

Market Highlights¹ (October 18–October 31)

- The average DLAP price in the integrated forward market was \$48.75. The maximum and minimum DLAP prices were \$526.02 and \$11.41, respectively. The maximum and minimum PNode prices in the integrated forward market were \$700.31 and -\$33.63 respectively.
- The top two interties congested in the integrated forward market were MALIN500 and PALOVRDE_ITC. Congestion rents in these two weeks totaled \$39,604,177.76.
- The average day-ahead ancillary service prices were between \$0.00 and \$418.13.
- Approximately 97.62 percent of the RUC requirements were met from RA units.
- The average real-time FMM DLAP price was \$55.12, with a maximum price of \$1,101.87 and a minimum price of -\$150.66. The maximum and minimum PNode prices in the FMM were \$1,291.65 and -\$150.18, respectively.
- Out of the total 1,344 FMM intervals, 32 intervals saw DLAP prices above \$250, and 1 intervals saw DLAP prices below -\$150.
- Out of the total 1,344 FMM intervals, 91 intervals saw ELAP prices above \$250 and 7 intervals saw ELAP prices below -\$150. The average real-time FMM ELAP price was \$37.10, with a maximum price of \$1,068.34 and a minimum price of -\$184.60.
- The average real-time RTD DLAP price was \$44.37, with a maximum price of \$1,046.54 and a minimum price of -\$352.46. The maximum and minimum PNode prices in the RTD were \$1,169.63 and -\$352.72, respectively.
- Out of the total 4,032 RTD intervals, 62 intervals saw DLAP prices above \$250 and 11 interval saw DLAP prices below -\$150.
- Out of the total 4,032 RTD intervals, 66 intervals saw ELAP prices above \$250 and 30 intervals saw ELAP prices below -\$150. The average real-time RTD ELAP price was \$30.52, with a maximum price of \$1,008.14 and a minimum price of -\$262.45.
- Root cause for daily high price events are noted in Tables 1 and 2.

Table 1 FMM Intervals	
Trade Date	Root Cause
FMM Oct 18 HE 19	Load changes and reduction of net imports
FMM Oct 23 HE 18	Renewable deviation, load changes and generator outage
FMM Oct 23 HE 19	Reduction on net imports and re-dispatch of resources

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 Oct 24 HE 18; Oct 25 HE 18	Load changes, renewable deviation, and reduction of net imports
FMM Oct 24 HE 19	Load changes, reduction of net imports, congestion on OMS 4646112_OP-6610, and generator outage
FMM Oct 24 HE 20	Load changes, congestion on OMS 4646112_OP-6610, and generator outage
FMM Oct 24 HE 21	Generator outage, re-dispatch of resources, congestion on OMS 4646112_OP-6610, and load changes
FMM Oct 25 HE 19	Load changes and renewable deviation
FMM Oct 27 HE 18	Load changes, renewable deviation, congestion on 22260_ESCNDIDO_230_22844_TALEGA_230_BR_1_1.
FMM Oct 28 HE 19	Load changes, congestion on 30060_MIDWAY_500_24156_VINCENT_500_BR_2_3, and congestion on OMS 4646112_OP-6610

Table 2 RTD Intervals	
Trade Date	Root Cause
RTD Oct 18 HE 9, 10	Renewable deviation
RTD Oct 18 HE 17; Oct 21 HE 8	Load changes and renewable deviation
RTD Oct 19 HE 18; Oct 20 HE 23; Oct 25 HE 14	Load changes
RTD Oct 20 HE 23; Oct 21 HE 18; Oct 30 HE 19	Renewable deviation
RTD Oct 23 HE 11	Congestion on 24016_BARRE_230_25201_LEWIS_230_BR_1_1, and reduction of net imports
RTD Oct 23 HE 18, 19	Reduction of net imports, re-dispatch of resources, and generator outage
RTD Oct 24 HE 14	Load changes and congestion on 24016_BARRE_230_24154_VILLA_PK_230_BR_1_1
RTD Oct 24 HE 18	Load changes, renewable deviation, and reduction of net imports
RTD Oct 24 HE 19	Load changes, reduction of net imports, generator outage, and congestion on OMS4646112_OP-6610
RTD Oct 24 HE 20	Load changes generator outages, and congestion on OMS4646112_OP-6610
RTD Oct 24 HE 21	Load changes and congestion on OMS4646112_OP-6610
RTD Oct 25 HE 17, 18	Load changes, reduction of net imports, and renewable deviation
RTD Oct 26 HE 8	Congestion on 30554_CASTROVL_230_30630_NEWARK_230_BR_1_1, load changes, and renewable deviation
RTD Oct 28 HE 18	Renewable deviation, generator outage, congestion on 30060_MIDWAY_500_24156_VINCENT_500_BR_2_3
RTD Oct 31 HE 8, 22	Load changes and re-dispatch of resources.



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

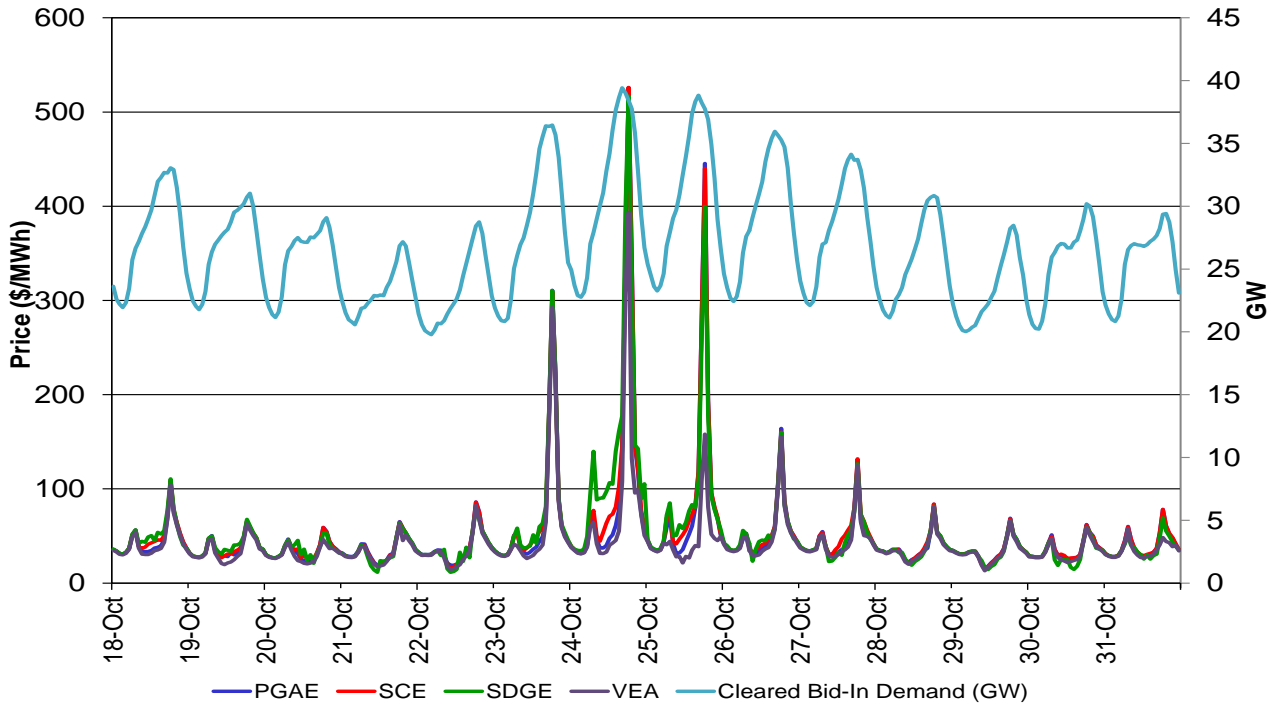


Figure 2: Day-Ahead Congestion Rents

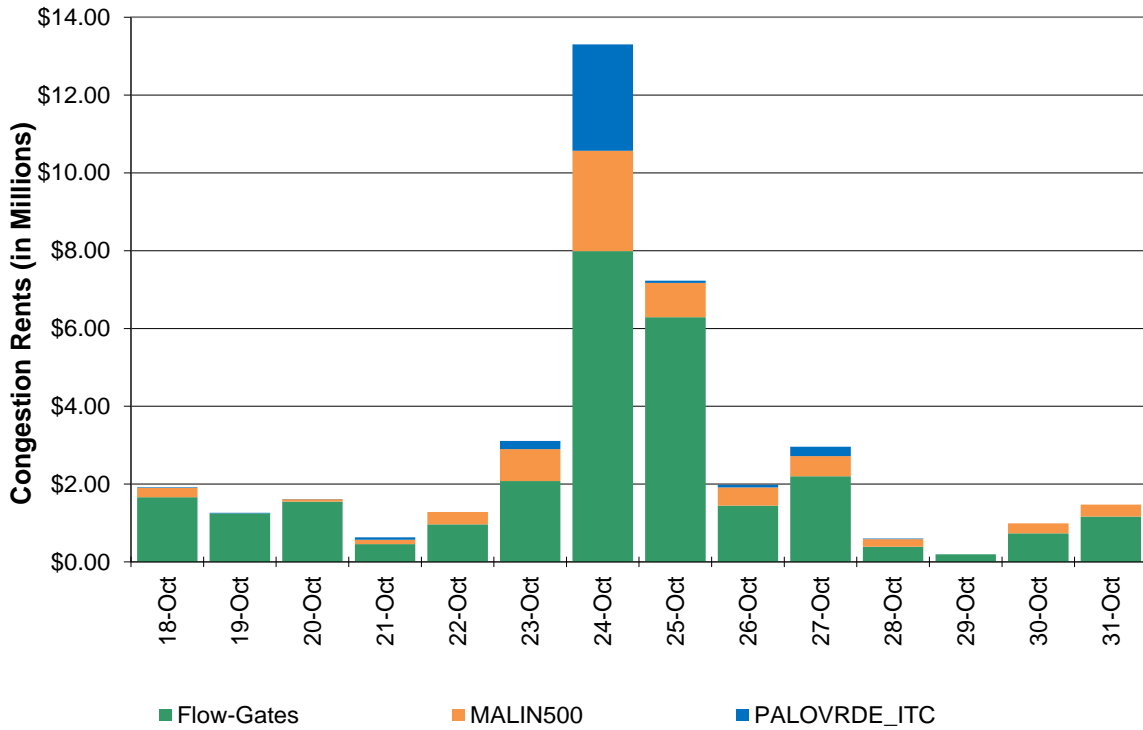


Figure 3: Day-Ahead Congestion Rents for Flow-Based Constraints

Transmission Constraint	Congestion Rent
OMS 4646112_OP-6610	\$ 8,009,080.60
22192_DOUBLTTP_138_22300_FRIARS_138_BR_1_1	\$ 7,302,322.05
24016_BARRE_230_24154_VILLA PK_230_BR_1_1	\$ 4,492,358.26
7820_TL 230S_OVERLOAD_NG	\$ 2,035,202.61
OMS_5349592_SCIT	\$ 1,236,010.10
31334_CLER LKE_60.0_31338_KONOCTI6_60.0_BR_1_1	\$ 788,870.79
22500_MISSION_138_22496_MISSION_69.0_XF_1	\$ 536,492.48
34112_EXCHEQUR_115_34116_LE GRAND_115_BR_1_1	\$ 420,180.88
33315_RAVENSWD_115_33316_CLYLDG_115_BR_1_1	\$ 408,674.16
22260_ESCNDIDO_230_22844_TALEGA_230_BR_1_1	\$ 305,272.22
30735_METCALF_230_30042_METCALF_500_XF_12	\$ 299,112.63
24025_CHINO_230_24093_MIRALOM_230_BR_3_1	\$ 260,968.81
38000_LODI_230_30622_EIGHT MI_230_BR_1_1	\$ 257,642.34
32056_CORTINA_60.0_30451_CRTNA M_1.0_XF_1	\$ 214,391.23
99254_J.HINDS2_230_24806_MIRAGE_230_BR_1_1	\$ 206,715.94
30060_MIDWAY_500_24156_VINCENT_500_BR_2_3	\$ 195,464.46
24016_BARRE_230_25201_LEWIS_230_BR_1_1	\$ 172,742.33
32326_ENCL TAP_60.0_32332_PEASE_60.0_BR_1_1	\$ 146,813.37
22208_EL CAJON_69.0_22408_LOSCOCHS_69.0_BR_1_1	\$ 138,905.14
22227_ENCINATP_230_22716_SANLUSRY_230_BR_2_1	\$ 135,081.35
30261_BELDENTP_230_30300_TABLMTN_230_BR_1_1	\$ 123,554.07
32218_DRUM_115_32220_DTCH FL1_115_BR_1_1	\$ 98,347.11
22773_BAY BLVD_69.0_22352_IMPRLBCH_69.0_BR_1_1	\$ 85,655.83
32208_GLEAF TP_115_32214_RIO OSO_115_BR_1_1	\$ 61,215.52
31336_HPLND JT_60.0_31206_HPLND JT_115_XF_2	\$ 45,490.26
33724_LOCKEFRD_60.0_33736_LODI JCT_60.0_BR_1_1	\$ 41,302.15
31220_EGLE RCK_115_31228_HOMSTKTP_115_BR_1_1	\$ 37,038.27
6310_CP6_NG	\$ 35,842.10
31556_TRINITY_60.0_31555_MSS TAP2_60.0_BR_1_1	\$ 35,562.84
35122_NWARK EF_115_35350_AMES BS_115_BR_2_1	\$ 27,167.70
22480_MIRAMAR_69.0_22756_SCRIPPS_69.0_BR_1_1	\$ 26,938.91
31336_HPLND JT_60.0_31370_CLVRDLJT_60.0_BR_1_1	\$ 22,929.71
34469_GFFNJCT_70.0_34470_GIFFEN_70.0_BR_1_1	\$ 22,434.61
24138_SERRANO_500_24137_SERRANO_230_XF_1_P	\$ 18,671.39
33020_MORAGA_115_33010_SOBRANTE_115_BR_1_1	\$ 16,245.74
35648_LLAGAS_115_35650_GILROY F_115_BR_1_1	\$ 15,361.66
33020_MORAGA_115_32780_CLARMNT_115_BR_1_1	\$ 12,920.97
33008_GRIZLYJ2_115_33010_SOBRANTE_115_BR_2_1	\$ 11,384.05
32218_DRUM_115_32244_BRNSWKT2_115_BR_2_1	\$ 10,464.09
OMS 5291983_SCIT_MidVin	\$ 8,696.23
31092_MPLE CRK_60.0_31093_HYMPOMJT_60.0_BR_1_1	\$ 8,263.25

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

Transmission Constraint	Congestion Rent
32973_LAKEWOOD_115_99108_LAK-MOR1_115_BR_1_1	\$ 6,963.28
31228_HOMSTKTP_115_31227_HGHLNDJ2_115_BR_1_1	\$ 6,358.06
31110_BRDGVILLE_60.0_31112_FRUITLND_60.0_BR_1_1	\$ 5,817.98
30060_MIDWAY_500_24156_VINCENT_500_BR_1_3	\$ 4,394.86
31218_ER_FTNJT_115_31220_EGLE RCK_115_BR_1_1	\$ 4,069.48
31378_FULTON_60.0_31382_FTCHMTNP_60.0_BR_1_1	\$ 3,556.87
31338_KONOCIT6_60.0_31344_EGLE RCK_60.0_BR_1_1	\$ 2,164.25
34859_PRMTFMTP_70.0_34873_Q484TP_70.0_BR_1_1	\$ 1,418.00
31108_SWNS FLT_60.0_31110_BRDGVILLE_60.0_BR_1_1	\$ 1,398.09
31104_CARLOTTA_60.0_31105_RIODLLTP_60.0_BR_1_1	\$ 1,303.33
31210_MPE TAP_115_31214_GEYERS56_115_BR_1_1	\$ 1,083.30
34116_LE GRAND_115_34134_WILSONAB_115_BR_1_1	\$ 672.33
31114_FRT SWRD_60.0_31116_GRBRVILLE_60.0_BR_1_1	\$ 600.47
31214_GEYERS56_115_31220_EGLE RCK_115_BR_1_1	\$ 246.16
33541_AEC_TP1_115_33540_TESLA_115_BR_1_1	\$ 175.21
Total	\$ 28,368,009.87

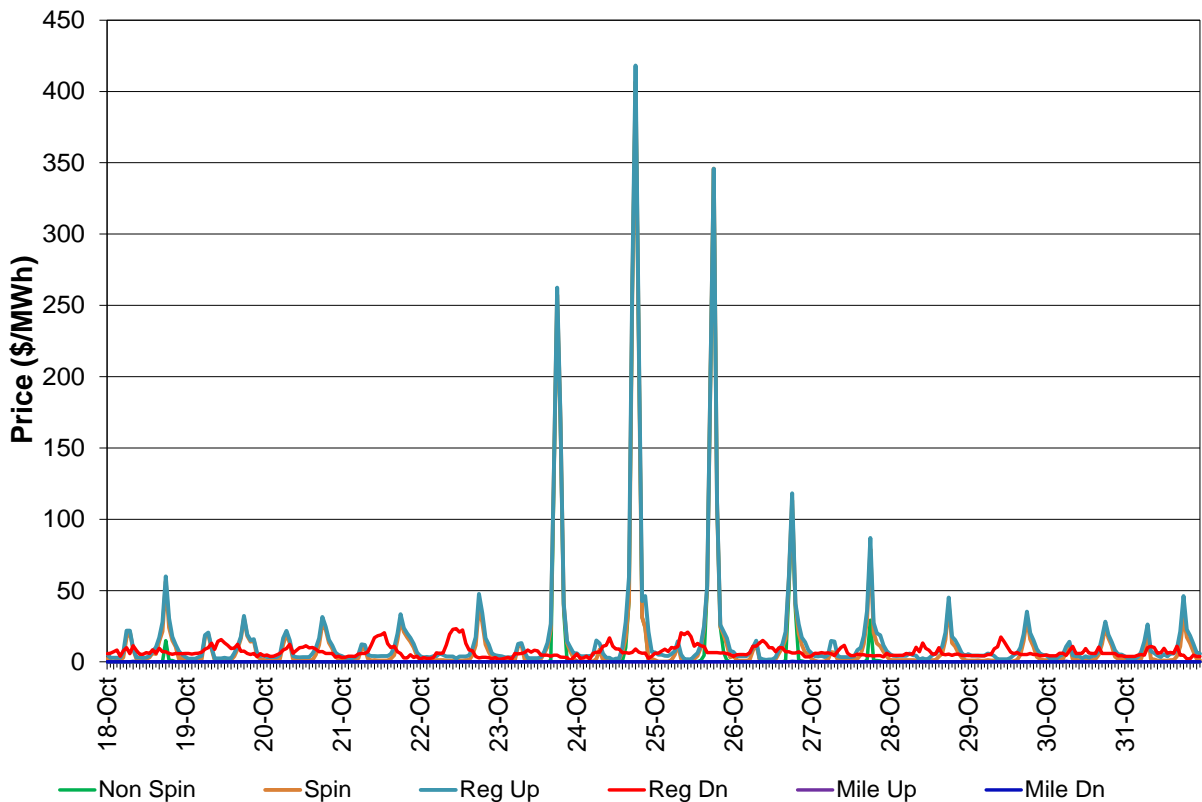
Figure 4: Day-Ahead (IFM) Average A/S Price


Figure 5: Day-Ahead Average RUC Price

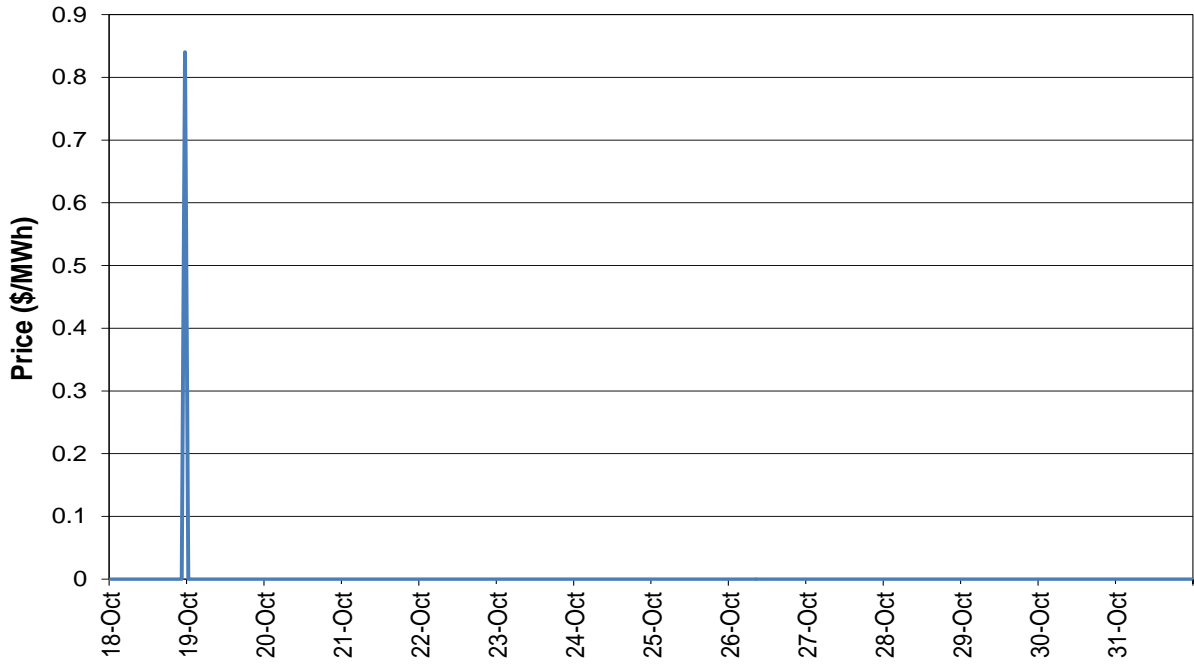


Figure 6: Real-Time FMM Average A/S Price

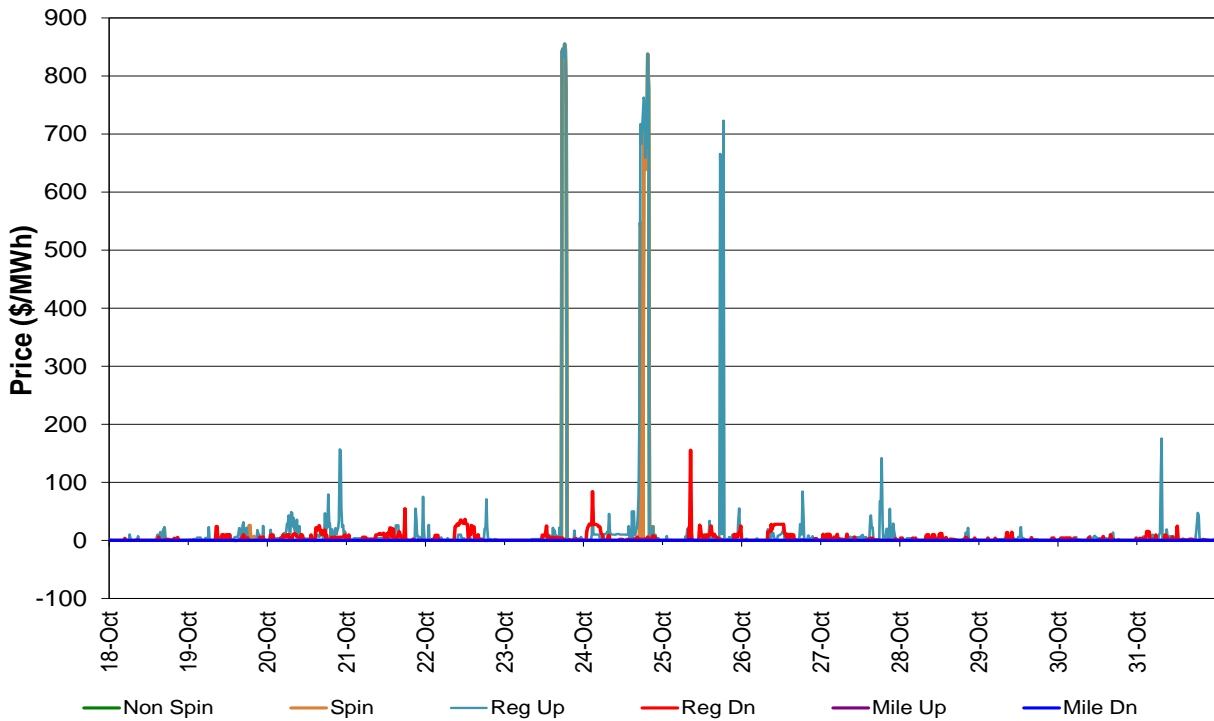


Figure 7: Real-Time FMM DLAP LMP

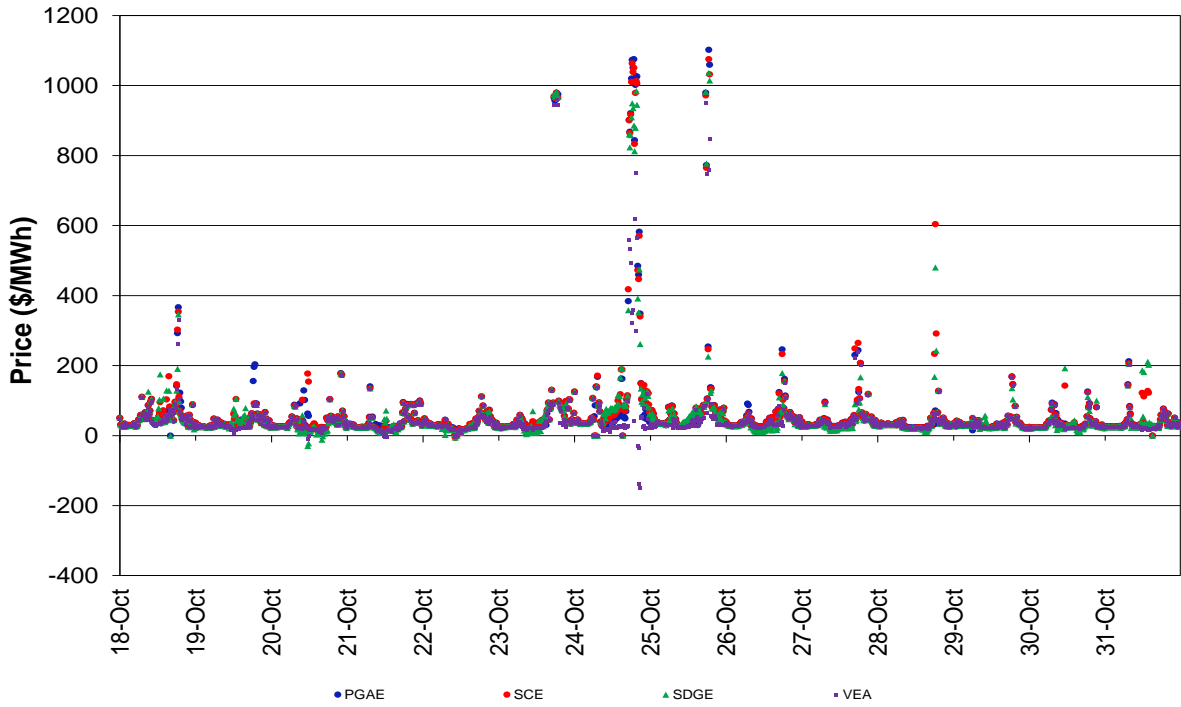


Figure 8: Real-Time RTD DLAP LMP

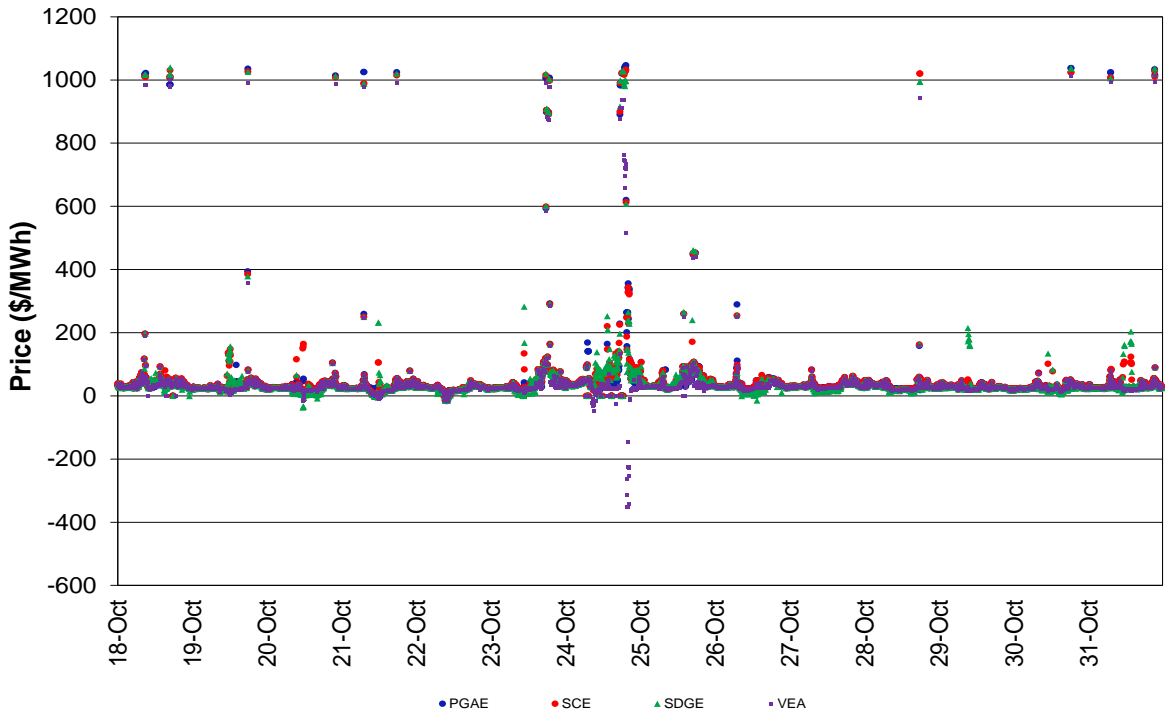


Figure 9: Real-Time FMM ELAP LMP

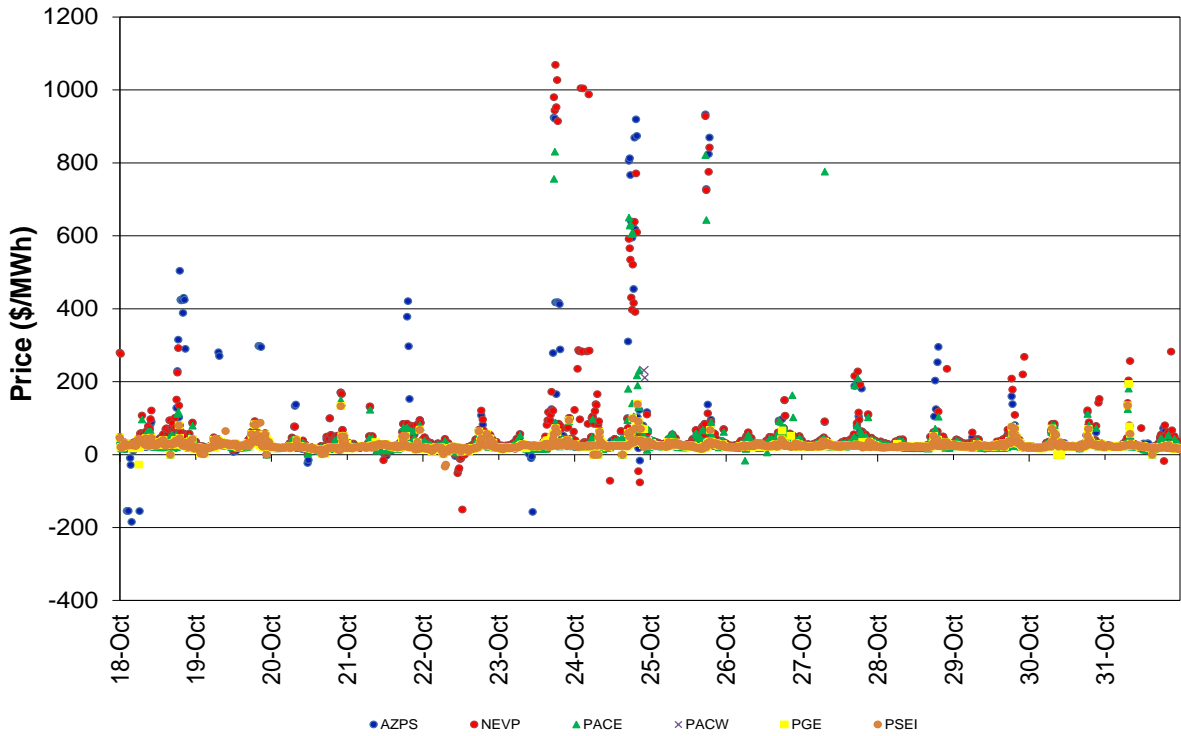


Figure 10: Real-Time RTD ELAP LMP

