bids from prices below \$50/MWh to \$1,000/MWh for upcoming hours of that same day after receiving notice that CAISO planned to exceptionally dispatch the unit for those hours.

d. Submission of Day Ahead bids at \$250/MWh or higher, and Real Time bids of \$1,000/MWh, even though those bids would be expected to preclude marketplace awards at high LMPs, to position units to receive exceptional dispatches (when selected by CAISO) that would be paid at JPMVEC's bid price.

III. Violations

A. Enforcement Determined that JPMVEC Engaged in Market Manipulation

60. As explained in Order No. 670, the Commission's Anti-Manipulation Rule, 18 C.F.R. § 1c.2 (2012), prohibits an entity from:

(1) us[ing] a fraudulent device, scheme or artifice, or mak[ing] a material misrepresentation or a material omission as to which there is a duty to speak under a Commission-filed tariff, Commission order, rule or regulation, or engag[ing] in any act, practice, or course of business that operates or would operate as a fraud or deceit upon any entity; (2) with the requisite scienter; (3) in connection with the purchase or sale of...electric energy...subject to the jurisdiction of the Commission.

61. Enforcement determined that through each of the bid strategies described above, JPMVEC violated the Anti-Manipulation Rule by engaging in conduct that satisfied the three elements set forth in the preceding paragraph.

62. Enforcement determined that, by reviewing how the CAISO and MISO systems responded when it tested these strategies, JPMVEC could in most cases accurately predict the awards that CAISO and MISO would give to

JPMVEC. JPMVEC expected and intended that the bids it devised and submitted in implementing the strategies would trigger make-whole, exceptional dispatch, and Residual Imbalance Energy payments to JPMVEC at prices above market rates.

63. Enforcement determined that JPMVEC employed a fraudulent device, scheme or artifice, made false statements or material omissions, or engaged in a course of business that operated or would operate as a fraud on electricity market participants in CAISO and MISO. Enforcement determined that JPMVEC's bidding strategies were deceptive and fraudulent in the following respects:

- a. To make profits from power plants that were usually out of the money, JPMVEC submitted Day Ahead bids that falsely appeared economic to CAISO and MISO's automated market software and that were intended to, and did, lead CAISO and MISO to pay it at rates far above market prices.
- b. JPMVEC's bids were not grounded in the normal forces of supply and demand, and they were expected to, and did, lose money at market rates. JPMVEC's purpose in submitting the bids was not to make money based on market fundamentals, but to create artificial conditions that would cause the CAISO system to pay JPMVEC outside the market at premium rates.
- c. JPMVEC made money-losing bids in the Day Ahead and Real Time markets to trigger payments from out-of-market compensation systems designed to ensure fair results to units that had been bid in good faith to seek to make money in the marketplace.
- d. JPMVEC's low-priced bids induced (or sought to induce) the CAISO and MISO systems into giving JPMVEC (i) unnecessary uplift payments (such as BCR, DAMAP, or RSG), (ii) other improper as-bid payments (such as exceptional dispatches at \$999/MWh to enable CAISO to get the benefit of otherwise infeasible Ancillary Service awards to JPMVEC), and (iii) improper Residual Imbalance Energy payments. Through the strategies, JPMVEC received millions of dollars in unnecessary payments from CAISO and MISO, and would have received more if all of the strategies had worked as JPMVEC had hoped.
- e. JPMVEC knew that the ISOs received no benefit from making inflated payments to JPMVEC, and thus defrauded the ISOs by obtaining payments for benefits (beyond the routine provision of energy) that JPMVEC did not deliver.

f. JPMVEC's Day Ahead bids (such as -\$30/MWh in CAISO and -\$15/MWh in MISO) displaced other generation and altered Day Ahead and Real Time LMPs and congestion values from the prices that would have resulted had JPMVEC not submitted these bids.

g. All of these strategies interfered with and distorted well-functioning markets in CAISO and MISO.

B. Enforcement Determined that JPMVEC Violated the MISO Tariff

64. Enforcement determined that JPMVEC violated Section 39.2.5.c of the MISO tariff when it increased the Minimum Run Time of the Kinder Jackson unit from the plant's actual Minimum Run Time of four hours to 20 hours on multiple trade dates in October and November 2010, including trade date November 1, 2010.

IV. Remedies and Sanctions

65. For purposes of settling any and all civil and administrative disputes arising out of, related to, or connected with Enforcement's investigation, JPMVEC agrees with the facts as stipulated in Section II of this Agreement but neither admits nor denies the violations described in Section III of this Agreement. JPMVEC agrees to take the following actions:

A. Disgorgement

66. JPMVEC shall disgorge alleged unjust profits and interest in the total amount of \$125,000,000 within 30 days after the Effective Date of this Agreement. A total of \$124,000,000 will be provided to CAISO to be allocated for the benefit of current CAISO ratepayers through an internal accounting procedure, and a total of \$1,000,000 will be provided to MISO to be allocated for the benefit of current MISO ratepayers through an internal accounting procedure.

67. JPMVEC agrees to permanently and irrevocably dismiss, waive, and release any right to pursue any claim for additional payments from CAISO for (a) exceptional dispatches of AES 4000 units between April 12, 2012 and the present, including but not limited to the claims set forth in its Complaint in *J.P. Morgan Ventures Energy Corp. v. California Independent System Operator Corporation*, Docket No. EL12-105-000 (filed Sept. 14, 2012 and subsequently dismissed without prejudice) and (b) BCR payments for the AES 4000 and HB3&4 units for trade dates through March 25, 2011 with respect to the claims arising from CAISO's tariff amendment filed in *California Independent System Operator Corporation*, Docket No. EL12-73. JPMVEC agrees not to seek any additional payment from CAISO for any exceptional dispatch or BCR during the above periods in any court, agency, or other forum, including the Commission. JPMVEC

agrees to promptly prepare and file all documents necessary to effectuate this dismissal, waiver, and release.

B. Civil Penalty

68. JPMVEC shall pay a civil penalty of \$285,000,000 to the United States Treasury, by wire transfer, within 30 days after the Effective Date of this Agreement, as defined below.

C. Compliance

69. For three years following the Effective Date of this Agreement, JPMVEC shall make annual reports to Enforcement concerning its U.S. power business, with the first report due during the last business week of January 2014. Each report shall advise Enforcement of any violations of Commission regulations or ISO tariff requirements that have occurred during the applicable period and are known to JPMVEC. The first report shall provide copies of written compliance procedures specifically applicable to the U.S. power business, and later reports shall provide copies of any such procedures that are new or revised since the previous reporting period. Each report shall provide copies of all compliance training materials administered to personnel in that business, as well as documentation that the relevant personnel have received such training and when they did so. Each report shall include an affidavit executed by an officer of JPMVEC that the compliance monitoring reports are true and accurate to the best of his or her knowledge. On request by Enforcement, JPMVEC shall provide to Enforcement documentation to support its reports.

70. JPMVEC will engage outside counsel approved by Enforcement to assist with an assessment of its current policies and procedures specifically applicable to its U.S. power business. The assessment will be done at the direction of JP Morgan's Office of the General Counsel. The assessment shall address best practices that are (or could be) implemented, lessons learned from this assessment, and recommendations for improvement. The assessment shall be completed within six months of the Effective Date and presented to senior JPMVEC business leaders. JPMVEC will refine current policies and training based on the assessment as appropriate. JPMVEC will provide a status report to Enforcement 30 days after completion of the assessment, with a second status report six months later regarding implementation of any recommendations stemming from the assessment.

D. Other Matters

71. Enforcement and JPMVEC agree to jointly file with the D.C. Circuit Court of Appeals, within two business days of the Effective Date, (i) a joint request for the Court to vacate the district court order entered on November 29, 2012 in

FERC v. JPMVEC, Docket No. 1:2012-mc-00352-DAR, and (ii) a signed dismissal agreement under Fed. R. App. P. 42(b) of the appeal docketed as Case No. 13-5013, specifying that no costs are to be paid by any party. JPMVEC further agrees to move, within two business days of the Effective Date, to voluntarily terminate its party status in Case No. 12-1268 (to which it may state that Enforcement consents), specifying that no costs are to be paid by any party, and JPMVEC and Enforcement agree to jointly advise the Court of Appeals at that time that the investigations docketed at IN11-08 and IN13-05 have now been terminated.

E. Terms

72. The Effective Date of this Agreement shall be the date on which the Commission issues an order approving this Agreement without material modification.

73. Upon the Effective Date of this Agreement, the Commission shall release JPMVEC and any parent, successor, subsidiary, or affiliate, along with the respective shareholders, predecessors, successors, assigns, agents, officers, directors and employees, past or present, of each such entity (collectively, “Released Persons”) and forever bar the Commission from holding any Released Person liable for any and all administrative or civil claims, known or unknown, arising out of, related to, or connected with Enforcement’s investigation of JPMVEC’s bidding practices in CAISO and MISO up to the Effective Date of this Agreement or in connection with any other pending investigation or inquiry by Enforcement (all as separately disclosed to JPMVEC) of the conduct of any Released Person up to the Effective Date of this Agreement. Moreover, upon the Effective Date of this Agreement, the investigations in Docket Nos. IN11-08 and IN13-05 shall terminate.

74. JPMVEC’s failure to: (a) make a timely civil penalty payment; (b) make a timely disgorgement payment as set forth in paragraph 66 above; (c) comply with the compliance requirements specified herein; or (d) comply with any other material provision of this Agreement, shall be deemed a violation of a final order of the Commission issued pursuant to the Federal Power Act, 16 U.S.C. § 792, et seq., and may subject JPMVEC and any successor companies to additional action under the enforcement and penalty provisions of the Federal Power Act.

75. If JPMVEC fails to make the civil penalty and disgorgement payments described above at the times agreed by the parties, interest payable to the United States Treasury will begin to accrue pursuant to the Commission’s regulations at 18 C.F.R. § 35.19a(a)(2)(iii)(A) (2012) from the date the payments are due, in addition to any other enforcement action and penalty that the

Commission may take or impose.

76. This Agreement binds JPMVEC and its agents, successors and assigns. The Agreement does not create any additional or independent obligations on JPMVEC or any affiliated entity, its agents, officers, directors, or employees, other than the obligations identified in this Agreement. Enforcement and JPMVEC do not intend for this Agreement to entitle any other party to any claim for monetary or other compensation.

77. The signatories to this Agreement agree that they enter into the Agreement voluntarily and that, other than the recitations set forth herein, no tender, offer, or promise of any kind by any member, employee, officer, director, agent, or representative of Enforcement or JPMVEC has been made to induce the signatories or any other party to enter into the Agreement.

78. Unless the Commission issues an order approving this Agreement in its entirety and without material modification, the Agreement shall be null and void and of no effect whatsoever, and neither Enforcement nor JPMVEC shall be bound by any provision or term of this Agreement, unless otherwise agreed to in writing by Enforcement and JPMVEC.

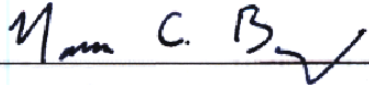
79. In connection with the payment of the civil penalty provided for herein, JPMVEC agrees that the Commission's order approving this Agreement without material modification shall be a final and unappealable order assessing a civil penalty under § 316A(b) of the Federal Power Act, 16 U.S.C. § 825o-1(b). JPMVEC waives findings of fact and conclusions of law, rehearing of any Commission order approving this Agreement without material modification, and judicial review by any court of any Commission order approving this Agreement without material modification.

80. This Agreement may be modified only if in writing and signed by JPMVEC and Enforcement. No waiver of any provision of this Agreement or departure from any term of this Agreement shall be effective unless in writing and signed by JPMVEC and Enforcement. No modification will be effective unless any approval of the Commission that may be required with respect to such modification has been received.

81. Each of the undersigned warrants that he or she is an authorized representative of the entity designated, is authorized to bind such entity, and accepts this Agreement on the entity's behalf.

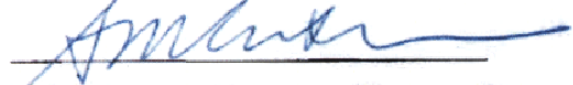
82. This Agreement may be executed in counterparts.

Accepted and Agreed To:



Norman C. Bay
Director, Office of Enforcement
Federal Energy Regulatory Commission

DATE: July 19, 2013



J.P. Morgan Ventures Energy Corp.
Stephen M. Cutler
General Counsel, JPMorgan Chase &
Co., pursuant to resolution
DATE: July 19, 2013