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June 30, 2006

The Honorable Magalie Roman Salas
Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, D.C. 20426

**Re: Fifty-Seventh and Fifty-Eighth Weekly DMA Reports
on Market Impacts of Amendment No. 66
Docket No. ER05-718**

Dear Secretary Salas:

Pursuant to Paragraph 21 of the Commission's "Order on Tariff Filing" issued in this docket on April 7, 2005, 111 FERC ¶ 61,008 (2005), and Paragraph 27 of the Commission's "Order on Tariff Filing," issued in this docket on September 30, 2005, 112 FERC ¶ 61,352 (2005) ("September 30 Order"), the California Independent System Operator Corporation ("ISO") respectfully submits an original and fourteen copies of the fifty-seventh and fifty-eighth Reports on Market Impacts of Amendment 66, as prepared by the ISO's Department of Market Monitoring.

Two additional copies of this filing are enclosed to be date-stamped and returned to our messenger. If there are any questions concerning this filing please contact the undersigned.

Respectfully Submitted,

Michael Kunselman

Counsel for the California Independent
System Operator Corporation

Certificate of Service

I hereby certify that I have this day served a copy of this document upon all parties listed on the official service list compiled by the Secretary in the above-captioned proceedings, in accordance with the requirements of Rule 2010 of the Commission's Rules of Practice and Procedure (18 C.F.R. § 385.2010).

Dated this 30th day of June, 2006 at Folsom in the State of California.

Charity Wilson



CALIFORNIA ISO

**Report on Market Impacts of
Amendment 66:
“As-Bid” Settlement of Pre-dispatched
Inter-tie Bids for Real Time Energy**

Prepared by the Department of Market Monitoring
California Independent System Operator
June 23, 2006

Background

In Amendment No. 66, the California Independent System Operator (“CAISO”) proposed to modify the CAISO Tariff so that bids for incremental and decremental energy on inter-ties with neighboring control areas that are pre-dispatched by the CAISO are settled under a “pay as bid” rule. With this modification, bids would be paid (or pay the CAISO) their original bid price, rather than the “bid or better” in effect since October 1, 2004.¹

In its April 7, 2005 order on Amendment No. 66, the Federal Regulatory Energy Commission (“Commission”) approved the “pay as bid” settlement rule effective as of March 24 until the earlier of September 30, 2005 or the effective date of a long-term solution filed and accepted by the Commission.² The Commission also ordered the CAISO’s Department of Market Analysis (“DMA”) to file weekly reports on the market effects of these interim tariff provisions, including “the liquidity and sufficiency of bids at the inter-ties” until the earlier of the effective date of a future tariff change implementing a long-term solution or September 30, 2005.

The following report is submitted by DMA in response to the above directive in the Commission’s Order on Amendment 66.³ This weekly report includes additional data from June 10 through June 16, inclusive.⁴

Report Findings

Cost Impacts of Amendment No. 66

Figures 1 and 2 summarize total energy pre-dispatched by the CAISO for market clearing versus CAISO system demand for energy, and the costs associated with overlapping (or off-setting) incremental (“inc”) and decremental (“dec”) bids dispatched to clear the market. Table 1 summarizes these same data by week since implementation of Phase 1B on October 1, 2004.

As shown in Figure 1, the amount of overlapping inc and dec bids cleared by the CAISO dropped dramatically as soon as the CAISO moved from the “bid or better” settlement rule to the “as bid” settlement rule. Since the effective date of Amendment 66, an average of only about 25 MW of off-setting inc and dec bids have been pre-dispatched each hour, as opposed to an average of about 600 MW per hour in the month prior to implementation of Amendment 66. Between June 10 and June 16, an average of about 36 MW of off-setting inc and dec bids have been pre-dispatched each hour to clear the market.

¹ Under the “bid or better” settlement rule, inter-tie bids for incremental energy pre-dispatched by the CAISO prior to each operating hour were paid the higher of their bid price or the *ex post* real time market clearing price. Inter-tie bids for decremental energy pre-dispatched by the CAISO paid the lower of their bid price or the *ex post* real time market clearing price. See Amendment No. 66 Transmittal Letter.

² *California Independent System Operator Corporation*, 111 FERC ¶ 61,008 (2005) (“Amendment 66 Order”).

³ Under a recent internal reorganization, the Department of Market Analysis (“DMA”) is now known as the Department of Market Monitoring (“DMM”).

⁴ This report updates data for missing reports from April 22 through May 12. The ISO will return to its normal reporting schedule following this report. The 7-day lag between the most recent data in this report and the filing date of this report reflects the time needed for post-operational checks and changes done as part of the CAISO settlement process, as well as time needed to prepare and review the report.

Figure 1. Average Hourly Volume of Bids Pre-Dispatched by the CAISO and Average Daily Costs to CAISO of Market Clearing

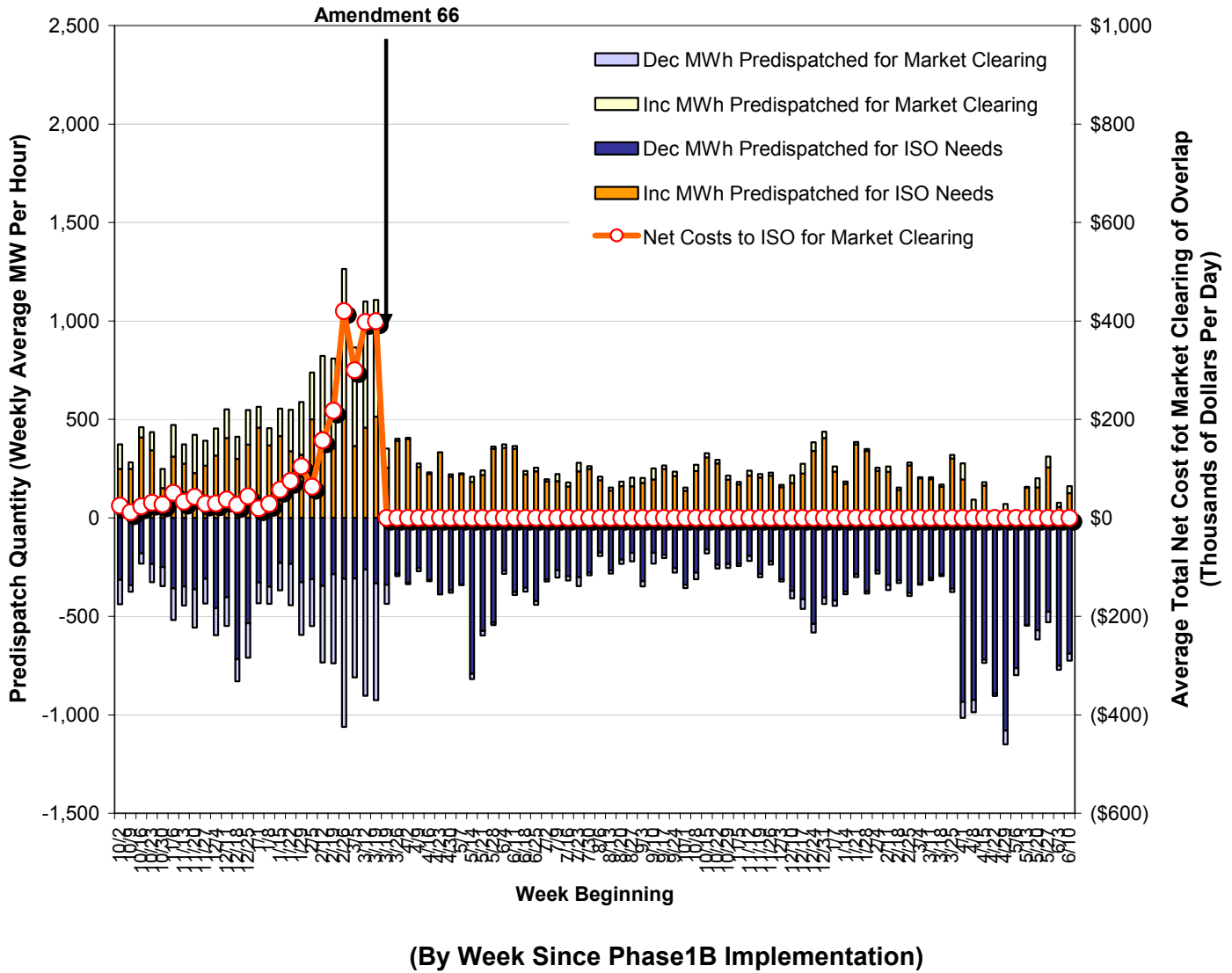


Table 1. Weekly Summary Data (Before and After Amendment 66)

| Week Beginning | Market Clearing (Average MW/hour) | | Net CAISO Imbalance Energy (Average MW/hour) | | Average Daily Net Costs (Thousands per Day) | |
|---|--------------------------------------|------|---|------|--|-------------------|
| | Inc | Dec | Inc | Dec | Market Clearing | Net ISO Energy |
| 10/2/2004 | 129 | -129 | 106 | -180 | \$25 | (\$690) |
| 10/9/2004 | 45 | -45 | 105 | -197 | \$20 | \$14 |
| 10/16/2004 | 57 | -57 | 291 | -49 | \$25 | \$326 |
| 10/23/2004 | 104 | -104 | 194 | -102 | \$40 | \$177 |
| 10/30/2004 | 100 | -100 | 46 | -174 | \$28 | (\$132) |
| 11/6/2004 | 162 | -162 | 135 | -202 | \$51 | (\$17) |
| 11/13/2004 | 112 | -112 | 75 | -253 | \$40 | (\$130) |
| 11/20/2004 | 202 | -202 | 74 | -244 | \$44 | (\$128) |
| 11/27/2004 | 128 | -128 | 102 | -189 | \$28 | (\$52) |
| 12/4/2004 | 143 | -143 | 128 | -273 | \$32 | (\$127) |
| 12/11/2004 | 149 | -149 | 179 | -225 | \$37 | \$4 |
| 12/18/2004 | 117 | -117 | 99 | -481 | \$30 | (\$332) |
| 12/25/2004 | 182 | -182 | 133 | -344 | \$44 | (\$166) |
| 1/1/2005 | 107 | -107 | 376 | -58 | \$19 | \$467 |
| 1/8/2005 | 88 | -88 | 224 | -137 | \$29 | \$162 |
| 1/15/2005 | 144 | -144 | 265 | -83 | \$62 | \$261 |
| 1/22/2005 | 224 | -224 | 231 | -74 | \$74 | \$198 |
| 1/29/2005 | 267 | -267 | 156 | -167 | \$104 | \$40 |
| 2/5/2005 | 238 | -238 | 368 | -82 | \$63 | \$385 |
| 2/12/2005 | 388 | -388 | 278 | -123 | \$155 | \$246 |
| 2/19/2005 | 468 | -468 | 224 | -105 | \$224 | \$216 |
| 2/26/2005 | 765 | -765 | 353 | -94 | \$424 | \$419 |
| 3/5/2005 | 508 | -508 | 196 | -126 | \$298 | \$143 |
| 3/12/2005 | 641 | -641 | 297 | -92 | \$400 | \$375 |
| 3/19/2005* | 599 | -599 | 253 | -169 | \$399 | \$190 |
| <i>Change from "Bid or Better" to "As-Bid" Settlement</i> | | | | | | |
| 3/26/2005 | 22 | -22 | 224 | -87 | - | \$211 |
| 4/2/2005 | 14 | -14 | 213 | -140 | - | \$160 |
| 4/9/2005 | 15 | -15 | 130 | -109 | - | \$88 |
| 4/16/2005 | 8 | -8 | 64 | -219 | - | (\$106) |
| 4/23/2005 | 10 | -10 | 53 | -319 | - | (\$204) |
| 4/30/2005 | 14 | -14 | 28 | -318 | - | (\$208) |
| 5/7/2005 | 5 | -5 | 42 | -273 | - | (\$144) |
| 5/14/2005 | 34 | -34 | 39 | -631 | - | (\$88) |
| 5/21/2005 | 38 | -38 | 49 | -450 | - | (\$10) |
| 5/28/2005 | 14 | -14 | 164 | -287 | - | \$13 |
| 6/4/2005 | 22 | -22 | 215 | -109 | - | \$145 |
| 6/11/2005 | 29 | -29 | 153 | -210 | - | \$21 |
| 6/18/2005 | 18 | -18 | 47 | -280 | - | (\$170) |
| 6/25/2005 | 19 | -19 | 96 | -252 | - | (\$35) |
| 7/2/2005 | 11 | -11 | 83 | -170 | - | (\$12) |
| 7/9/2005 | 37 | -37 | 84 | -147 | - | (\$9) |
| 7/16/2005 | 22 | -22 | 32 | -239 | - | (\$167) |
| 7/23/2005 | 50 | -50 | 105 | -170 | - | (\$30) |
| 7/30/2005 | 19 | -19 | 82 | -197 | - | (\$98) |
| 8/6/2005 | 21 | -21 | 87 | -100 | - | \$6 |
| 8/13/2005 | 15 | -15 | 49 | -178 | - | (\$166) |
| 8/20/2005 | 28 | -28 | 65 | -147 | - | (\$127) |

| Week Beginning | Market Clearing (Average MW/hour) | | Net CAISO Imbalance Energy (Average MW/hour) | | Average Daily Net Costs (Thousands per Day) | |
|-------------------|--------------------------------------|-----|---|--------|--|-------------------|
| | Inc | Dec | Inc | Dec | Market Clearing | Net ISO Energy |
| 8/27/2005 | 45 | -45 | 79 | -93 | - | (\$34) |
| 9/3/2005 | 25 | -25 | 79 | -183 | - | (\$148) |
| 9/10/2005 | 57 | -57 | 115 | -77 | - | \$55 |
| 9/17/2005 | 17 | -17 | 136 | -85 | - | \$68 |
| 9/24/2005 | 33 | -33 | 89 | -207 | - | (\$106) |
| 10/1/2005 | 17 | -17 | 17 | -312 | - | (\$520) |
| 10/8/2005 | 34 | -34 | 93 | -190 | - | (\$124) |
| 10/15/2005 | 21 | -21 | 203 | -57 | - | \$332 |
| 10/22/2005 | 19 | -19 | 145 | -117 | - | \$173 |
| 10/29/2005 | 43 | -43 | 77 | -148 | - | (\$44) |
| 11/5/2005 | 33 | -33 | 63 | -137 | - | (\$62) |
| 11/12/2005 | 55 | -55 | 53 | -122 | - | (\$60) |
| 11/19/2005 | 19 | -19 | 83 | -180 | - | (\$95) |
| 11/26/2005 | 23 | -23 | 112 | -110 | - | \$25 |
| 12/3/2005 | 13 | -13 | 52 | -221 | - | (\$330) |
| 12/10/2005 | 47 | -47 | 33 | -335 | - | (\$662) |
| 12/17/2005 | 48 | -48 | 77 | -286 | - | (\$362) |
| 12/24/2005 | 51 | -51 | 101 | -389 | - | (\$64) |
| 12/31/2005 | 37 | -37 | 204 | -207 | - | \$174 |
| 1/7/2006 | 27 | -27 | 71 | -297 | - | (\$153) |
| 1/14/2006 | 13 | -13 | 37 | -306 | - | (\$161) |
| 1/21/2006 | 30 | -30 | 113 | -194 | - | (\$22) |
| 1/28/2006 | 13 | -13 | 102 | -261 | - | (\$92) |
| 2/4/2006 | 27 | -27 | 85 | -187 | - | (\$59) |
| 2/11/2006 | 27 | -27 | 234 | -340 | - | (\$178) |
| 2/18/2006 | 13 | -13 | 141 | -317 | - | (\$237) |
| 2/25/2006 | 15 | -15 | 266 | -381 | - | (\$112) |
| 3/4/2006 | 4 | -4 | 202 | -335 | - | (\$111) |
| 3/11/2006 | 10 | -10 | 196 | -306 | - | (\$126) |
| 3/18/2006 | 11 | -11 | 158 | -285 | - | (\$84) |
| 3/25/2006 | 18 | -18 | 301 | -359 | - | (\$138) |
| 4/1/2006 | 82 | -82 | 195 | -934 | - | (\$227) |
| 4/8/2006 | 62 | -62 | 31 | -905 | - | (\$335) |
| 4/15/2006 | 17 | -17 | 164 | -720 | - | (\$230) |
| 4/22/2006 | 13 | -13 | 0 | -892 | - | (\$180) |
| 4/29/2006 | 70 | -70 | 0 | -1,080 | - | (\$83) |
| 5/6/2006 | 36 | -36 | 0 | -762 | - | (\$274) |
| 5/20/2006 | 47 | -47 | 154 | -570 | - | (\$267) |
| 5/27/2006 | 54 | -54 | 257 | -476 | - | (\$84) |
| 6/3/2006 | 21 | -21 | 55 | -751 | - | (\$179) |
| 6/10/2006 | 36 | -36 | 125 | -689 | - | (\$17) |

**Figure 2. Average Hourly Volume of Bids Pre-Dispatched by the CAISO
And Average Daily Costs to CAISO of Market Clearing
(By Day)**

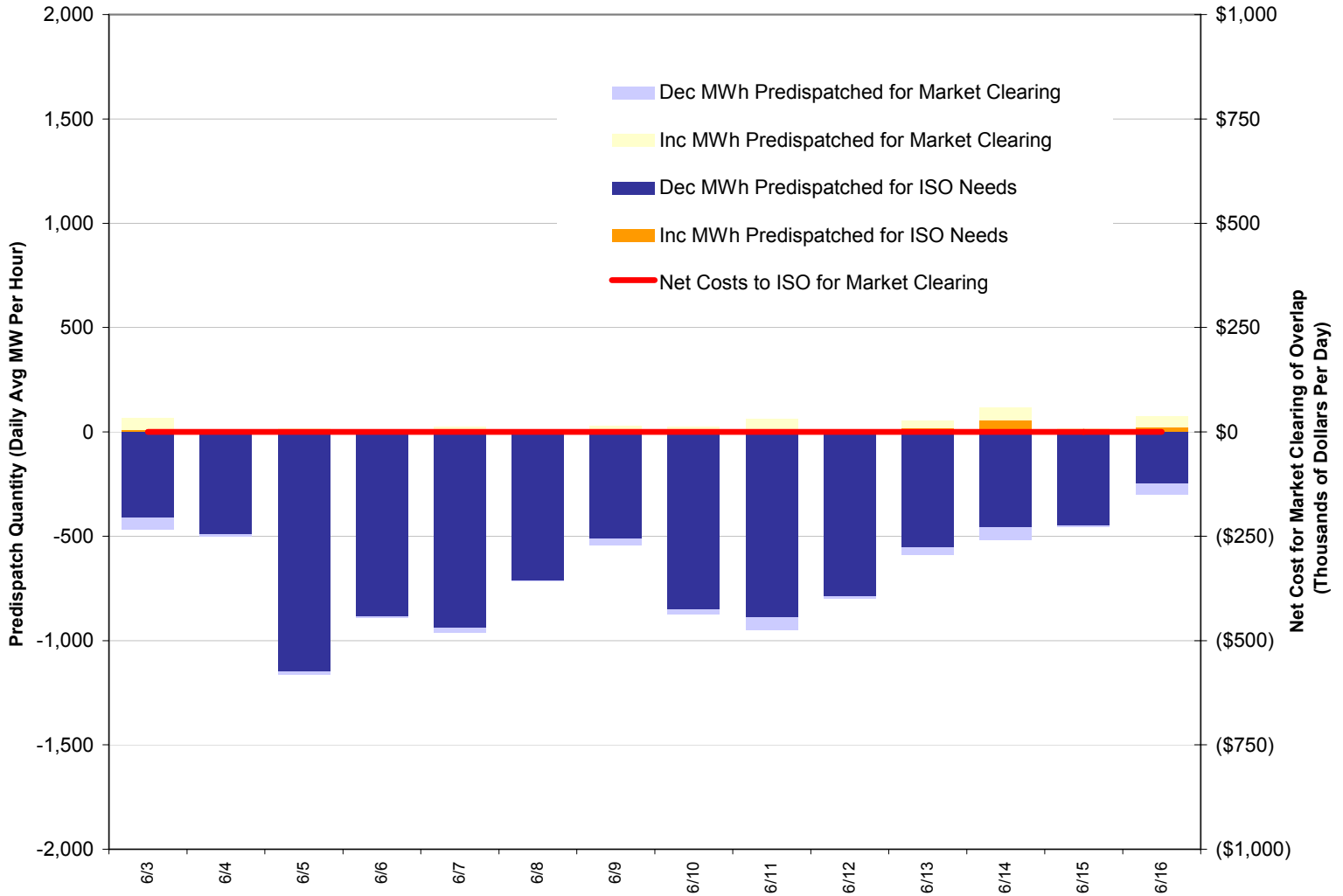


Figure 3 summarizes the total cost of net incremental energy purchased by the CAISO for CAISO system needs (i.e. net energy pre-dispatched when the sum of all pre-dispatched bids was positive, indicating the CAISO was a net purchaser of imbalance energy in the pre-dispatch process). The average price paid for pre-dispatched incremental energy was about \$42/MWh between June 10 and June 16. The weighted average price of incremental energy pre-dispatched by the CAISO calculated at the ex post price in the CAISO's real time market was about \$51/MWh during this period. The weighted average price reported for hourly spot market transactions in bilateral markets (Powerdex) during hours when the CAISO was a net importer of pre-dispatched energy was about \$32/MWh.

Figure 4 summarizes the total cost of net decremental energy sold by the CAISO for system needs (i.e. net energy pre-dispatched when the sum of all pre-dispatched bids was negative, indicating the CAISO was a net seller of imbalance energy in the pre-dispatch process).

Energy prices received by the CAISO for net decremental energy pre-dispatched averaged about \$4/MWh between June 10 and June 16. The weighted average price of this decremental energy pre-dispatched by the CAISO calculated at the ex post price in the CAISO's real time market was about \$51/MWh. The weighted average price reported for hourly spot market transactions in bilateral markets (Powerdex) during hours when the CAISO was a net exporter of pre-dispatched energy was about \$26/MWh.

Figure 3. Total Net Cost of Incremental Energy Pre-dispatched For CAISO System Demand

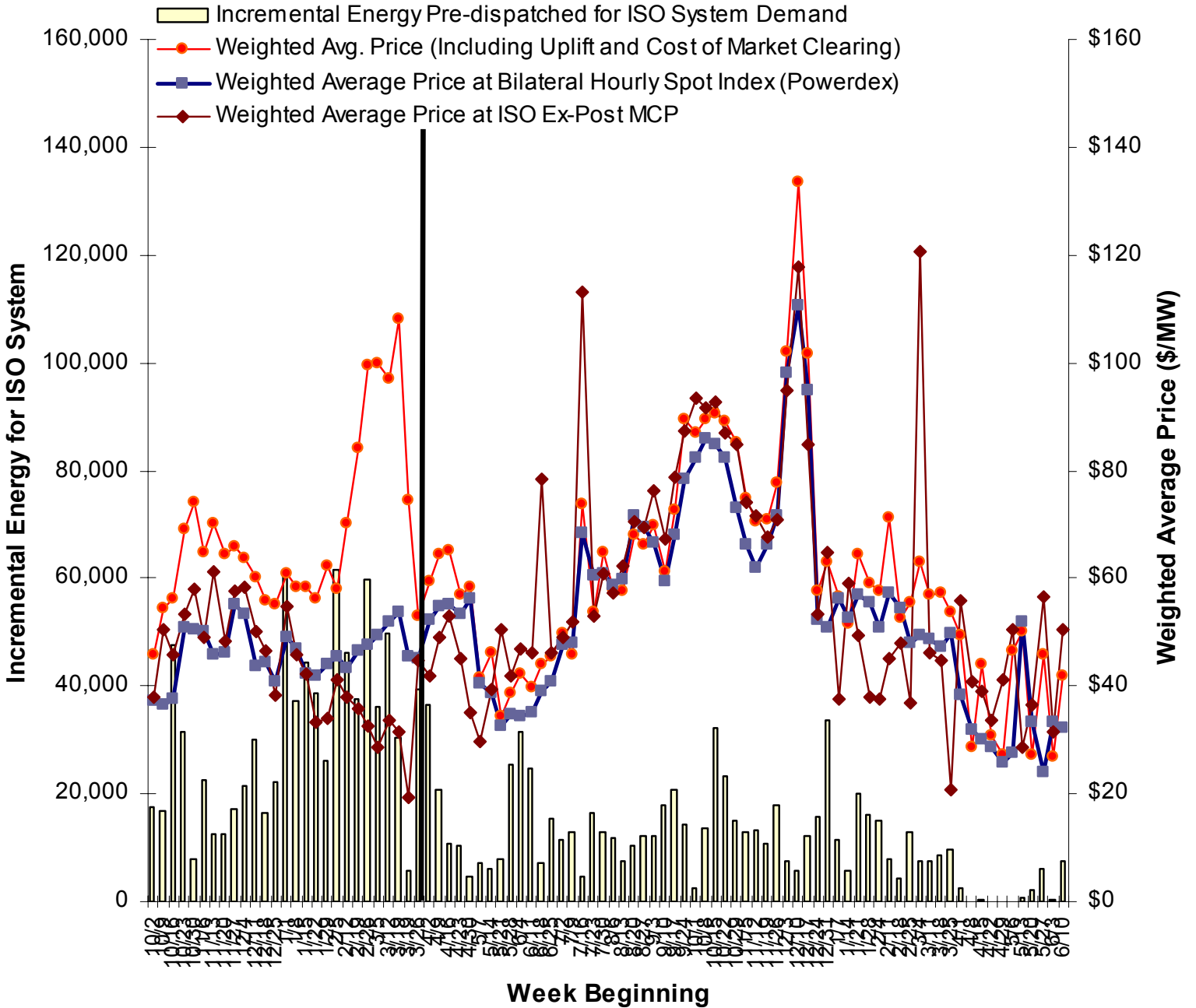
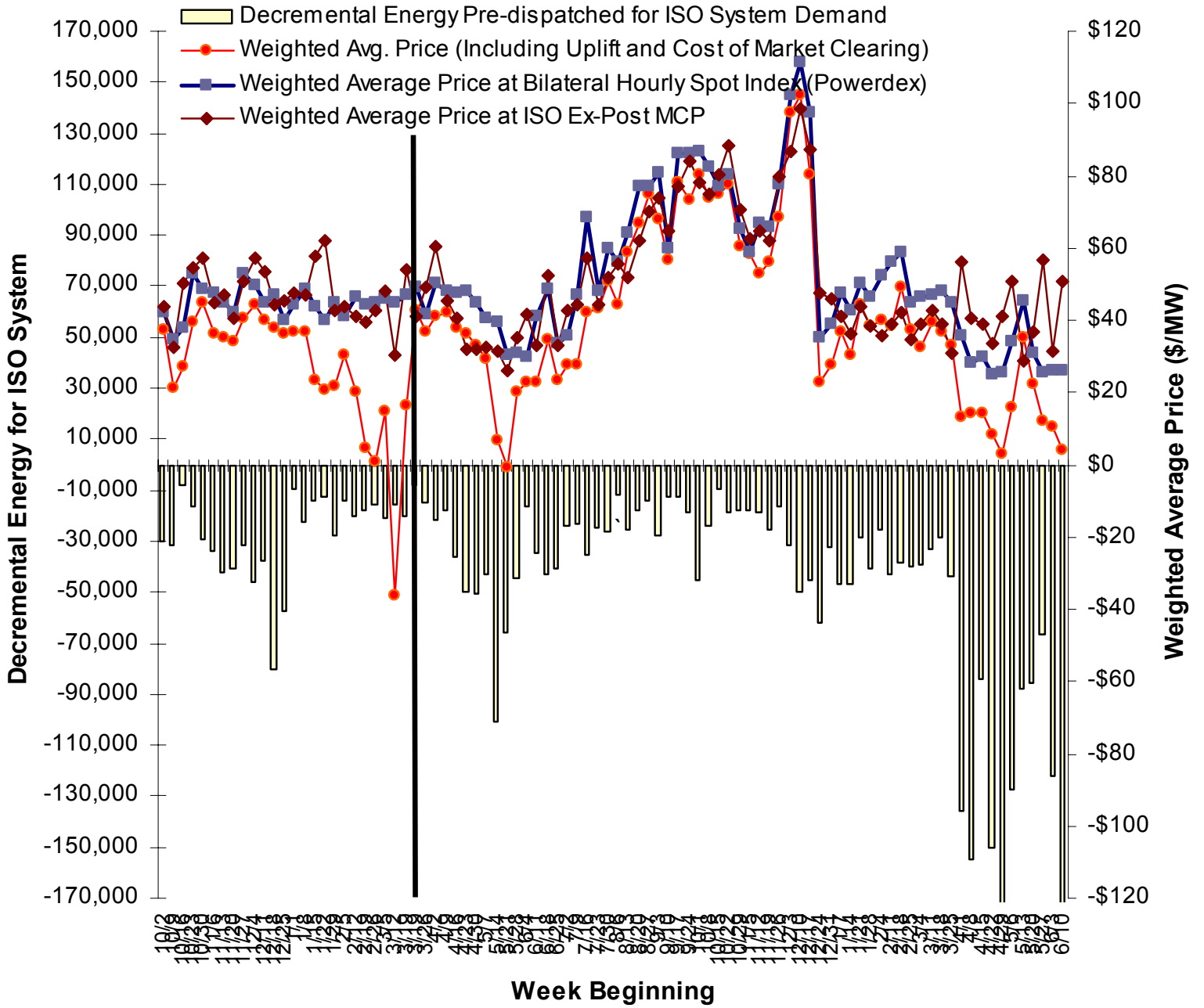


Figure 4. Total Net Cost of Decremental Energy Pre-dispatched For CAISO System Demand



Inter-tie Bid Sufficiency and Liquidity

Figure 5 shows the daily total volumes of incremental and decremental inter-tie bids during the period between June 10 and June 16 categorized by bid price levels. Figure 6 shows these same bid data, but highlights the average hourly volume of net incremental bids submitted during weekdays on a weekly basis. In addition, Figure 6 also includes a comparison of total incremental bid volumes this year to the most comparable five weekdays last year (i.e. the five weekdays last year most closely matching the weekday dates shown in Figure 6). The bid volumes from last year are shown by the blue shaded area behind the bars depicting bid volumes this year by bid price.

As shown in Figures 5 and 6, the volume of inter-tie bids received by the CAISO dropped slightly immediately after implementation of Amendment 66, but subsequently increased to a level almost equal to the volume of bids received during the week prior to implementation of Amendment 66 by the first week in May. The overall volume of incremental energy bids dropped during the first three weeks of May, but increased each of the last three weeks ending June 10. The overall volume of incremental energy bids gradually dropped throughout June and most of July as loads increased throughout the west with the advent of warmer weather, before increasing back to above 2,200 MW per hour since the last week of July.

As noted in previous reports, the CAISO has not experienced problems in terms of bid insufficiency or liquidity of incremental energy import bids since the switch to an “as-bid” market under Amendment 66. However, in light of the recent decrease in import energy bids depicted in Figure 6, this report includes some additional analysis of overall trends in imports and import/export bid sufficiency.

Figures 7 and 8 provide a summary of the total supply of imports on a weekly basis, including average hourly imports scheduled by participants (Final Hour Ahead Schedules), plus incremental energy bids and pre-dispatched by the CAISO.⁵ As shown in Figures 7, while the total volume of incremental energy import bids may have decreased since Amendment 66, the total overall supply of imports scheduled or bid into the ISO system has increased significantly over this time due to a significant increase in imports scheduled directly by participants. In addition, as shown in both Figure 7 and 8, the volume of incremental energy import bids has also remained extremely high relative to the quantity of import bids actually pre-dispatched by the CAISO.

Figure 9 provides a similar summary of the total supply of decremental energy bids on inter-ties (exports) since October 2004. Again, these data show that the volume of decremental energy bids on interties has also remained very high relative to the quantity of dec bids actually pre-dispatched by the ISO.

⁵ Analysis of import supplies is based on peak Hours Ending 13-20, while analysis of export (dec) bids and pre-dispatches is based on off-peak Hours Ending 1-8, following the time periods suggested by Powerex in a recent filing as the most appropriate hours for such analysis (*Protest of Powerex Corp*, filed on June 8, 2005 in protest of the ISO’s Comprehensive Market Redesign Proposal, May 13, 2005, ER02-1656-026, pp 12-13).

Figure 5. Inter-tie Bid Quantities and Prices

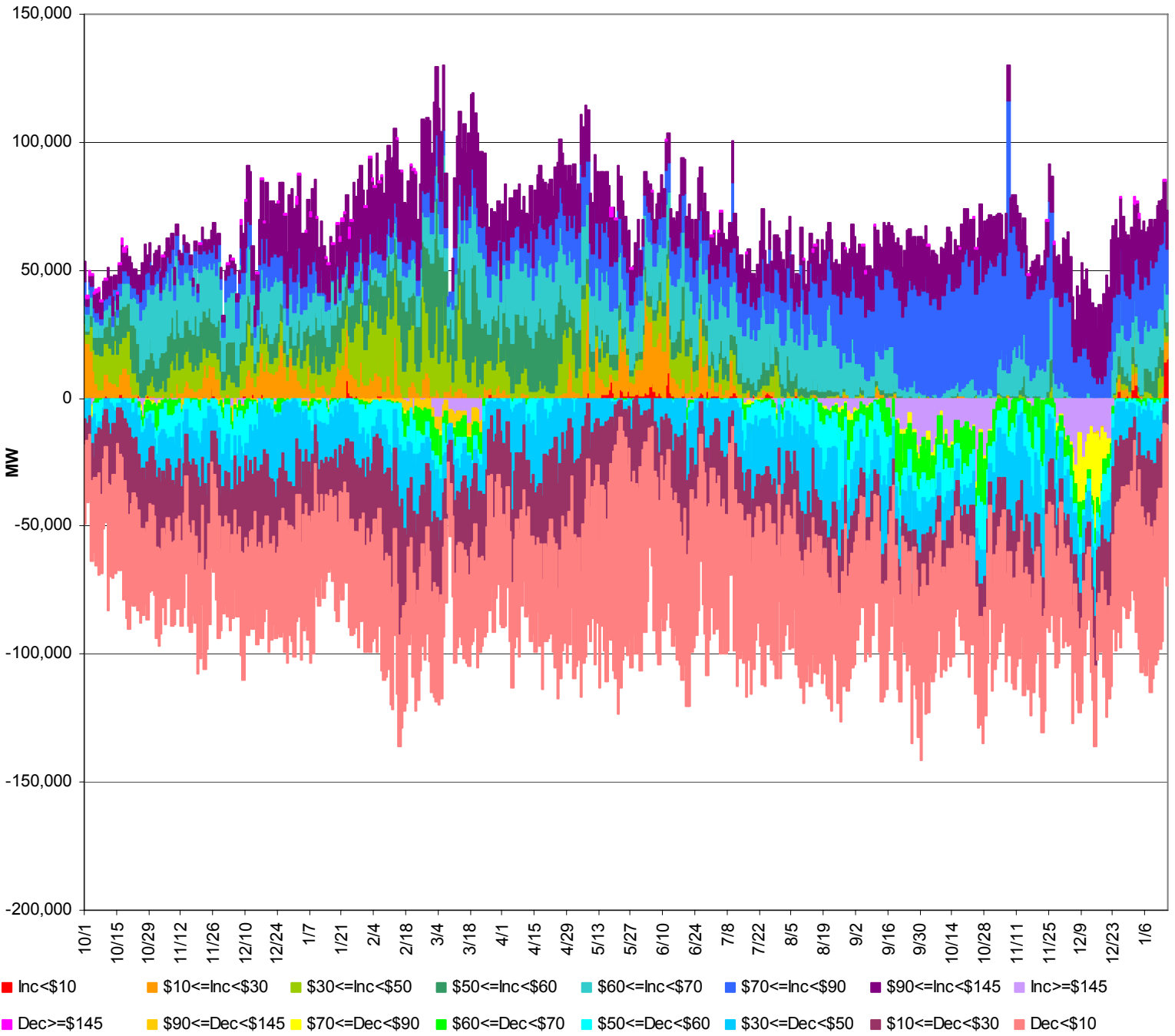


Figure 6. Inter-Tie Bid Quantities and Prices for Incremental Energy
Hourly Averages (Weekdays Only)

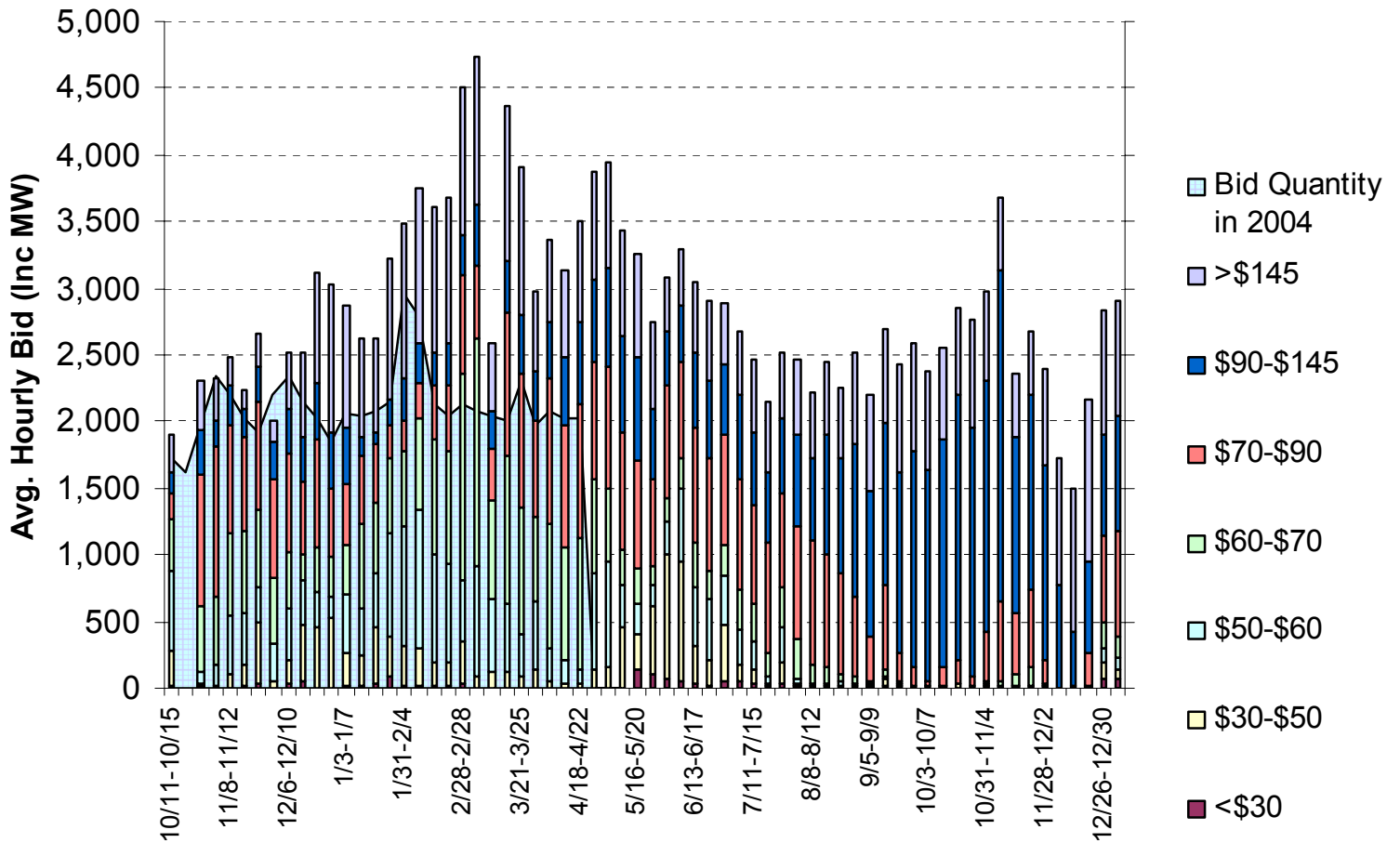


Figure 7. Gross Scheduled Imports, Real Time Energy Import Bid Volumes, and Pre-Dispatched Imports

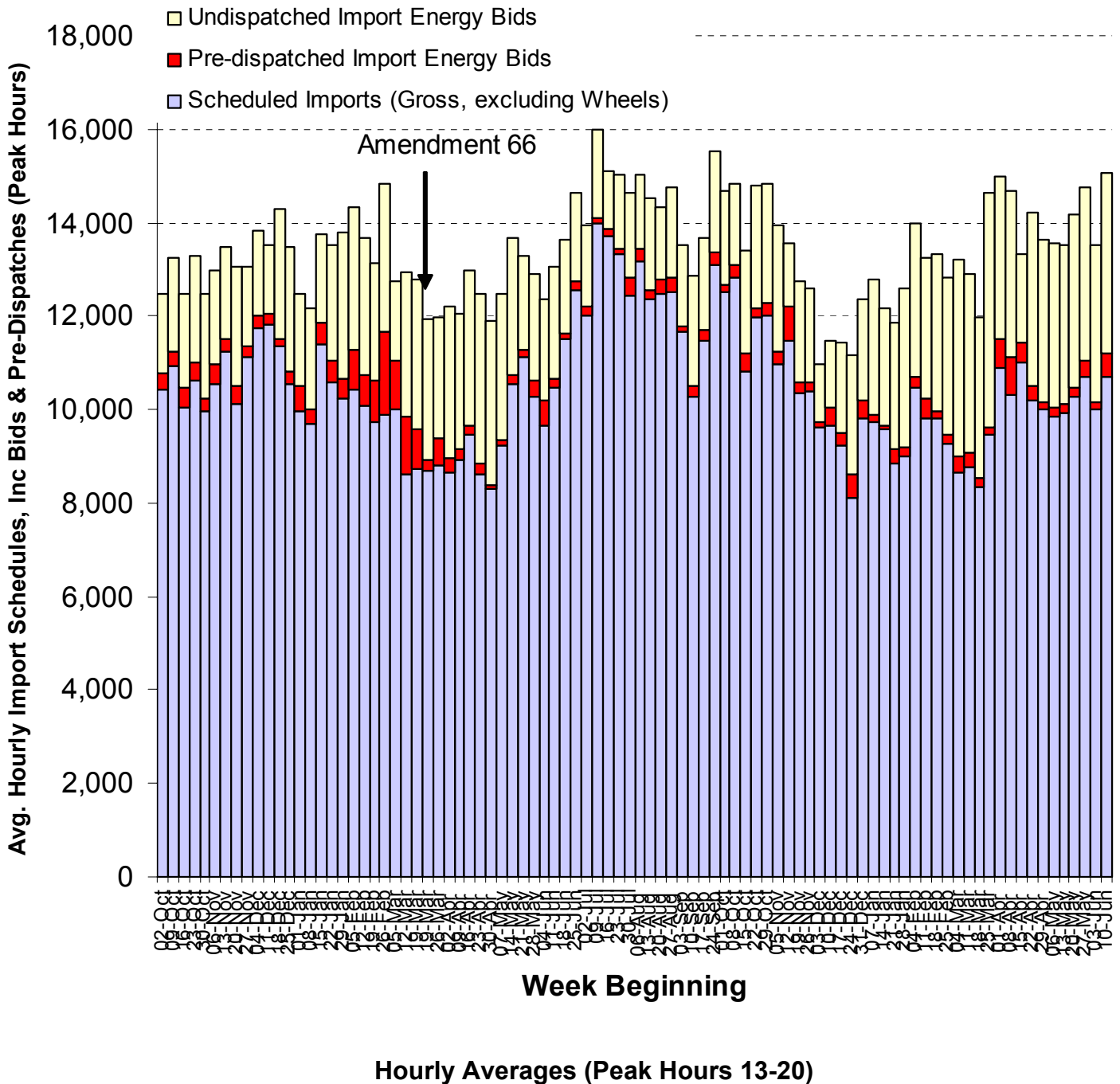
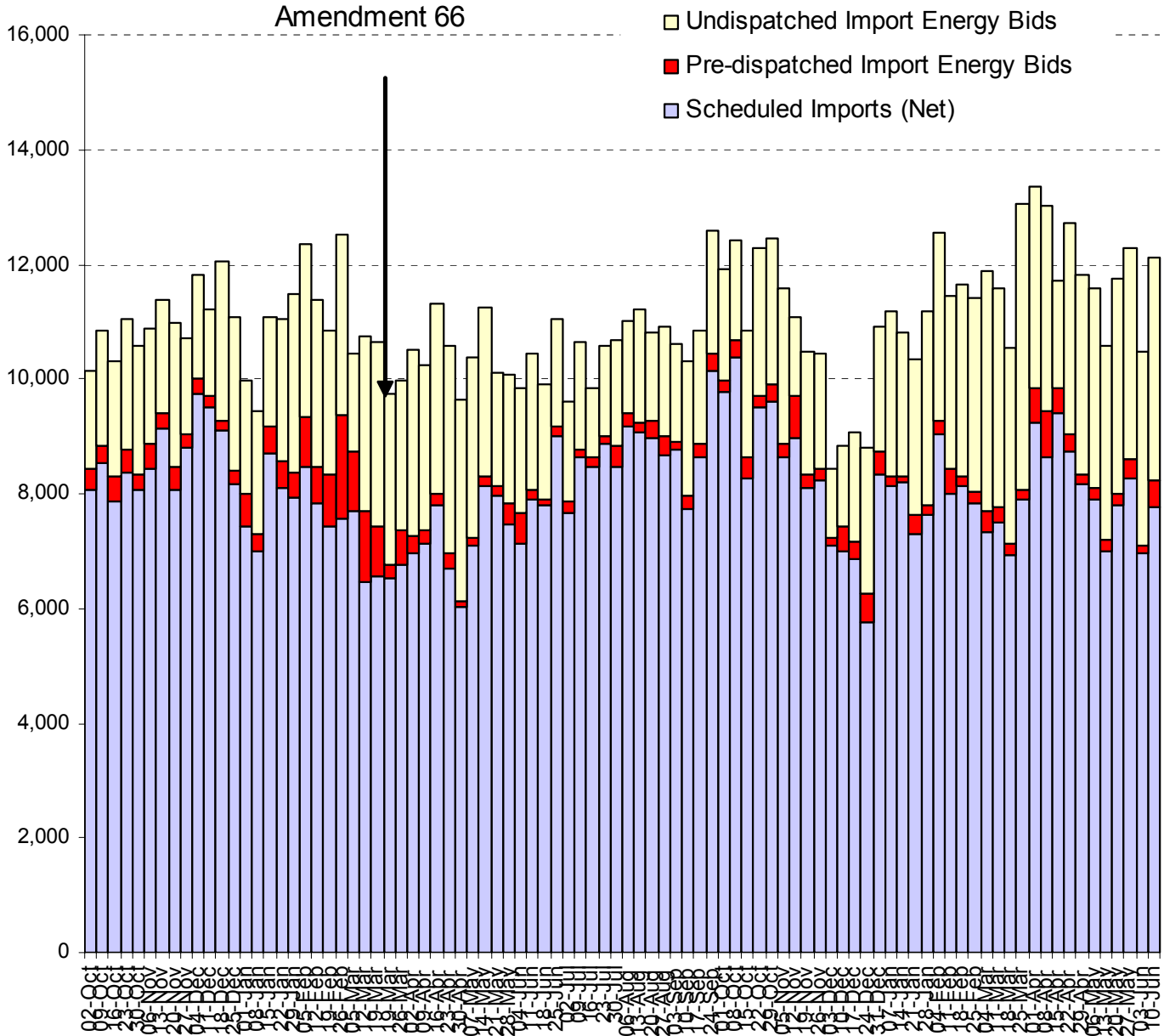
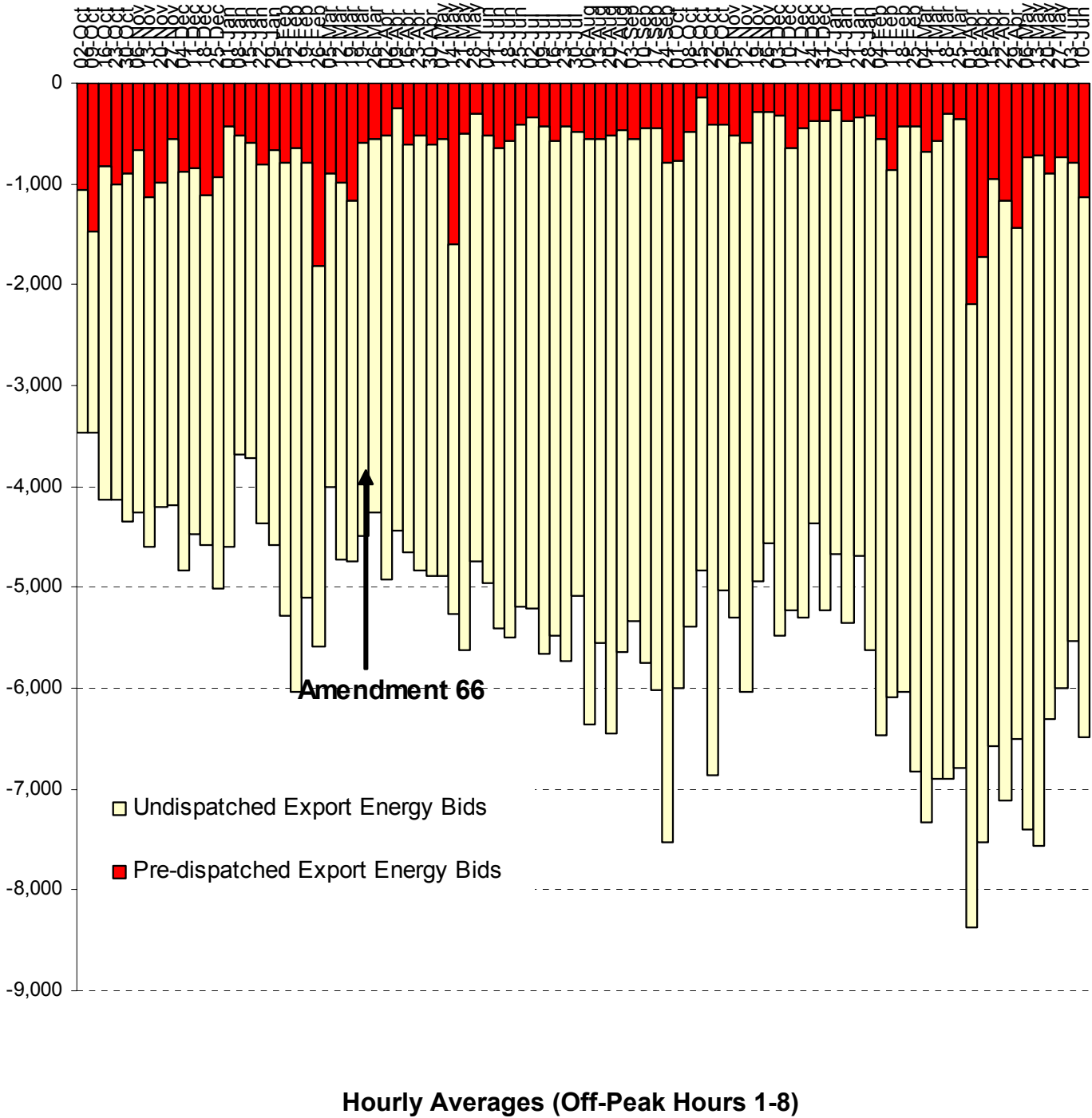


Figure 8. Net Scheduled Imports, Real Time Energy Import Bid Volumes, and Pre-Dispatched Imports

Hourly Averages (Peak Hours 13-20)



**Figure 9. Real Time Energy Export (Dec) Bid Volumes
And Pre-Dispatched Exports**



Tables 2 and 3 and Figures 10 and 11 provide additional analysis requested by Powerex that the Commission directed the ISO to include in weekly reports in its September 30, 2005 Order on Amendment 66.

Table 2. Costs for Net Pre-Dispatched Energy (DMM Approach)

| Month | <u>Incremental Energy</u> | | | <u>Decremental Energy</u> | | |
|------------------------------|---------------------------|-----------------|----------------|---------------------------|-----------------|------------------|
| | Avg. Pre-Dispatch Cost | Bilateral Index | Difference | Avg. Pre-Dispatch Cost | Bilateral Index | Difference |
| October '04 | \$57.74 | \$45.22 | \$12.53 | \$31.93 | \$42.68 | (\$10.75) |
| November '04 | \$66.85 | \$53.44 | \$13.41 | \$37.34 | \$46.05 | (\$8.71) |
| December '04 | \$59.59 | \$50.39 | \$9.19 | \$39.22 | \$48.29 | (\$9.08) |
| January '05 | \$59.29 | \$47.85 | \$11.45 | \$26.05 | \$47.14 | (\$21.09) |
| February '05 | \$69.32 | \$48.13 | \$21.19 | \$18.89 | \$42.40 | (\$23.51) |
| March '05 | \$103.83 | \$51.13 | \$52.70 | \$0.64 | \$45.23 | (\$44.59) |
| Total (Bid or Better) | \$70.20 | \$48.87 | \$21.34 | \$30.69 | \$45.96 | (\$15.27) |
| April '05 | \$60.36 | \$52.43 | \$7.94 | \$38.01 | \$48.44 | (\$10.44) |
| May '05 | \$42.06 | \$36.48 | \$5.58 | \$14.27 | \$29.43 | (\$15.16) |
| June '05 | \$42.63 | \$37.11 | \$5.52 | \$27.63 | \$39.08 | (\$11.45) |
| July '05 | \$55.22 | \$54.49 | \$0.72 | \$38.22 | \$50.78 | (\$12.56) |
| August '05 | \$62.37 | \$65.31 | (\$2.94) | \$59.60 | \$69.07 | (\$9.47) |
| September '05 | \$72.69 | \$70.31 | \$2.38 | \$65.12 | \$80.40 | (\$15.28) |
| October '05 | \$90.90 | \$86.49 | \$4.42 | \$75.64 | \$84.61 | (\$8.97) |
| November '05 | \$79.63 | \$71.31 | \$8.33 | \$54.60 | \$67.29 | (\$12.68) |
| December '05 | \$83.95 | \$81.35 | \$2.60 | \$69.64 | \$83.75 | (\$14.11) |
| January '06 | \$64.30 | \$55.99 | \$8.31 | \$33.78 | \$44.13 | (\$10.35) |
| February '06 | \$61.87 | \$56.03 | \$5.83 | \$40.70 | \$53.29 | (\$12.59) |
| March '06 | \$57.70 | \$51.55 | \$6.15 | \$34.64 | \$47.46 | (\$12.82) |
| April '06 | \$60.48 | \$41.33 | \$19.15 | \$11.60 | \$25.24 | (\$13.64) |
| May '06 | \$58.52 | \$33.53 | \$24.99 | \$14.86 | \$26.91 | (\$12.05) |
| Total (As-Bid) | \$63.45 | \$58.60 | \$4.85 | \$31.30 | \$43.47 | (\$12.16) |

Table 3. Costs for Gross Pre-Dispatched Energy (Powerex Approach)

| Month | <u>Incremental Energy</u> | | | <u>Decremental Energy</u> | | |
|------------------------------|---------------------------|-----------------|---------------|---------------------------|-----------------|------------------|
| | Avg. Pre-Dispatch Cost | Bilateral Index | Difference | Avg. Pre-Dispatch Cost | Bilateral Index | Difference |
| October '04 | \$54.47 | \$45.79 | \$8.69 | \$37.89 | \$44.25 | (\$6.36) |
| November '04 | \$54.20 | \$49.79 | \$4.41 | \$41.21 | \$46.72 | (\$5.51) |
| December '04 | \$52.86 | \$49.51 | \$3.35 | \$41.59 | \$48.42 | (\$6.83) |
| January '05 | \$54.53 | \$47.43 | \$7.09 | \$38.44 | \$46.90 | (\$8.46) |
| February '05 | \$53.94 | \$46.95 | \$6.99 | \$37.21 | \$45.25 | (\$8.04) |
| March '05 | \$61.08 | \$50.68 | \$10.40 | \$36.40 | \$49.67 | (\$13.27) |
| Total (Bid or Better) | \$55.99 | \$48.52 | \$7.47 | \$38.71 | \$47.29 | (\$8.58) |
| April '05 | \$58.41 | \$52.12 | \$6.29 | \$38.92 | \$48.64 | (\$9.71) |
| May '05 | \$43.79 | \$37.99 | \$5.80 | \$15.88 | \$29.99 | (\$14.11) |
| June '05 | \$42.80 | \$38.05 | \$4.75 | \$29.20 | \$39.60 | (\$10.40) |
| July '05 | \$53.30 | \$54.74 | (\$1.44) | \$39.44 | \$51.39 | (\$11.96) |
| August '05 | \$62.36 | \$66.38 | (\$4.02) | \$60.03 | \$69.07 | (\$9.03) |
| September '05 | \$72.02 | \$70.78 | \$1.24 | \$66.05 | \$78.78 | (\$12.73) |
| October '05 | \$88.96 | \$85.95 | \$3.01 | \$76.07 | \$84.43 | (\$8.36) |
| November '05 | \$72.84 | \$70.69 | \$2.15 | \$54.88 | \$67.63 | (\$12.75) |
| December '05 | \$79.43 | \$81.82 | (\$2.39) | \$69.76 | \$83.63 | (\$13.87) |
| January '06 | \$60.29 | \$55.25 | \$5.04 | \$34.63 | \$44.83 | (\$10.20) |
| February '06 | \$56.97 | \$56.48 | \$0.50 | \$40.80 | \$53.62 | (\$12.81) |
| March '06 | \$54.46 | \$50.65 | \$3.80 | \$35.31 | \$47.47 | (\$12.16) |
| April '06 | \$38.68 | \$38.72 | (\$0.04) | \$12.66 | \$25.90 | (\$13.24) |
| May '06 | \$40.48 | \$31.56 | \$8.92 | \$15.66 | \$27.10 | (\$11.44) |
| Total (As-Bid) | \$60.26 | \$57.92 | \$2.34 | \$32.73 | \$44.42 | (\$11.69) |

**Figure 10. Average Bid Price Deltas for Incremental Energy
(May 2006)**

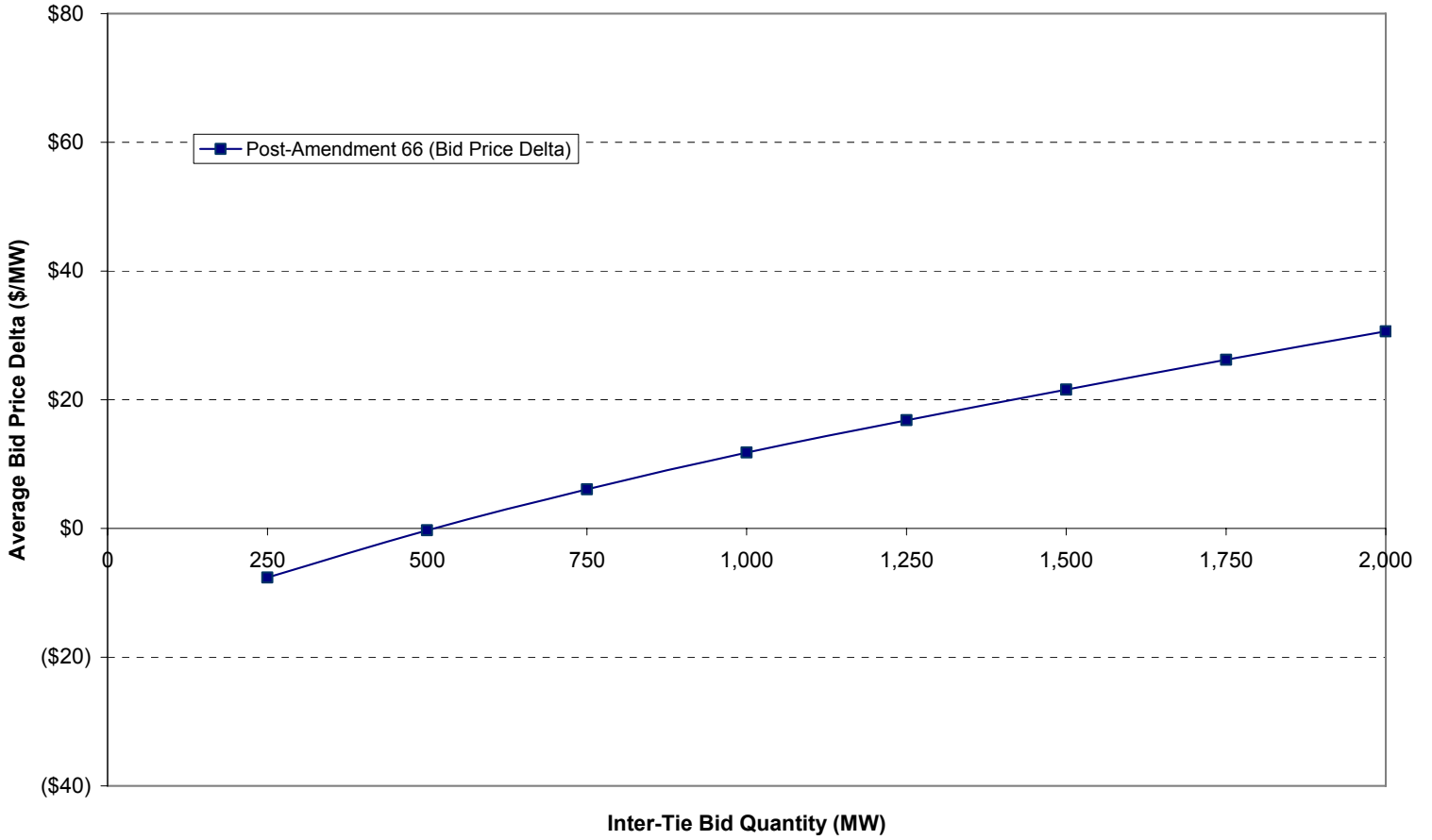
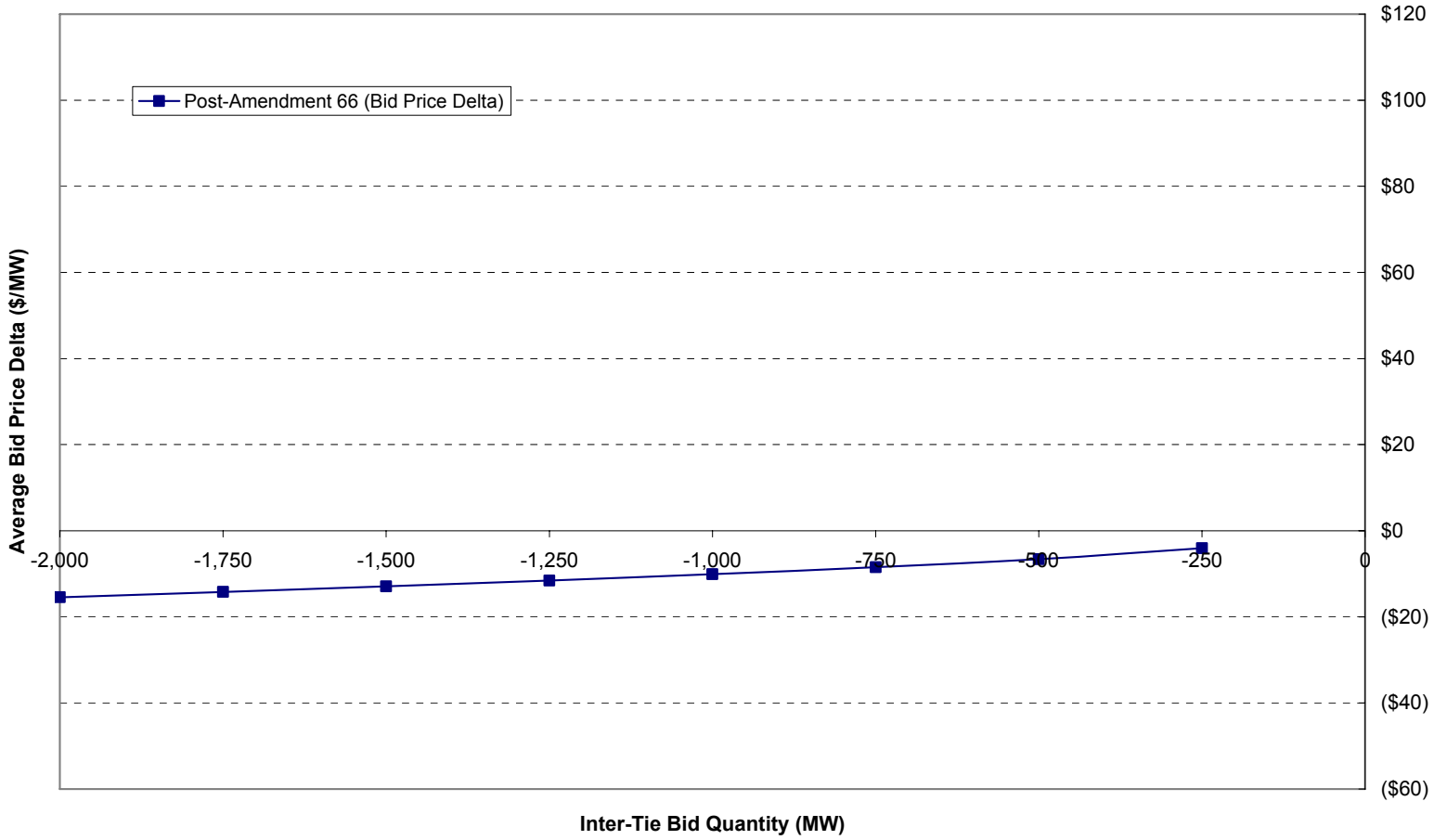


Figure 11. Average Bid Price Deltas for Decremental Energy (May 2006)





CALIFORNIA ISO

**Report on Market Impacts of
Amendment 66:
“As-Bid” Settlement of Pre-dispatched
Inter-tie Bids for Real Time Energy**

Prepared by the Department of Market Monitoring
California Independent System Operator
June 30, 2006

Background

In Amendment No. 66, the California Independent System Operator (“CAISO”) proposed to modify the CAISO Tariff so that bids for incremental and decremental energy on inter-ties with neighboring control areas that are pre-dispatched by the CAISO are settled under a “pay as bid” rule. With this modification, bids would be paid (or pay the CAISO) their original bid price, rather than the “bid or better” in effect since October 1, 2004.¹

In its April 7, 2005 order on Amendment No. 66, the Federal Regulatory Energy Commission (“Commission”) approved the “pay as bid” settlement rule effective as of March 24 until the earlier of September 30, 2005 or the effective date of a long-term solution filed and accepted by the Commission.² The Commission also ordered the CAISO’s Department of Market Analysis (“DMA”) to file weekly reports on the market effects of these interim tariff provisions, including “the liquidity and sufficiency of bids at the inter-ties” until the earlier of the effective date of a future tariff change implementing a long-term solution or September 30, 2005.

The following report is submitted by DMA in response to the above directive in the Commission’s Order on Amendment 66.³ This weekly report includes additional data from June 17 through June 23, inclusive.⁴

Report Findings

Cost Impacts of Amendment No. 66

Figures 1 and 2 summarize total energy pre-dispatched by the CAISO for market clearing versus CAISO system demand for energy, and the costs associated with overlapping (or off-setting) incremental (“inc”) and decremental (“dec”) bids dispatched to clear the market. Table 1 summarizes these same data by week since implementation of Phase 1B on October 1, 2004.

As shown in Figure 1, the amount of overlapping inc and dec bids cleared by the CAISO dropped dramatically as soon as the CAISO moved from the “bid or better” settlement rule to the “as bid” settlement rule. Since the effective date of Amendment 66, an average of only about 25 MW of off-setting inc and dec bids have been pre-dispatched each hour, as opposed to an average of about 600 MW per hour in the month prior to implementation of Amendment 66. Between June 17 and June 23, an average of about 33 MW of off-setting inc and dec bids have been pre-dispatched each hour to clear the market.

¹ Under the “bid or better” settlement rule, inter-tie bids for incremental energy pre-dispatched by the CAISO prior to each operating hour were paid the higher of their bid price or the *ex post* real time market clearing price. Inter-tie bids for decremental energy pre-dispatched by the CAISO paid the lower of their bid price or the *ex post* real time market clearing price. See Amendment No. 66 Transmittal Letter.

² *California Independent System Operator Corporation*, 111 FERC ¶ 61,008 (2005) (“Amendment 66 Order”).

³ Under a recent internal reorganization, the Department of Market Analysis (“DMA”) is now known as the Department of Market Monitoring (“DMM”).

⁴ This report updates data for missing reports from April 22 through May 12. The ISO will return to its normal reporting schedule following this report. The 7-day lag between the most recent data in this report and the filing date of this report reflects the time needed for post-operational checks and changes done as part of the CAISO settlement process, as well as time needed to prepare and review the report.

**Figure 1. Average Hourly Volume of Bids Pre-Dispatched by the CAISO and Average Daily Costs to CAISO of Market Clearing
(By Week Since Phase1B Implementation)**

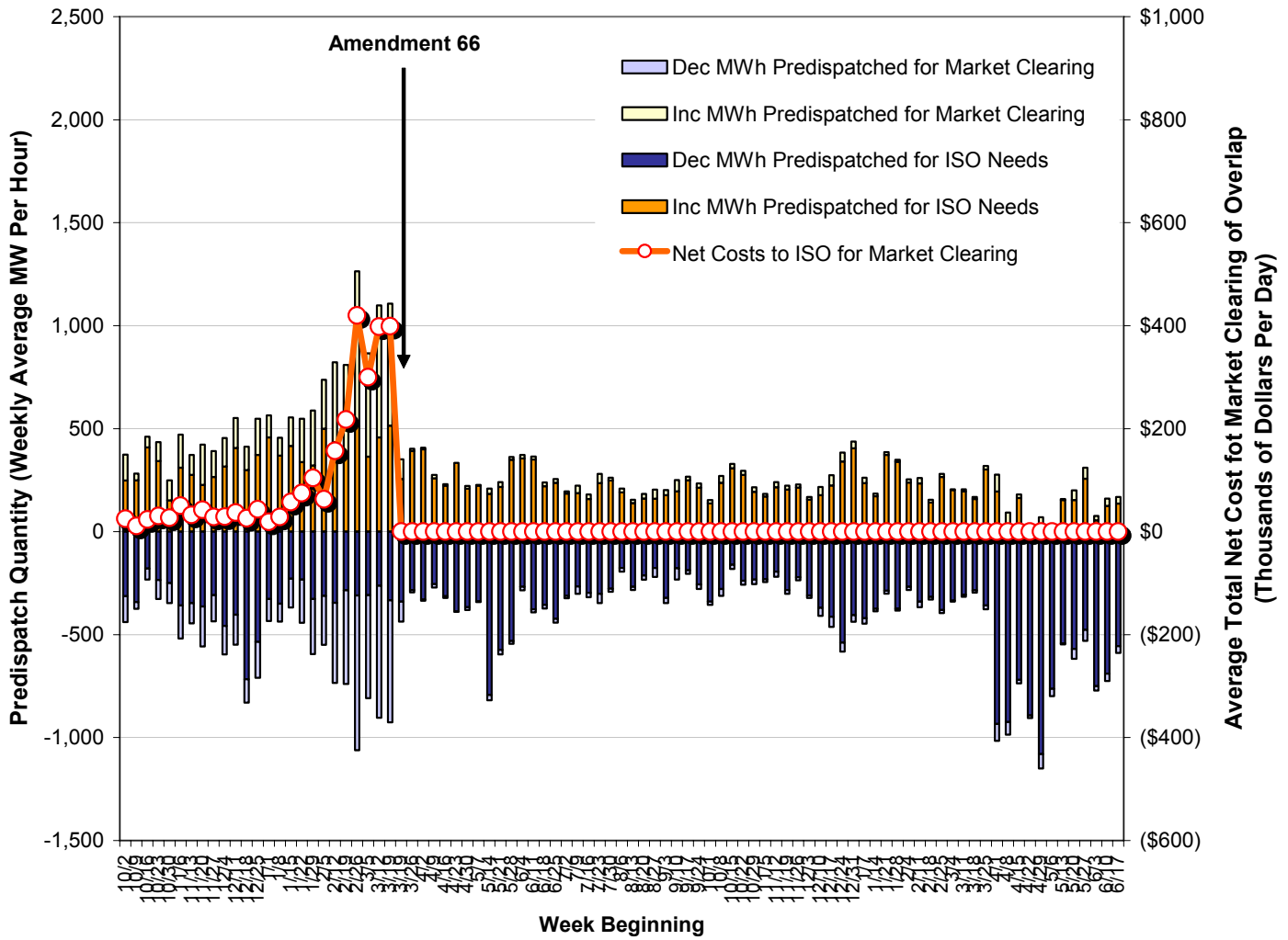


Table 1. Weekly Summary Data (Before and After Amendment 66)

| Week Beginning | Market Clearing (Average MW/hour) | | Net CAISO Imbalance Energy (Average MW/hour) | | Average Daily Net Costs (Thousands per Day) | |
|---|--------------------------------------|------|---|------|--|-------------------|
| | Inc | Dec | Inc | Dec | Market Clearing | Net ISO Energy |
| 10/2/2004 | 129 | -129 | 106 | -180 | \$25 | (\$690) |
| 10/9/2004 | 45 | -45 | 105 | -197 | \$20 | \$14 |
| 10/16/2004 | 57 | -57 | 291 | -49 | \$25 | \$326 |
| 10/23/2004 | 104 | -104 | 194 | -102 | \$40 | \$177 |
| 10/30/2004 | 100 | -100 | 46 | -174 | \$28 | (\$132) |
| 11/6/2004 | 162 | -162 | 135 | -202 | \$51 | (\$17) |
| 11/13/2004 | 112 | -112 | 75 | -253 | \$40 | (\$130) |
| 11/20/2004 | 202 | -202 | 74 | -244 | \$44 | (\$128) |
| 11/27/2004 | 128 | -128 | 102 | -189 | \$28 | (\$52) |
| 12/4/2004 | 143 | -143 | 128 | -273 | \$32 | (\$127) |
| 12/11/2004 | 149 | -149 | 179 | -225 | \$37 | \$4 |
| 12/18/2004 | 117 | -117 | 99 | -481 | \$30 | (\$332) |
| 12/25/2004 | 182 | -182 | 133 | -344 | \$44 | (\$166) |
| 1/1/2005 | 107 | -107 | 376 | -58 | \$19 | \$467 |
| 1/8/2005 | 88 | -88 | 224 | -137 | \$29 | \$162 |
| 1/15/2005 | 144 | -144 | 265 | -83 | \$62 | \$261 |
| 1/22/2005 | 224 | -224 | 231 | -74 | \$74 | \$198 |
| 1/29/2005 | 267 | -267 | 156 | -167 | \$104 | \$40 |
| 2/5/2005 | 238 | -238 | 368 | -82 | \$63 | \$385 |
| 2/12/2005 | 388 | -388 | 278 | -123 | \$155 | \$246 |
| 2/19/2005 | 468 | -468 | 224 | -105 | \$224 | \$216 |
| 2/26/2005 | 765 | -765 | 353 | -94 | \$424 | \$419 |
| 3/5/2005 | 508 | -508 | 196 | -126 | \$298 | \$143 |
| 3/12/2005 | 641 | -641 | 297 | -92 | \$400 | \$375 |
| 3/19/2005* | 599 | -599 | 253 | -169 | \$399 | \$190 |
| <i>Change from "Bid or Better" to "As-Bid" Settlement</i> | | | | | | |
| 3/26/2005 | 22 | -22 | 224 | -87 | - | \$211 |
| 4/2/2005 | 14 | -14 | 213 | -140 | - | \$160 |
| 4/9/2005 | 15 | -15 | 130 | -109 | - | \$88 |
| 4/16/2005 | 8 | -8 | 64 | -219 | - | (\$106) |
| 4/23/2005 | 10 | -10 | 53 | -319 | - | (\$204) |
| 4/30/2005 | 14 | -14 | 28 | -318 | - | (\$208) |
| 5/7/2005 | 5 | -5 | 42 | -273 | - | (\$144) |
| 5/14/2005 | 34 | -34 | 39 | -631 | - | (\$88) |
| 5/21/2005 | 38 | -38 | 49 | -450 | - | (\$10) |
| 5/28/2005 | 14 | -14 | 164 | -287 | - | \$13 |
| 6/4/2005 | 22 | -22 | 215 | -109 | - | \$145 |
| 6/11/2005 | 29 | -29 | 153 | -210 | - | \$21 |
| 6/18/2005 | 18 | -18 | 47 | -280 | - | (\$170) |
| 6/25/2005 | 19 | -19 | 96 | -252 | - | (\$35) |
| 7/2/2005 | 11 | -11 | 83 | -170 | - | (\$12) |
| 7/9/2005 | 37 | -37 | 84 | -147 | - | (\$9) |
| 7/16/2005 | 22 | -22 | 32 | -239 | - | (\$167) |
| 7/23/2005 | 50 | -50 | 105 | -170 | - | (\$30) |
| 7/30/2005 | 19 | -19 | 82 | -197 | - | (\$98) |
| 8/6/2005 | 21 | -21 | 87 | -100 | - | \$6 |
| 8/13/2005 | 15 | -15 | 49 | -178 | - | (\$166) |
| 8/20/2005 | 28 | -28 | 65 | -147 | - | (\$127) |

| Week Beginning | Market Clearing (Average MW/hour) | | Net CAISO Imbalance Energy (Average MW/hour) | | Average Daily Net Costs (Thousands per Day) | |
|-------------------|--------------------------------------|-----|---|--------|--|-------------------|
| | Inc | Dec | Inc | Dec | Market Clearing | Net ISO Energy |
| 8/27/2005 | 45 | -45 | 79 | -93 | - | (\$34) |
| 9/3/2005 | 25 | -25 | 79 | -183 | - | (\$148) |
| 9/10/2005 | 57 | -57 | 115 | -77 | - | \$55 |
| 9/17/2005 | 17 | -17 | 136 | -85 | - | \$68 |
| 9/24/2005 | 33 | -33 | 89 | -207 | - | (\$106) |
| 10/1/2005 | 17 | -17 | 17 | -312 | - | (\$520) |
| 10/8/2005 | 34 | -34 | 93 | -190 | - | (\$124) |
| 10/15/2005 | 21 | -21 | 203 | -57 | - | \$332 |
| 10/22/2005 | 19 | -19 | 145 | -117 | - | \$173 |
| 10/29/2005 | 43 | -43 | 77 | -148 | - | (\$44) |
| 11/5/2005 | 33 | -33 | 63 | -137 | - | (\$62) |
| 11/12/2005 | 55 | -55 | 53 | -122 | - | (\$60) |
| 11/19/2005 | 19 | -19 | 83 | -180 | - | (\$95) |
| 11/26/2005 | 23 | -23 | 112 | -110 | - | \$25 |
| 12/3/2005 | 13 | -13 | 52 | -221 | - | (\$330) |
| 12/10/2005 | 47 | -47 | 33 | -335 | - | (\$662) |
| 12/17/2005 | 48 | -48 | 77 | -286 | - | (\$362) |
| 12/24/2005 | 51 | -51 | 101 | -389 | - | (\$64) |
| 12/31/2005 | 37 | -37 | 204 | -207 | - | \$174 |
| 1/7/2006 | 27 | -27 | 71 | -297 | - | (\$153) |
| 1/14/2006 | 13 | -13 | 37 | -306 | - | (\$161) |
| 1/21/2006 | 30 | -30 | 113 | -194 | - | (\$22) |
| 1/28/2006 | 13 | -13 | 102 | -261 | - | (\$92) |
| 2/4/2006 | 27 | -27 | 85 | -187 | - | (\$59) |
| 2/11/2006 | 27 | -27 | 234 | -340 | - | (\$178) |
| 2/18/2006 | 13 | -13 | 141 | -317 | - | (\$237) |
| 2/25/2006 | 15 | -15 | 266 | -381 | - | (\$112) |
| 3/4/2006 | 4 | -4 | 202 | -335 | - | (\$111) |
| 3/11/2006 | 10 | -10 | 196 | -306 | - | (\$126) |
| 3/18/2006 | 11 | -11 | 158 | -285 | - | (\$84) |
| 3/25/2006 | 18 | -18 | 301 | -359 | - | (\$138) |
| 4/1/2006 | 82 | -82 | 195 | -934 | - | (\$227) |
| 4/8/2006 | 62 | -62 | 31 | -905 | - | (\$335) |
| 4/15/2006 | 17 | -17 | 164 | -720 | - | (\$230) |
| 4/22/2006 | 13 | -13 | 0 | -892 | - | (\$180) |
| 4/29/2006 | 70 | -70 | 0 | -1,080 | - | (\$83) |
| 5/6/2006 | 36 | -36 | 0 | -762 | - | (\$274) |
| 5/20/2006 | 47 | -47 | 154 | -570 | - | (\$267) |
| 5/27/2006 | 54 | -54 | 257 | -476 | - | (\$84) |
| 6/3/2006 | 21 | -21 | 55 | -751 | - | (\$179) |
| 6/10/2006 | 36 | -36 | 125 | -689 | - | (\$17) |
| 6/17/2006 | 33 | -33 | 136 | -556 | - | (\$420) |

**Figure 2. Average Hourly Volume of Bids Pre-Dispatched by the CAISO
And Average Daily Costs to CAISO of Market Clearing
(By Day)**

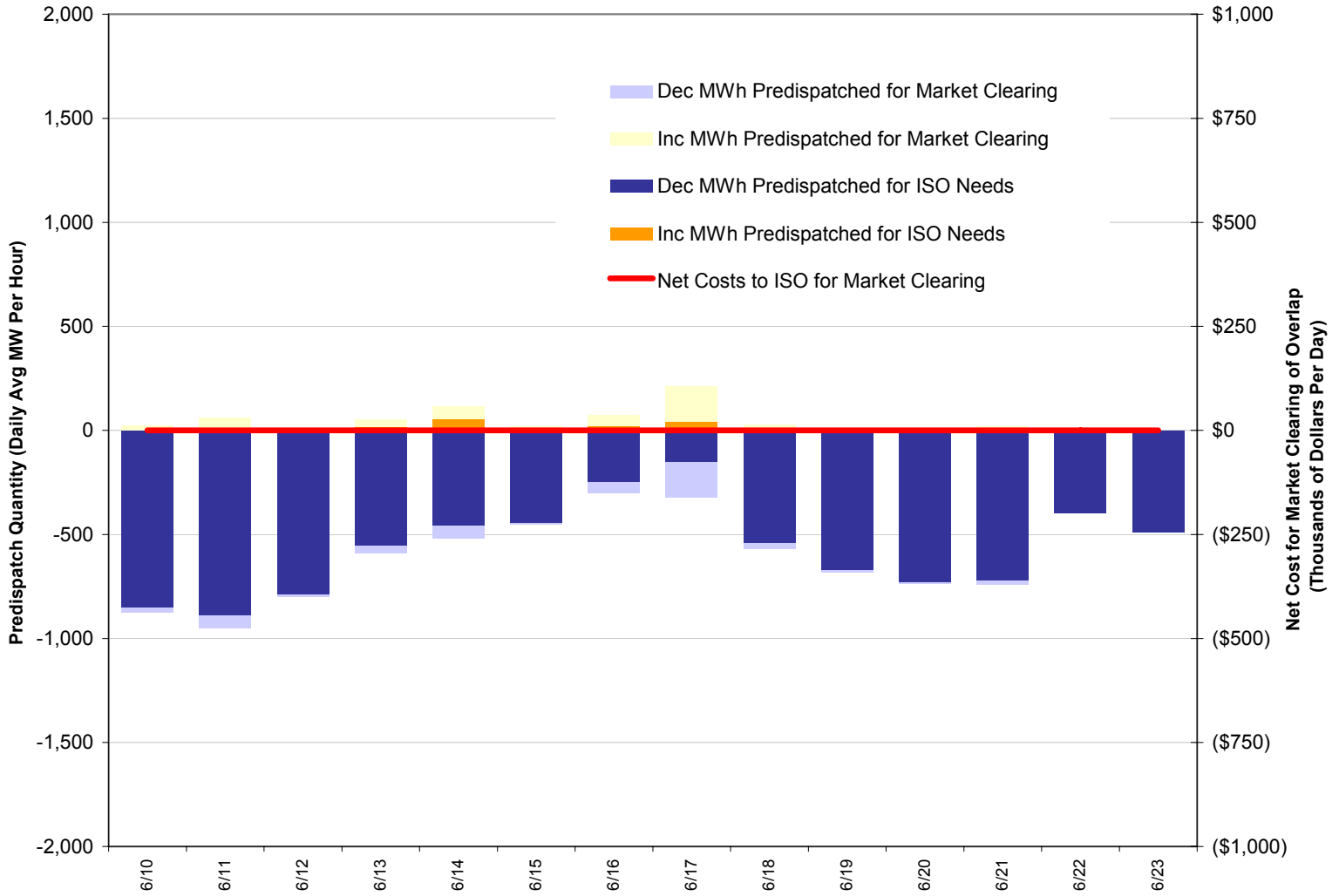


Figure 3 summarizes the total cost of net incremental energy purchased by the CAISO for CAISO system needs (i.e. net energy pre-dispatched when the sum of all pre-dispatched bids was positive, indicating the CAISO was a net purchaser of imbalance energy in the pre-dispatch process). The average price paid for pre-dispatched incremental energy was about \$85/MWh between June 17 and June 23. The weighted average price of incremental energy pre-dispatched by the CAISO calculated at the ex post price in the CAISO's real time market was about \$76/MWh during this period. The weighted average price reported for hourly spot market transactions in bilateral markets (Powerdex) during hours when the CAISO was a net importer of pre-dispatched energy was about \$44/MWh.

Figure 4 summarizes the total cost of net decremental energy sold by the CAISO for system needs (i.e. net energy pre-dispatched when the sum of all pre-dispatched bids was negative, indicating the CAISO was a net seller of imbalance energy in the pre-dispatch process).

Energy prices received by the CAISO for net decremental energy pre-dispatched averaged about \$34/MWh between June 17 and June 23. The weighted average price of this decremental energy pre-dispatched by the CAISO calculated at the ex post price in the CAISO's real time market was about \$76/MWh. The weighted average price reported for hourly spot market transactions in bilateral markets (Powerdex) during hours when the CAISO was a net exporter of pre-dispatched energy was about \$43/MWh.

Figure 3. Total Net Cost of Incremental Energy Pre-dispatched For CAISO System Demand

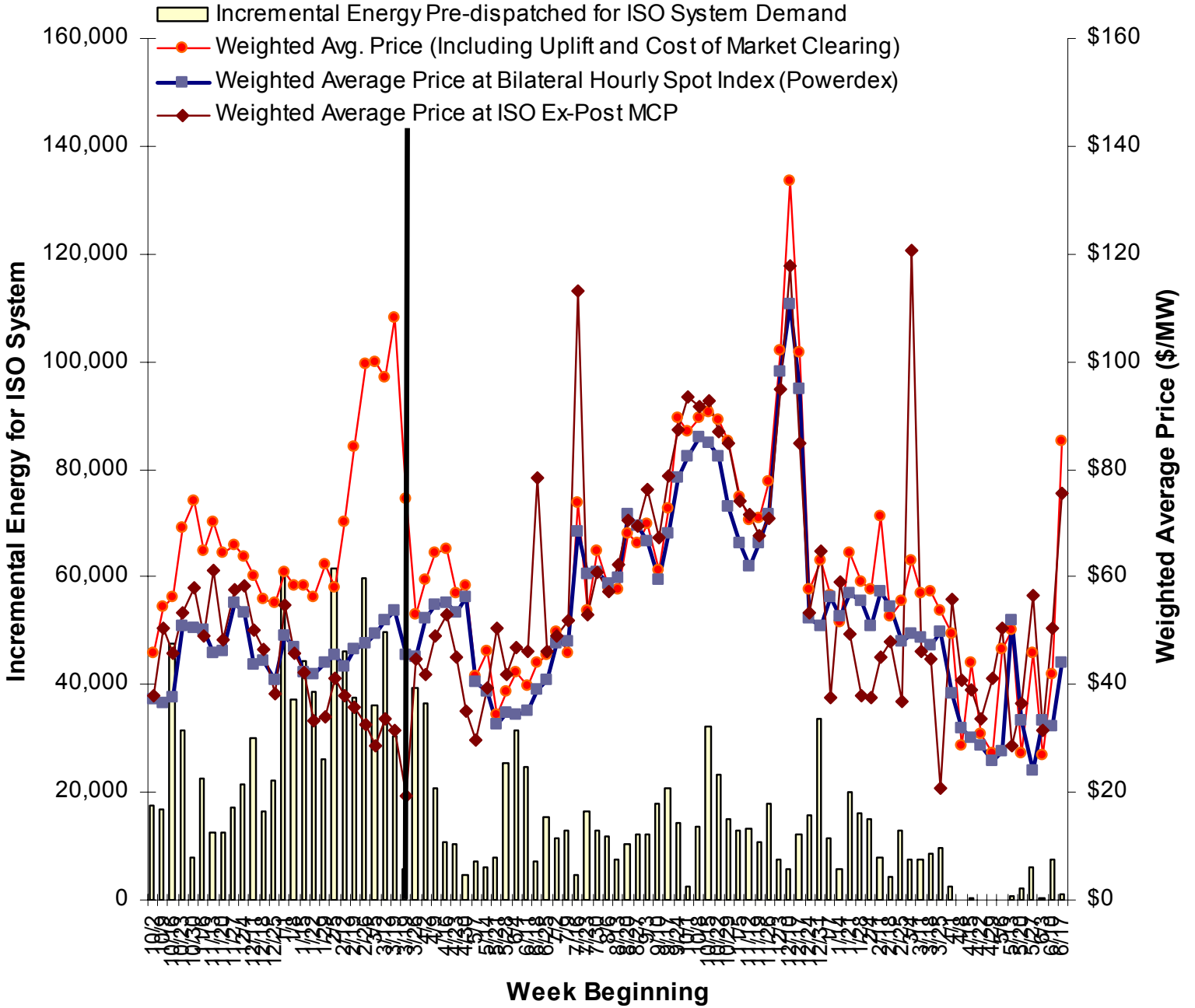
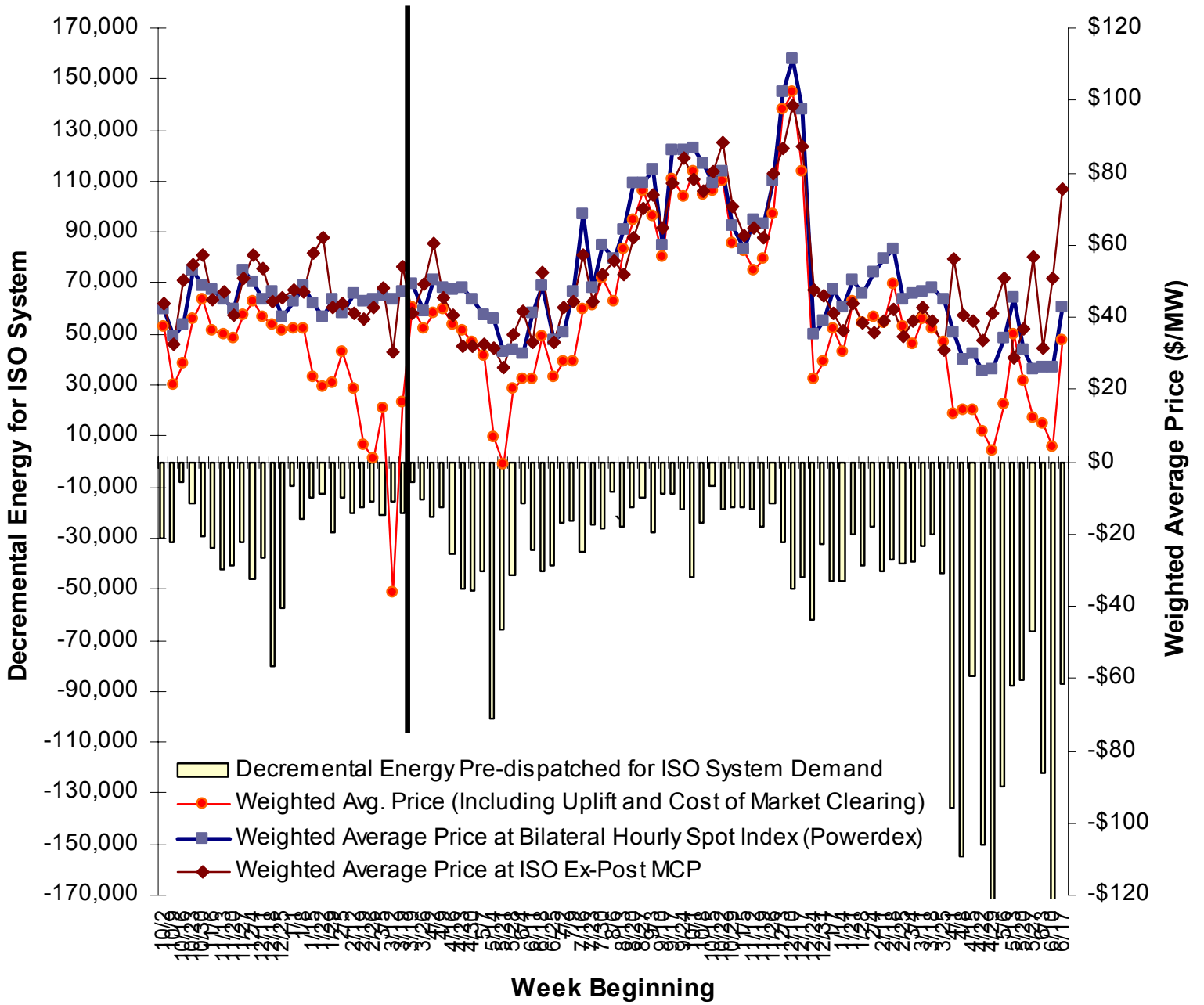


Figure 4. Total Net Cost of Decremental Energy Pre-dispatched For CAISO System Demand



Inter-tie Bid Sufficiency and Liquidity

Figure 5 shows the daily total volumes of incremental and decremental inter-tie bids during the period between June 17 and June 23 categorized by bid price levels. Figure 6 shows these same bid data, but highlights the average hourly volume of net incremental bids submitted during weekdays on a weekly basis. In addition, Figure 6 also includes a comparison of total incremental bid volumes this year to the most comparable five weekdays last year (i.e. the five weekdays last year most closely matching the weekday dates shown in Figure 6). The bid volumes from last year are shown by the blue shaded area behind the bars depicting bid volumes this year by bid price.

As shown in Figures 5 and 6, the volume of inter-tie bids received by the CAISO dropped slightly immediately after implementation of Amendment 66, but subsequently increased to a level almost equal to the volume of bids received during the week prior to implementation of Amendment 66 by the first week in May. The overall volume of incremental energy bids dropped during the first three weeks of May, but increased each of the last three weeks ending June 10. The overall volume of incremental energy bids gradually dropped throughout June and most of July as loads increased throughout the west with the advent of warmer weather, before increasing back to above 2,200 MW per hour since the last week of July.

As noted in previous reports, the CAISO has not experienced problems in terms of bid insufficiency or liquidity of incremental energy import bids since the switch to an “as-bid” market under Amendment 66. However, in light of the recent decrease in import energy bids depicted in Figure 6, this report includes some additional analysis of overall trends in imports and import/export bid sufficiency.

Figures 7 and 8 provide a summary of the total supply of imports on a weekly basis, including average hourly imports scheduled by participants (Final Hour Ahead Schedules), plus incremental energy bids and pre-dispatched by the CAISO.⁵ As shown in Figures 7, while the total volume of incremental energy import bids may have decreased since Amendment 66, the total overall supply of imports scheduled or bid into the ISO system has increased significantly over this time due to a significant increase in imports scheduled directly by participants. In addition, as shown in both Figure 7 and 8, the volume of incremental energy import bids has also remained extremely high relative to the quantity of import bids actually pre-dispatched by the CAISO.

Figure 9 provides a similar summary of the total supply of decremental energy bids on inter-ties (exports) since October 2004. Again, these data show that the volume of decremental energy bids on interties has also remained very high relative to the quantity of dec bids actually pre-dispatched by the ISO.

⁵ Analysis of import supplies is based on peak Hours Ending 13-20, while analysis of export (dec) bids and pre-dispatches is based on off-peak Hours Ending 1-8, following the time periods suggested by Powerex in a recent filing as the most appropriate hours for such analysis (*Protest of Powerex Corp*, filed on June 8, 2005 in protest of the ISO’s Comprehensive Market Redesign Proposal, May 13, 2005, ER02-1656-026, pp 12-13).

Figure 5. Inter-tie Bid Quantities and Prices

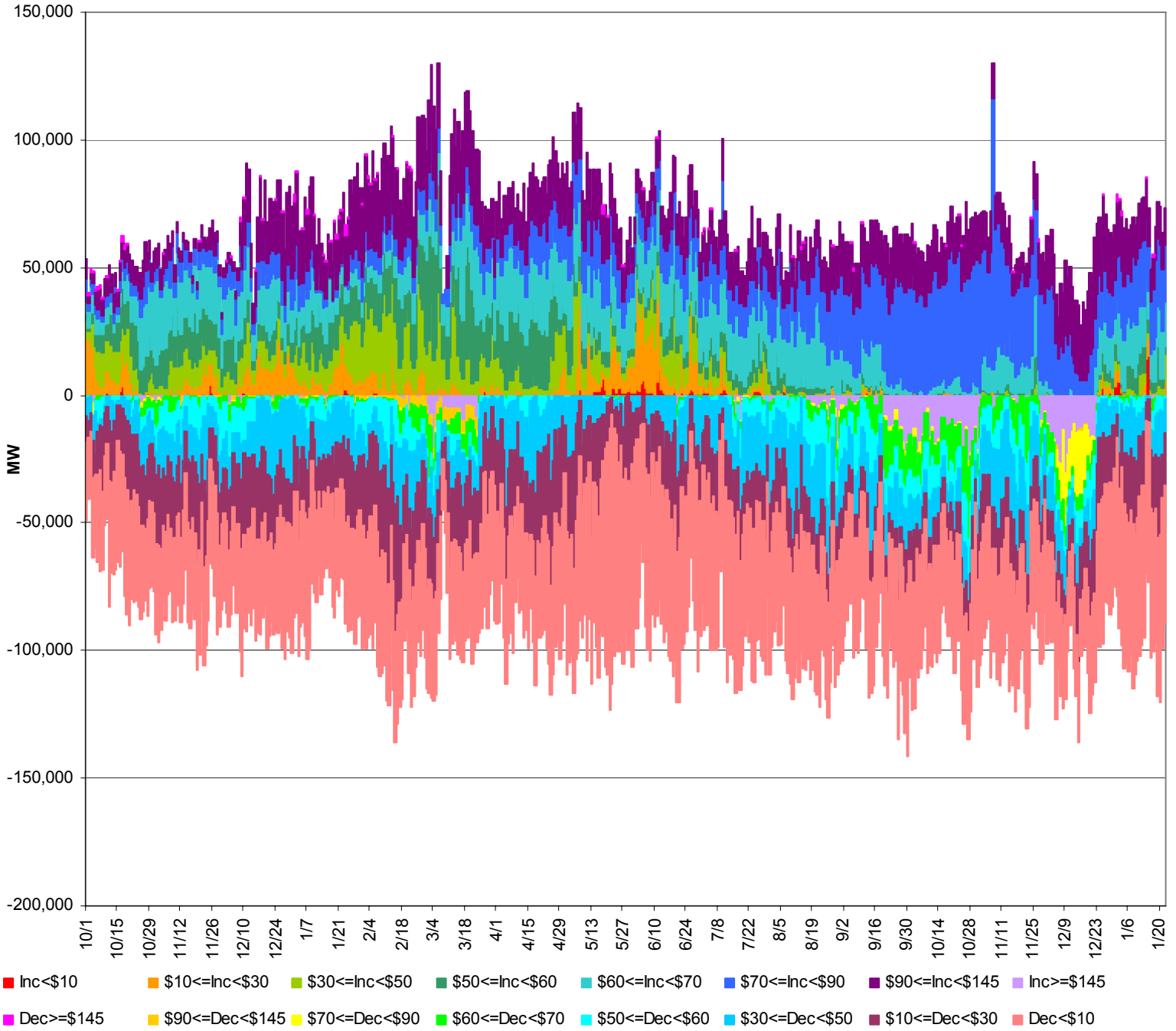


Figure 6. Inter-Tie Bid Quantities and Prices for Incremental Energy
Hourly Averages (Weekdays Only)

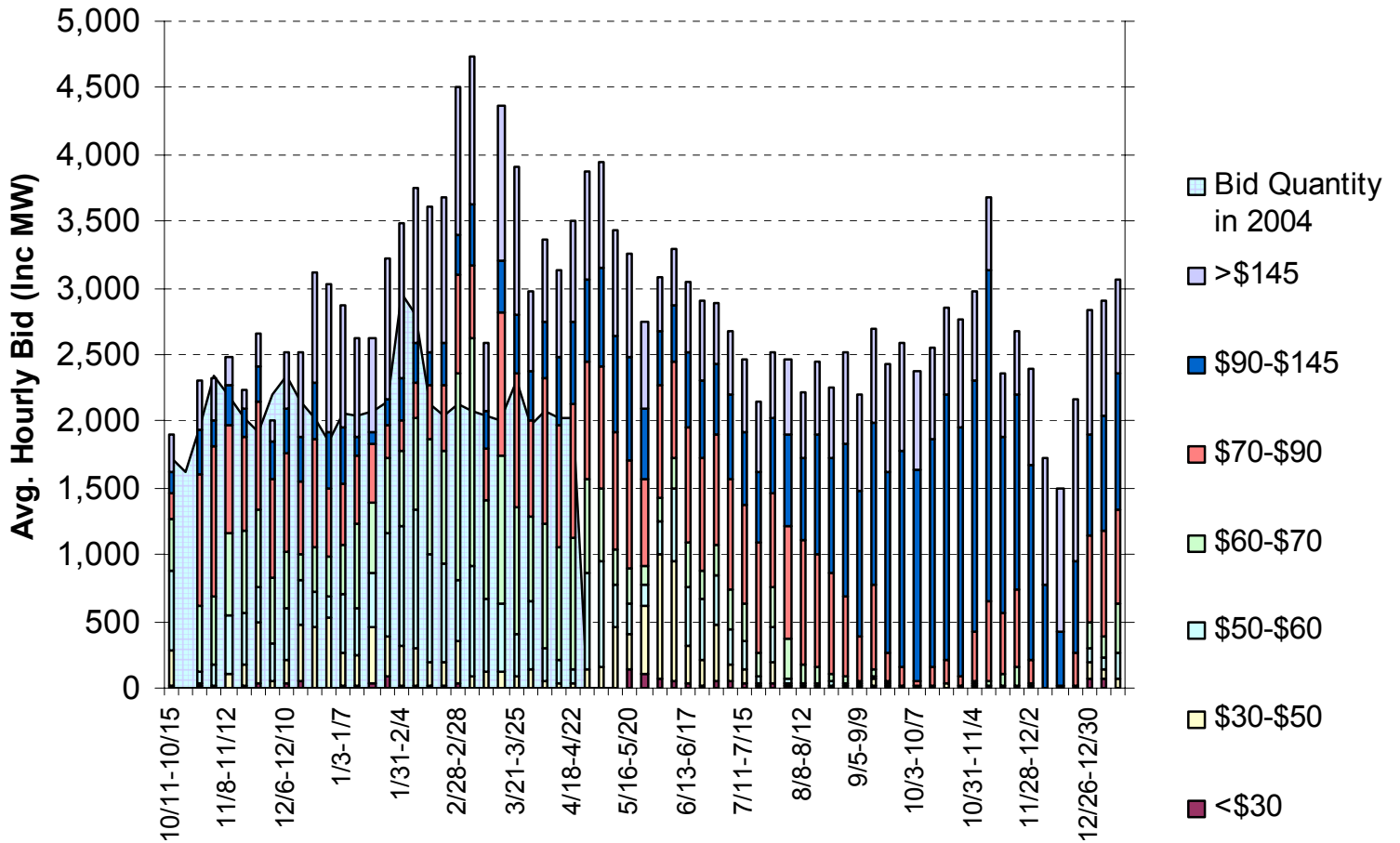


Figure 7. Gross Scheduled Imports, Real Time Energy Import Bid Volumes, and Pre-Dispatched Imports

Hourly Averages (Peak Hours 13-20)

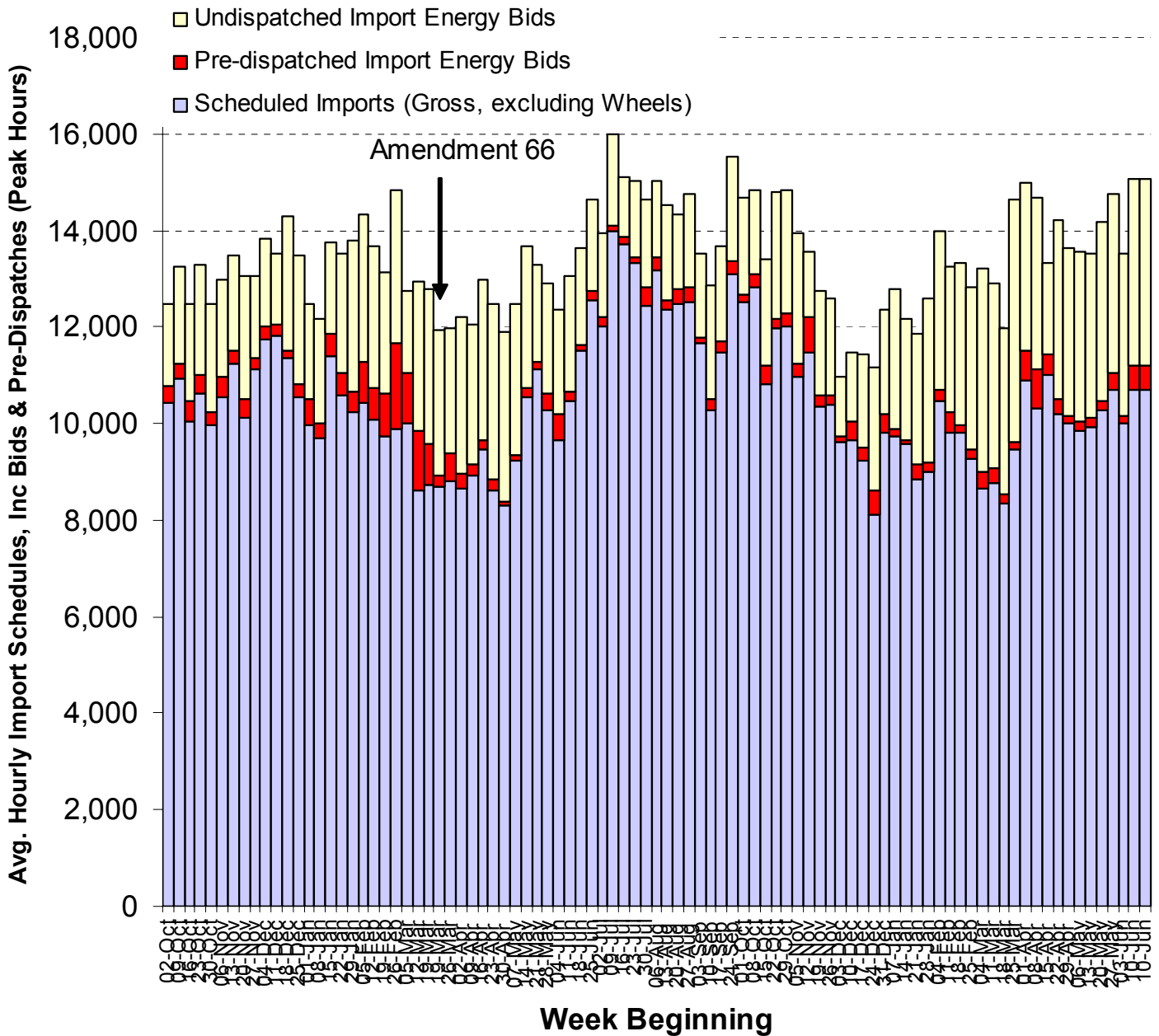
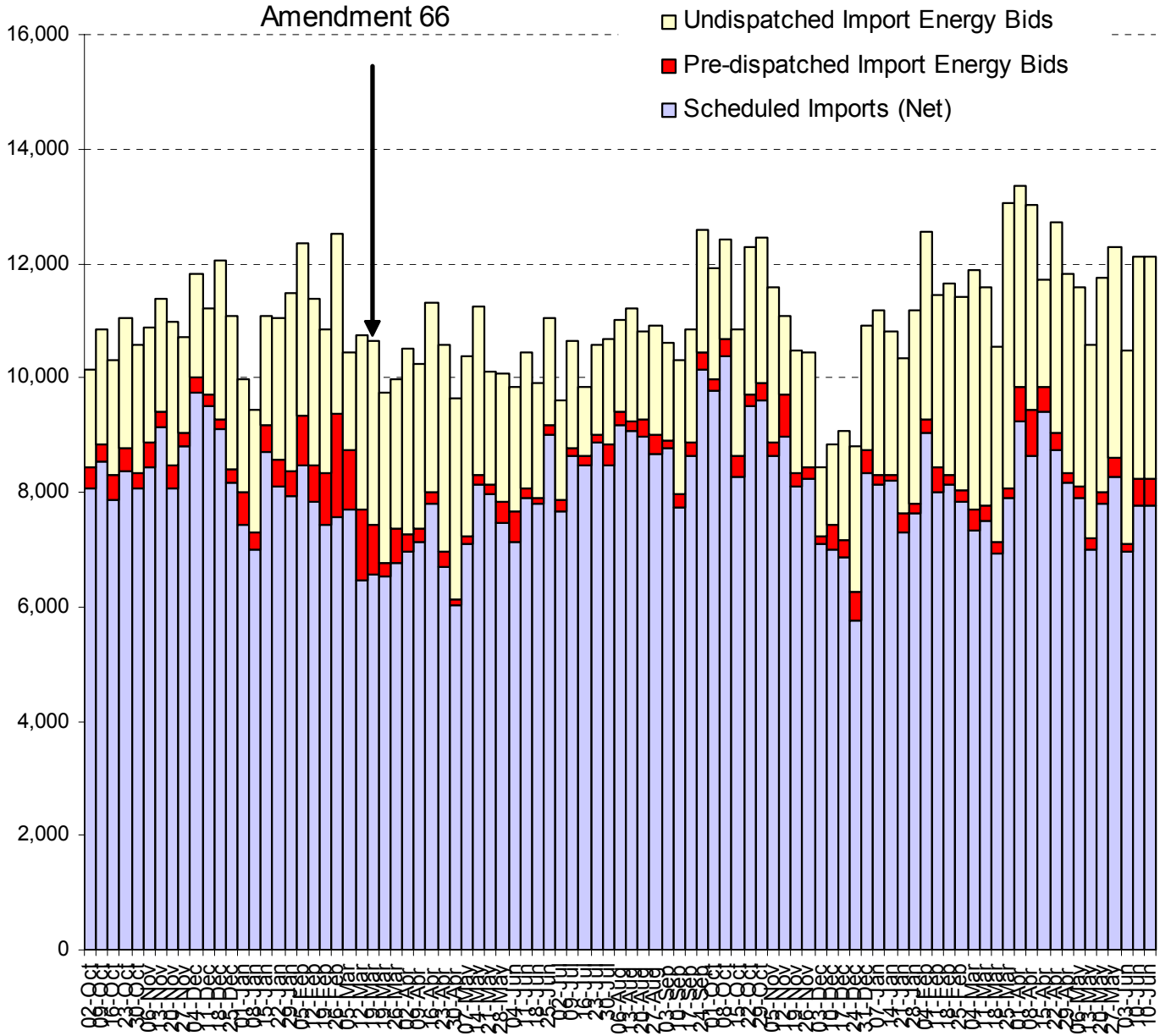
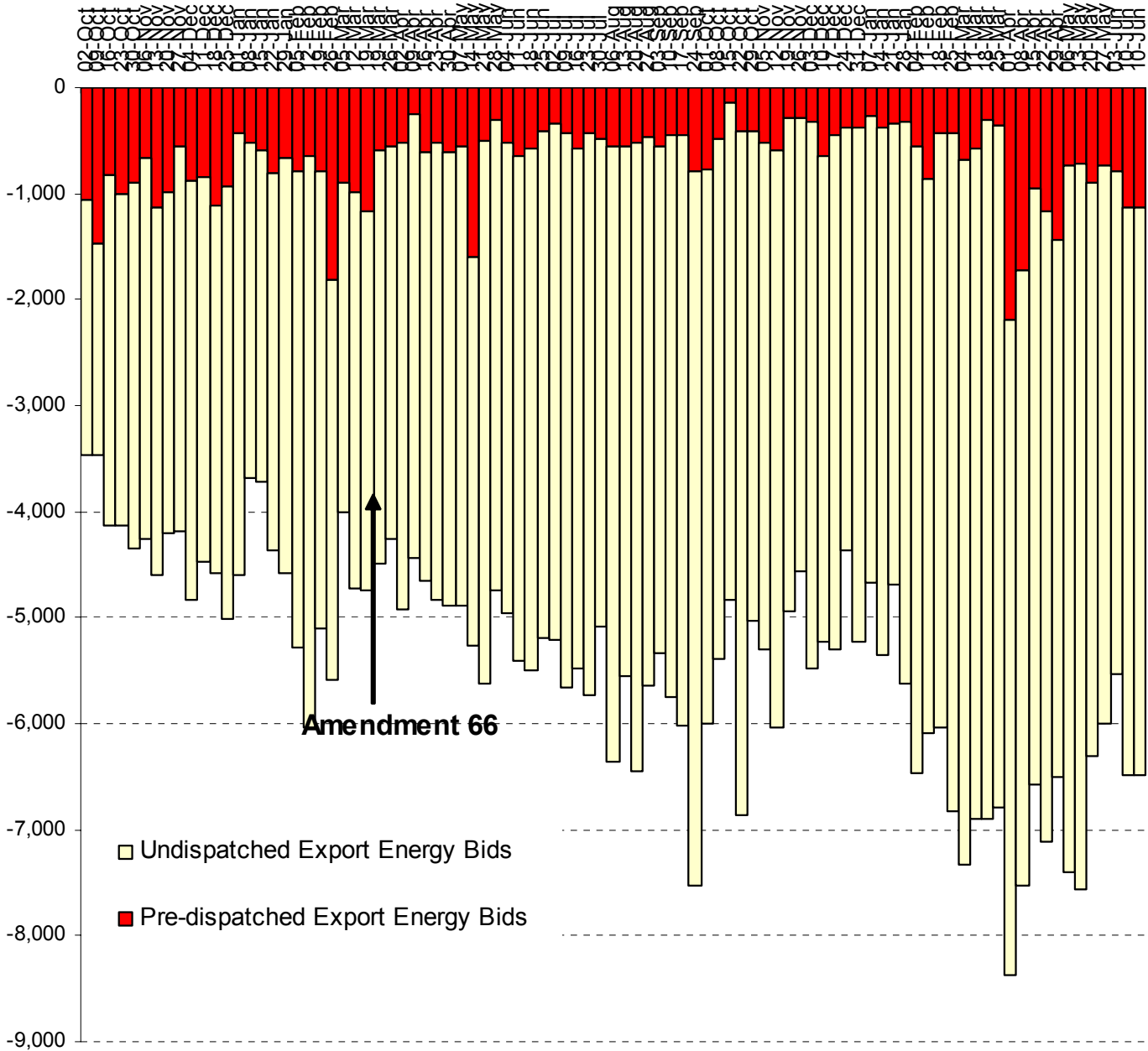


Figure 8. Net Scheduled Imports, Real Time Energy Import Bid Volumes, and Pre-Dispatched Imports

Hourly Averages (Peak Hours 13-20)



**Figure 9. Real Time Energy Export (Dec) Bid Volumes
And Pre-Dispatched Exports
Hourly Averages (Off-Peak Hours 1-8)**



Tables 2 and 3 and Figures 10 and 11 provide additional analysis requested by Powerex that the Commission directed the ISO to include in weekly reports in its September 30, 2005 Order on Amendment 66.

Table 2. Costs for Net Pre-Dispatched Energy (DMM Approach)

| Month | <u>Incremental Energy</u> | | | <u>Decremental Energy</u> | | |
|------------------------------|---------------------------|-----------------|----------------|---------------------------|-----------------|------------------|
| | Avg. Pre-Dispatch Cost | Bilateral Index | Difference | Avg. Pre-Dispatch Cost | Bilateral Index | Difference |
| October '04 | \$57.74 | \$45.22 | \$12.53 | \$31.93 | \$42.68 | (\$10.75) |
| November '04 | \$66.85 | \$53.44 | \$13.41 | \$37.34 | \$46.05 | (\$8.71) |
| December '04 | \$59.59 | \$50.39 | \$9.19 | \$39.22 | \$48.29 | (\$9.08) |
| January '05 | \$59.29 | \$47.85 | \$11.45 | \$26.05 | \$47.14 | (\$21.09) |
| February '05 | \$69.32 | \$48.13 | \$21.19 | \$18.89 | \$42.40 | (\$23.51) |
| March '05 | \$103.83 | \$51.13 | \$52.70 | \$0.64 | \$45.23 | (\$44.59) |
| Total (Bid or Better) | \$70.20 | \$48.87 | \$21.34 | \$30.69 | \$45.96 | (\$15.27) |
| April '05 | \$60.36 | \$52.43 | \$7.94 | \$38.01 | \$48.44 | (\$10.44) |
| May '05 | \$42.06 | \$36.48 | \$5.58 | \$14.27 | \$29.43 | (\$15.16) |
| June '05 | \$42.63 | \$37.11 | \$5.52 | \$27.63 | \$39.08 | (\$11.45) |
| July '05 | \$55.22 | \$54.49 | \$0.72 | \$38.22 | \$50.78 | (\$12.56) |
| August '05 | \$62.37 | \$65.31 | (\$2.94) | \$59.60 | \$69.07 | (\$9.47) |
| September '05 | \$72.69 | \$70.31 | \$2.38 | \$65.12 | \$80.40 | (\$15.28) |
| October '05 | \$90.90 | \$86.49 | \$4.42 | \$75.64 | \$84.61 | (\$8.97) |
| November '05 | \$79.63 | \$71.31 | \$8.33 | \$54.60 | \$67.29 | (\$12.68) |
| December '05 | \$83.95 | \$81.35 | \$2.60 | \$69.64 | \$83.75 | (\$14.11) |
| January '06 | \$64.30 | \$55.99 | \$8.31 | \$33.78 | \$44.13 | (\$10.35) |
| February '06 | \$61.87 | \$56.03 | \$5.83 | \$40.70 | \$53.29 | (\$12.59) |
| March '06 | \$57.70 | \$51.55 | \$6.15 | \$34.64 | \$47.46 | (\$12.82) |
| April '06 | \$60.48 | \$41.33 | \$19.15 | \$11.60 | \$25.24 | (\$13.64) |
| May '06 | \$58.52 | \$33.53 | \$24.99 | \$14.86 | \$26.91 | (\$12.05) |
| Total (As-Bid) | \$63.45 | \$58.60 | \$4.85 | \$31.30 | \$43.47 | (\$12.16) |

Table 3. Costs for Gross Pre-Dispatched Energy (Powerex Approach)

| Month | <u>Incremental Energy</u> | | | <u>Decremental Energy</u> | | |
|------------------------------|---------------------------|-----------------|---------------|---------------------------|-----------------|------------------|
| | Avg. Pre-Dispatch Cost | Bilateral Index | Difference | Avg. Pre-Dispatch Cost | Bilateral Index | Difference |
| October '04 | \$54.47 | \$45.79 | \$8.69 | \$37.89 | \$44.25 | (\$6.36) |
| November '04 | \$54.20 | \$49.79 | \$4.41 | \$41.21 | \$46.72 | (\$5.51) |
| December '04 | \$52.86 | \$49.51 | \$3.35 | \$41.59 | \$48.42 | (\$6.83) |
| January '05 | \$54.53 | \$47.43 | \$7.09 | \$38.44 | \$46.90 | (\$8.46) |
| February '05 | \$53.94 | \$46.95 | \$6.99 | \$37.21 | \$45.25 | (\$8.04) |
| March '05 | \$61.08 | \$50.68 | \$10.40 | \$36.40 | \$49.67 | (\$13.27) |
| Total (Bid or Better) | \$55.99 | \$48.52 | \$7.47 | \$38.71 | \$47.29 | (\$8.58) |
| April '05 | \$58.41 | \$52.12 | \$6.29 | \$38.92 | \$48.64 | (\$9.71) |
| May '05 | \$43.79 | \$37.99 | \$5.80 | \$15.88 | \$29.99 | (\$14.11) |
| June '05 | \$42.80 | \$38.05 | \$4.75 | \$29.20 | \$39.60 | (\$10.40) |
| July '05 | \$53.30 | \$54.74 | (\$1.44) | \$39.44 | \$51.39 | (\$11.96) |
| August '05 | \$62.36 | \$66.38 | (\$4.02) | \$60.03 | \$69.07 | (\$9.03) |
| September '05 | \$72.02 | \$70.78 | \$1.24 | \$66.05 | \$78.78 | (\$12.73) |
| October '05 | \$88.96 | \$85.95 | \$3.01 | \$76.07 | \$84.43 | (\$8.36) |
| November '05 | \$72.84 | \$70.69 | \$2.15 | \$54.88 | \$67.63 | (\$12.75) |
| December '05 | \$79.43 | \$81.82 | (\$2.39) | \$69.76 | \$83.63 | (\$13.87) |
| January '06 | \$60.29 | \$55.25 | \$5.04 | \$34.63 | \$44.83 | (\$10.20) |
| February '06 | \$56.97 | \$56.48 | \$0.50 | \$40.80 | \$53.62 | (\$12.81) |
| March '06 | \$54.46 | \$50.65 | \$3.80 | \$35.31 | \$47.47 | (\$12.16) |
| April '06 | \$38.68 | \$38.72 | (\$0.04) | \$12.66 | \$25.90 | (\$13.24) |
| May '06 | \$40.48 | \$31.56 | \$8.92 | \$15.66 | \$27.10 | (\$11.44) |
| Total (As-Bid) | \$60.26 | \$57.92 | \$2.34 | \$32.73 | \$44.42 | (\$11.69) |

**Figure 10. Average Bid Price Deltas for Incremental Energy
(May 2006)**

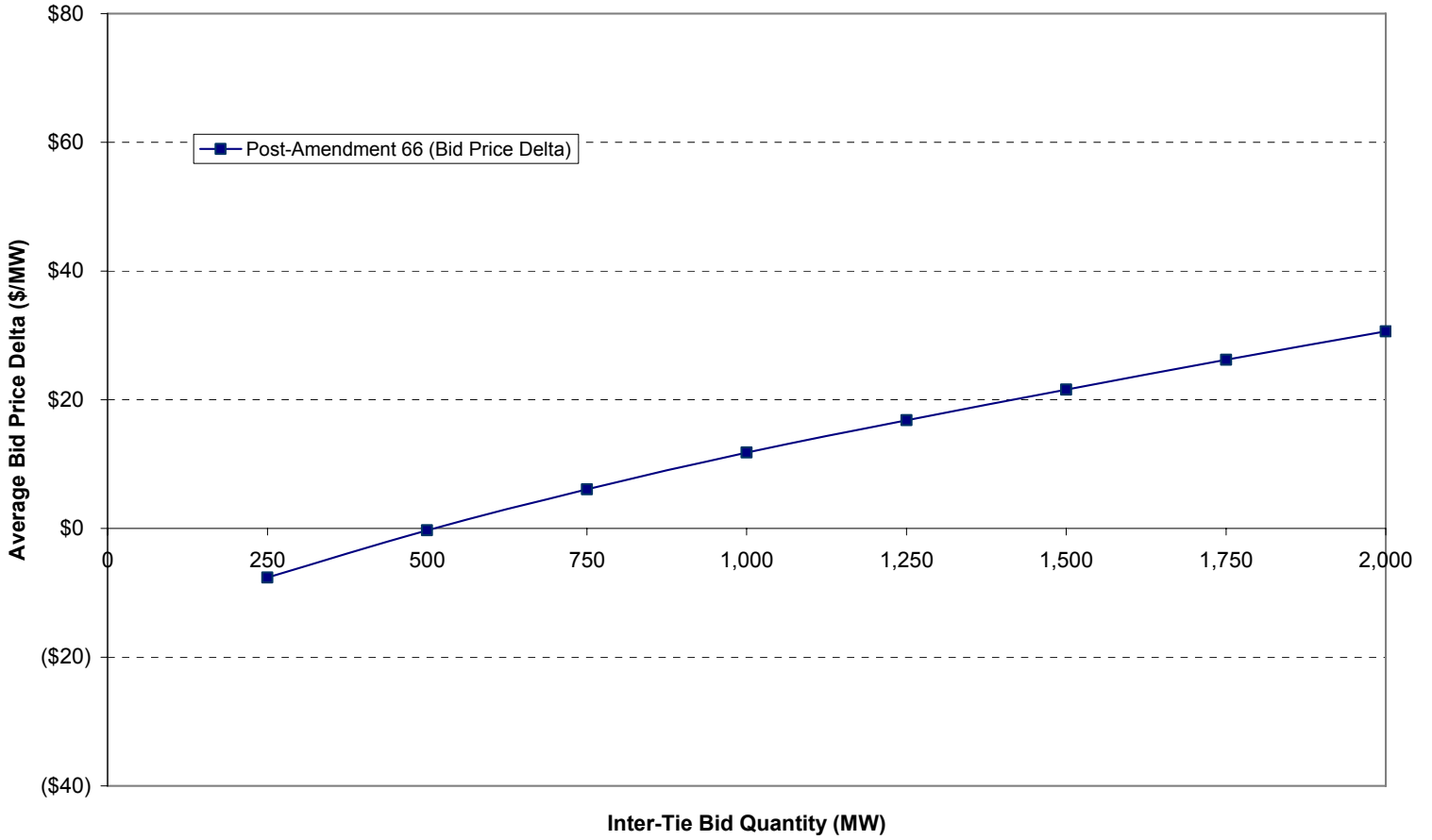


Figure 11. Average Bid Price Deltas for Decremental Energy (May 2006)

