



## Market Highlights<sup>1</sup> (March 6–March 19)

- The average DLAP price in the integrated forward market was \$38.69. The maximum and minimum DLAP prices were \$106.69 and -\$0.08, respectively. The maximum and minimum PNode prices in the integrated forward market were \$310.39 and -\$322.59 respectively.
- The top two interties congested in the integrated forward market were IPPDCADLN\_ITC and PALOVRDE\_ITC. Congestion rents in these two weeks totaled \$11,920,628.75.
- The average day-ahead ancillary service prices were between \$0.00 and \$118.30.
- Approximately 92.97 percent of the RUC requirements were met from RA units.
- The average real-time FMM DLAP price was \$38.91, with a maximum price of \$495.09 and a minimum price of -\$4.60. The maximum and minimum PNode prices in the FMM were \$4,472.28 and -\$9,090.14, respectively.
- Out of the total 1,344 FMM intervals, 1 intervals saw DLAP prices above \$250, and 0 intervals saw DLAP prices below -\$150.
- Out of the total 1,344 FMM intervals, 14 intervals saw ELAP prices above \$250 And 6 intervals saw ELAP prices below -\$150.
- The average real-time FMM ELAP price was \$34.05, with a maximum price of \$977.90 and a minimum price of -\$170.18.
- The average real-time RTD DLAP price was \$42.14, with a maximum price of \$1,174.05 and a minimum price of -\$14.55. The maximum and minimum PNode prices in the RTD were \$31,377.06 and -\$42,427.74, respectively.
- Out of the total 4,032 RTD intervals, 48 intervals saw DLAP prices above \$250 and 0 interval saw DLAP prices below -\$150.
- Out of the total 4,032 RTD intervals, 92 intervals saw ELAP prices above \$250 and 19 intervals saw ELAP prices below -\$150. The average real-time RTD ELAP price was \$35.05, with a maximum price of \$1,100.64 and a minimum price of -\$972.72.
- Root causes for daily high price events are noted in Tables 1 and 2.

Table 1 FMM Intervals	
Trade Date	Root Cause
FMM Mar 10 HE 18	Load changes and changes in renewable forecast.

<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 Mar 6 HE 18	Congestion on 7820_TL 230S_OVERLOAD_NG.
RTD Mar 7 HE 7; Mar 8 HE 21; Mar 12 HE 19, HE 23; Mar 17 HE 7; Mar 18 HE 18	Load changes and renewable deviation.
RTD Mar 10 HE 17	Renewable deviation.
RTD Mar 11 HE 12, HE 13	Renewable deviation and reduction of net imports.
RTD Mar 11 HE 14, HE 15, HE 24	Renewable deviation, load changes, and congestion on 30060_MIDWAY_500_24156_VINCENT_500_BR_2_3.
RTD Mar 11 HE 23	Congestion on 30060_MIDWAY_500_24156_VINCENT_500_BR_2_3 and reduction of net imports.
RTD Mar 12 HE 22	Renewable deviation, load changes, and decrease in net imports.
RTD Mar 13 HE 1	Generator outage and renewable deviation.
RTD Mar 13 HE 23, HE 24	Renewable deviation and congestion on 30060_MIDWAY_500_24156_VINCENT_500_BR_2_3.

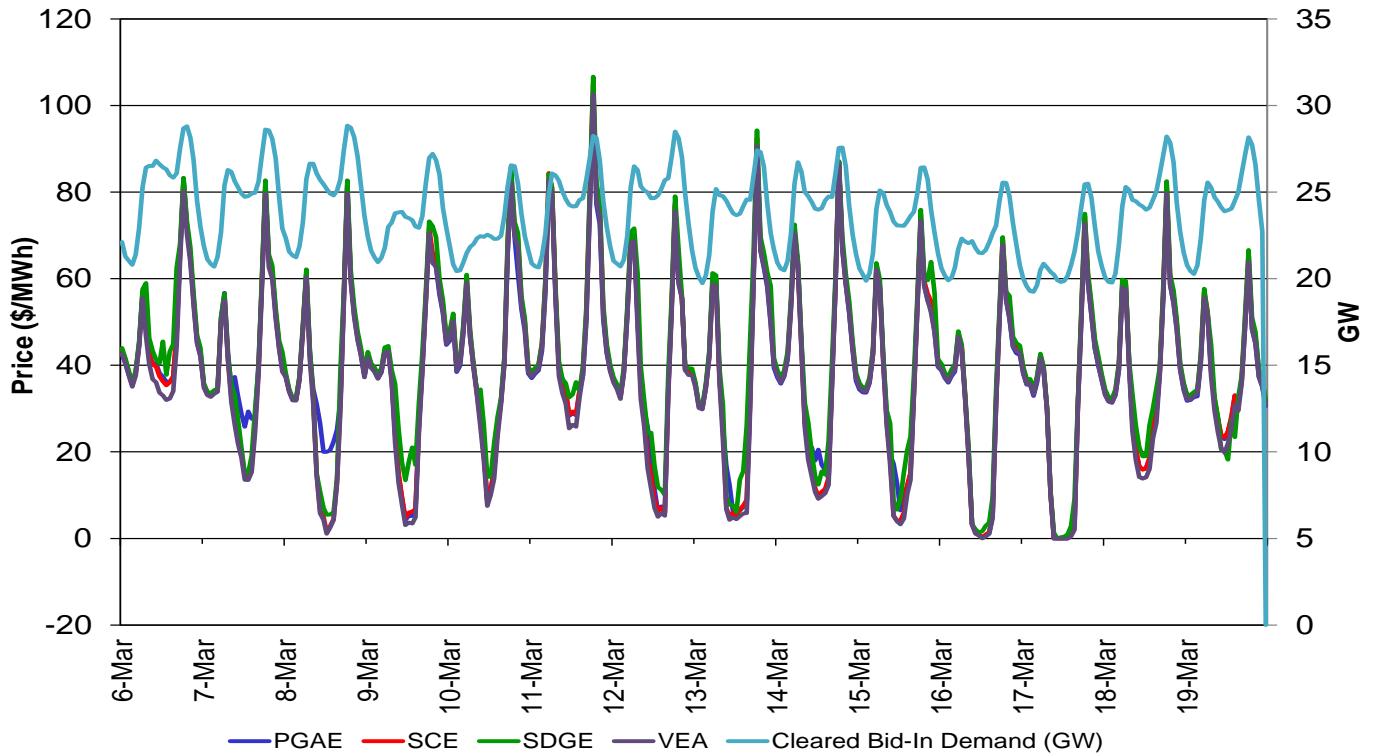
**Figure 1: Day-Ahead (IFM) LAP LMP and Cleared Bid-In Demand**




Figure 2: Day-Ahead Congestion Rents

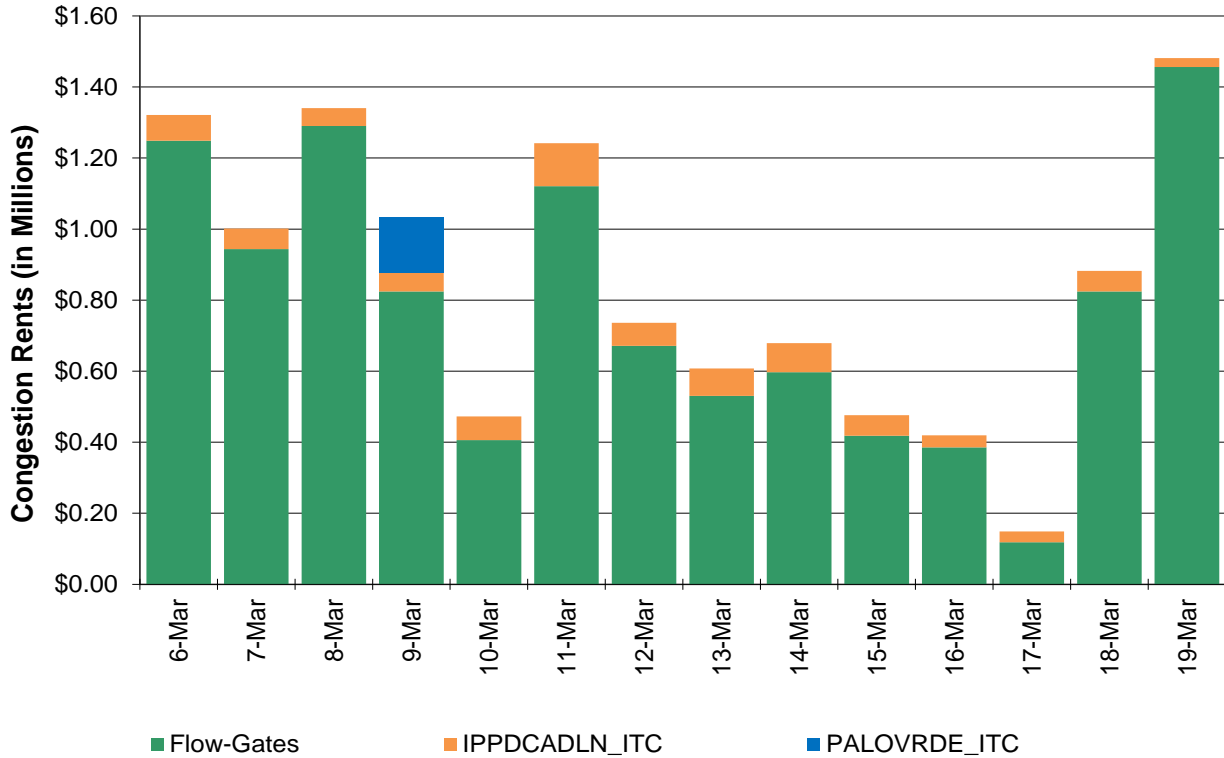
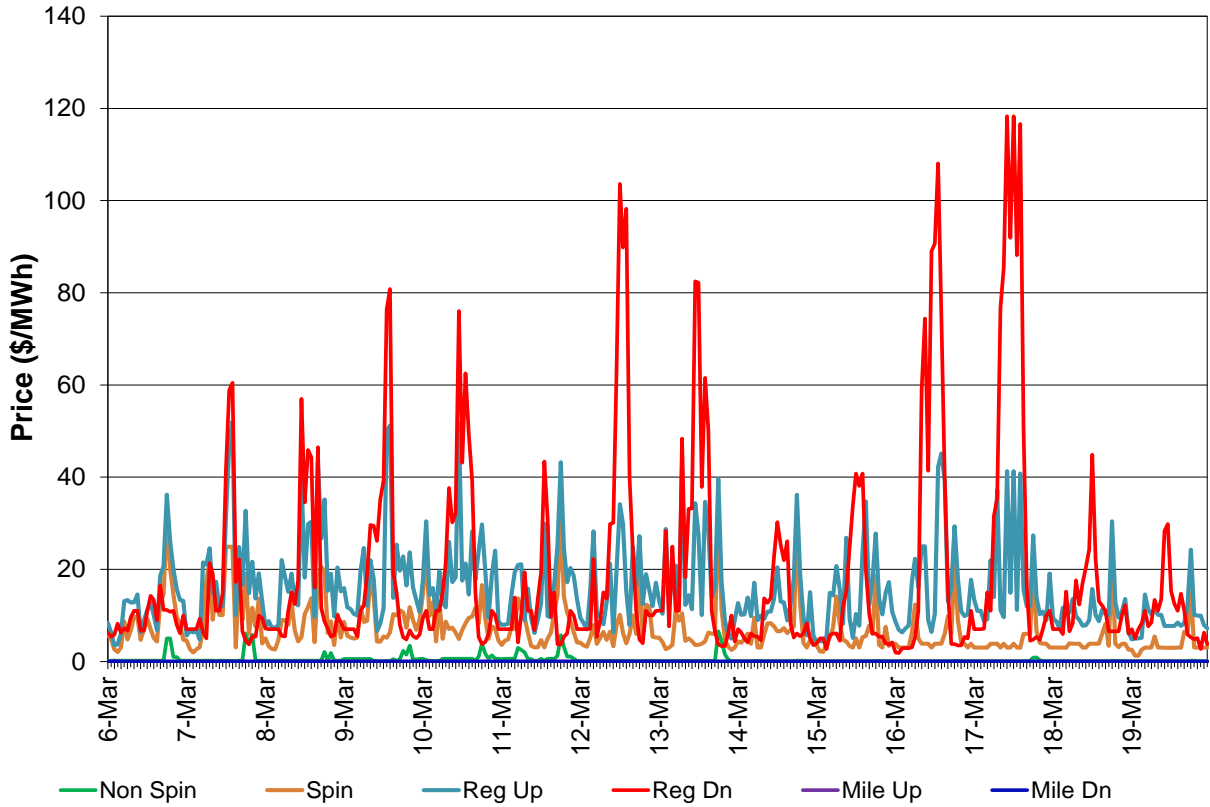


Figure 3: Day-Ahead Congestion Rents for Flow-Based Constraints

Transmission Constraint	Congestion Rent
7750_D-ECASCO_OOS_CP6_NG	\$ 3,368,656.99
7750_D-ECASCO_OOS_N1SV500_NG	\$5,261,667
7820_TL 230S_OVERLOAD_NG	\$1,289,432
30060_MIDWAY_500_24156_VINCENT_500_BR_2_3	\$1,104,315
34418_KINGSBRG_115_34405_FRWT TAP_115_BR_1_1	\$1,015,088
30055_GATES1_500_30060_MIDWAY_500_BR_1_3	\$838,118
24086_LUGO_500_26105_VICTORVL_500_BR_1_1	\$628,166
24115_PASTORIA_230_24217_WARNETAP_230_BR_1_1	\$564,280
7820_TL23040_IV_SPS_NG	\$513,504
22820_SWEETWTR_69.0_22476_MIGUELTP_69.0_BR_1_1	\$335,978
24114_PARDEE_230_24147_SYLMAR S_230_BR_1_1	\$273,093
22192_DOUBLTTP_138_22300_FRIARS_138_BR_1_1	\$268,198
SDGE_CFEIMP_BG	\$173,028
30810_GREGG_230_30879_HENTAP1_230_BR_1_1	\$123,442
24036_EAGLROCK_230_24059_GOULD_230_BR_1_1	\$96,222
OMS 6777914_PAS-BAI_OOS_NG	\$85,192
37650_TESLA TP_115_33574_LLNL_115_BR_1_1	\$69,242
HUMBOLDT_IMP_NG	\$67,120
24804_DEVERS_230_24806_MIRAGE_230_BR_2_1	\$60,514
34704_SEMITRPC_115_34774_MIDWAY_115_BR_1_1	\$54,834
34548_KETTLEMN_70.0_34552_GATES_70.0_BR_1_1	\$44,615

<b>Transmission Constraint</b>	<b>Congestion Rent</b>
34469_GFFNJCT_70.0_34470_GIFFEN_70.0_BR_1_1	\$43,826
34112_EXCHEQUR_115_34116_LE GRAND_115_BR_1_1	\$42,578
34121_SHARON T_115_34128_OAKH_JCT_115_BR_1_1	\$38,824
30280_POE_230_30330_RIO OSO_230_BR_1_1	\$35,396
24303_BIG CRK3_230_24235_RECTOR_230_BR_1_1	\$34,311
22480_MIRAMAR_69.0_22756_SCRIPPS_69.0_BR_1_1	\$33,903
32225_BRNSWKT1_115_32222_DTCH2TAP_115_BR_1_1	\$32,273
30765_LOSBANOS_230_30790_PANOCHÉ_230_BR_2_1	\$28,590
7510-PAS-BAI-PAR-OOS_NG	\$25,928
22256_ESCNDIDO_69.0_22724_SANMRCOS_69.0_BR_1_1	\$20,123
31000_HUMBOLDT_115_31015_BRDGVILLE_115_BR_1_1	\$20,052
34474_HELM_70.0_34556_STRD_JCT_70.0_BR_1_1	\$11,525
31461_JESSTAP_115_31464_COTWDPGE_115_BR_1_1	\$9,586
34116_LE GRAND_115_34134_WILSONAB_115_BR_1_1	\$7,657
35648_LLAGAS_115_35655_MORGN J2_115_BR_1_1	\$7,296
24087_MAGUNDEN_230_24153_VESTAL_230_BR_2_1	\$4,729
32214_RIO OSO_115_32244_BRNSWKT2_115_BR_2_1	\$4,114
31566_KESWICK_60.0_31582_STLLWATR_60.0_BR_1_1	\$3,720
OMS 6700415 HUMBOLDT_IMP_NG	\$2,842
34528_CORCORAN_70.0_34530_BSWLL TP_70.0_BR_1_1	\$2,678
22644_PENSQTOS_69.0_22856_TOREYPNS_69.0_BR_1_1	\$1,261
31080_HUMBOLDT_60.0_31092_MPLE CRK_60.0_BR_1_1	\$15
<b>Totals</b>	<b>\$ 36,234,661.46</b>

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



**Figure 5: Day-Ahead Average RUC Price**

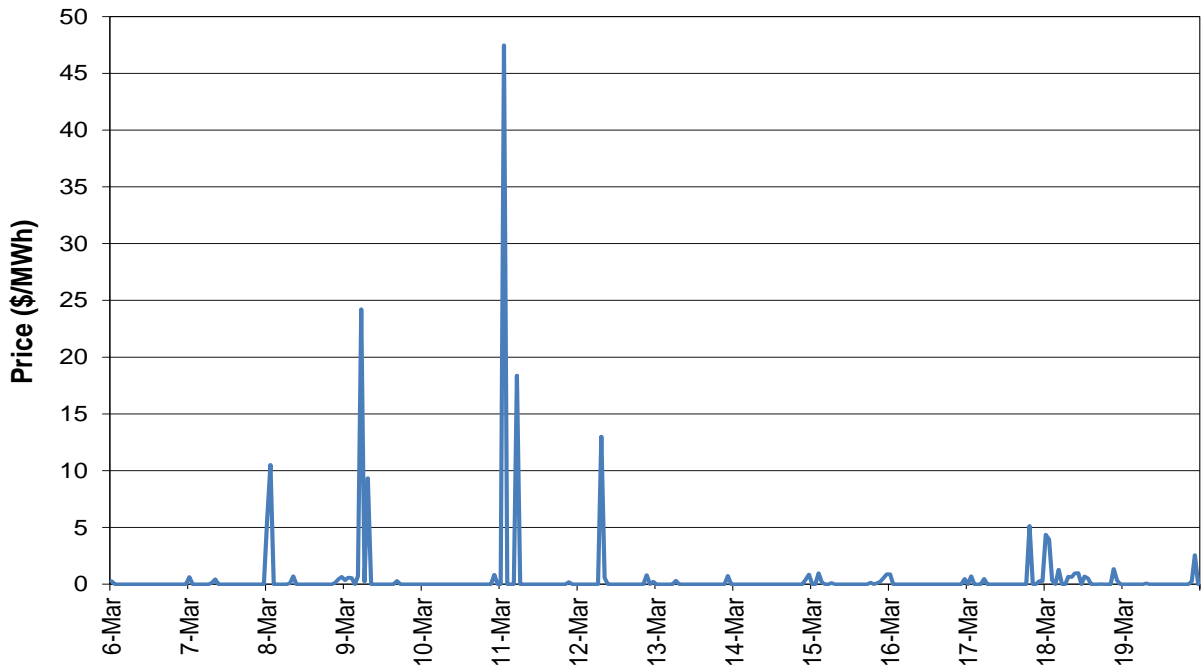




Figure 6: Real-Time FMM Average A/S Price

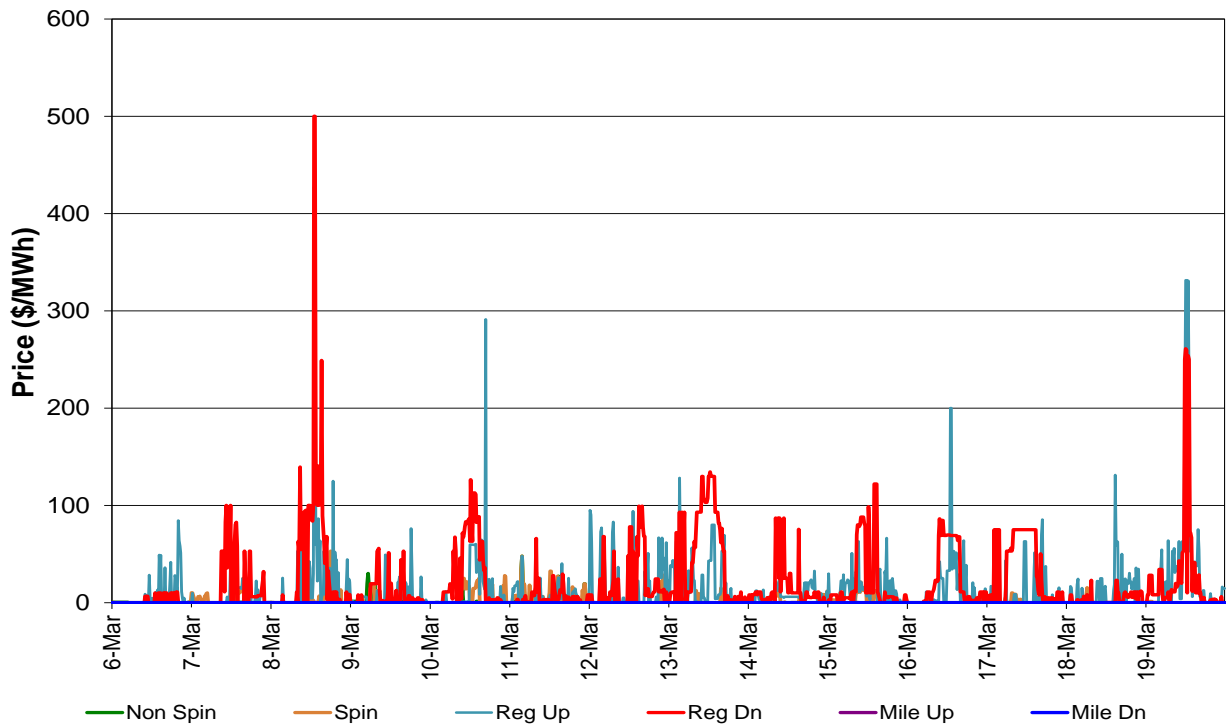
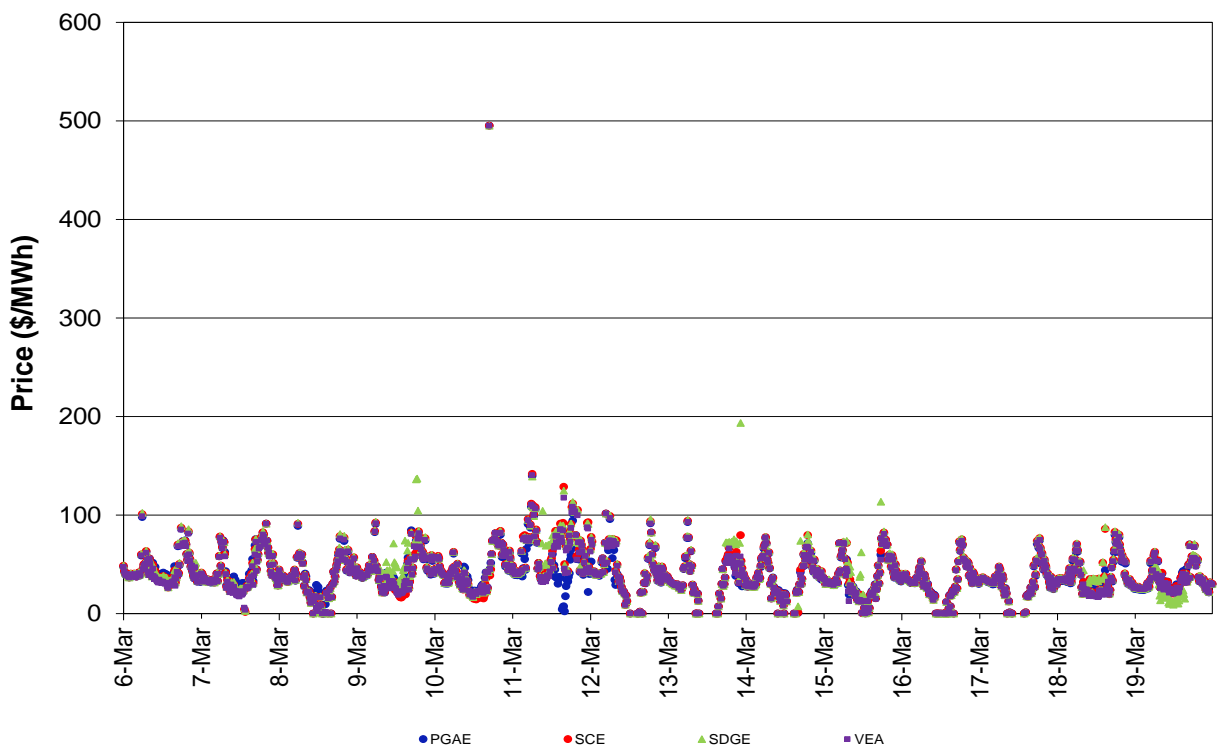
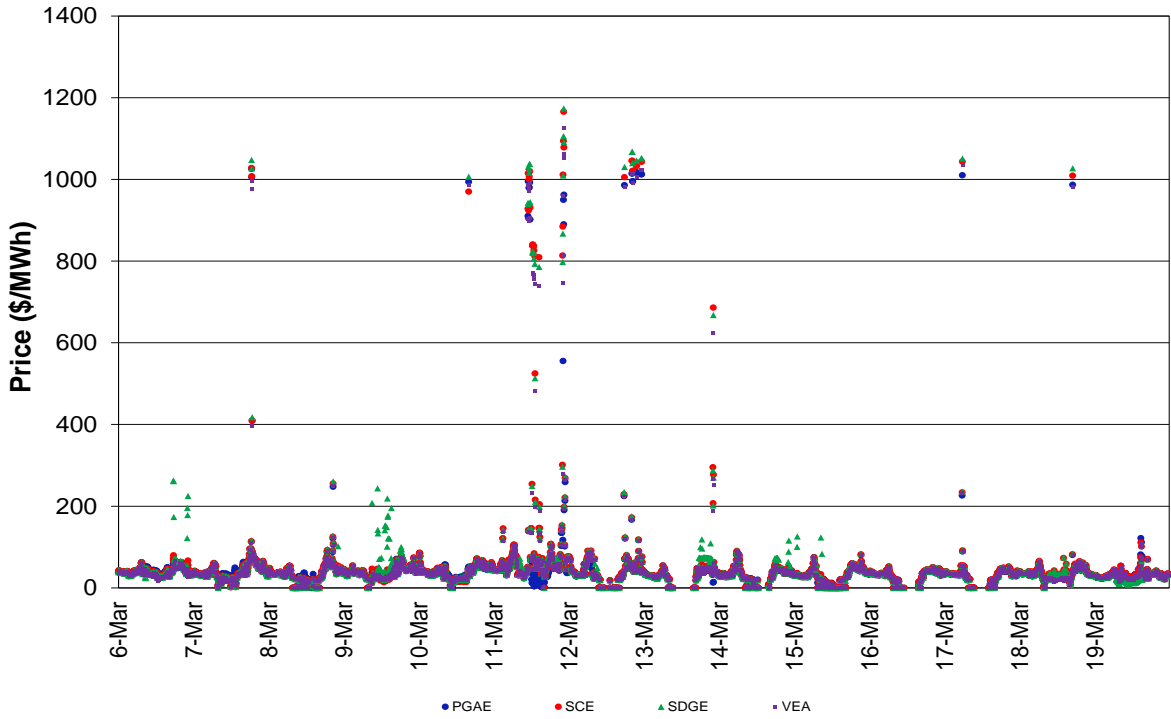


Figure 7: Real-Time FMM DLAP LMP



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



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

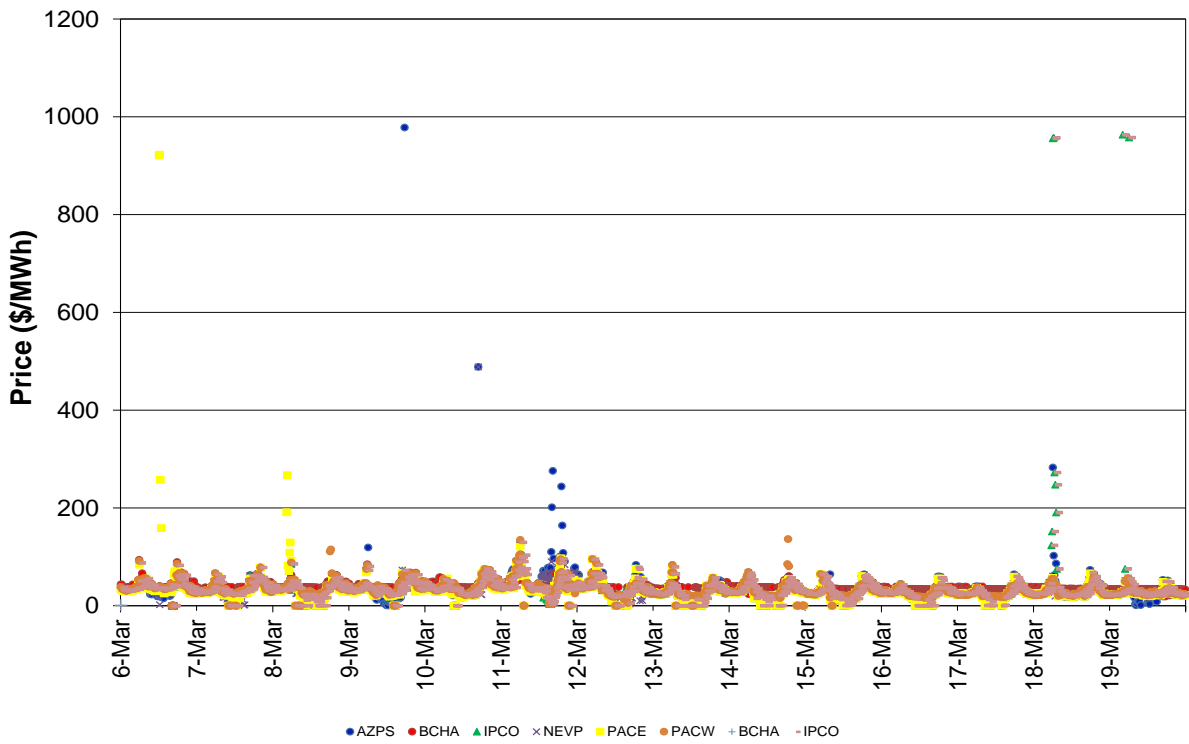




Figure 10: Real-Time RTD ELAP LMP

