# Market Highlights[1] (November 1–November 14)

- The average DLAP price in the integrated forward market was $41.42. The maximum and minimum DLAP prices were $160.09 and $16.49, respectively. The maximum and minimum PNode prices in the integrated forward market were $163.84 and -$23.79 respectively.

- The top two interties congested in the integrated forward market were PALOVRDE_ITC and MALIN500. Congestion rents in these two weeks totaled $20,383,806.30.

- The average day-ahead ancillary service prices were between $0.00 and $109.12.

- Approximately 99.18 percent of the RUC requirements were met from RA units.

- The average real-time FMM DLAP price was $46.22, with a maximum price of $1,024.80 and a minimum price of -$259.35. The maximum and minimum PNode prices in the FMM were $1,294.05 and -$152.46, respectively.

- Out of the total 1,344 FMM intervals, 15 intervals saw DLAP prices above $250, and 1 intervals saw DLAP prices below -$150.

- Out of the total 1,344 FMM intervals, 53 intervals saw ELAP prices above $250 and 10 intervals saw ELAP prices below -$150. The average real-time FMM ELAP price was $30.87, with a maximum price of $986.26 and a minimum price of -$205.73.

- The average real-time RTD DLAP price was $36.37, with a maximum price of $1,593.56 and a minimum price of -$101.68. The maximum and minimum PNode prices in the RTD were $3,294.75 and -$292.94, respectively.

- Out of the total 4,032 RTD intervals, 38 intervals saw DLAP prices above $250 and 0 interval saw DLAP prices below -$150.

- Out of the total 4,032 RTD intervals, 55 intervals saw ELAP prices above $250 and 15 intervals saw ELAP prices below -$150. The average real-time RTD ELAP price was $27.45, with a maximum price of $1,009.02 and a minimum price of -$587.06.

- Root cause for daily high price events are noted in Tables 1 and 2.

Table 1 FMM Intervals	
Trade Date	**Root Cause**
FMM Nov 6 HE 17	Load changes, re-dispatch of resources, and reduction of net imports
FMM Nov 6 HE 18	Load changes, renewable deviation and re-dispatch of resources.
FMM Nov 7 HE 14	Congestion on 24138_SERRANO _500_24137_SERRANO _230_XF_1 _P.

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[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 Nov 7 HE 17	Load changes, generator outage, renewable deviation, and re-dispatch of resources.
FMM Nov 7 HE 18,19	Load changes, generator outage, reduction of net imports, re-dispatch of resources.

Table 2 RTD Intervals	
Trade Date	**Root Cause**
RTD Nov 1 HE 8, 9; Nov 4 HE 18	Load changes.
RTD Nov 3 HE 9; Nov 7 HE 8,14	Load changes and renewable deviation.
RTD Nov 3 HE 17,19	Re-dispatch of resources.
RTD Nov 4 HE 16	Load changes and reduction of net imports.
RTD Nov 6 HE 15,16	Load changes, renewable deviation, and reduction of net imports.
RTD Nov 7 HE 15	Load changes and re-dispatch of resources.
RTD Nov 7 HE 17,18	Load changes, renewable deviation, and reduction of net imports.
RTD Nov 9 HE 20	Congestion on OMS 4646120 ELD_MKP_SCIT_NG.
RTD Nov 10 HE 7	Re-dispatch of resources.
RTD Nov 12 HE 8	Congestion on 7820_TL 230S_OVERLOAD_NG.

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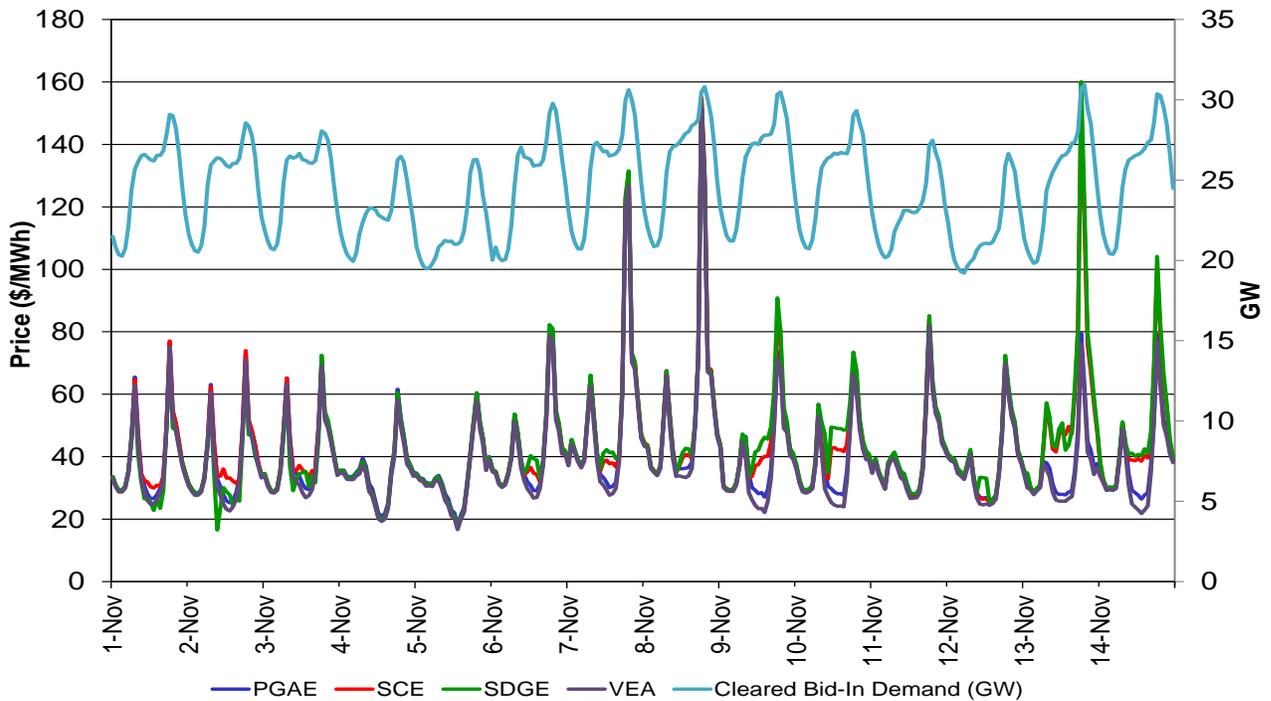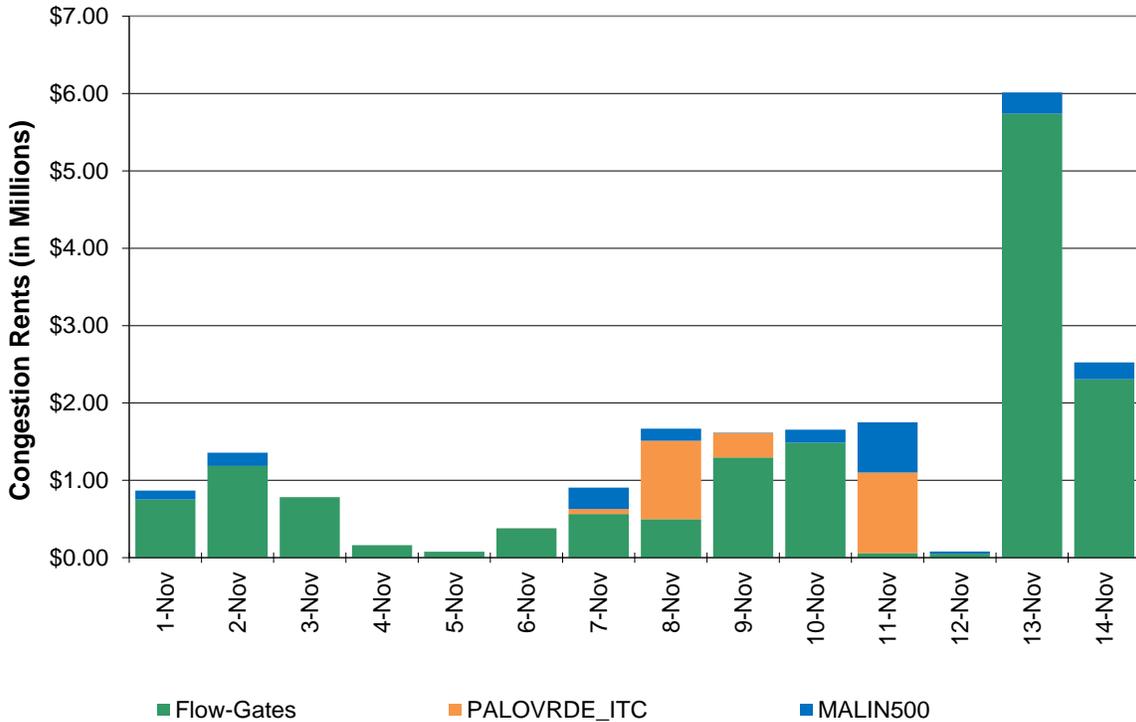

Figure 2: Day-Ahead Congestion Rents

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

Transmission Constraint	Congestion Rent
OMS 4646120 ELD_MKP_SCIT_NG	$ 6,468,929.92
24138_SERRANO _500_24137_SERRANO _230_XF_1 _P	$ 5,740,043.54
22192_DOUBLTTP_138_22300_FRIARS _138_BR_1 _1	$ 2,431,213.65
7820_TL 230S_OVERLOAD_NG	$ 223,791.46
35612_TRIMBLE _115_35616_SNJOSEB _115_BR_1 _1	$ 115,776.43
33724_LOCKEFRD_60.0_33736_LODI JCT_60.0_BR_1 _1	$ 75,365.86
22260_ESCNDIDO_230_22844_TALEGA _230_BR_1 _1	$ 53,702.91
30797_LASAGUIL_230_30790_PANOCHE _230_BR_2 _1	$ 51,630.15
31093_HYMPOMJT_60.0_31553_BIG BAR _60.0_BR_1 _1	$ 49,321.36
22227_ENCINATP_230_22716_SANLUSRY_230_BR_2 _1	$ 22,129.30
OMS 4646112_OP-6610	$ 17,935.01
22668_POWAY _69.0_22664_POMERADO_69.0_BR_1 _1	$ 16,064.54
32056_CORTINA _60.0_30451_CRTNA M_ 1.0_XF_1	$ 12,070.13
31336_HPLND JT_60.0_31370_CLVRDLJT_60.0_BR_1 _1	$ 9,754.63
31555_MSS TAP2_60.0_31553_BIG BAR _60.0_BR_1 _1	$ 9,662.27
31227_HGHLNDJ2_115_31950_CORTINA _115_BR_1 _1	$ 8,452.10
31512_BIG BEN2_115_31516_WYANDJT2_115_BR_1 _2	$ 7,434.45
31104_CARLOTTA_60.0_31105_RIODLLTP_60.0_BR_1 _1	$ 4,915.75
31108_SWNS FLT_60.0_31110_BRDGVLLE_60.0_BR_1 _1	$ 4,467.83

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

Transmission Constraint	Congestion Rent
HUMBOLDT_IMP_NG	$ 3,821.57
31090_HMBLT BY_60.0_31100_EEL RIVR_60.0_BR_1 _1	$ 2,545.66
31336_HPLND JT_60.0_31206_HPLND JT_115_XF_2	$ 1,534.59
31464_COTWDPGE_115_30105_COTTNWD _230_XF_1	$ 965.27
32212_E.NICOLS_115_32214_RIO OSO _115_BR_1 _1	$ 859.49
30750_MOSSLD _230_30797_LASAGUIL_230_BR_1 _1	$ 854.95
Total	**$ 28,368,009.87**

Figure 4: Day-Ahead (IFM) Average A/S Price
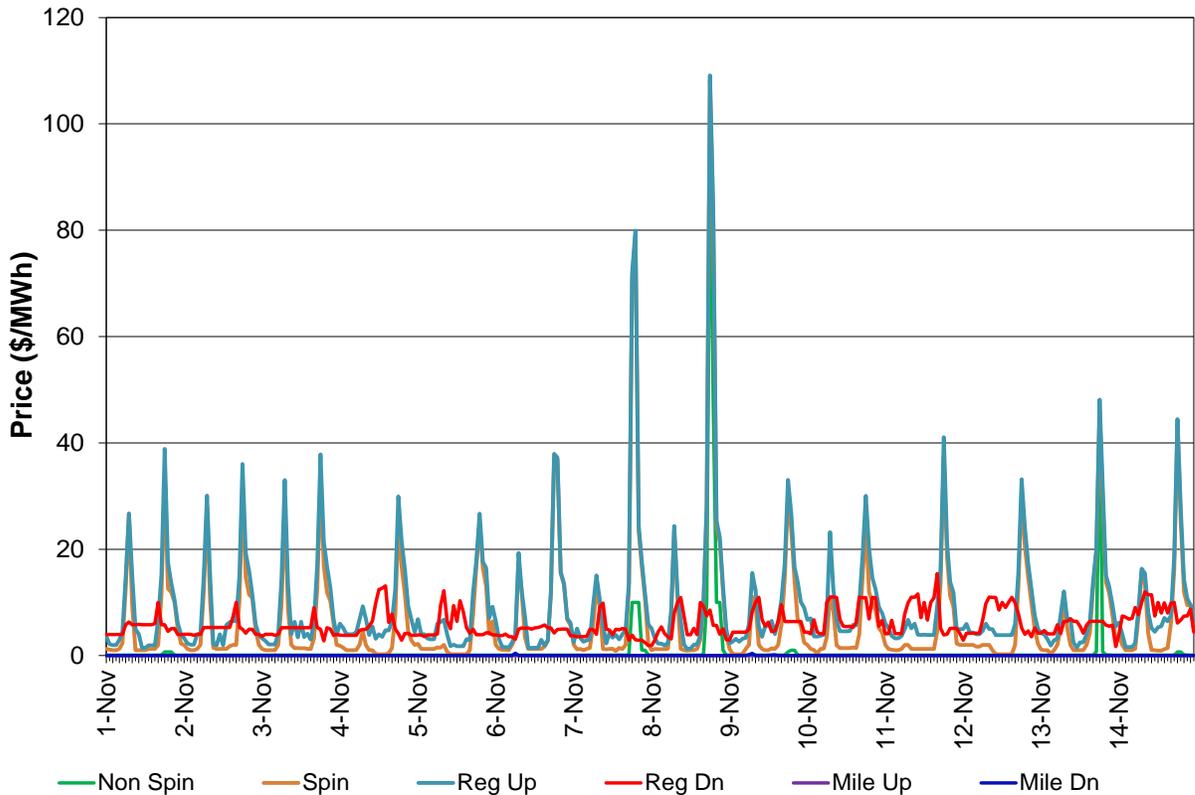
Figure 5: Day-Ahead Average RUC Price
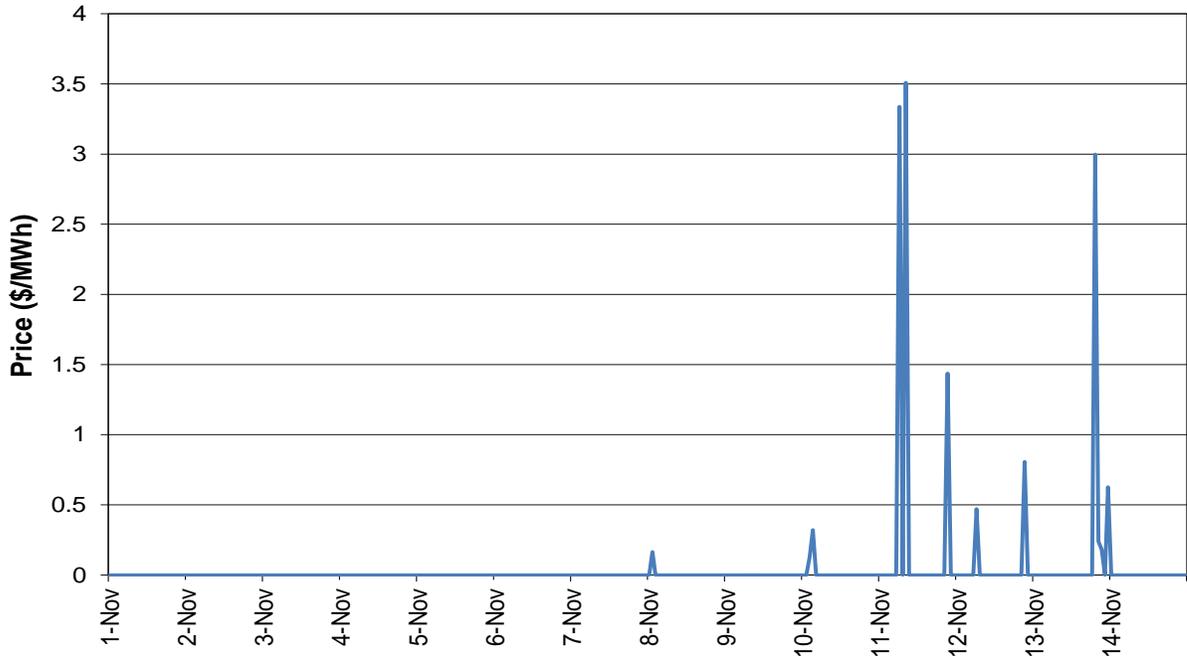
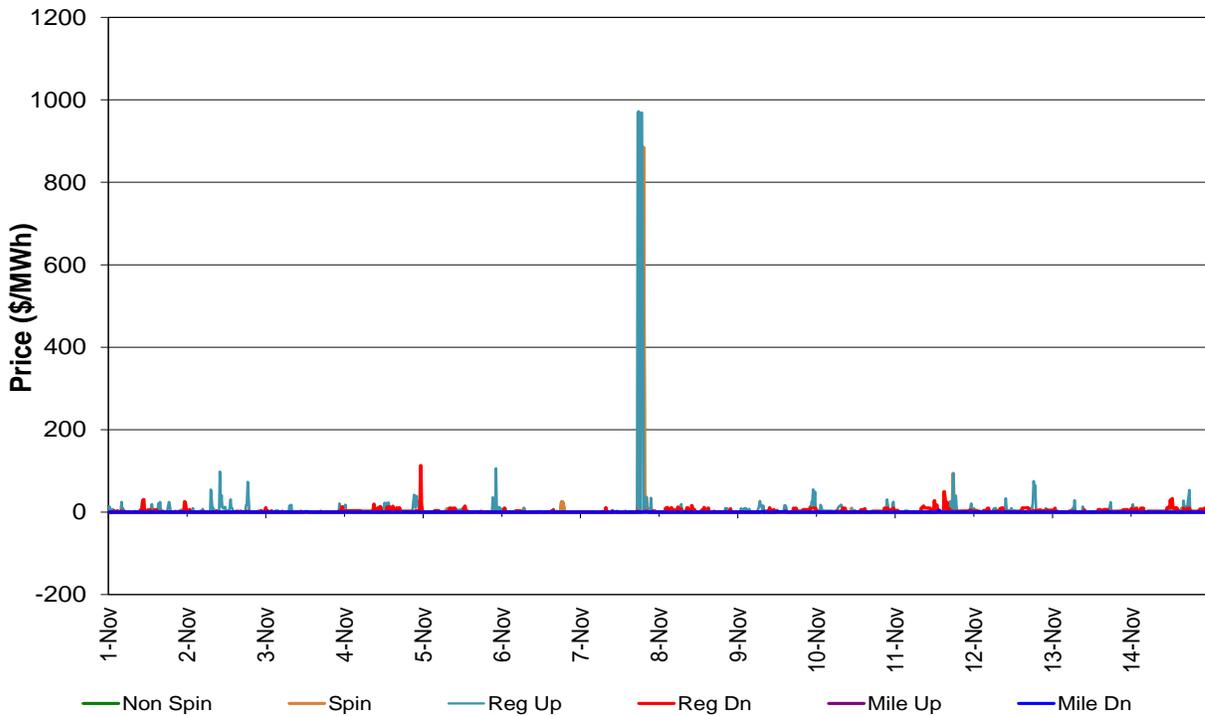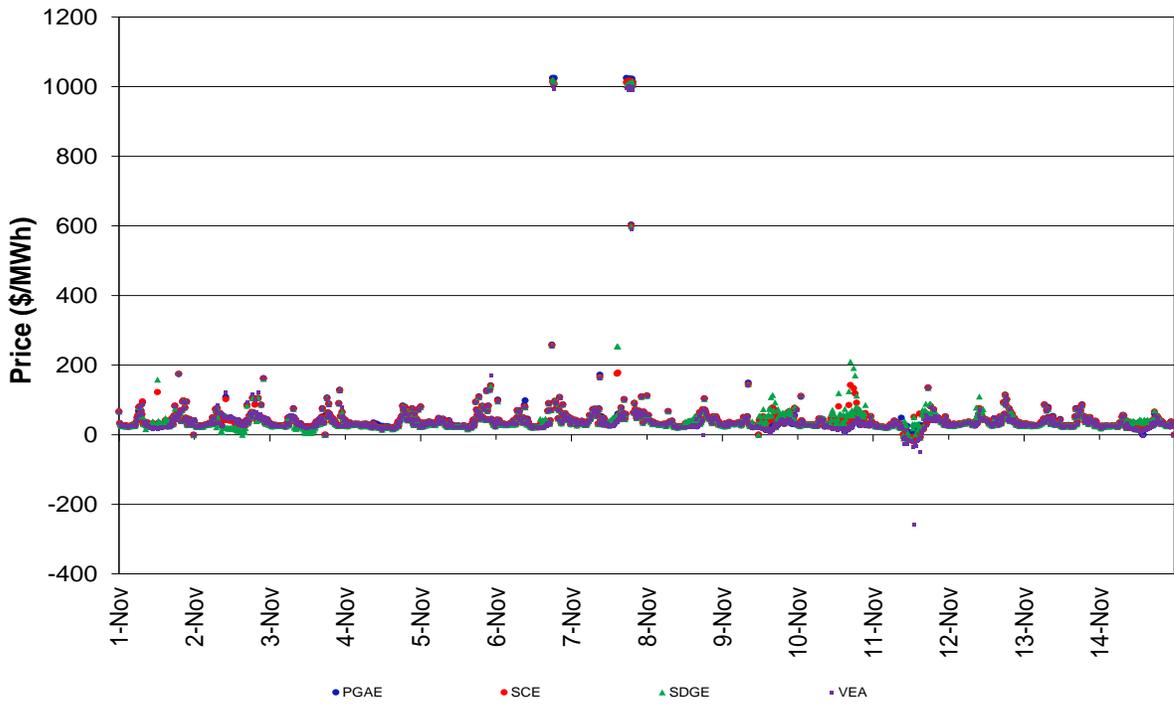**Figure 6: Real-Time FMM Average A/S Price**

Figure 7: Real-Time FMM DLAP LMP
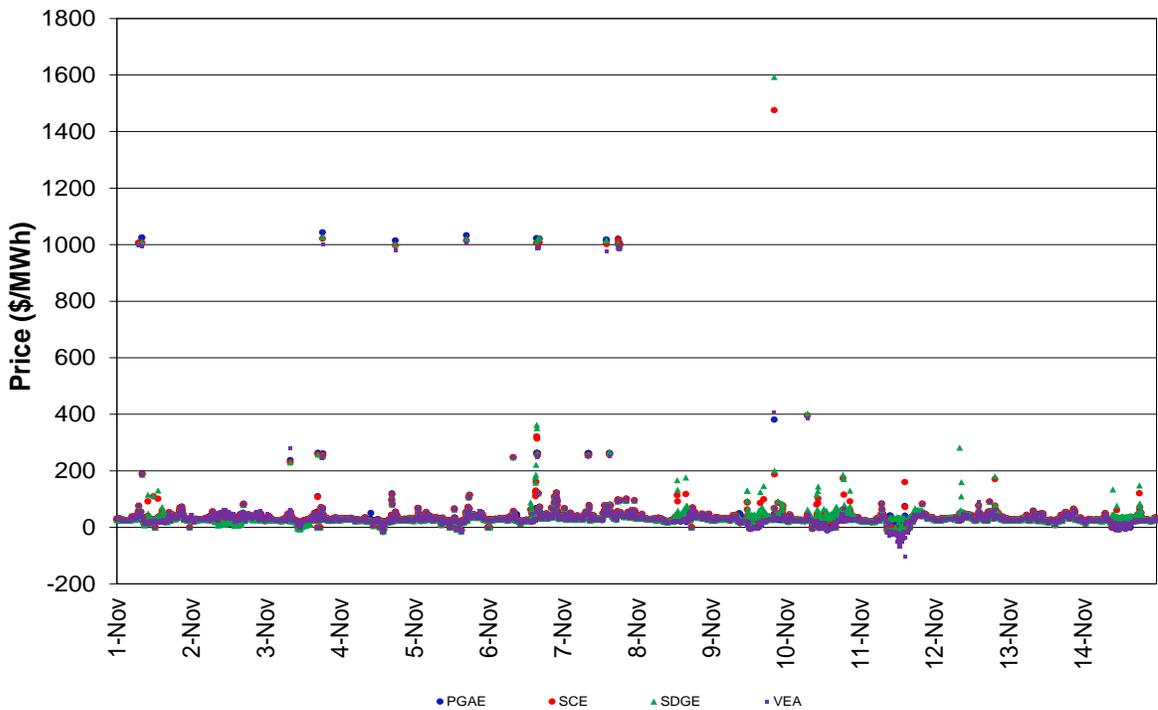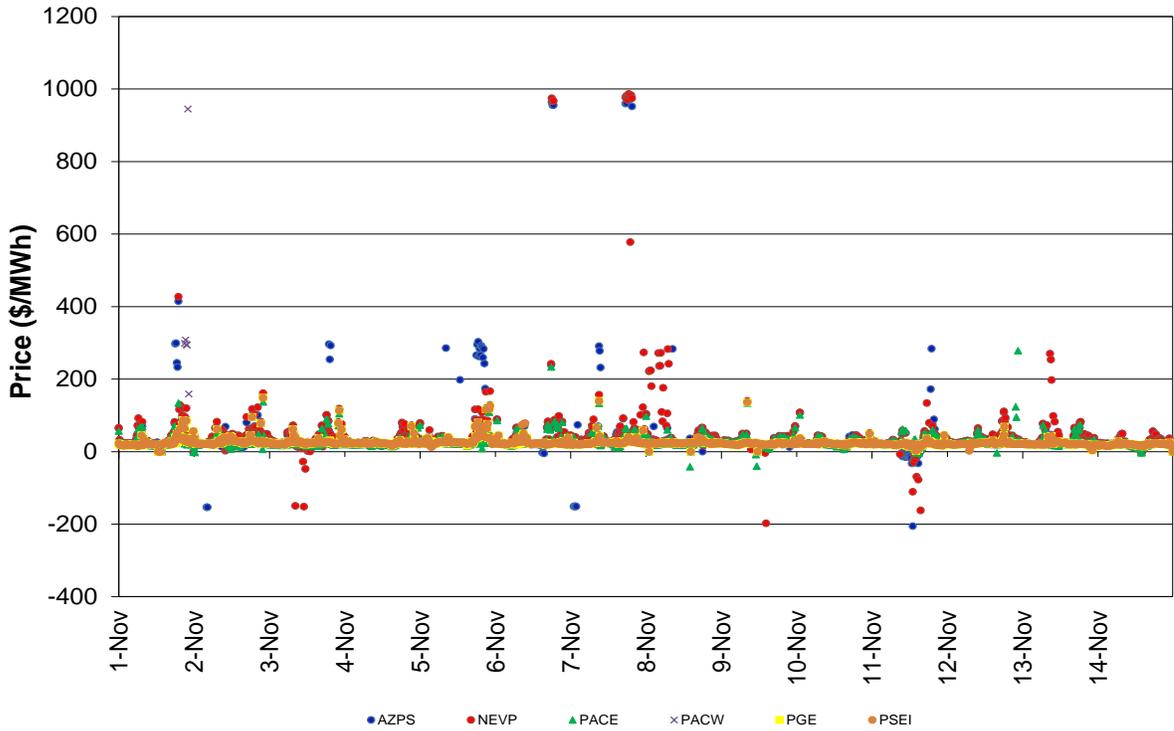

Figure 8: Real-Time RTD DLAP LMP

Figure 9: Real-Time FMM ELAP LMP

Figure 10: Real-Time RTD ELAP LMP