

## Market Highlights<sup>1</sup> (May 29–June 11)

- The average DLAP price in the integrated forward market was \$22.45. The maximum and minimum DLAP prices were \$108.89 and -\$0.02, respectively. The maximum and minimum PNode prices in the integrated forward market were \$600.00 and -\$426.39 respectively.
- The top two interties congested in the integrated forward market were MALIN500\_ITC and NOB\_ITC. Congestion rents in these two weeks totaled \$17,294,726.60.
- The average day-ahead ancillary service prices were between \$0.00 and \$71.48.
- Approximately 98.01 percent of the RUC requirements were met from RA units.
- The average real-time FMM DLAP price was \$36.81, with a maximum price of \$1,118.57 and a minimum price of -\$92.75. The maximum and minimum PNode prices in the FMM were \$2,333.70 and -\$1,369.02, respectively.
- Out of the total 1,344 FMM intervals, 33 intervals saw DLAP prices above \$250, and 0 intervals saw DLAP prices below -\$150.
- Out of the total 1,344 FMM intervals, 112 intervals saw ELAP prices above \$250 And 16 intervals saw ELAP prices below -\$150.
- The average real-time FMM ELAP price was \$25.03, with a maximum price of \$1,074.93 and a minimum price of -\$156.65.
- The average real-time RTD DLAP price was \$41.77, with a maximum price of \$1,154.57 and a minimum price of -\$268.58. The maximum and minimum PNode prices in the RTD were \$4,159.93 and -\$1,255.32, respectively.
- Out of the total 4,032 RTD intervals, 142 intervals saw DLAP prices above \$250 and 26 interval saw DLAP prices below -\$150.
- Out of the total 4,032 RTD intervals, 204 intervals saw ELAP prices above \$250 and 92 intervals saw ELAP prices below -\$150. The average real-time RTD ELAP price was \$32.44, with a maximum price of \$1,356.49 and a minimum price of -\$191.64.
- Root causes for daily high price events are noted in Tables 1 and 2.

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<sup>1</sup> 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
10 Jun HE 19, HE 20, HE 21, HE 22	Load changes, generator outage, and change in renewable forecast.

Table 2 RTD Intervals	
Trade Date	Root Cause
29 May HE 19	Load changes and renewable generation.
30 May HE 19, HE 22	Load changes and renewable generation.
01 Jun HE 4	Renewable deviation and generator outage.
01 Jun HE 22	Load changes and renewable generation.
02 Jun HE 19	Renewable deviation and generator outage.
02 Jun HE 18	Renewable deviation and net import reduction.
04 Jun HE 20	Renewable deviation.
04 Jun HE23	Generator outage.
05 Jun HE 18	Load changes, renewable deviation, and net import reduction.
05 Jun HE 19	Renewable deviation.
05 Jun HE 24	Load changes, renewable deviation, and net import reduction.
06 Jun HE 1	Reduction of net imports and load changes
06 Jun HE 18-19	Renewable deviation and congestion on 30060_MIDWAY_500_24156_VINCENT_500_BR_2_3.
10 Jun HE 15	Congestion on 22592_OLD TOWN_69.0_22873_VINE SUB_69.0_BR_1_1, 22873_VINE SUB_69.0_22380_KETTNER_69.0_BR_1_1, 24138_SERRANO_500_24137_SERRANO_230_XF_3, 22832_SYCAMORE_230_22652_PENSQTOS_230_BR_1_1.
10 Jun HE 18	Load changes and renewable generation.
10 June HE 19-20	Load changes.
10 Jun HE 21	Load changes and congestion on OP-6610_ELD-LUGO



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

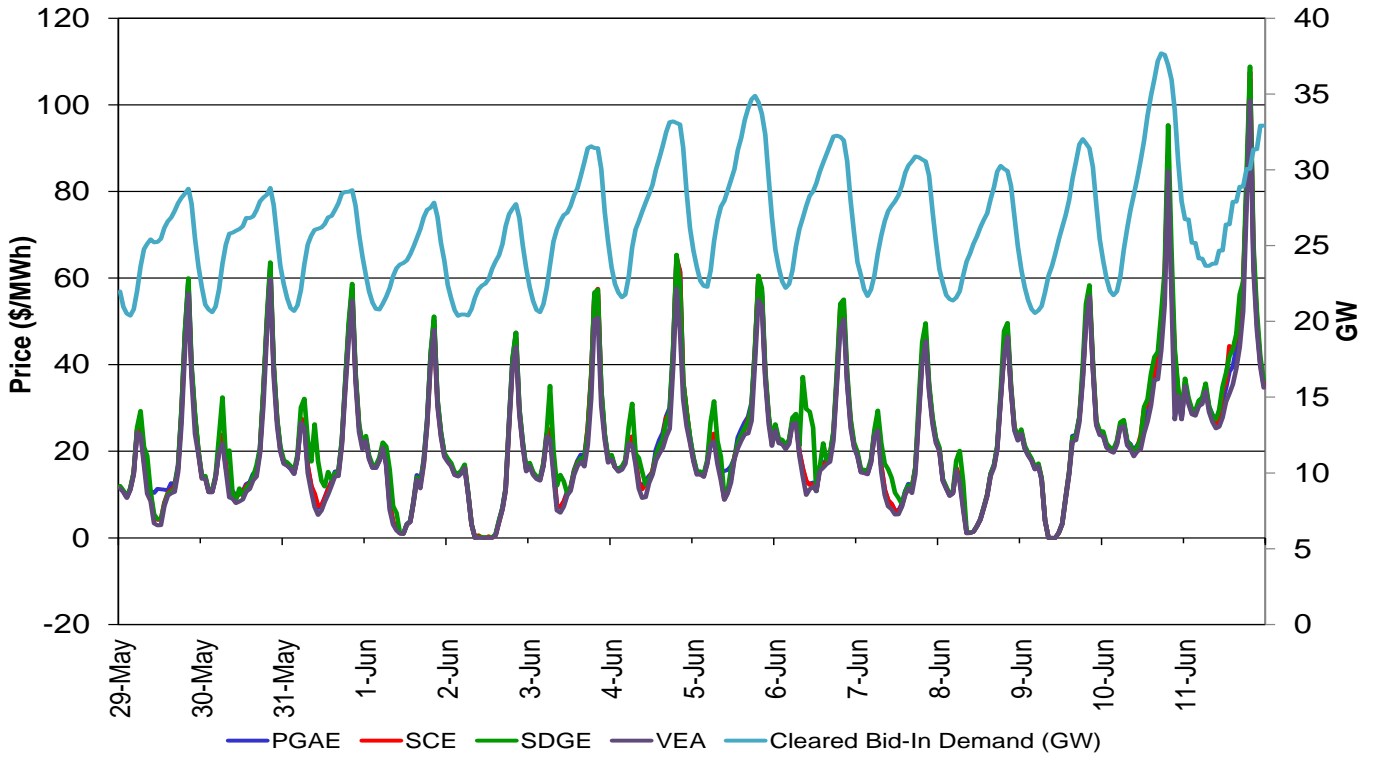
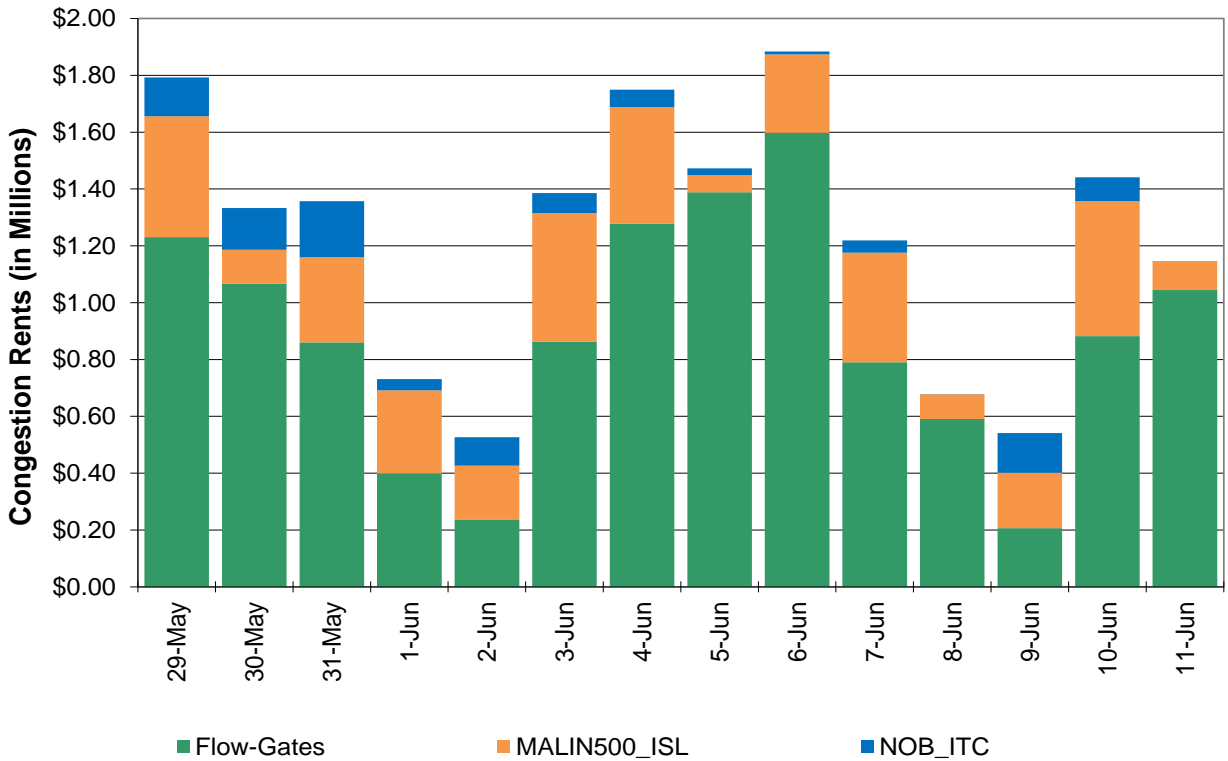


Figure 2: Day-Ahead Congestion Rents



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

<b>Transmission Constraint</b>	<b>Congestion Rent</b>
30750_MOSSLD_230_30797_LASAGUIL_230_BR_1_1	\$ 1,320,392.68
7750_DV2_N2DV500_NG	\$ 1,303,568.51
24086_LUGO_500_26105_VICTORVL_500_BR_1_1	\$ 1,062,868.00
7820_TL_230S_OVERLOAD_NG	\$ 749,074.03
33936_MELNS JB_115_33951_VLYHMTP1_115_BR_1_1	\$ 613,364.02
OMS 7228298_OP-6610	\$ 610,628.44
34112_EXCHEQUR_115_34116_LE GRAND_115_BR_1_1	\$ 363,415.01
24036_EAGLROCK_230_24059_GOULD_230_BR_1_1	\$ 255,495.50
34116_LE GRAND_115_34134_WILSONAB_115_BR_1_1	\$ 228,674.27
22820_SWEETWTR_69.0_22476_MIGUELTP_69.0_BR_1_1	\$ 220,376.64
24114_PARDEE_230_24147_SYLMAR S_230_BR_1_1	\$ 213,937.90
33932_MELONES_115_33936_MELNS JB_115_BR_1_1	\$ 143,257.44
32225_BRNSWKT1_115_32222_DTCH2TAP_115_BR_1_1	\$ 138,551.62
34548_KETTLEMN_70.0_34552_GATES_70.0 BR_1_1	\$ 123,394.13
24016_BARRE_230_24154_VILLA PK_230_BR_1_1	\$ 106,685.54
7750_DV2_N1SV500_NG	\$ 105,487.15
30280_POE_230_30330_RIO OSO_230_BR_1_1	\$ 89,847.78
34418_KINGSBRG_115_34405_FRWT TAP_115_BR_1_1	\$ 82,341.28
34427_ATWELL_115_34701_SMYRNA 1_115_BR_1_1	\$ 64,338.81
32218_DRUM_115_32244_BRNSWKT2_115_BR_2_1	\$ 59,131.72
33916_CURTISS_115_33917_FBERBORD_115_BR_1_1	\$ 50,814.55
35616_SNJOSEB_115_35612_TRIMBLE_115_BR_1_1	\$ 36,242.30
30105_COTTNWD_230_30245_ROUND MT_230_BR_3_1	\$ 35,845.30
34860_TAFT_70.0_34943_Q356TAP_70.0 BR_1_1	\$ 35,621.32
32314_SMRTSVLE_60.0_32349_BEALE2J1_60.0 BR_1_1	\$ 35,599.57
7510-PAS-BAI-PAR-OOS_NG	\$ 31,086.50
34700_SMYRNA 2_115_34742_SEMITRPJ_115_BR_1A_1	\$ 28,760.61
31214_GEYERS56_115_31220_EGLE RCK_115_BR_1_1	\$ 26,176.27
35901_GRN VALY_115_35905_CMP EVRS_115_BR_1_1	\$ 19,901.74
7750_D-VISTA1_OOS_N1SV500_NG	\$ 17,557.69
33916_CURTISS_115_33920_RCTRK J_115_BR_1_1	\$ 15,470.54
33950_RVRBK TP_115_33934_TULLOCH_115_BR_1_1	\$ 13,576.56
22644_PENSQTOS_69.0_22164_DELMARTP_69.0 BR_1_1	\$ 11,841.03
22873_VINE SUB_69.0_22380_KETTNER_69.0 BR_1_1	\$ 11,440.96
31576_WNTU PMS_60.0_31578_LOMS JCT_60.0 BR_1_1	\$ 11,214.72
34474_HELM_70.0_34556_STRD JCT_70.0 BR_1_1	\$ 10,694.43
34225_BELRDG J_115_34789_Q653BTP_115_BR_1_1	\$ 9,627.35
OMS 7227017 Humboldt_IMP	\$ 8,970.90
33920_RCTRK J_115_33922_R.TRACK_115_BR_1_1	\$ 8,168.87
34469_GFFNJCT_70.0_34470_GIFFEN_70.0 BR_1_1	\$ 7,262.57
22192_DOUBLTTP_138_22300_FRIARS_138_BR_1_1	\$ 6,876.44
33045_FIBRJCT1_115_33049_RIVERVEW_115_BR_1_1	\$ 6,618.59
33310_SANMATEO_115_33315_RAVENSWD_115_BR_1_1	\$ 6,343.23
31696_CNTRVLE_60.0_31704_CLARK RD_60.0 BR_1_1	\$ 6,248.51
31604_COTTONWD_60.0_31611_RAWSON_60.0 BR_2_1	\$ 5,909.19
99254_J.HINDS2_230_24806_MIRAGE_230_BR_1_1	\$ 4,738.90

<b>Transmission Constraint</b>	<b>Congestion Rent</b>
31466_JESSUP_115_31469_SPI_AND_115_BR_1_1	\$ 4,443.87
34418_KINGSBRG_115_34419_WAUKENA_115_BR_1_1	\$ 4,408.98
24087_MAGUNDEN_230_24153_VESTAL_230_BR_1_1	\$ 3,986.33
30335_ATLANTC_230_30337_GOLDHILL_230_BR_1_1	\$ 3,534.81
31000_HUMBOLDT_115_31452_TRINITY_115_BR_1_1	\$ 3,496.49
32290_OLIVH J1_115_32214_RIO OSO_115_BR_1_1	\$ 3,060.87
31566_KESWICK_60.0_31582_STLLWATR_60.0_BR_1_1	\$ 2,743.76
30797_LASAGUIL_230_30790_PANOCHÉ_230_BR_2_1	\$ 2,720.25
30523_CC SUB_230_30525_C.COSTA_230_BR_1_1	\$ 2,245.16
22856_TOREYPNS_69.0_22864_UCM_69.0_BR_1_1	\$ 2,180.32
30622_EIGHT MI_230_30624_TESLA E_230_BR_1_1	\$ 2,147.42
22773_BAY BLVD_69.0_22352_IMPRLBCH_69.0_BR_1_1	\$ 2,118.85
31576_WNTU PMS_60.0_31570_BENTON_60.0_BR_1_1	\$ 2,087.94
33932_MELONES_115_33500_MELNS JA_115_BR_1_1	\$ 1,658.70
34321_MCSWAINJ_70.0_34232_EXCSEQUR_70.0_BR_1_1	\$ 1,584.15
31604_COTTONWD_60.0_31607_REDBLUFJ_60.0_BR_1_1	\$ 1,309.43
30330_RIO OSO_230_30335_ATLANTC_230_BR_1_1	\$ 1,065.68
34556_STRD JCT_70.0_34564_STROUD_70.0_BR_1_1	\$ 499.91
33920_RCTRK J_115_33926_CH.STNJT_115_BR_1_1	\$ 483.24
OMS 4790142 Caribou Bank	\$ 440.03
32219_DR360370_115_32242_DRUM 1M_1.0_XF_1	\$ 417.05
31102_NEWBURG_60.0_31105_RIODLLTP_60.0_BR_1_1	\$ 334.91
33914_MI-WUK_115_33917_FBERBORD_115_BR_1_1	\$ 213.89
22200_DUNHILTP_69.0_22196_DUNHILL_69.0_BR_1_1	\$ 187.57
33951_VLYHMTP1_115_33516_RIPON J_115_BR_1_1	\$ 50.18
33000_CC SUB_115_30523_CC SUB_230_XF_3	\$ 177.40
32374_DRUM_60.0_32376_BONNIE N_60.0_BR_1_1	\$ 168.37
30685_EMBRCDR_230_99160_MAR-EMBE_230_BR_1_1	\$ 156.13
31461_JESSTAP_115_31464_COTWDPGE_115_BR_1_1	\$ 57.28
32225_BRNSWKT1_115_32222_DTCH2TAP_115_BR_1_1	\$ 25.28
<b>Totals</b>	<b>\$ 8,365,443.34</b>



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

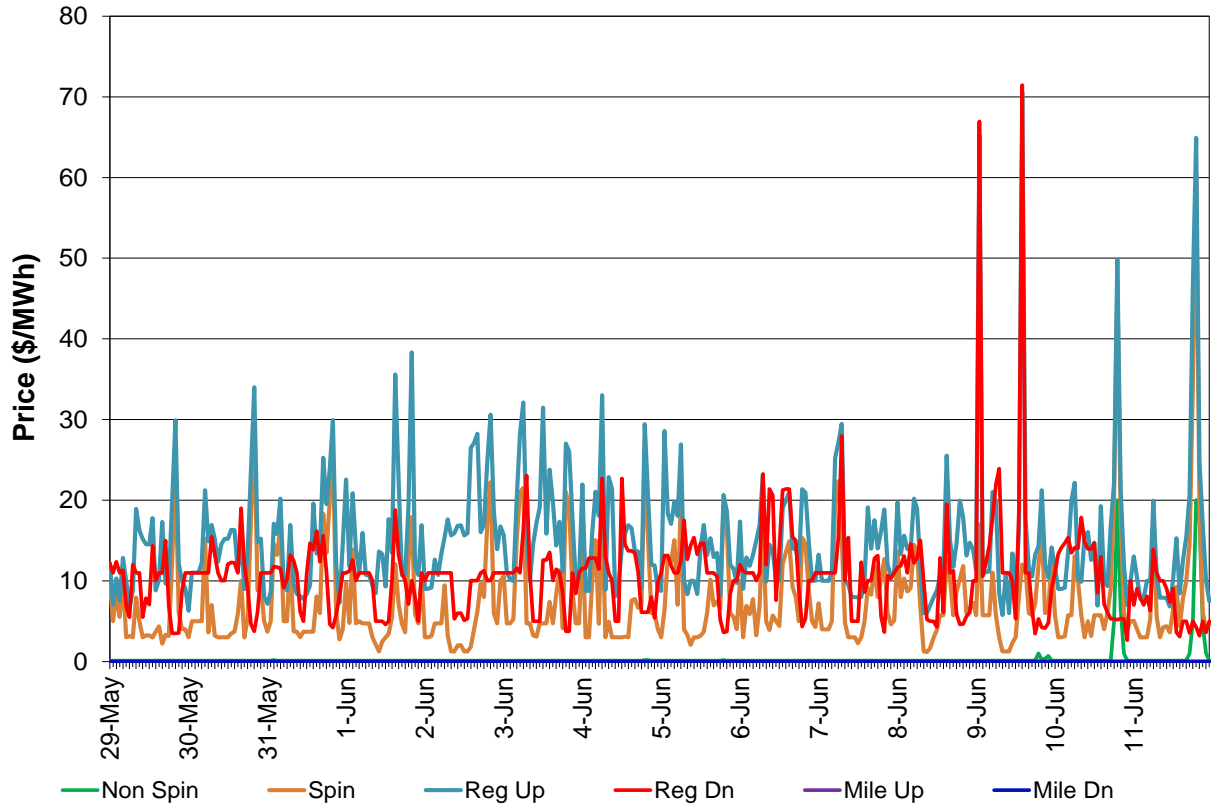


Figure 5: Day-Ahead Average RUC Price

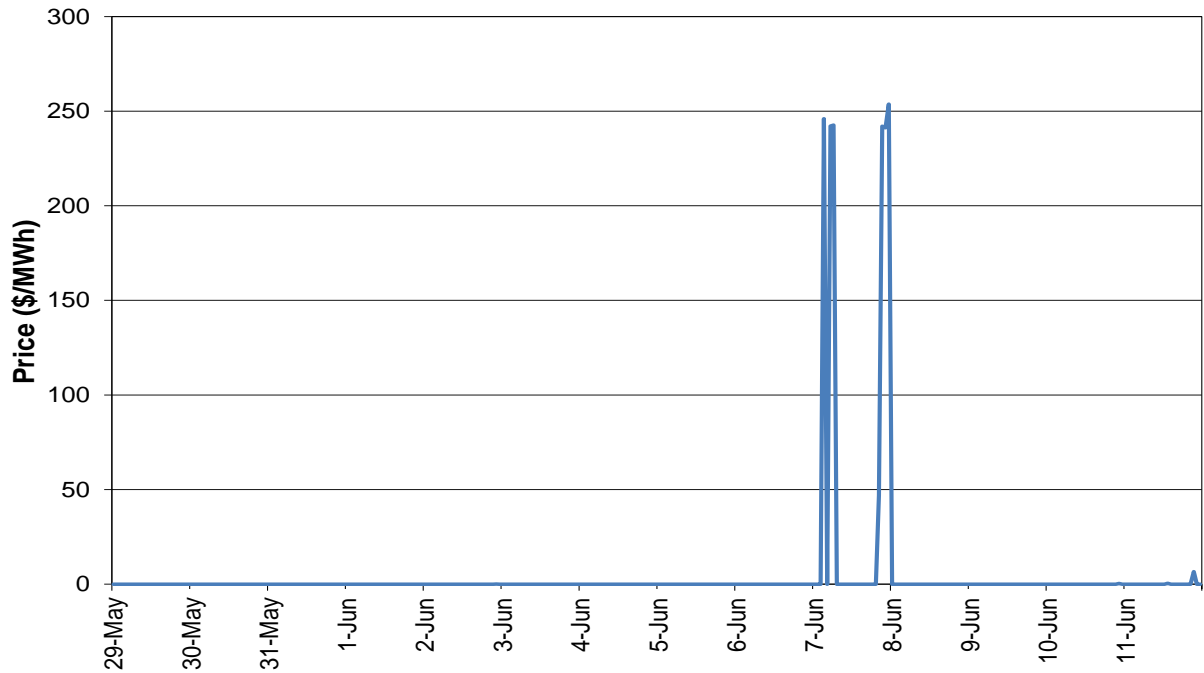




Figure 6: Real-Time FMM Average A/S Price

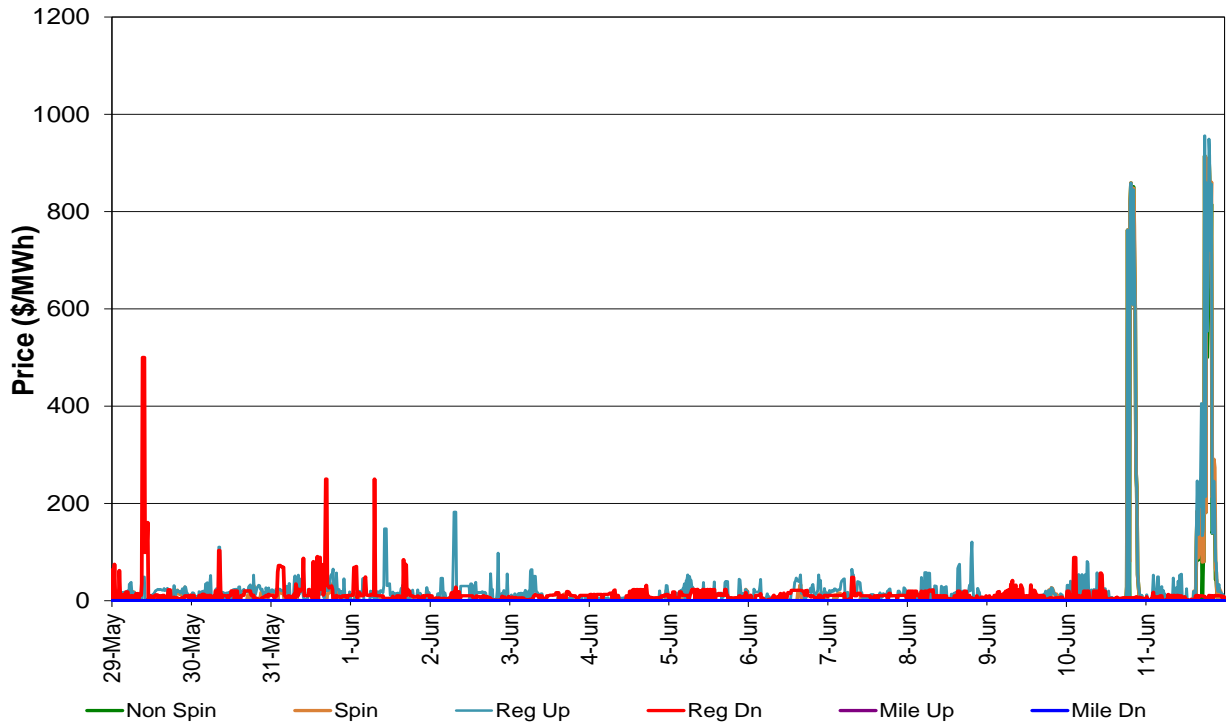
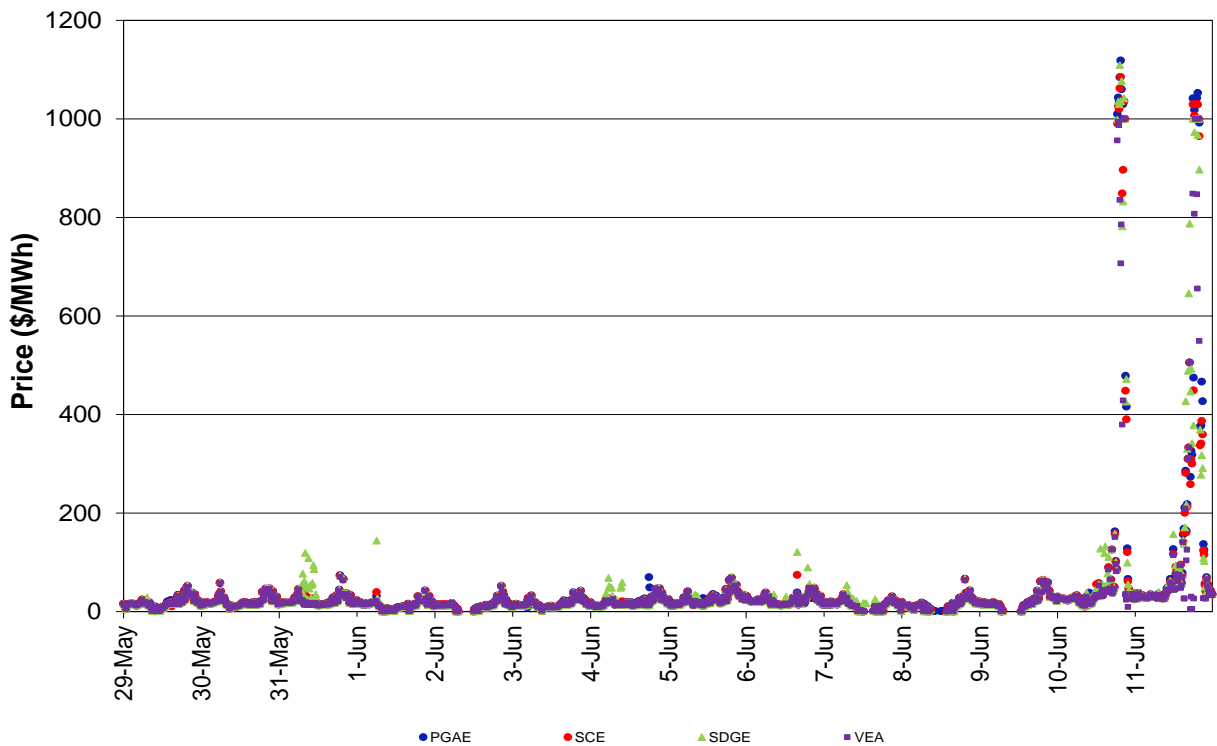
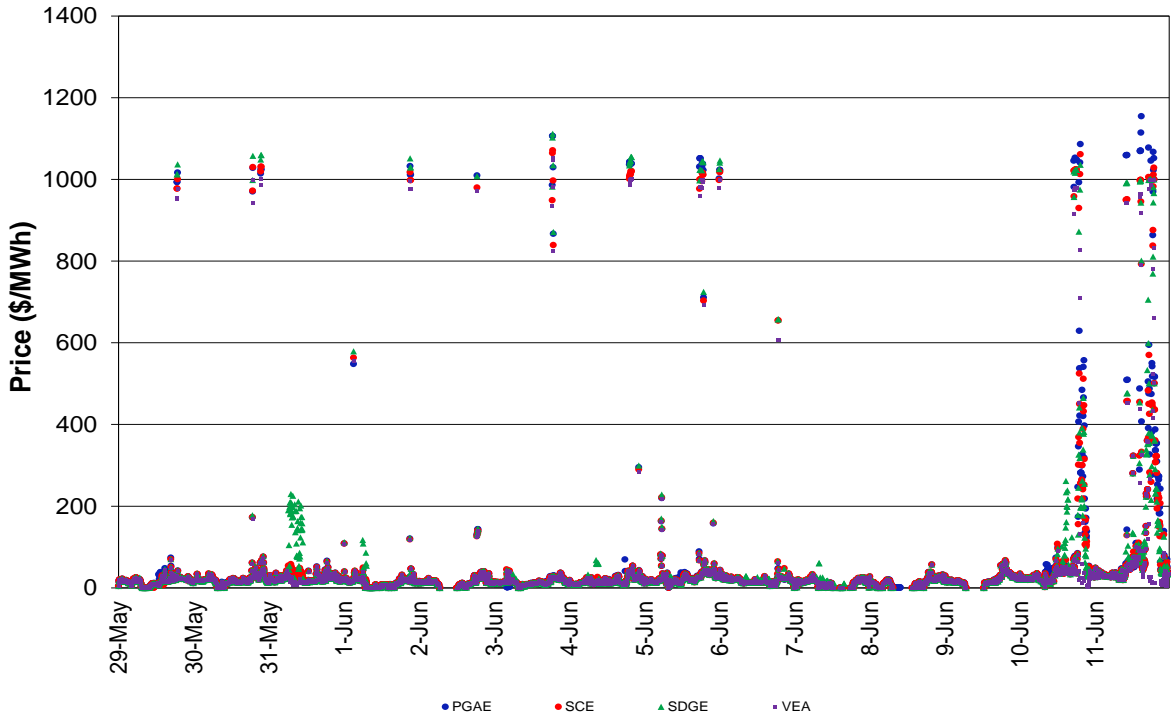


Figure 7: Real-Time FMM DLAP LMP



**Figure 8: Real-Time RTD DLAP LMP**



**Figure 9: Real-Time FMM ELAP LMP**

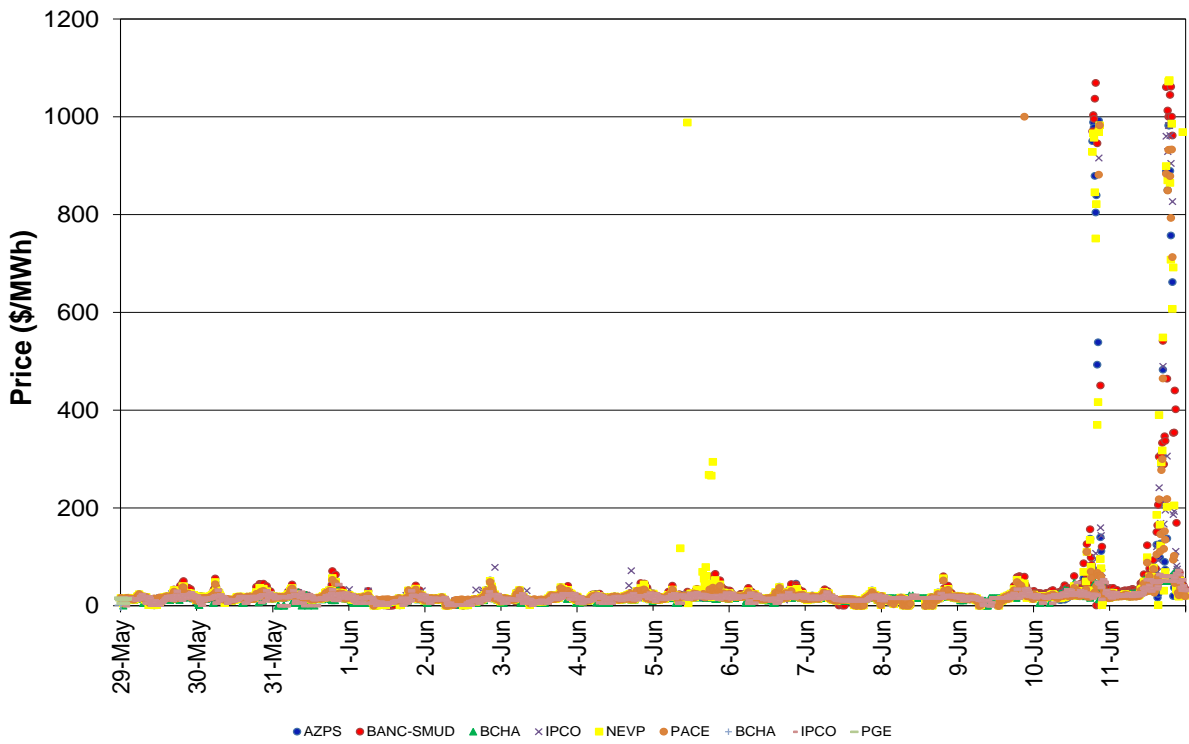




Figure 10: Real-Time RTD ELAP LMP

