

## Market Highlights<sup>1</sup> (December 12–December 25)

- The average DLAP price in the integrated forward market was \$45.08. The maximum and minimum DLAP prices were \$103.16 and \$18.56, respectively. The maximum and minimum PNode prices in the integrated forward market were \$450.00 and -\$99.21 respectively.
- The top two interties congested in the integrated forward market were MALIN500 and PALOVRDE\_ITC. Congestion rents in these two weeks totaled \$12,770,138.51.
- The average day-ahead ancillary service prices were between \$0.00 and \$36.47.
- Approximately 92.25 percent of the RUC requirements were met from RA units.
- The average real-time FMM DLAP price was \$39.36, with a maximum price of \$173.06 and a minimum price of -\$2.26. The maximum and minimum PNode prices in the FMM were \$421.26 and -\$229.49, respectively.
- Out of the total 1,344 FMM intervals, 0 intervals saw DLAP prices above \$250, and 0 intervals saw DLAP prices below -\$150.
- Out of the total 1,344 FMM intervals, 0 intervals saw ELAP prices above \$250 and 2 intervals saw ELAP prices below -\$150.
- The average real-time FMM ELAP price was \$32.02, with a maximum price of \$223.82 and a minimum price of -\$152.97.
- The average real-time RTD DLAP price was \$38.03, with a maximum price of \$1,055.90 and a minimum price of -\$8.63. The maximum and minimum PNode prices in the RTD were \$1,072.42 and -\$332.93, respectively.
- Out of the total 4,032 RTD intervals, 9 intervals saw DLAP prices above \$250 and 0 interval saw DLAP prices below -\$150.
- Out of the total 4,032 RTD intervals, 12 intervals saw ELAP prices above \$250 and 8 intervals saw ELAP prices below -\$150. The average real-time RTD ELAP price was \$31.78, with a maximum price of \$961.55 and a minimum price of -\$155.84.
- Root causes for daily high price events are noted in Tables 1 and 2.

Table 1 FMM Intervals	
Trade Date	Root Cause
	None

<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 Dec 14 HE 10	Renewable deviation
RTD Dec 17 HE 9	Load changes and renewable deviation
RTD Dec 18 HE 22	Load changes, renewable deviation, and congestion on OP-6610_ELD-LUGO

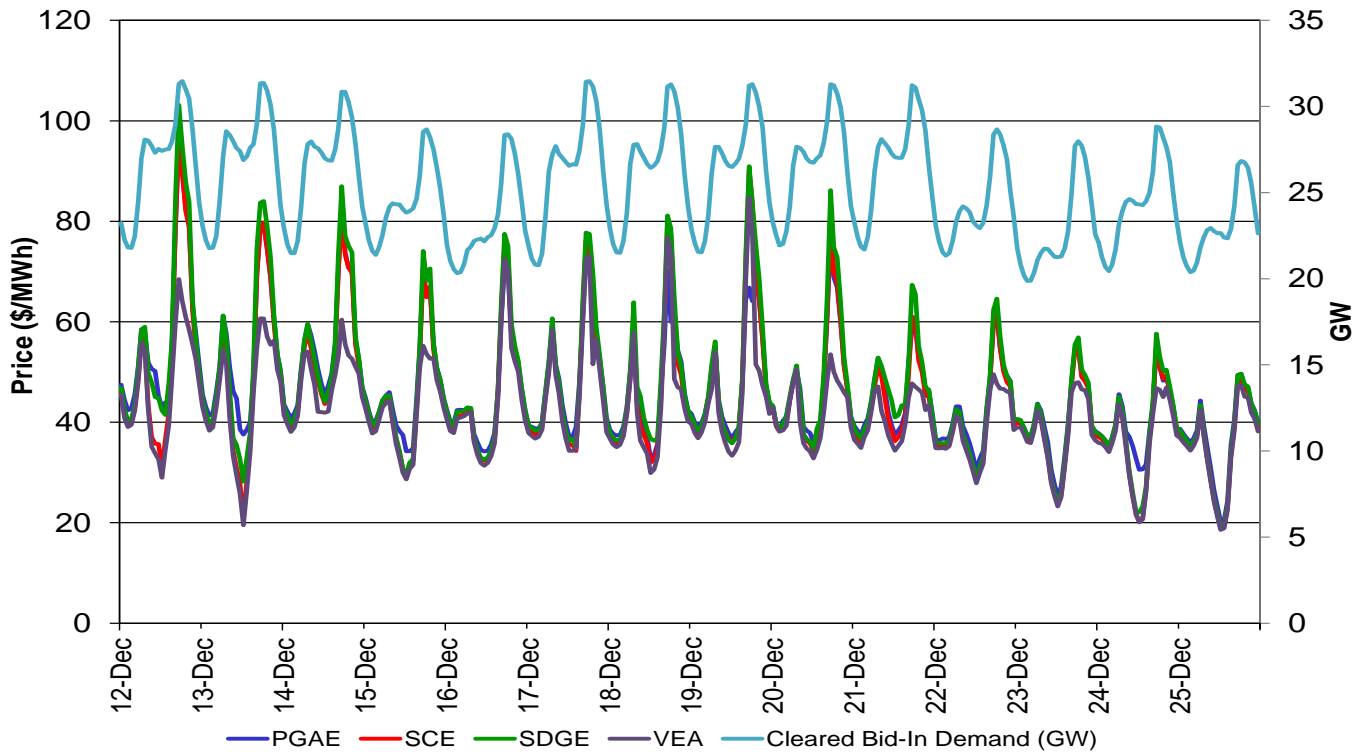
**Figure 1: Day-Ahead (IFM) LAP LMP and Cleared Bid-In Demand**




Figure 2: Day-Ahead Congestion Rents

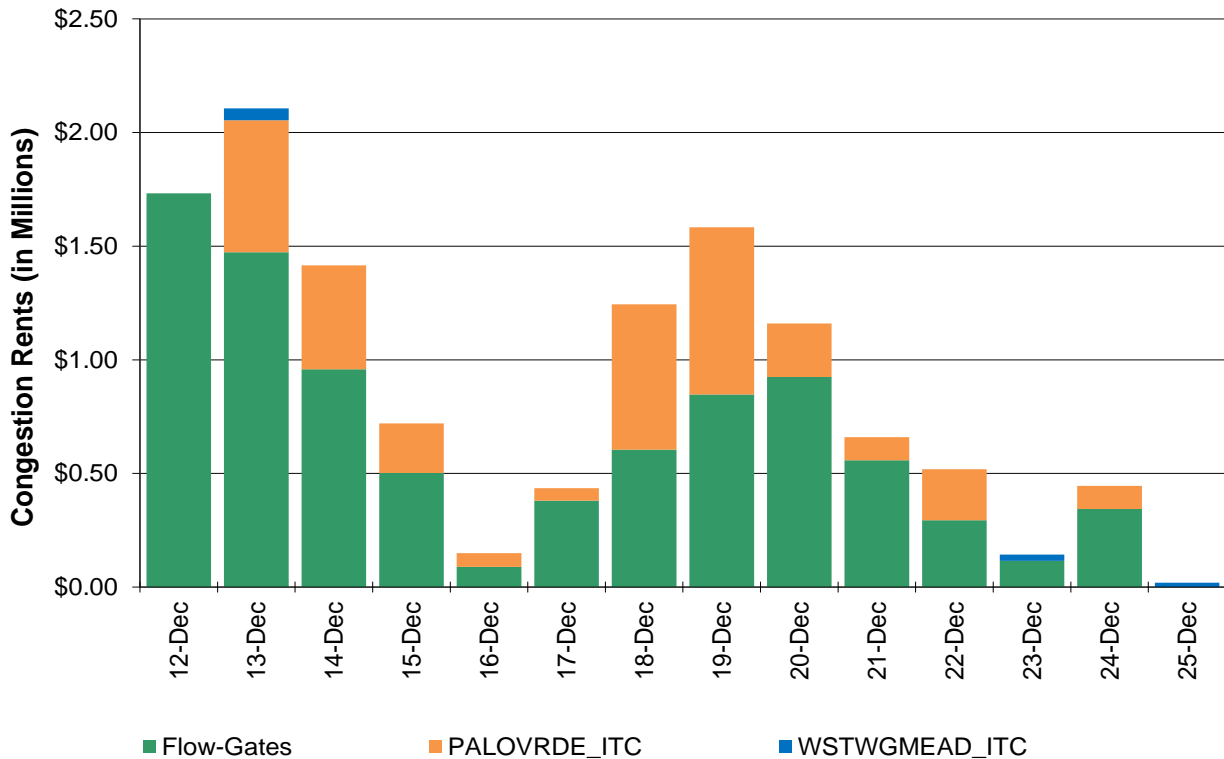
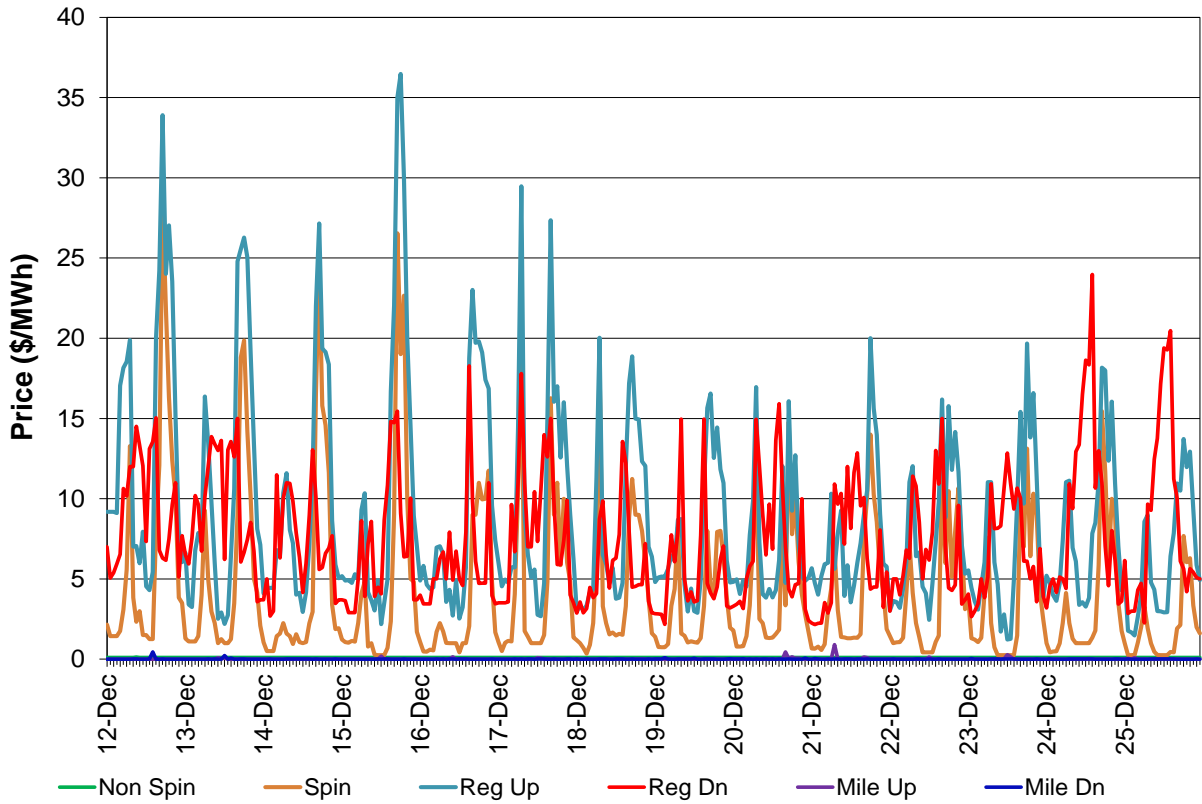


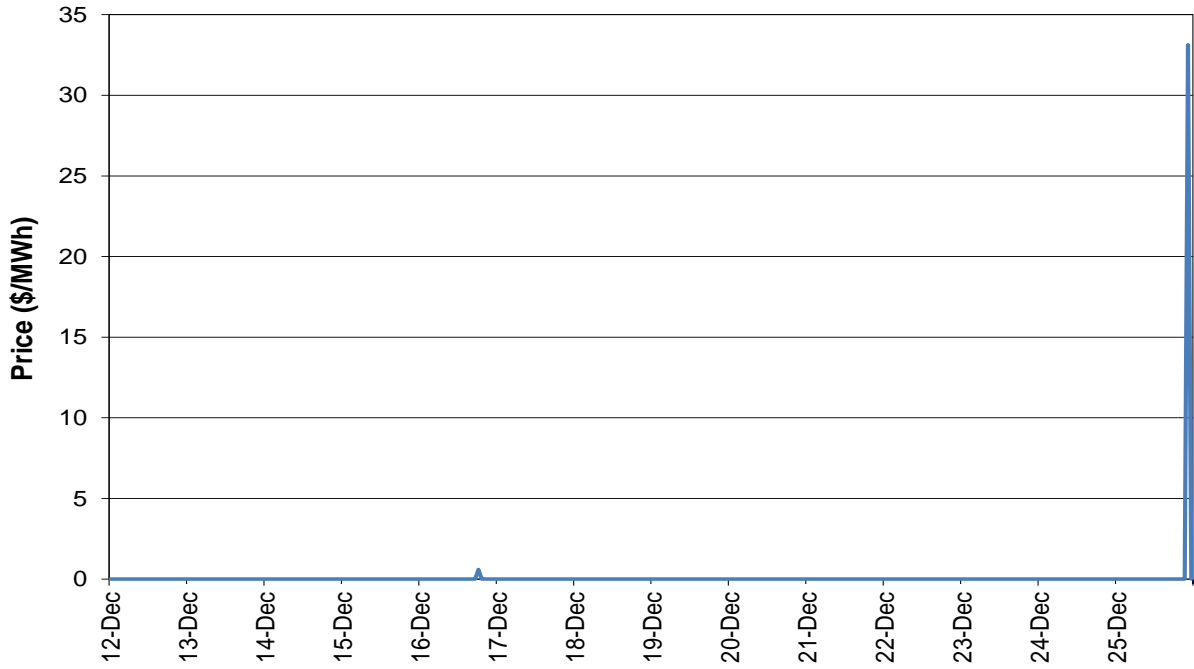
Figure 3: Day-Ahead Congestion Rents for Flow-Based Constraints

Transmission Constraint	Congestion Rent
24086_LUGO_500_26105_VICTORVL_500_BR_1_1	\$ 5,314,531.65
22192_DOUBLTTP_138_22300_FRIARS_138_BR_1_1	\$ 353,230.59
7820_TL_230S_OVERLOAD_NG	\$ 302,822.98
30055_GATES1_500_30060_MIDWAY_500_BR_1_3	\$ 279,100.46
30060_MIDWAY_500_24156_VINCENT_500_BR_2_3	\$ 214,759.87
30875_MC CALL_230_34370_MC CALL_115_XF_3_P	\$ 189,430.63
7510-PAS-BAI-PAR-OOS_NG	\$ 123,435.65
30515_WARNERVL_230_30800_WILSON_230_BR_1_1	\$ 103,739.67
24804_DEVERS_230_25666_EL CASCO_230_BR_1_2	\$ 87,854.38
24025_CHINO_230_24093_MIRALOM_230_BR_3_1	\$ 74,906.82
30624_TESLA E_230_30670_WSTLYSMD_230_BR_1_1	\$ 70,839.51
22056_BERNARDO_69.0_22676_R.CARMEL_69.0_BR_1_1	\$ 58,380.16
22832_SYCAMORE_230_22652_PENSQTOS_230_BR_1_1	\$ 43,563.48
34418_KINGSBRG_115_34405_FRWT TAP_115_BR_1_1	\$ 21,066.96
31461_JESSTAP_115_31464_COTWDPGE_115_BR_1_1	\$ 11,891.04
24036_EAGLROCK_230_24059_GOULD_230_BR_1_1	\$ 11,583.35
30865_BALCH_230_30860_BALCH3TP_230_BR_1_1	\$ 10,363.22
34269_BIOMSJCT_70.0_34268_MENDOTA_70.0_BR_1_1	\$ 8,663.94
22604_OTAY_69.0_22616_OTAYLKTP_69.0_BR_1_1	\$ 8,567.12
22136_CLAIRMNT_69.0_22140_CLARMTTP_69.0_BR_1_1	\$ 4,716.07

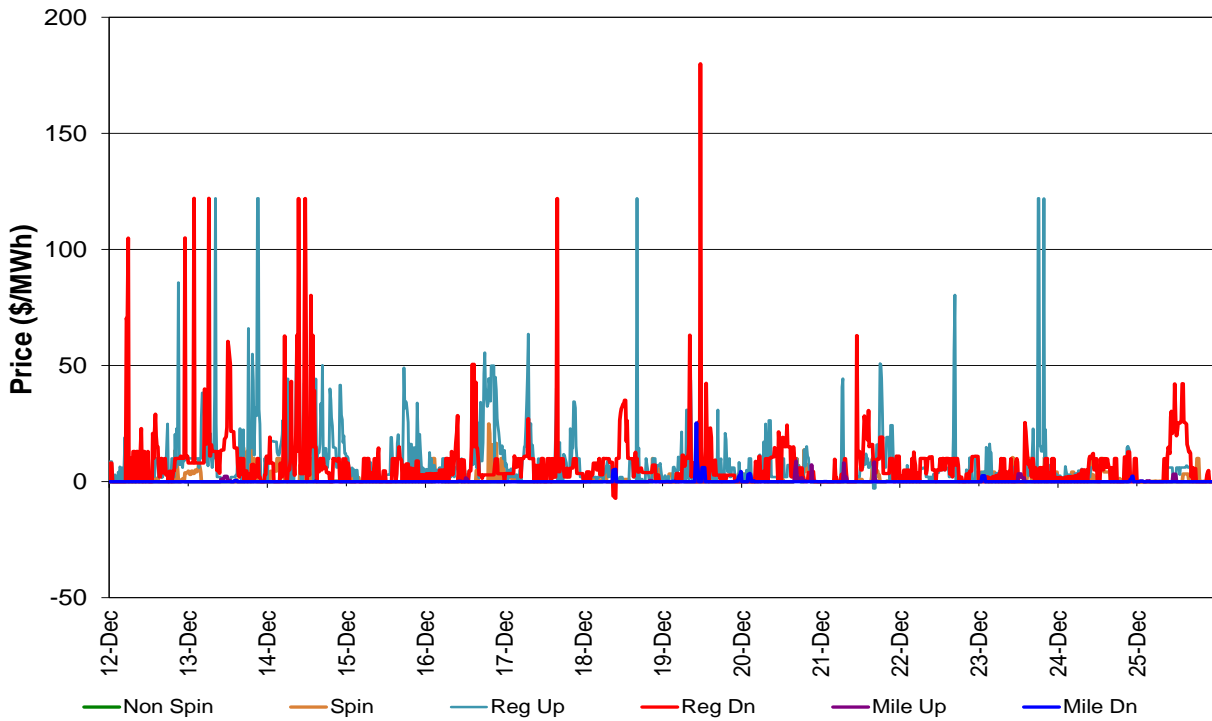
Transmission Constraint	Congestion Rent
OMS 4790142 Caribou Bank	\$ 3,086.08
34474_HELM _70.0_34556_STRD JCT_70.0_BR_1_1	\$ 1,602.39
22160_DEL MAR _69.0_22644_PENSQTOS_69.0_BR_2_1	\$ 1,440.47
HUMBOLDT_IMP_NG	\$ 1,006.94
24804_DEVERS _230_24806_MIRAGE _230_BR_2_1	\$ 880.33
31000_HUMBOLDT_115_31015_BRDGVILLE_115_BR_1_1	\$ 717.67
22296_FENTONTP_69.0_22292_FENTON _69.0_BR_1_1	\$ 341.72

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


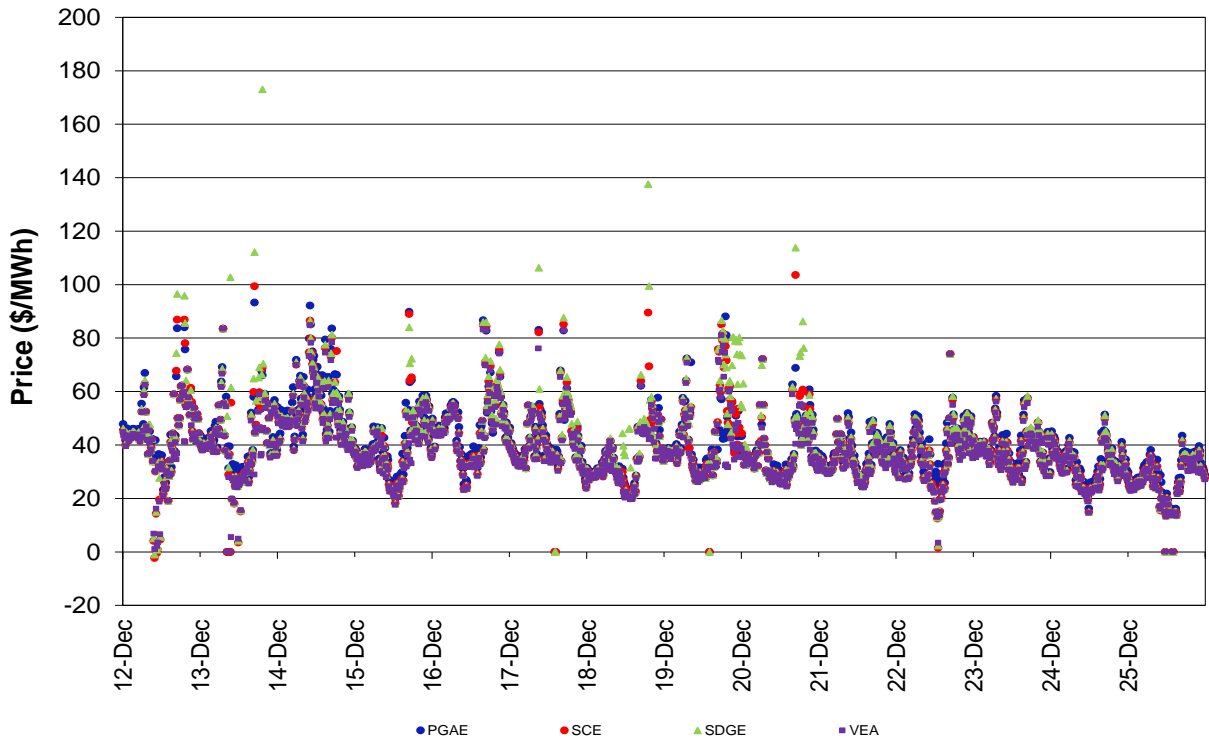
**Figure 5: Day-Ahead Average RUC Price**



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



**Figure 7: Real-Time FMM DLAP LMP**



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

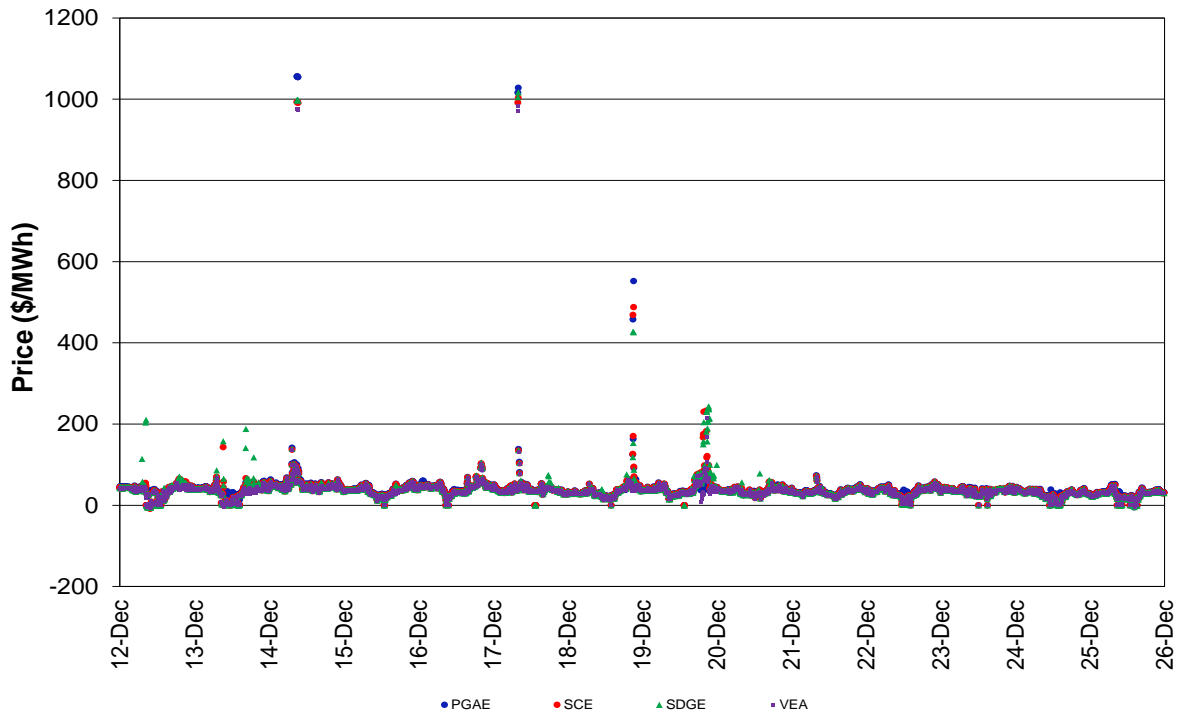




Figure 9: Real-Time FMM ELAP LMP

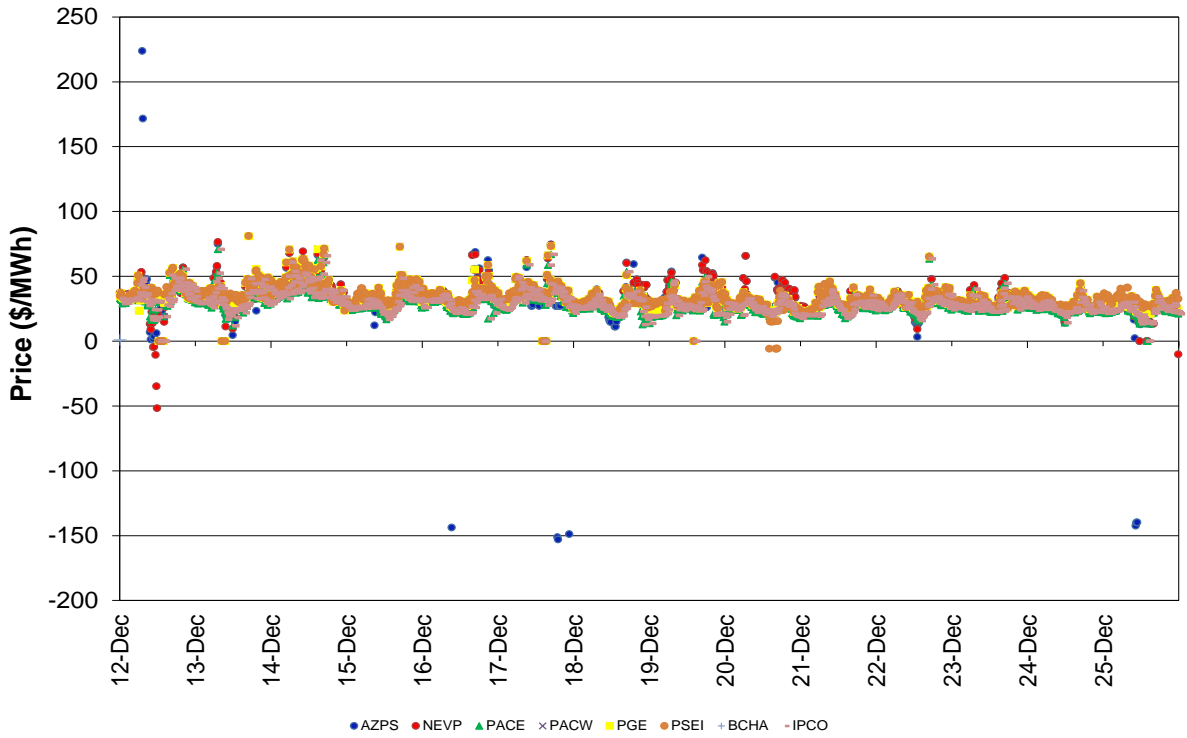


Figure 10: Real-Time RTD ELAP LMP

