

Market Highlights¹ (October 31–November 13)

- The average DLAP price in the integrated forward market was \$44.10. The maximum and minimum DLAP prices were \$135.70 and \$10.14, respectively. The maximum and minimum PNode prices in the integrated forward market were \$450.00 and -\$249.22 respectively.
- The top two interties congested in the integrated forward market were MALIN500 and PALOVRDE_ITC. Congestion rents in these two weeks totaled \$19,348,458.20.
- The average day-ahead ancillary service prices were between \$0.00 and \$49.02.
- Approximately 91.44 percent of the RUC requirements were met from RA units.
- The average real-time FMM DLAP price was \$43.58, with a maximum price of \$774.46 and a minimum price of -\$7.78. The maximum and minimum PNode prices in the FMM were \$1,030.39 and -\$724.01, respectively.
- Out of the total 1,344 FMM intervals, 17 intervals saw DLAP prices above \$250, and 0 intervals saw DLAP prices below -\$150.
- Out of the total 1,344 FMM intervals, 19 intervals saw ELAP prices above \$250 and 3 intervals saw ELAP prices below -\$150.
- The average real-time FMM ELAP price was \$32.41, with a maximum price of \$1,000.00 and a minimum price of -\$202.10.
- The average real-time RTD DLAP price was \$37.07, with a maximum price of \$1,336.78 and a minimum price of -\$41.55. The maximum and minimum PNode prices in the RTD were \$1,009.27 and -\$1,183.89, respectively.
- Out of the total 4,032 RTD intervals, 29 intervals saw DLAP prices above \$250 and 0 interval saw DLAP prices below -\$150.
- Out of the total 4,032 RTD intervals, 37 intervals saw ELAP prices above \$250 and 15 intervals saw ELAP prices below -\$150. The average real-time RTD ELAP price was \$29.76, with a maximum price of \$1,024.49 and a minimum price of -\$321.51.
- Root cause for daily high price events are noted in Tables 1 and 2.

Table 1 FMM Intervals	
Trade Date	Root Cause
FMM Nov 1 HE 16	Congestion on OMS_6458037_TL23054_NG
FMM Nov 5 HE 17-18	Congestion on OMS 6355712 TL50003_NG

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 6 HE 8, 13, 16-19	Congestion on OMS 6191454 TL50003_NG and MIGUEL_BKs_MXFLW_NG
FMM Nov 7 HE 17, 22-23	Congestion on OMS 6355725 TL50003_NG and MIGUEL_BKs_MXFLW_NG
FMM Nov 8 HE 9	Congestion on OMS 6355729 TL50003_NG
FMM Nov 8 HE 17-20	Congestion from MIGUEL_BKs_MXFLW_NG and OMS 6355729 TL50003_NG
FMM Nov 9 HE 17	Load changes, renewable generation, and forced generator outages
FMM Nov 12 HE 17	Load changes and renewable generation

Table 2 RTD Intervals	
Trade Date	Root Cause
RTD Oct 31 HE 9	Congestion on 7820_TL23040_IV_SPS_NG
RTD Nov 1 HE 8, 9, 14-16	Congestion on 7820_TL23040_IV_SPS_NG
RTD Nov 2 HE 17	Load changes and renewable generation
RTD Nov 5 HE 16	Congestion from MIGUEL_BKs_MXFLW_NG
RTD Nov 6 HE 7, 18-19	Congestion on OMS 6191454 TL50003_NG and MIGUEL_BKs_MXFLW_NG
RTD Nov 7 HE 21-23	Congestion on OMS 6355725 TL50003_NG and MIGUEL_BKs_MXFLW_NG
RTD Nov 8 HE 18-21	Congestion from MIGUEL_BKs_MXFLW_NG and OMS 6355729 TL50003_NG
RTD Nov 8 HE 20	Load changes, transmission outage, and congestion on MIGUEL_BK_NG
RTD Nov 11 HE 24	Load changes
RTD Nov 13 HE 14	Load changes and renewable generation

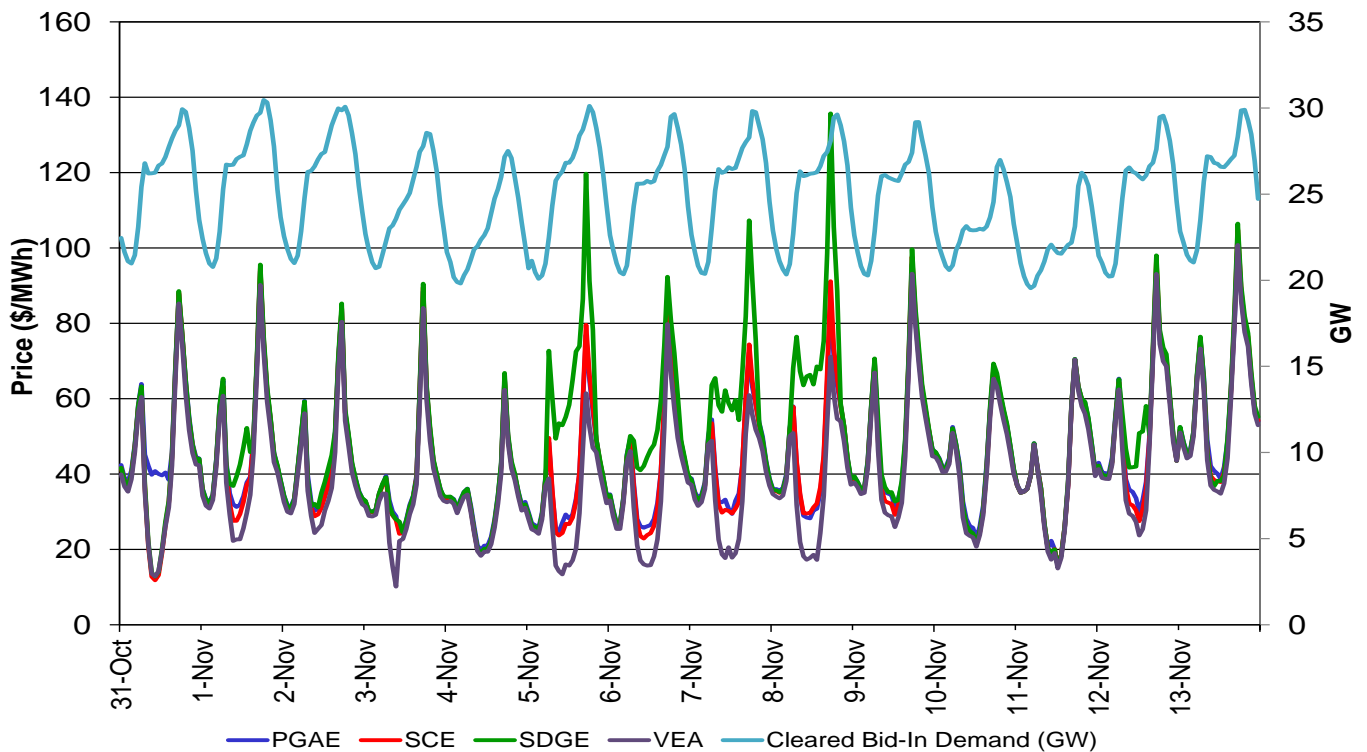
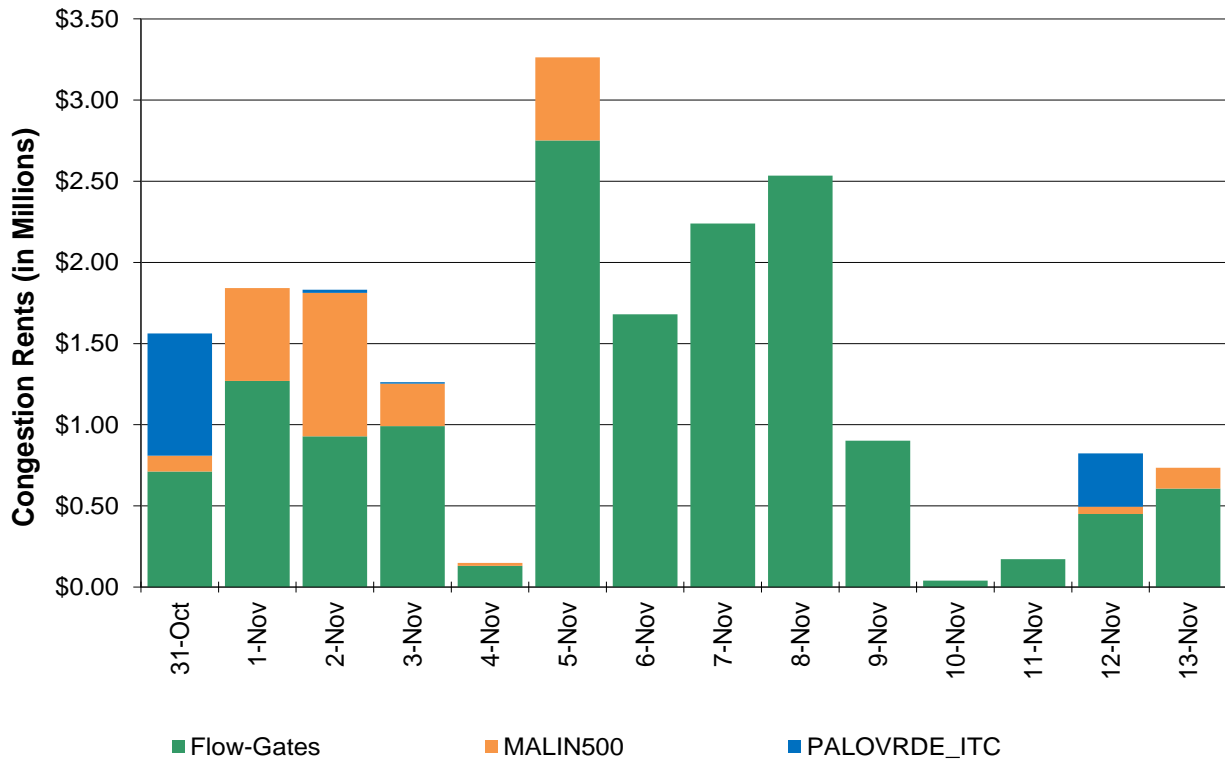
Figure 1: Day-Ahead (IFM) LAP LMP and Cleared Bid-In Demand


Figure 2: Day-Ahead Congestion Rents

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

Transmission Constraint	Congestion Rent
OMS_6451207_TRACY-LOSBANOS	\$ 4,276,858.55
30763_Q0577SS_230_30765_LOSBANOS_230_BR_1_1	\$ 713,770.82
30885_MUSTANGS_230_30900_GATES_230_BR_2_1	\$ 516,239.64
24086_LUGO_500_24092_MIRALOMA_500_BR_2_1	\$ 393,453.41
30515_WARNERVL_230_30800_WILSON_230_BR_1_1	\$ 385,269.73
7820_TL_230S_OVERLOAD_NG	\$ 362,353.20
34116_LE GRAND_115_34115_ADRA TAP_115_BR_1_1	\$ 248,887.96
34519_LPNJCTSS_115_34429_GWF_HEP_115_BR_1_1	\$ 248,655.92
33008_GRIZLYJ2_115_33010_SOBRANTE_115_BR_2_1	\$ 213,021.47
33514_MANTECA_115_33526_KASSONJ1_115_BR_1_1	\$ 174,069.99
30114_DELEVAN_230_30450_CORTINA_230_BR_1_1	\$ 148,430.26
99254_J.HINDS2_230_24806_MIRAGE_230_BR_1_1	\$ 111,976.71
34150_NEWHALL_115_34154_DAIRYLND_115_BR_1_1	\$ 104,928.94
34105_CERTANJ1_115_34121_SHARON T_115_BR_1_1	\$ 92,179.44
IID-SCE_BG	\$ 88,492.25
7820_TL23040_IV_SPS_NG	\$ 63,766.90
34116_LE GRAND_115_34134_WILSONAB_115_BR_1_1	\$ 63,442.72
7510-PAS-BAI-PAR-OOS_NG	\$ 58,835.62
34366_SANGER_115_34370_MC CALL_115_BR_3_1	\$ 48,747.65

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

Transmission Constraint	Congestion Rent
34366_SANGER_115_34370_MC CALL_115_BR_3_1	\$ 48,747.65
34860_TAFT_70.0_34943_Q356TAP_70.0_BR_1_1	\$ 37,039.90
30879_HENTAP1_230_30885_MUSTANGS_230_BR_1_1	\$ 31,912.96
34418_KINGSBRG_115_34428_CONTADNA_115_BR_1_1	\$ 29,677.66
32342_E.NICOLS_60.0_32305_CATLETJT_60.0_BR_2_1	\$ 28,028.31
34469_GFFNJCT_70.0_34470_GIFFEN_70.0_BR_1_1	\$ 27,842.37
32218_DRUM_115_32222_DTCH2TAP_115_BR_1_1	\$ 27,836.81
31336_HPLND JT_60.0_31206_HPLND JT_115_XF_2	\$ 21,564.78
32056_CORTINA_60.0_30451_CRTNA M_1.0_XF_1	\$ 20,046.14
34112_EXCHEQR_115_34116_LE GRAND_115_BR_1_1	\$ 18,589.56
34429_GWF_HEP_115_34428_CONTADNA_115_BR_1_1	\$ 15,819.31
34157_PANOCHET_115_34156_MENDOTA_115_BR_1_1	\$ 12,298.22
22356_IMPRLVLY_230_21025_ELCENTRO_230_BR_1_1	\$ 12,042.54
34430_HENRETTA_115_34519_LPNJCTSS_115_BR_1_1	\$ 11,508.03
22331_MIRASNT0_69.0_22644_PENSQTOS_69.0_BR_1_1	\$ 10,152.64
31640_TRES VIS_60.0_31718_TBLE MTN_60.0_BR_1_1	\$ 9,080.94
22256_ESCNDIDO_69.0_22724_SANMRCOS_69.0_BR_1_1	\$ 8,492.11
33530_KASSONJ2_115_33548_TRACY_115_BR_1_1	\$ 8,415.83
30915_MORROBAY_230_30916_SOLARSS_230_BR_2_1	\$ 8,043.15
OMS_5548842_HUMB_TRNTY	\$ 7,972.64
24723_CONTROL_115_24728_INYO-SCE_115_BR_1_1	\$ 7,812.04
31604_COTTONWD_60.0_31611_RAWSON_60.0_BR_2_1	\$ 6,501.76
OMS_5849193_Devers SBus_NG	\$ 6,151.59
33540_TESLA_115_37650_TESLA TP_115_BR_1_1	\$ 5,318.79
32225_BRNSWKT1_115_32222_DTCH2TAP_115_BR_1_1	\$ 5,174.45
32218_DRUM_115_32244_BRNSWKT2_115_BR_2_1	\$ 4,666.65
7510-PAR-PAS-WAR-OOS_NG	\$ 4,548.31
34859_PRMTFMTTP_70.0_34873_Q484TP_70.0_BR_1_1	\$ 4,331.75
31110_BRDGVLE_60.0_31112_FRUITLND_60.0_BR_1_1	\$ 3,974.04
31104_CARLOTTA_60.0_31105_RIODLLTP_60.0_BR_1_1	\$ 3,639.60
32218_DRUM_115_32220_DTCH FL1_115_BR_1_1	\$ 2,288.09
31556_TRINITY_60.0_31555_MSS TAP2_60.0_BR_1_1	\$ 1,507.12
31114_FRT SWRD_60.0_31116_GRBRVLE_60.0_BR_1_1	\$ 1,376.46
33541_AEC_TP1_115_33540_TESLA_115_BR_1_1	\$ 1,067.86
32314_SMRTSVLE_60.0_32316_YUBAGOLD_60.0_BR_1_1	\$ 1,013.12
32214_RIO OSO_115_32244_BRNSWKT2_115_BR_2_1	\$ 1,010.83
22296_FENTONTP_69.0_22292_FENTON_69.0_BR_1_1	\$ 934.22
38136_MARBLE_69.0_64281_MARBLSP_60.0_XF_1	\$ 861.77
32314_SMRTSVLE_60.0_32345_BEALE1J2_60.0_BR_2_1	\$ 462.60
34474_HELM_70.0_34556_STRD JCT_70.0_BR_1_1	\$ 458.05
32342_E.NICOLS_60.0_32353_WHTLND1_60.0_BR_1_1	\$ 299.63
31512_BIG BEN2_115_31516_WYANDJT2_115_BR_1_2	\$ 246.13

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

Transmission Constraint	Congestion Rent
32208_GLEAF TP_115_32214_RIO OSO_115_BR_1_1	\$ 133.84
31080_HUMBOLDT_60.0_31092_MPLE CRK_60.0_BR_1_1	\$ 57.87
34321_MCSWAINJ_70.0_34232_EXCHEQUR_70.0_BR_1_1	\$ 47.11
32380_WEMR SWS_60.0_32382_FORST HL_60.0_BR_1_1	\$ 0.87
Totals	\$ 8,723,629.64

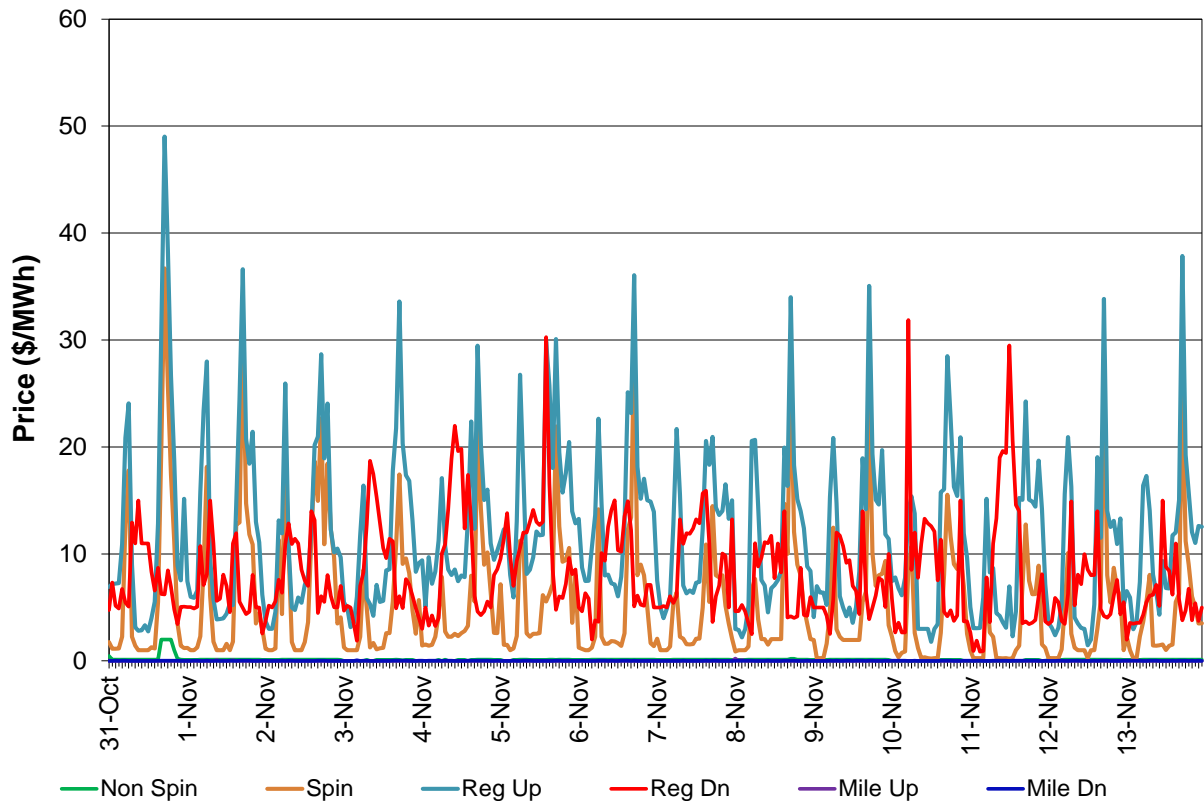
Figure 4: Day-Ahead (IFM) Average A/S Price




Figure 5: Day-Ahead Average RUC Price

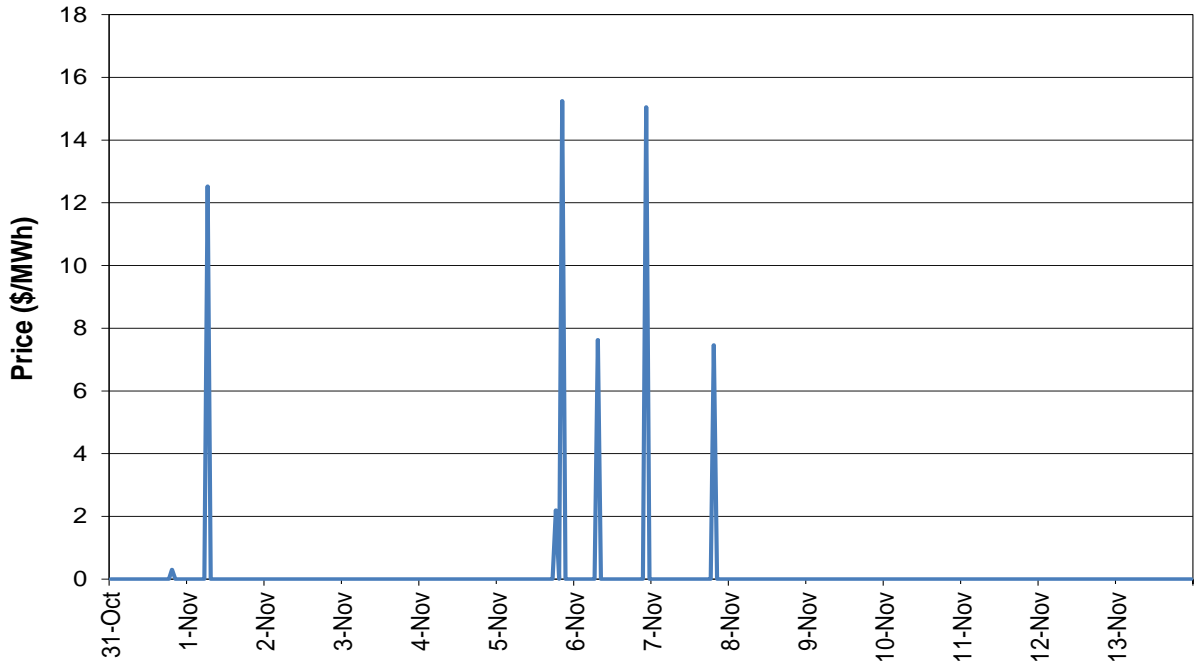


Figure 6: Real-Time FMM Average A/S Price

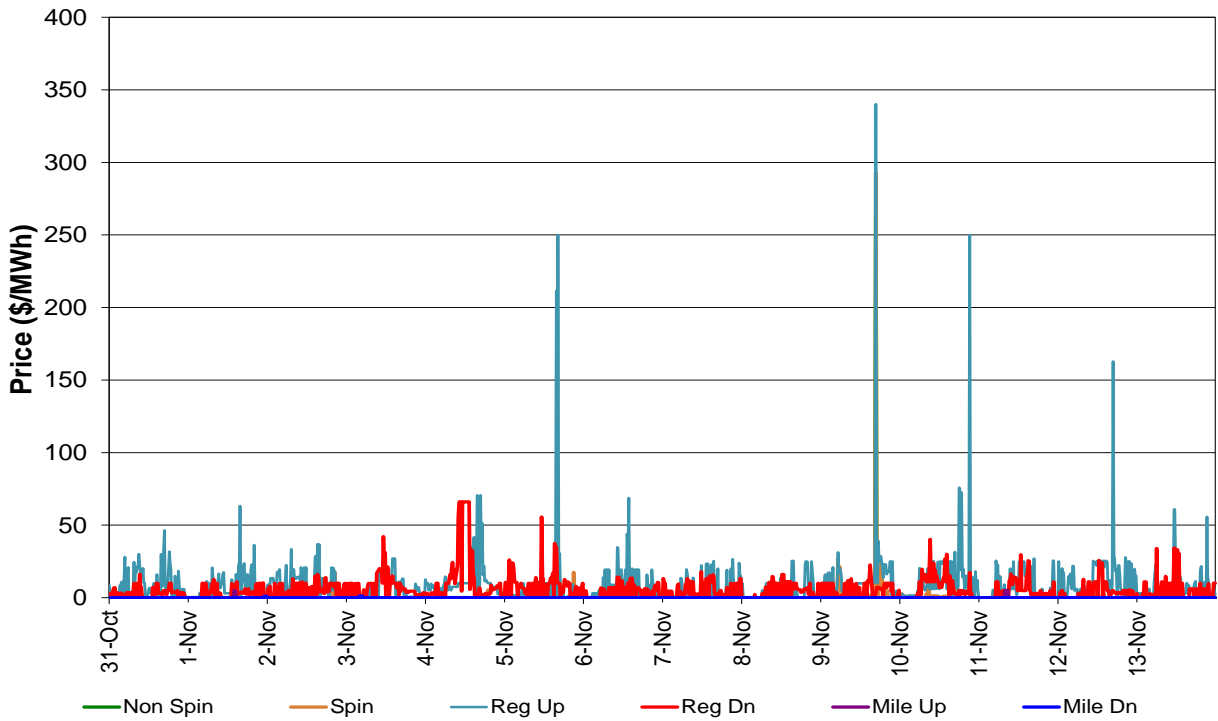


Figure 7: Real-Time FMM DLAP LMP

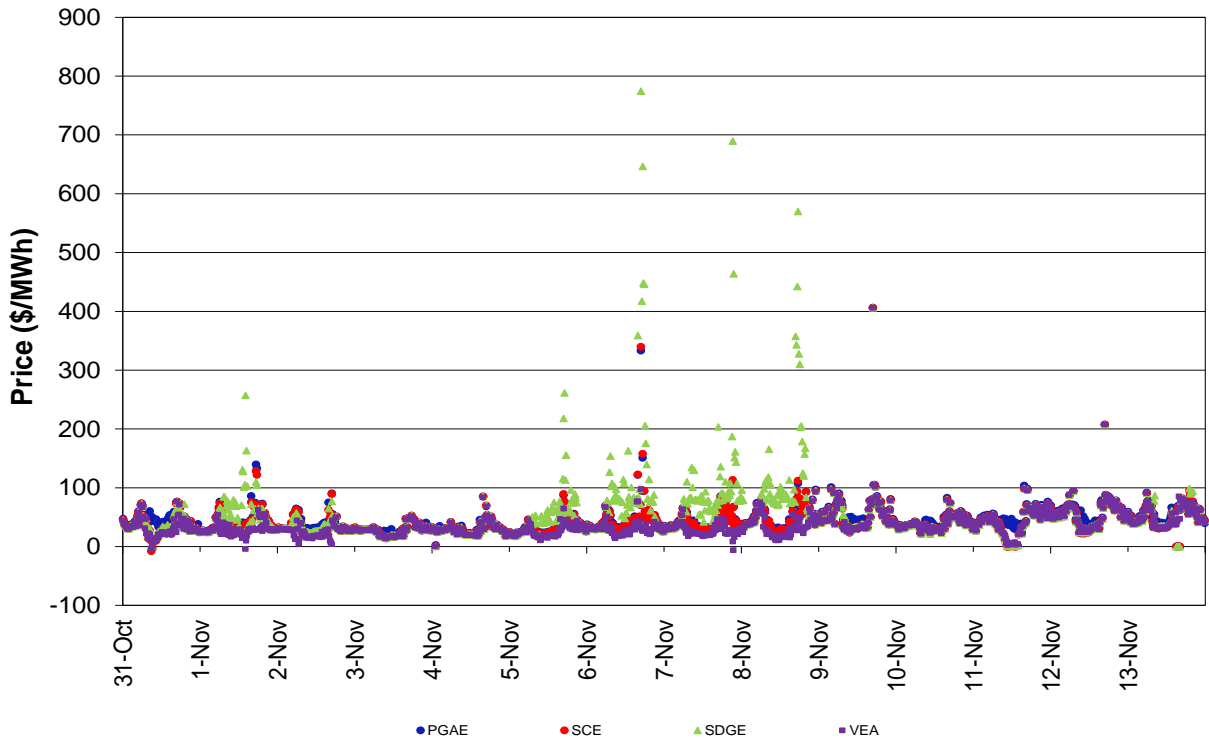


Figure 8: Real-Time RTD DLAP LMP

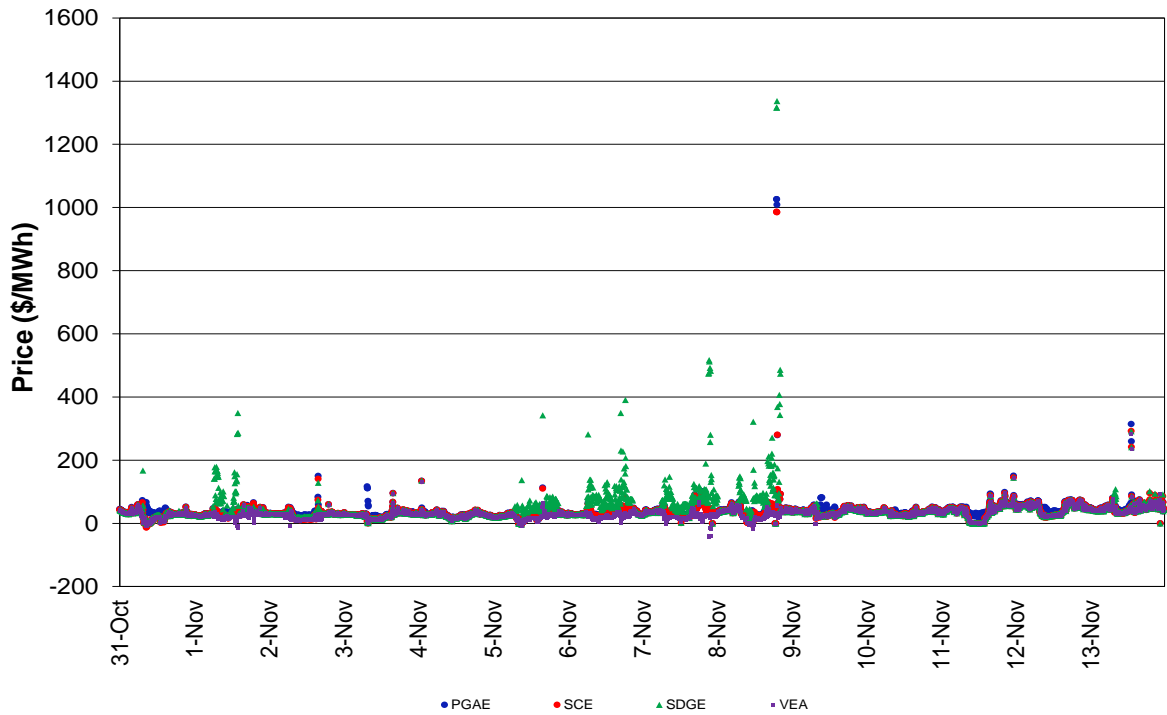


Figure 9: Real-Time FMM ELAP LMP

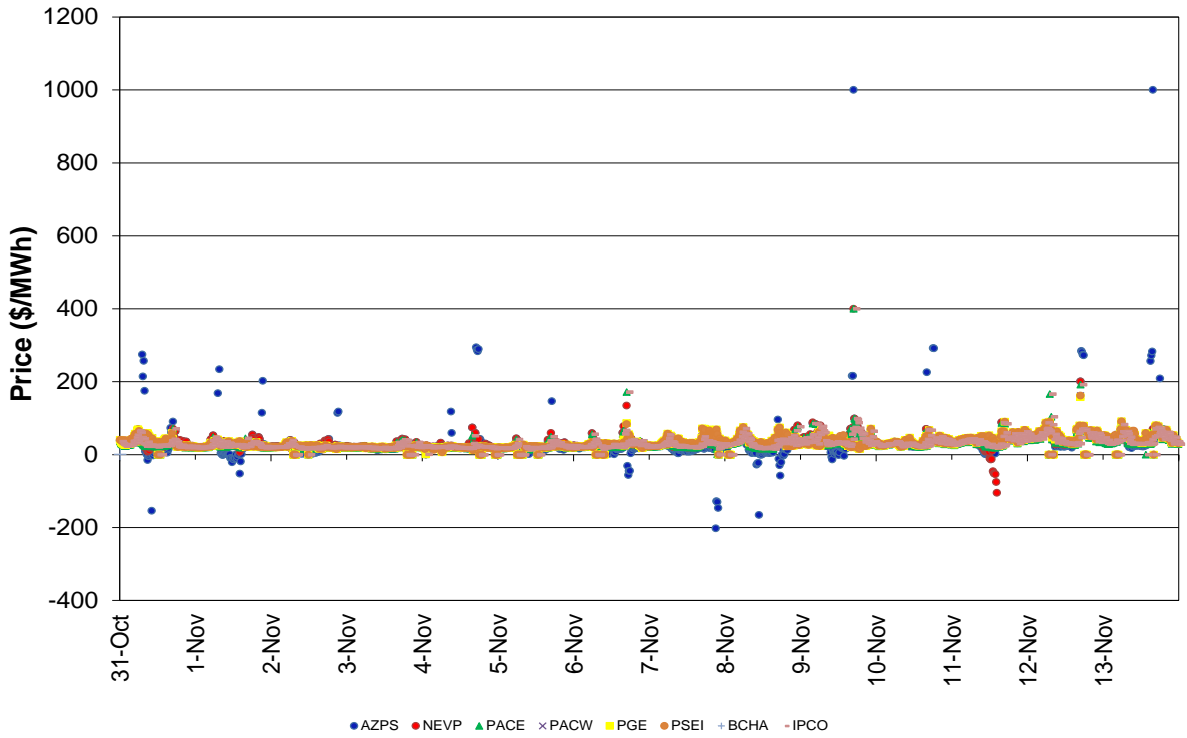


Figure 10: Real-Time RTD ELAP LMP

