



Market Highlights¹ (June 14–June 27)

- The average DLAP price in the integrated forward market was \$43.19. The maximum and minimum DLAP prices were \$620.03 and \$5.94, respectively. The maximum and minimum PNode prices in the integrated forward market were \$706.54 and -\$167.85 respectively.
- The top two interties congested in the integrated forward market were NOB_ITC and MALIN500. Congestion rents in these two weeks totaled \$37,449,865.94.
- The average day-ahead ancillary service prices were between \$0.00 and \$547.09.
- Approximately 78.46 percent of the RUC requirements were met from RA units.
- The average real-time FMM DLAP price was \$46.50, with a maximum price of \$1,992.35 and a minimum price of -\$2.12. The maximum and minimum PNode prices in the FMM were \$1,999.12 and -\$1,004.30, respectively.
- Out of the total 1,344 FMM intervals, 19 intervals saw DLAP prices above \$250, and 0 intervals saw DLAP prices below -\$150.
- Out of the total 1,344 FMM intervals, 116 intervals saw ELAP prices above \$250 and 30 intervals saw ELAP prices below -\$150. The average real-time FMM ELAP price was \$33.18, with a maximum price of \$1,965.63 and a minimum price of -\$167.11.
- The average real-time RTD DLAP price was \$36.69, with a maximum price of \$1,029.69 and a minimum price of -\$14.45. The maximum and minimum PNode prices in the RTD were \$1,247.13 and -\$1,037.59, respectively.
- Out of the total 4,032 RTD intervals, 36 intervals saw DLAP prices above \$250 and 0 interval saw DLAP prices below -\$150.
- Out of the total 4,032 RTD intervals, 206 intervals saw ELAP prices above \$250 and 136 intervals saw ELAP prices below -\$150. The average real-time RTD ELAP price was \$28.32, with a maximum price of \$1,040.92 and a minimum price of -\$157.59.
- Root cause for daily high price events are noted in Tables 1 and 2.

Table 1 FMM Intervals	
Trade Date	Root Cause
FMM Jun 19 HE 17, 18, 19, 20	Generator outages, renewable deviation and load changes
FMM Jun 20 HE 18	Loss of net import and load changes
FMM Jun 20 HE 19	Loss of net import, renewable deviation and load changes

¹ A description of the metrics presented in this report is available at <http://www.caiso.com/Documents/WeeklyPerformanceReportMetricsKey.pdf>



Table 1 FMM Intervals	
Trade Date	Root Cause
FMM Jun 20 HE 20	Renewable deviation and re-dispatch of resources
FMM Jun 21 HE 19, 20	Renewable deviation and generator de-rates

Table 2 RTD Intervals	
Trade Date	Root Cause
RTD Jun 14 HE 6; Jun 15 HE 18; Jun 16 HE 17, 19; Jun 17 HE 19	Load changes and renewable deviation
RTD Jun 18 HE 19	Generator forced outage
RTD Jun 19 HE 20; Jun 20 HE 18	Load changes
RTD Jun 20 HE 19	Renewable deviation and re-dispatch of resources
RTD Jun 21 HE 20, 21	Re-dispatch of resources, generator outage and de-rates
RTD Jun 24 HE 16	Renewable deviation and load changes
RTD Jun 26 HE 15, 18	Load changes, renewable deviation and congestion on congestion on 30060_MIDWAY_500_24156_VINCENT_500_BR_2_2
RTD Jun 26 HE 19	Congestion on 30060_MIDWAY_500_24156_VINCENT_500_BR_2_2

Figure 1: Day-Ahead (IFM) LAP LMP and Cleared Bid-In Demand

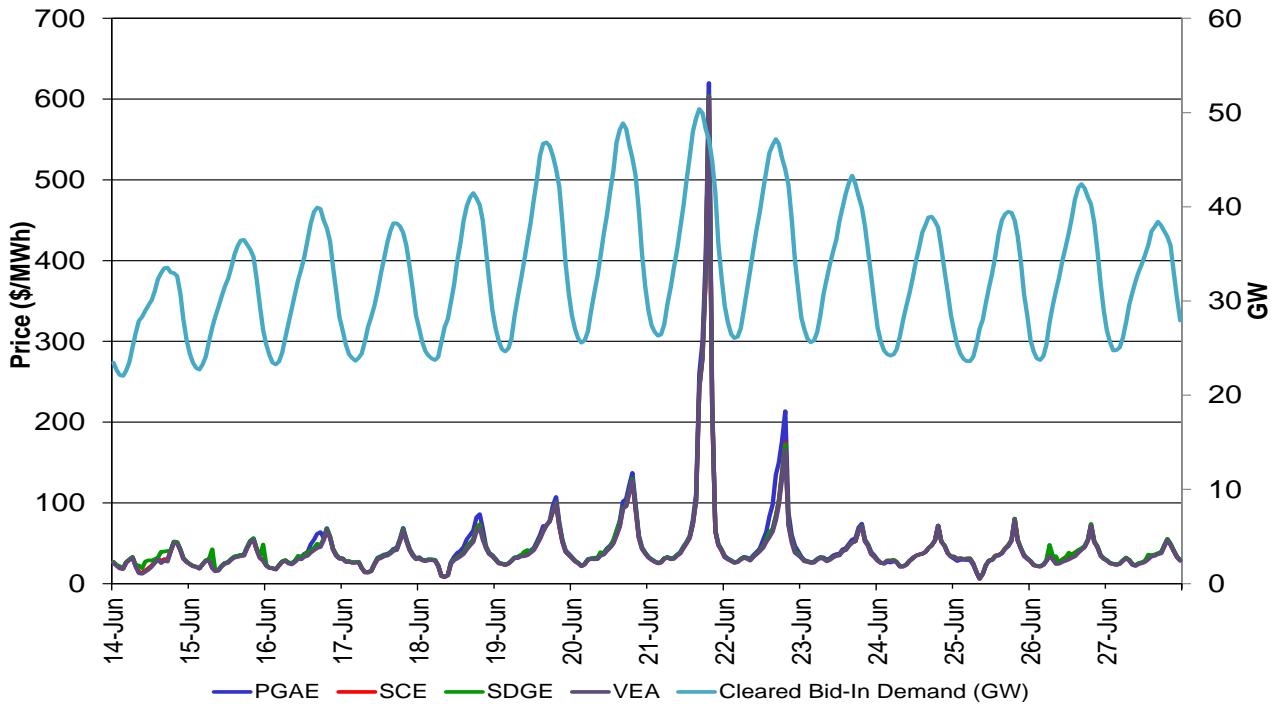




Figure 2: Day-Ahead Congestion Rents

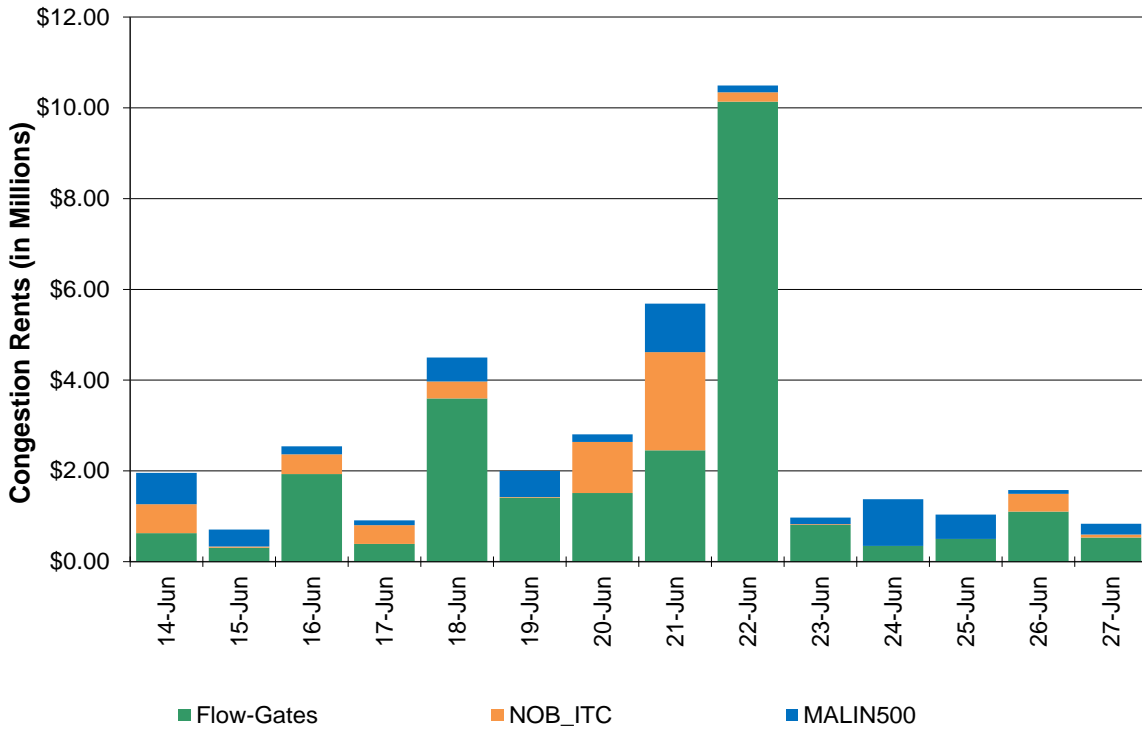


Figure 3: Day-Ahead Congestion Rents for Flow-Based Constraints

Transmission Constraint	Congestion Rent
30005_ROUND MT_500_30015_TABLE MT_500_BR_1_2	\$ 5,598,326.23
30500_BELLOTA_230_30515_WARNERVL_230_BR_1_1	\$ 3,015,700.75
33020_MORAGA_115_30550_MORAGA_230_XF_3_P	\$ 2,571,133.35
40687_MALIN_500_30005_ROUND MT_500_BR_1_3	\$ 2,108,529.62
33315_RAVENSWD_115_33316_CLYLDG_115_BR_1_1	\$ 1,479,042.07
22192_DOUBLTTP_138_22300_FRIARS_138_BR_1_1	\$ 1,049,579.39
33020_MORAGA_115_32780_CLARMNT_115_BR_2_1	\$ 1,035,433.55
33514_MANTECA_115_33526_KASSONJ1_115_BR_1_1	\$ 886,869.69
32056_CORTINA_60.0_30451_CRTNA M_1.0_XF_1	\$ 751,316.72
30505_WEBER_230_30624_TESLA E_230_BR_1_1	\$ 742,041.69
30515_WARNERVL_230_30800_WILSON_230_BR_1_1	\$ 577,218.17
7820_TL23040_IV_SPS_NG	\$ 414,137.13
30915_MORROBAY_230_30916_SOLARSS_230_BR_1_1	\$ 390,302.27
22208_EL CAJON_69.0_22408_LOSCOCHS_69.0_BR_1_1	\$ 385,295.95
30805_BORDEN_230_30810_GREGG_230_BR_1_1	\$ 358,153.16
34112_EXCHEQUR_115_34116_LE GRAND_115_BR_1_1	\$ 352,010.84
30763_Q0577SS_230_30765_LOSBANOS_230_BR_1_1	\$ 351,796.23
6310_CP3_NG	\$ 336,177.19

Figure 3: Day-Ahead Congestion Rents for Flow-Based Constraints (cont)

Transmission Constraint	Congestion Rent
24016_BARRE _230_24154_VILLA PK_230_BR_1_1	\$ 321,931.43
32212_E.NICOLS_115_32214_RIO OSO_115_BR_1_1	\$ 278,328.57
31334_CLER LKE_60.0_31338_KONOCTI6_60.0_BR_1_1	\$ 249,402.92
6110_SOL10_NG	\$ 230,649.36
32200_PEASE _115_32288_E.MRY J1_115_BR_1_1	\$ 201,516.93
37016_RNCHSECO_230_30510_CAMANCH_230_BR_2_1	\$ 173,867.07
33378_WTRSHTPA_60.0_33380_JEFFERSN_60.0_BR_1_1	\$ 173,226.04
32218_DRUM _115_32244_BRNSWKT2_115_BR_2_1	\$ 148,851.01
34427_ATWELL _115_34701_SMYRNA 1_115_BR_1_1	\$ 139,595.06
31086_EUREKA _60.0_31090_HMBLT BY_60.0_BR_1_1	\$ 120,854.07
33724_LOCKEFRD_60.0_33736_LODI JCT_60.0_BR_1_1	\$ 118,633.26
30830_KEARNEY_230_30835_HERNDON_230_BR_1_1	\$ 100,692.23
32208_GLEAF TP_115_32214_RIO OSO_115_BR_1_1	\$ 96,886.35
22820_SWEETWTR_69.0_22476_MIGUELTP_69.0_BR_1_1	\$ 91,501.63
35122_NWARK EF_115_35350_AMES BS_115_BR_2_1	\$ 81,290.25
32290_OLIVH J1_115_32288_E.MRY J1_115_BR_1_1	\$ 62,184.13
34418_KINGSBRG_115_34405_FRWT TAP_115_BR_1_1	\$ 61,063.10
22604_OTAY _69.0_22616_OTAYLKTP_69.0_BR_1_1	\$ 60,018.16
22136_CLAIRMNT_69.0_22140_CLARMTTP_69.0_BR_1_1	\$ 42,874.83
7820_TL 230S_OVERLOAD_NG	\$ 39,556.73
34469_GFFNJCT_70.0_34470_GIFFEN_70.0_BR_1_1	\$ 39,324.25
34548_KETTLEMN_70.0_34552_GATES_70.0_BR_1_1	\$ 38,793.62
34158_PANOCHÉ_115_34350_KAMM_115_BR_1_1	\$ 36,509.85
33020_MORAGA_115_30550_MORAGA_230_XF_1_P	\$ 29,466.67
33916_CURTISS_115_33917_FBERBORD_115_BR_1_1	\$ 19,545.64
33549_GWFTRACY_115_33529_LAMMERS_115_BR_1_1	\$ 19,539.40
30915_MORROBAY_230_30916_SOLARSS_230_BR_2_1	\$ 17,454.59
24016_BARRE _230_25201_LEWIS_230_BR_1_1	\$ 16,484.47
HUMBOLDT_IMP_NG	\$ 15,785.99
22448_MESAHGTS_69.0_22496_MISSION_69.0_BR_1_1	\$ 15,623.18
22256_ESCNDIDO_69.0_22724_SANMRCOS_69.0_BR_1_1	\$ 15,563.19
31566_KESWICK_60.0_31582_STLLWATR_60.0_BR_1_1	\$ 14,342.09
32290_OLIVH J1_115_32214_RIO OSO_115_BR_1_1	\$ 13,788.80
OMS 4859769 TL23055_NG	\$ 11,324.57
33950_RVRBK TP_115_33934_TULLOCH_115_BR_1_1	\$ 11,302.56
31090_HMBLT BY_60.0_31100_EEL RIVR_60.0_BR_1_1	\$ 11,095.70
31378_FULTON _60.0_31382_FTCHMTNP_60.0_BR_1_1	\$ 11,067.59
22884_WARNERS_69.0_22688_RINCON_69.0_BR_1_1	\$ 10,461.78
7320_CP6_NG	\$ 9,800.48
34807_ARVINJ2_115_34758_LAMONT_115_BR_1_1	\$ 9,122.94
22480_MIRAMAR_69.0_22756_SCRIPPS_69.0_BR_1_1	\$ 8,713.30
36266_SNTA MRA_115_36267_SNTAMRTP_115_BR_1_1	\$ 8,433.55

Figure 3: Day-Ahead Congestion Rents for Flow-Based Constraints (cont)

Transmission Constraint	Congestion Rent
30523_CC SUB _230_30525_C.COSTA _230_BR_1_1	\$ 8,426.80
31220_EGLE RCK_115_31228_HOMSTKTP_115_BR_1_1	\$ 7,638.86
31110_BRDGVLL_60.0_31112_FRUITLND_60.0_BR_1_1	\$ 6,604.70
33932_MELONES_115_33936_MELNS JB_115_BR_1_1	\$ 5,895.91
34887_TAP SKRN_70.0_34882_SAN EMDO_70.0_BR_1_1	\$ 5,066.60
33914_MI-WUK_115_33917_FBERBORD_115_BR_1_1	\$ 4,757.71
31336_HPLND JT_60.0_31370_CLVRDLJT_60.0_BR_1_1	\$ 4,250.32
34149_CHENYT_115_34158_PANOCH_115_BR_1_1	\$ 4,018.94
34116_LE GRAND_115_34134_WILSONAB_115_BR_1_1	\$ 3,967.99
31466_JESSUP_115_31469_SPI_AND_115_BR_1_1	\$ 3,810.29
35618_SN JSE A_115_35620_EL PATIO_115_BR_1_1	\$ 3,724.78
32330_PEAS RG_60.0_32200_PEASE_115_XF_2	\$ 3,146.43
35642_METCALF_115_35645_EVRGRN J_115_BR_2_2	\$ 2,868.16
33936_MELNS JB_115_33951_VLYHMTP1_115_BR_1_1	\$ 2,620.66
35648_LLAGAS_115_35650_GILROY F_115_BR_1_1	\$ 2,510.18
33203_MISSON_115_33204_POTRERO_115_BR_1_1	\$ 2,475.77
31104_CARLOTTA_60.0_31105_RIODLLTP_60.0_BR_1_1	\$ 2,264.28
32225_BRNSWKT1_115_32222_DTCH2TAP_115_BR_1_1	\$ 2,104.01
31464_COTWDPGE_115_30105_COTTNWD_230_XF_1	\$ 1,892.68
31990_DAVIS_115_31962_WDLND_BM_115_BR_1_1	\$ 1,546.33
33916_CURTISS_115_33920_RCTRK J_115_BR_1_1	\$ 1,503.41
31080_HUMBOLDT_60.0_31088_HMBLT JT_60.0_BR_1_1	\$ 1,094.07
31556_TRINITY_60.0_31555_MSS TAP2_60.0_BR_1_1	\$ 1,028.75
32786_OAKLAND_115_32790_STATIN X_115_BR_2_1	\$ 823.56
33930_PEORIA_115_33932_MELONES_115_BR_1_1	\$ 692.06
31092_MPLE CRK_60.0_31093_HYPOMJT_60.0_BR_1_1	\$ 551.65
31580_CASCADE_60.0_31582_STLLWATR_60.0_BR_1_1	\$ 506.31
34107_CERTANTP_115_34101_CERTANJ2_115_BR_1_1	\$ 440.75
34350_KAMM_115_34352_CANTUA_115_BR_1_1	\$ 205.68
31108_SWNS FLT_60.0_31110_BRDGVLL_60.0_BR_1_1	\$ 94.99
Totals	\$ 25,666,063.98

Figure 4: Day-Ahead (IFM) Average A/S Price

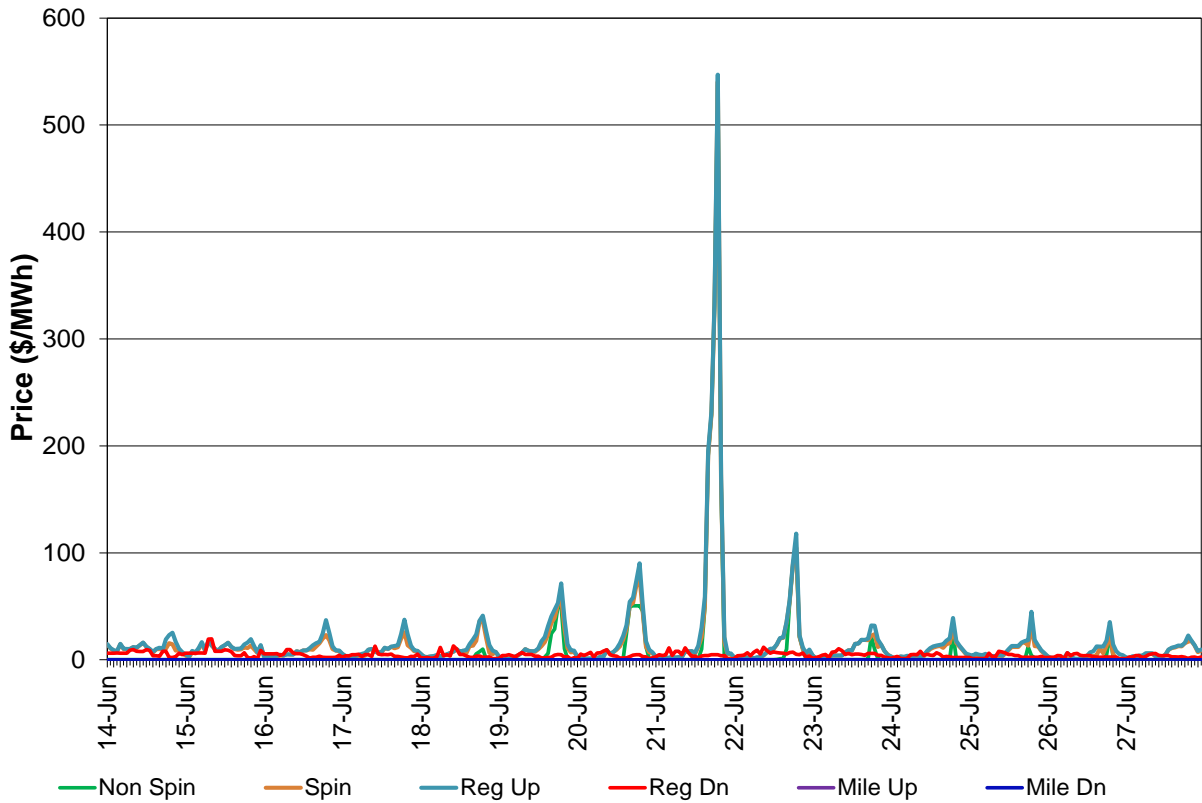


Figure 5: Day-Ahead Average RUC Price

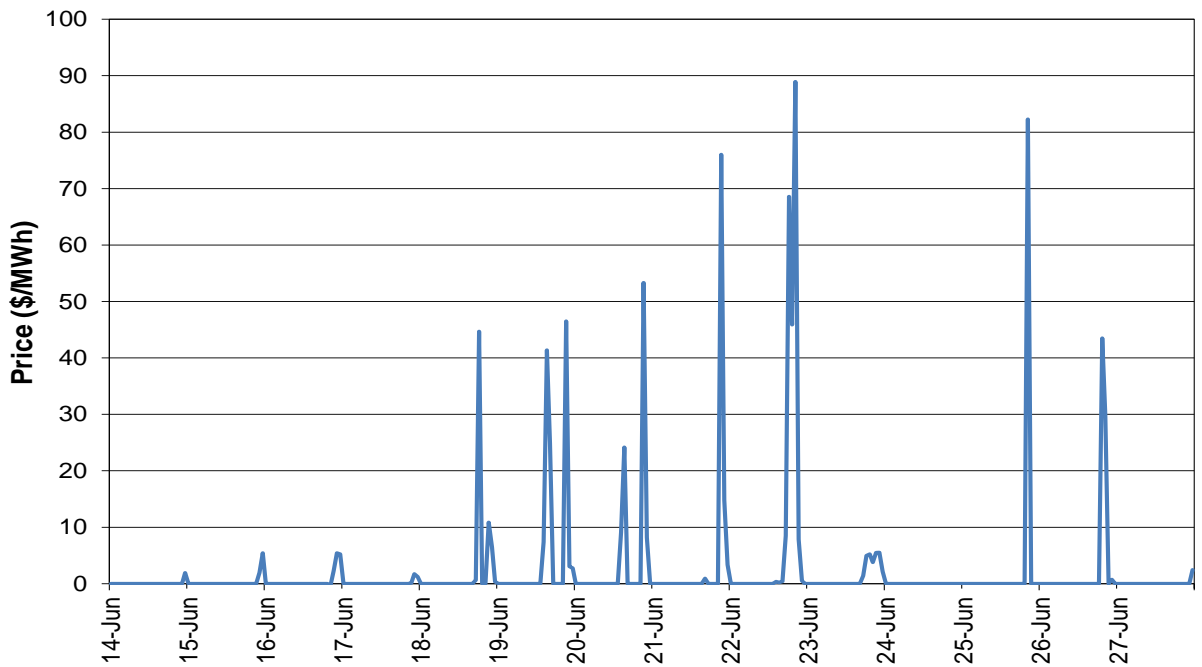




Figure 6: Real-Time FMM Average A/S Price

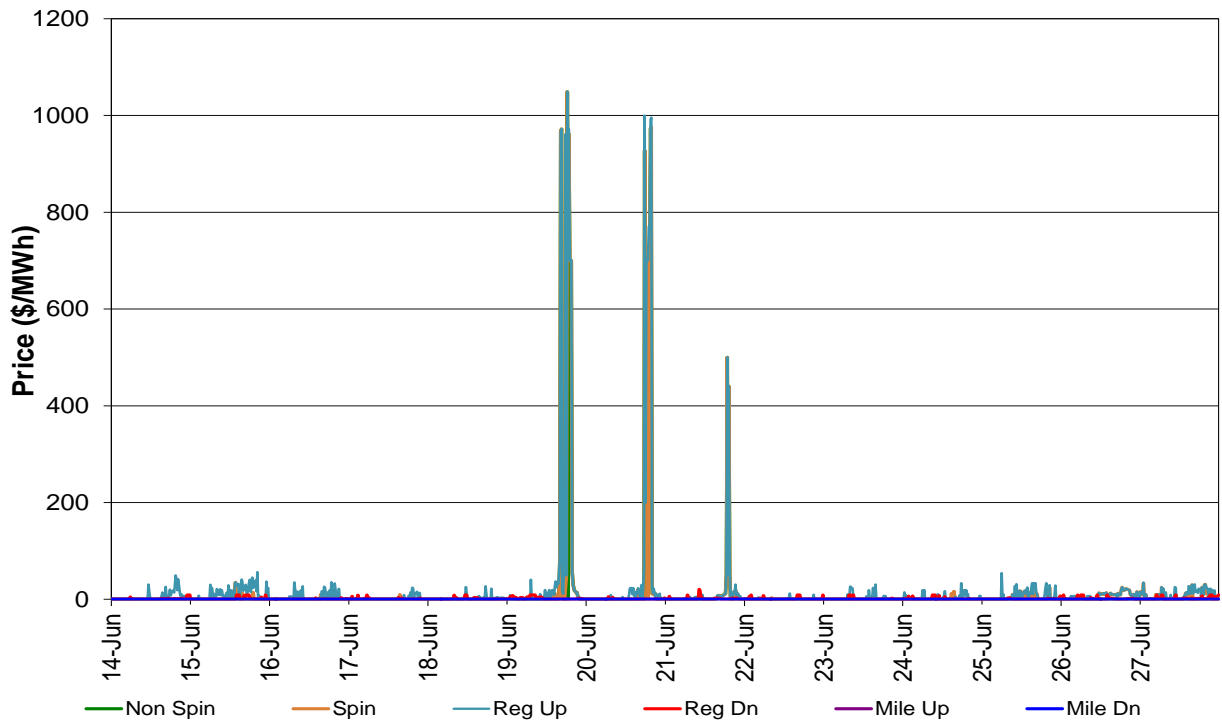


Figure 7: Real-Time FMM DLAP LMP

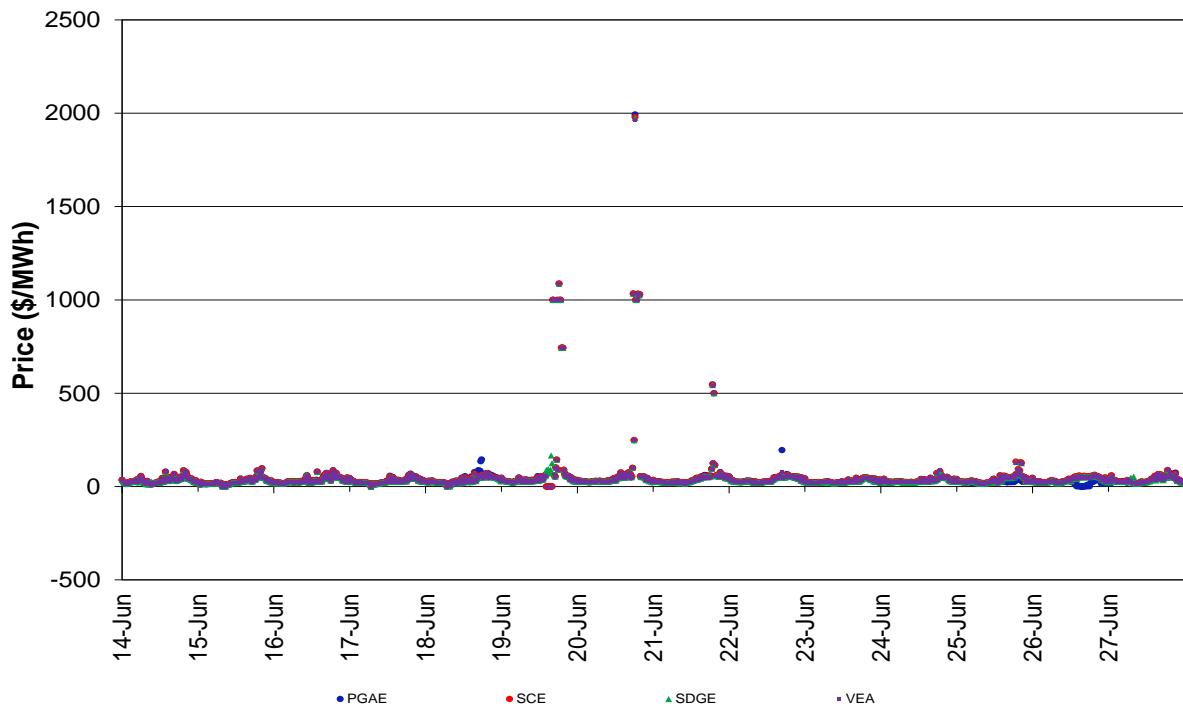


Figure 8: Real-Time RTD DLAP LMP

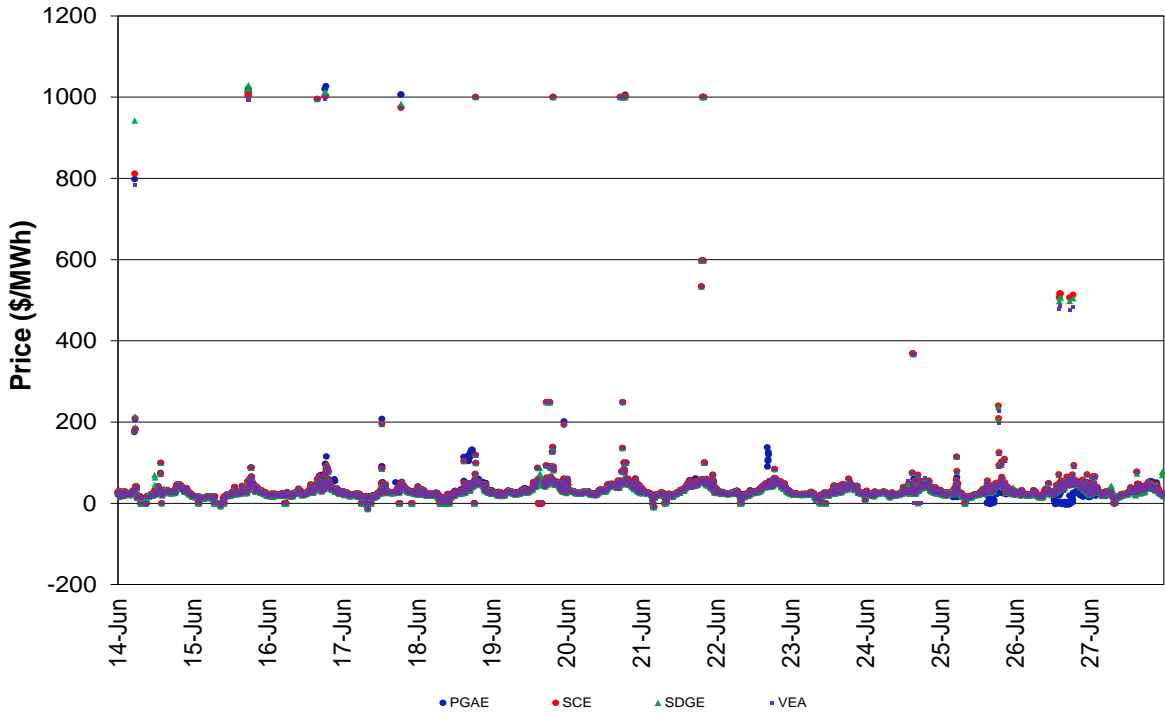


Figure 9: Real-Time FMM ELAP LMP

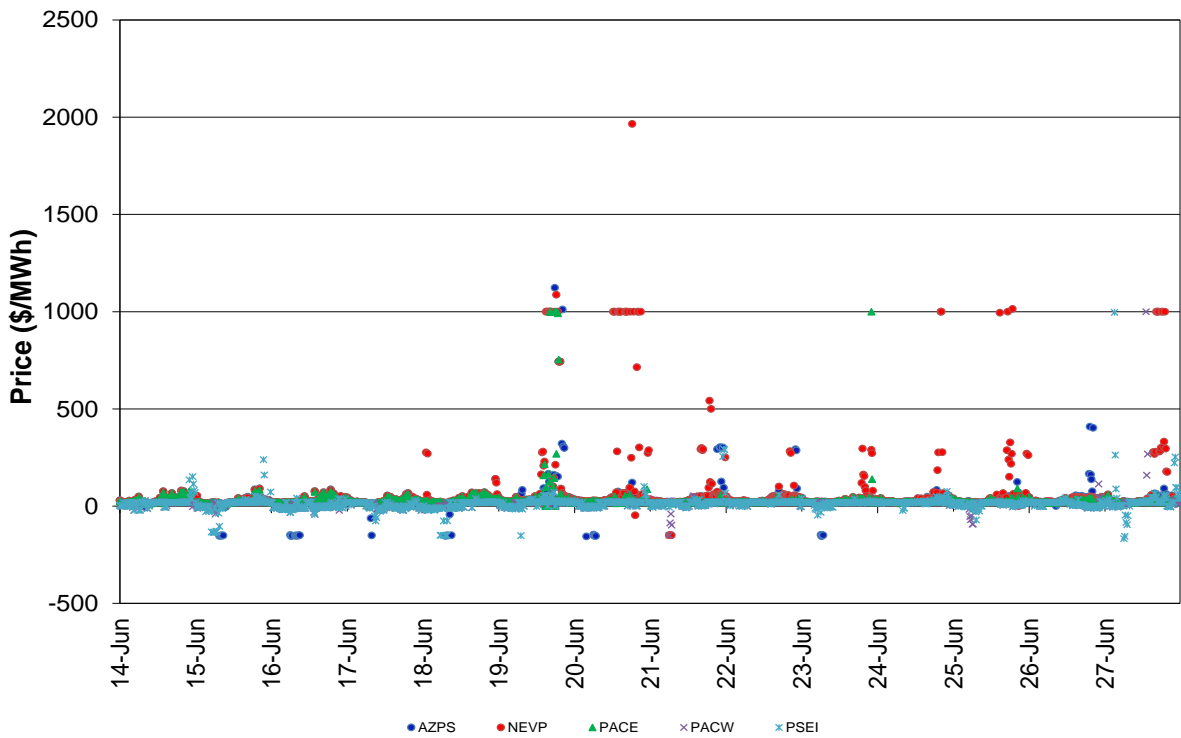




Figure 10: Real-Time RTD ELAP LMP

