

## Market Highlights<sup>1</sup> (May 3–May 16)

- The average DLAP price in the integrated forward market was \$28.56. The maximum and minimum DLAP prices were \$122.22 and -\$8.90, respectively. The maximum and minimum PNode prices in the integrated forward market were \$935.84 and -\$1,054.93 respectively.
- The top two interties congested in the integrated forward market were MALIN500 and NOB\_ITC. Congestion rents in these two weeks totaled \$20,856,099.66.
- The average day-ahead ancillary service prices were between \$0.00 and \$78.77.
- Approximately 74.95 percent of the RUC requirements were met from RA units.
- The average real-time FMM DLAP price was \$32.09, with a maximum price of \$1,068.64 and a minimum price of -\$17.25. The maximum and minimum PNode prices in the FMM were \$1,958.51 and -\$960.16, respectively.
- Out of the total 1,344 FMM intervals, 10 intervals saw DLAP prices above \$250, and 0 intervals saw DLAP prices below -\$150.
- Out of the total 1,344 FMM intervals, 34 intervals saw ELAP prices above \$250 and 22 intervals saw ELAP prices below -\$150. The average real-time FMM ELAP price was \$22.07, with a maximum price of \$1,063.16 and a minimum price of -\$202.47.
- The average real-time RTD DLAP price was \$27.50, with a maximum price of \$1,047.90 and a minimum price of -\$152.02. The maximum and minimum PNode prices in the RTD were and , respectively.
- Out of the total 4,032 RTD intervals, 37 intervals saw DLAP prices above \$250 and 1 interval saw DLAP prices below -\$150.
- Out of the total 4,032 RTD intervals, 108 intervals saw ELAP prices above \$250 and 89 intervals saw ELAP prices below -\$150. The average real-time RTD ELAP price was \$16.81, with a maximum price of \$1,053.00 and a minimum price of -\$193.25.
- Root cause for daily high price events are noted in Tables 1 and 2.

<b>Table 1 FMM Intervals</b>	
<b>Trade Date</b>	<b>Root Cause</b>
FMM May 3 HE 19-21	Load changes, change in renewable forecast, reduction in net import and generator outages

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



Table 2 RTD Intervals	
Trade Date	Root Cause
RTD May 3 HE 17	Load changes and reduction of net import
RTD May 3 HE 19-20	Load changes, renewable deviation, reduction of net import and generator outages
RTD May 4 HE 13	Congestion on 7820_TL 230S_OVERLOAD_NG and re-dispatch of resources
RTD May 4 HE 19; May 5 HE 17, 18	Renewable deviation and load changes
RTD May 7 HE 17	Load changes and re-dispatch of resources
RTD May 7 HE 21	Load changes and renewable deviation
RTD May 8 HE 20	Load changes, renewable deviation and reduction of net import
RTD May 9 HE 5-6	Renewable deviation and load changes
RTD May 9 HE 19	Reduction of net import, load changes and re-dispatch of resources

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

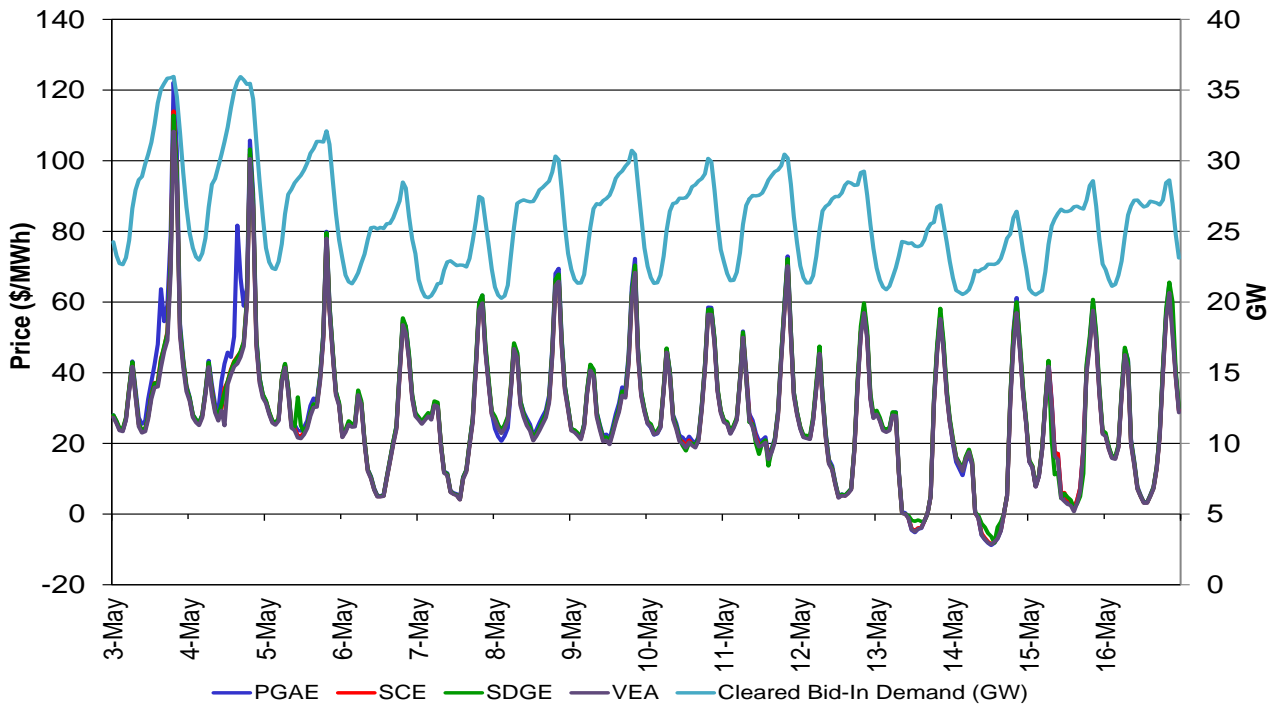




Figure 2: Day-Ahead Congestion Rents

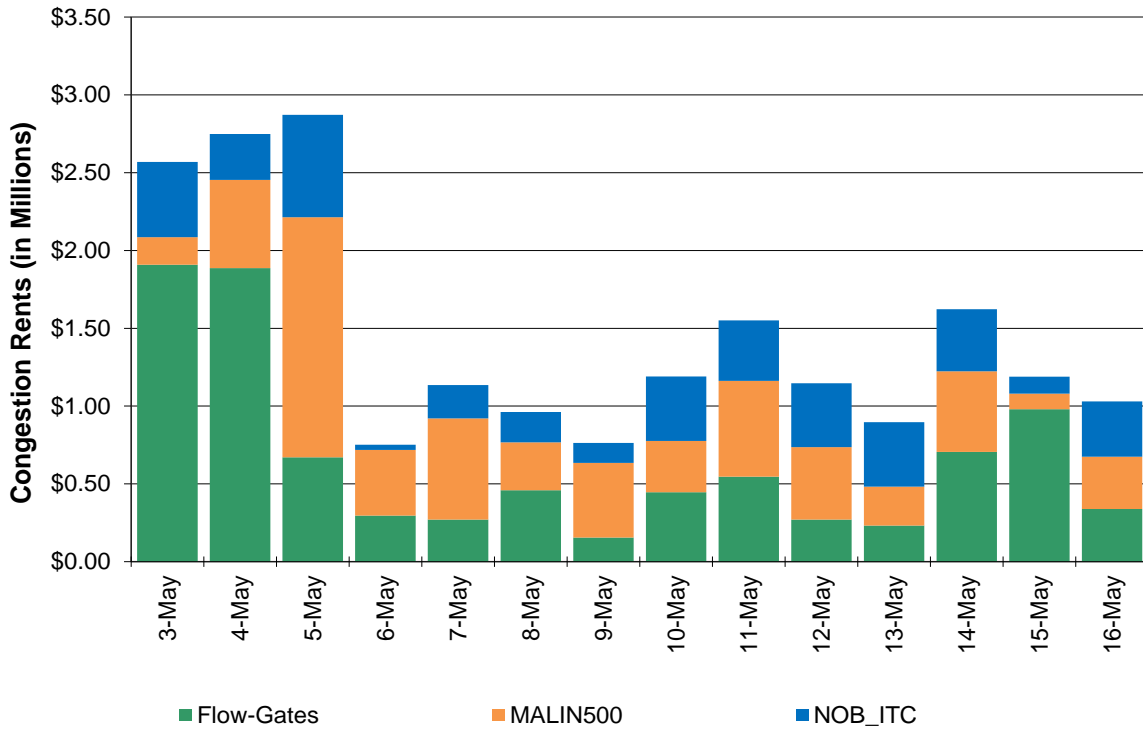


Figure 3: Day-Ahead Congestion Rents for Flow-Based Constraints

Transmission Constraint	Congestion Rent
33020_MORAGA_115_32780_CLARMNT_115_BR_1_1	\$ 944,766.96
32212_E.NICOLS_115_32214_RIO OSO_115_BR_1_1	\$ 800,729.51
30280_POE_230_30330_RIO OSO_230_BR_1_1	\$ 788,270.93
31378_FULTON_60.0_31382_FTCHMTNP_60.0_BR_1_1	\$ 785,587.05
30005_ROUND MT_500_30015_TABLE MT_500_BR_1_2	\$ 691,403.17
33936_MELNS JB_115_33951_VLYHMTP1_115_BR_1_1	\$ 633,755.86
33016_ALHAMTP2_115_32754_OLEUM_115_BR_1_1	\$ 628,013.84
22192_DOUBLTTP_138_22300_FRIARS_138_BR_1_1	\$ 497,759.76
30435_LAKEVILLE_230_30460_VACA-DIX_230_BR_1_1	\$ 423,305.43
30440_TULUCAY_230_30460_VACA-DIX_230_BR_1_1	\$ 413,888.72
6310_CP3_NG	\$ 367,213.97
30500_BELLOTA_230_30515_WARNERVL_230_BR_1_1	\$ 285,214.52
7820_TL 230S_OVERLOAD_NG	\$ 247,955.12
31336_HPLND JT_60.0_31370_CLVRDLJT_60.0_BR_1_1	\$ 192,186.30
34427_ATWELL_115_34701_SMYRNA 1_115_BR_1_1	\$ 180,807.35
34548_KETTLEMN_70.0_34552_GATES_70.0_BR_1_1	\$ 148,415.16
34418_KINGSBRG_115_34405_FRWT TAP_115_BR_1_1	\$ 133,628.54
34112_EXCHEQUR_115_34116_LE GRAND_115_BR_1_1	\$ 127,596.19
30523_CC SUB_230_30525_C.COSTA_230_BR_1_1	\$ 97,873.06

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

<b>Transmission Constraint</b>	<b>Congestion Rent</b>
33932_MELONES _115_33936_MELNS JB _115_BR_1_1	\$ 95,815.96
30515_WARNERVL _230_30800_WILSON _230_BR_1_1	\$ 90,208.23
33541_AEC_TP1 _115_33540_TESLA _115_BR_1_1	\$ 77,238.11
24085_LUGO _230_24086_LUGO _500_XF_1_P	\$ 61,137.24
OMS_4596757_LBN_NRAS	\$ 59,821.44
33951_VLYHMTP1 _115_33516_RIPON J _115_BR_1_1	\$ 47,406.62
30337_GOLDHILL _230_30622_EIGHT MI _230_BR_1_1	\$ 43,247.82
22136_CLAIRMNT_69.0_22140_CLARMTTP_69.0_BR_1_1	\$ 39,430.99
24235_RECTOR _230_24153_VESTAL _230_BR_2_1	\$ 31,800.66
31566_KESWICK_60.0_31582_STLLWATR_60.0_BR_1_1	\$ 26,711.39
29408_WIRLWIND _230_29402_WIRLWIND_500_XF_3_P	\$ 23,260.42
32056_CORTINA_60.0_30451_CRTNA M_1.0_XF_1	\$ 21,203.05
33916_CURTISS _115_33917_FBERBORD_115_BR_1_1	\$ 21,023.35
24114_PARDEE _230_24147_SYLMAR S _230_BR_2_1	\$ 17,745.26
34158_PANOCHÉ _115_34350_KAMM _115_BR_1_1	\$ 16,320.58
34116_LE GRAND _115_34134_WILSONAB_115_BR_1_1	\$ 15,210.91
HUMBOLDT_IMP_NG	\$ 15,061.98
32766_EL CRRT0 _115_33010_SOBRANTE_115_BR_2_1	\$ 13,217.57
34149_CHENYT _115_34158_PANOCHÉ _115_BR_1_1	\$ 10,712.02
33516_RIPON J _115_33514_MANTECA_115_BR_1_1	\$ 6,848.76
24087_MAGUNDEN_230_24153_VESTAL _230_BR_2_1	\$ 6,054.05
34807_ARVINJ2 _115_34758_LAMONT _115_BR_1_1	\$ 5,356.16
31220_EGLE RCK_115_31228_HOMSTKTP_115_BR_1_1	\$ 5,302.74
22884_WARNERS_69.0_22688_RINCON_69.0_BR_1_1	\$ 5,170.88
31110_BRDGVLLÉ_60.0_31112_FRUITLND_60.0_BR_1_1	\$ 4,912.91
33914_MI-WUK _115_33917_FBERBORD_115_BR_1_1	\$ 4,332.39
30106_CARBERRY_230_30245_ROUND MT_230_BR_1_1	\$ 3,193.41
33920_RCTRK J_115_33926_CH.STNJT_115_BR_1_1	\$ 3,047.23
31464_COTWDPGE_115_30105_COTTNWD_230_XF_1	\$ 1,990.34
34742_SEMITRPJ_115_34746_GANSO _115_BR_1_1	\$ 1,486.98
34887_TAP SKRN_70.0_34882_SAN EMD0_70.0_BR_1_1	\$ 1,161.76
31092_MPLE CRK_60.0_31093_HYMPOMJT_60.0_BR_1_1	\$ 948.30
34746_GANSO _115_34774_MIDWAY _115_BR_1_1	\$ 663.03
<b>Totals</b>	<b>\$ 9,165,413.99</b>



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

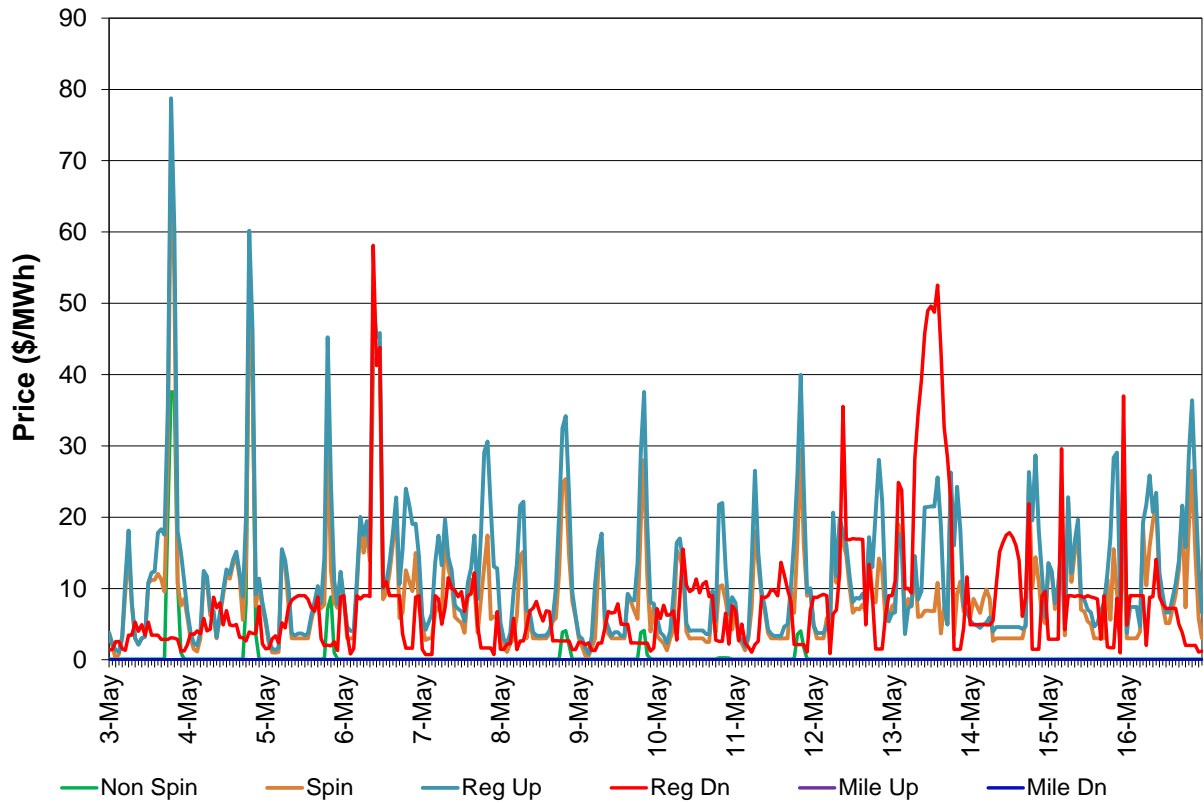


Figure 5: Day-Ahead Average RUC Price

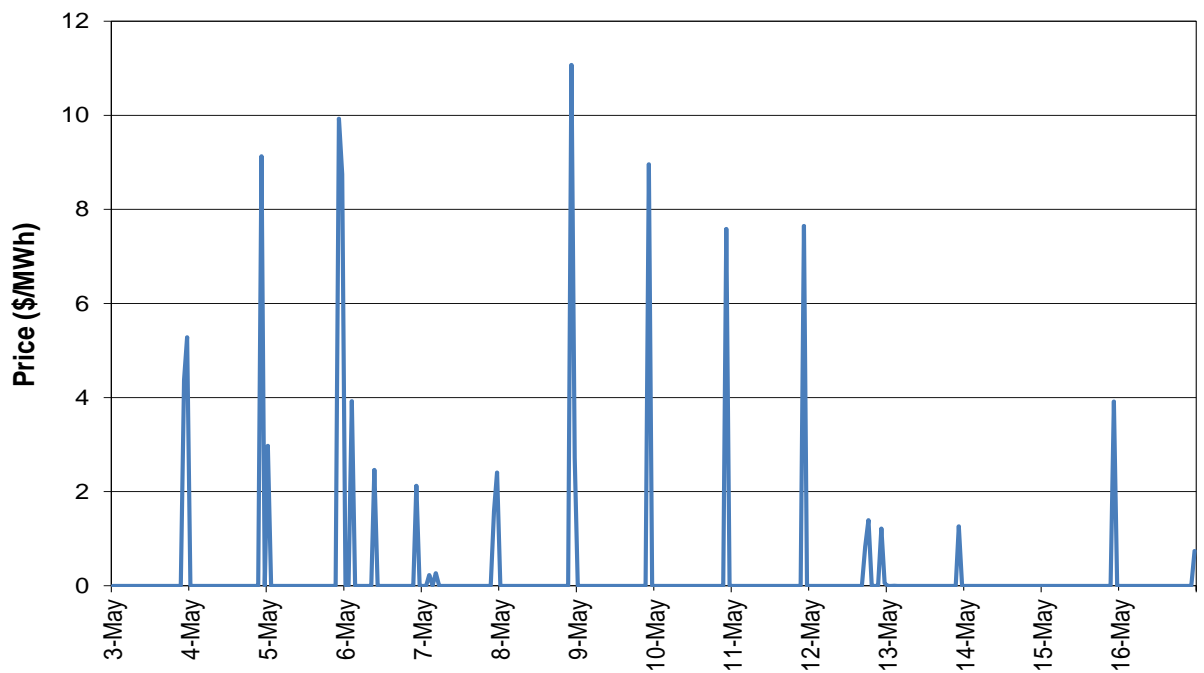




Figure 6: Real-Time FMM Average A/S Price

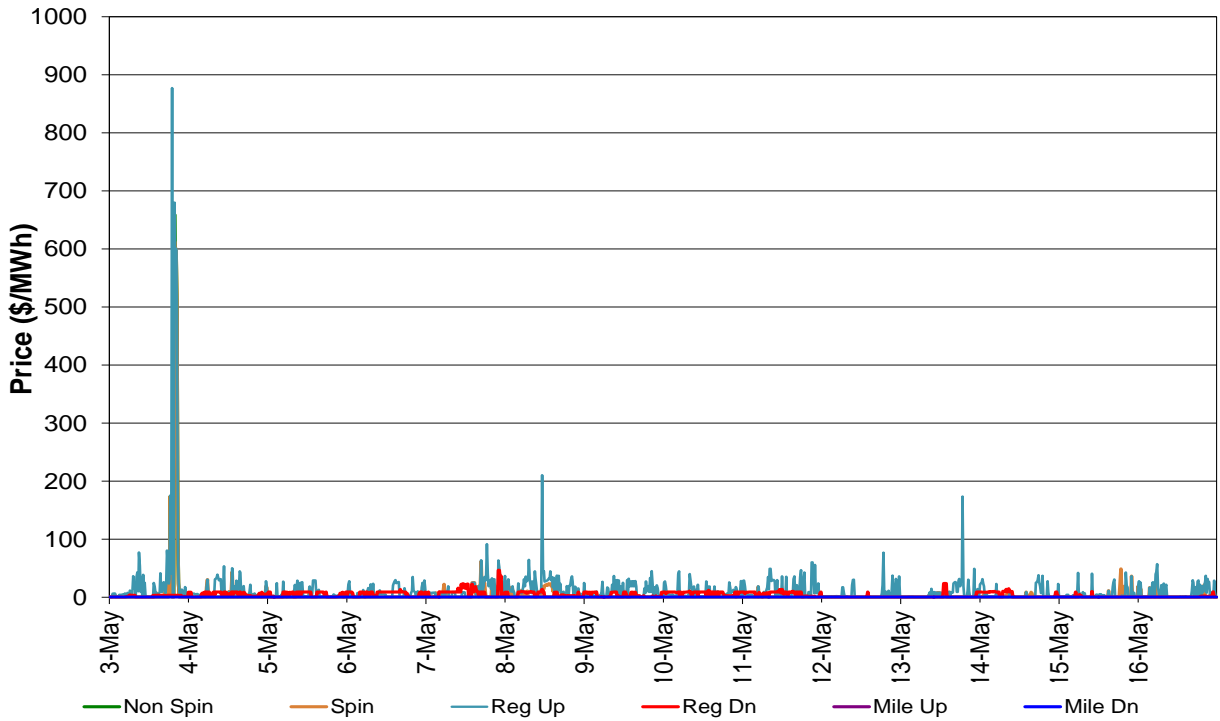
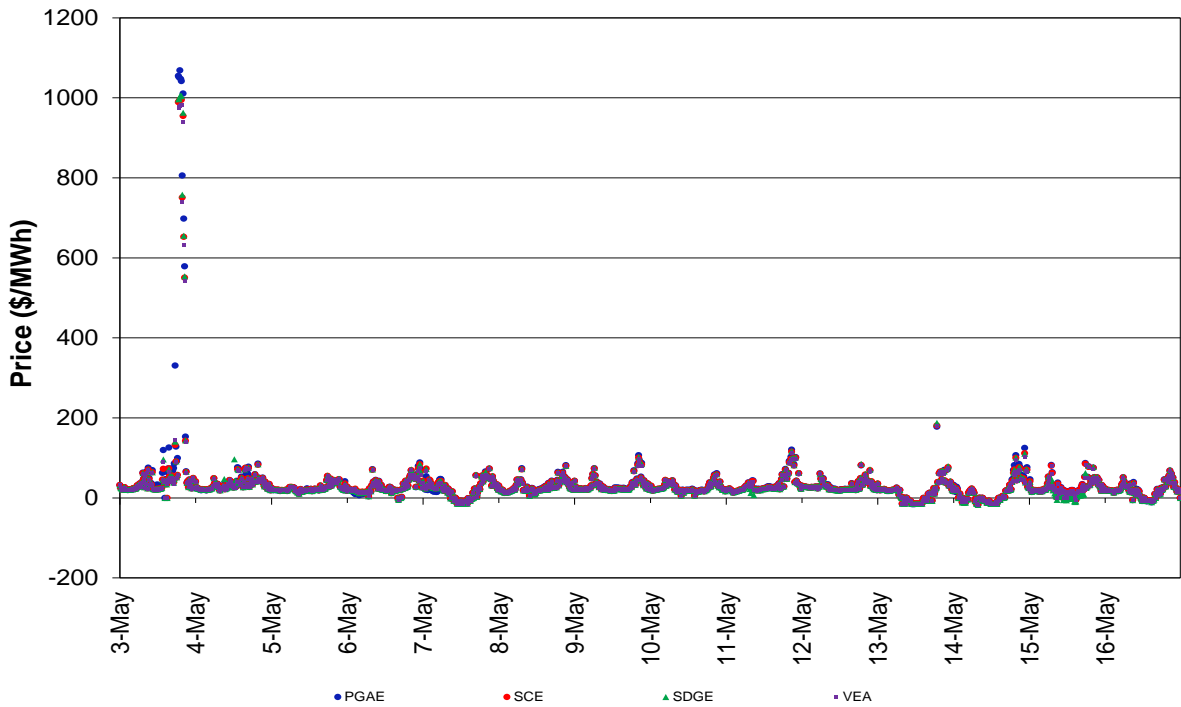
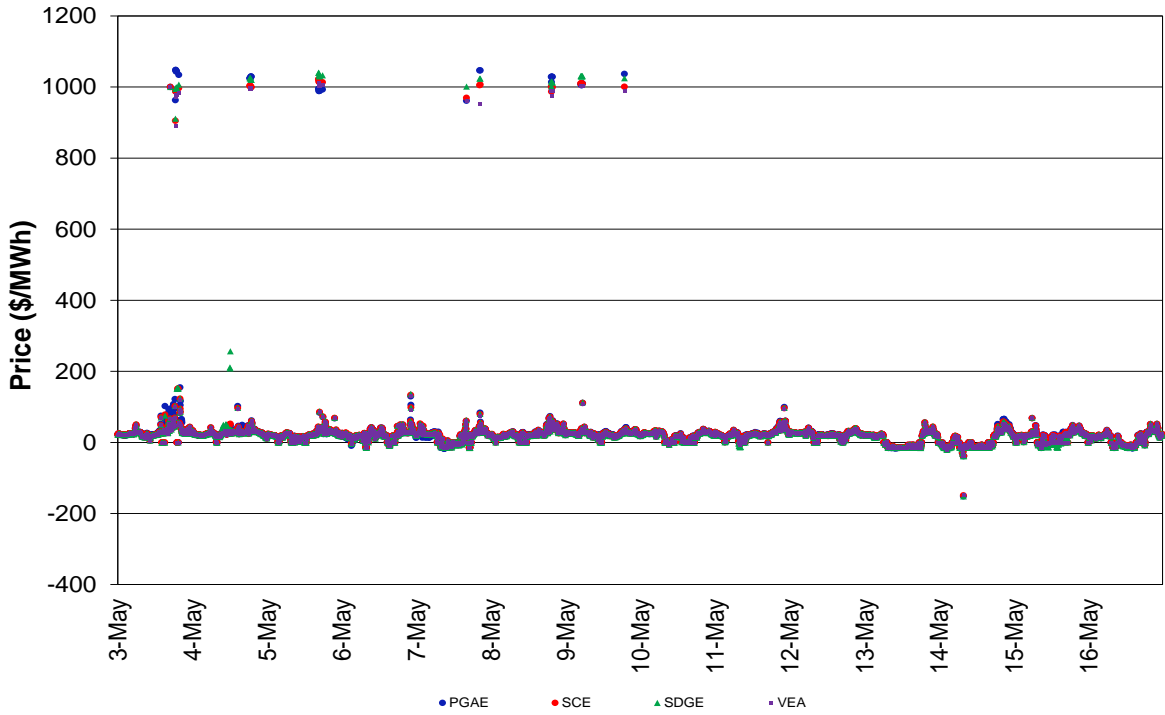


Figure 7: Real-Time FMM DLAP LMP



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



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

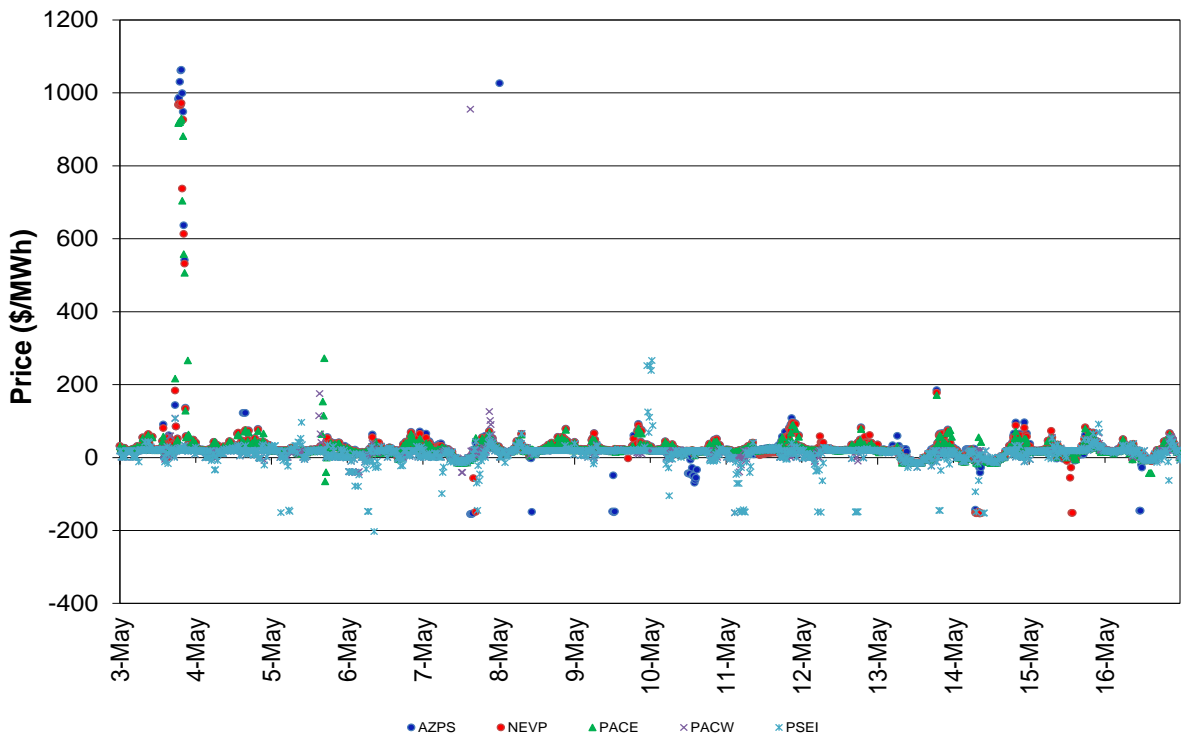




Figure 10: Real-Time RTD ELAP LMP

