Market Highlights[1] (April 4–April 17)

- The average DLAP price in the integrated forward market was $28.95. The maximum and minimum DLAP prices were $121.78 and -$13.07, respectively. The maximum and minimum PNode prices in the integrated forward market were $111.63 and -$148.95 respectively.

- The top two interties congested in the integrated forward market were MALIN500 and NOB_ITC. Congestion rents in these two weeks totaled $16,486,348.78.

- The average day-ahead ancillary service prices were between $0.00 and $108.61.

- Approximately 88.70 percent of the RUC requirements were met from RA units.

- The average real-time FMM DLAP price was $40.16, with a maximum price of $1,251.84 and a minimum price of -$17.47. The maximum and minimum PNode prices in the FMM were $1,344.27 and -$991.46, respectively.

- Out of the total 1,344 FMM intervals, 20 intervals saw DLAP prices above $250, and 0 intervals saw DLAP prices below -$150.

- Out of the total 1,344 FMM intervals, 63 intervals saw ELAP prices above $250 And 21 intervals saw ELAP prices below -$150.

- The average real-time FMM ELAP price was $26.01, with a maximum price of $1,199.60 and a minimum price of -$255.11.

- The average real-time RTD DLAP price was $30.89, with a maximum price of $1,142.40 and a minimum price of -$24.46. The maximum and minimum PNode prices in the RTD were $1,238.15 and -$890.41, respectively.

- Out of the total 4,032 RTD intervals, 54 intervals saw DLAP prices above $250 and 0 interval saw DLAP prices below -$150.

- Out of the total 4,032 RTD intervals, 134 intervals saw ELAP prices above $250 and 63 intervals saw ELAP prices below -$150. The average real-time RTD ELAP price was $25.76, with a maximum price of $1,095.12 and a minimum price of -$270.35.

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

Table 1 FMM Intervals	
Trade Date	**Root Cause**
FMM Apr 5 HE 22; Apr 6 HE 18; Apr 9 HE 19, 20;	Changes in renewable forecast and load changes.

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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**
Apr 10 HE 19;Apr 11 HE 6; Apr 12 HE 6	
FMM Apr 6 HE 7; Apr 9 HE 6; Apr 9 HE 21; Apr 10 HE 21	Load changes and reduction of net imports.
FMM Apr 8 HE 20	Congestion on RM_TM21_NG.
FMM Apr 17 HE 17, 20	Load changes.
FMM Apr 11 HE 18; Apr 11 HE 21	Load changes and generator outage.
FMM Apr 11 HE 20	Load changes, generator outage, changes in renewable forecast, and re-dispatch of resources.
FMM Apr 17 HE 9	Congestion on OMS 5730606 TL50003_NG

Table 1 RTD Intervals	
Trade Date	**Root Cause**
RTD Apr 4 HE 19; Apr 5 HE 18; Apr 9 HE 1	Load changes.
RTD Apr 6 HE 1; Apr 9 HE 18, 19; Apr 11 HE 23; Apr 15 HE 16	Renewable deviation.
RTD Apr 6 HE 16; Apr 10 HE 18; Apr 11 HE 19,20; Apr 12 HE 10, 19	Load changes and renewable deviation.
RTD Apr 6 HE 22	Load changes, reduction of net imports, renewable deviation, re-dispatch of resources, and congestion on RM_TM21_NG.
RTD Apr 6 HE 23	Generator outage, reduction of net imports, re-dispatch of resources, and congestion on RM_TM21_NG.
RTD Apr 6 HE 24	Renewable deviation and reduction of net imports.
RTD Apr 7 HE 1	Load changes and re-dispatch of resources.
RTD Apr 7 HE 23; Apr 14 HE 8	Reduction of net imports.
RTD Apr 9 HE 6, 7	Load changes, renewable deviation, and re-dispatch of resources.
RTD Apr 11 HE 2	Re-dispatch of resources.
RTD Apr 11 HE 18	Load changes and generator outages.
RTD Apr 16 HE 23	Load changes, renewable deviation, and reduction of net imports.
RTD Apr 17 HE 7	Congestion on OMS 5730606 TL50003_NG
RTD Apr 17 HE 12	Congestion on MIGUEL_BKs_MXFLW_NG

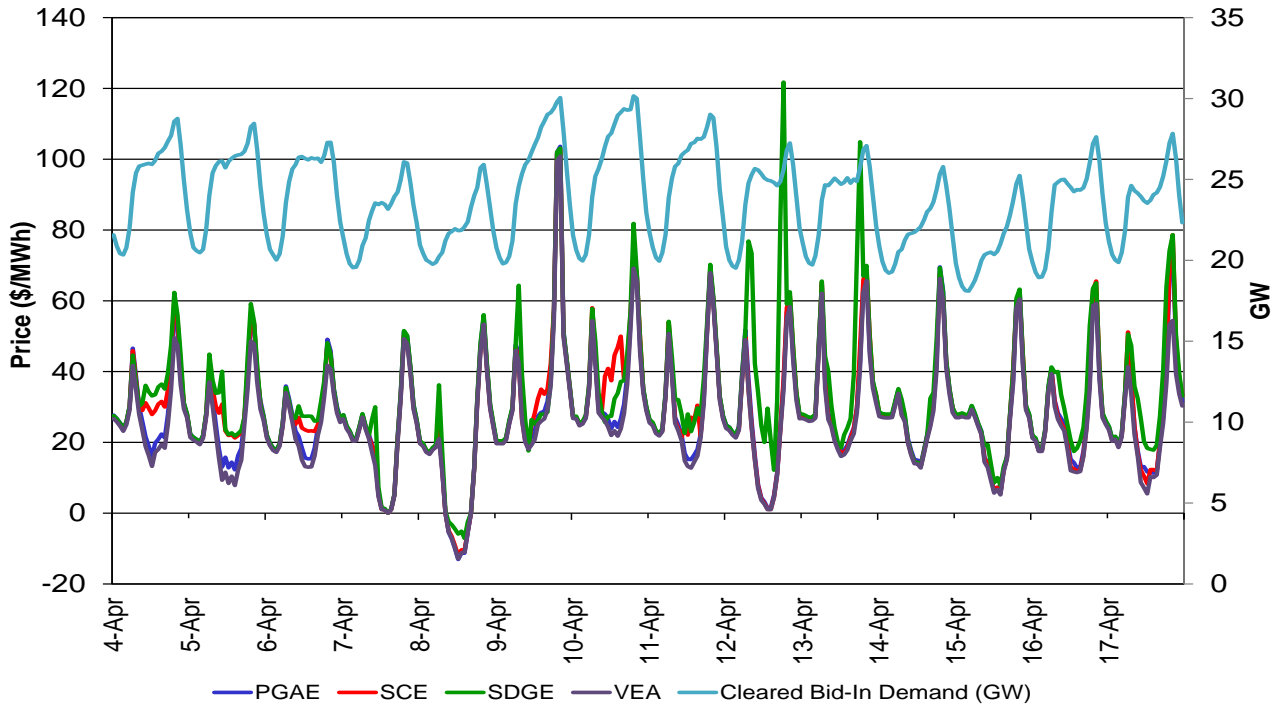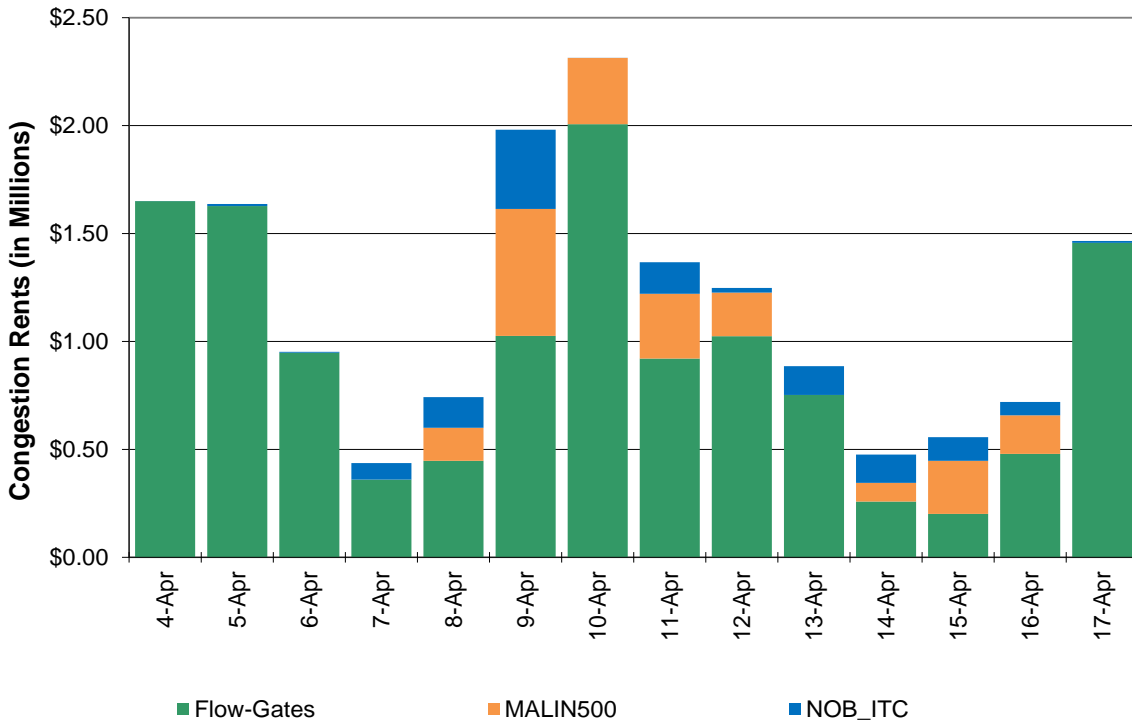**Figure 1: Day-Ahead (IFM) LAP LMP and Cleared Bid-In Demand**

Figure 2: Day-Ahead Congestion Rents

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

Transmission Constraint	Congestion Rent
24138_SERRANO _500_24137_SERRANO _230_XF_1 _P	$ 3,170,148.39
24036_EAGLROCK_230_24059_GOULD _230_BR_1 _1	$ 2,999,191.00
22192_DOUBLTTP_138_22300_FRIARS _138_BR_1 _1	$ 1,907,067.43
35612_TRIMBLE _115_35616_SNJOSEB _115_BR_1 _1	$ 1,410,861.98
24016_BARRE _230_24154_VILLA PK_230_BR_1 _1	$ 825,429.04
24086_LUGO _500_26105_VICTORVL_500_BR_1 _1	$ 314,363.49
7820_TL 230S_OVERLOAD_NG	$ 295,495.21
34427_ATWELL _115_34701_SMYRNA 1_115_BR_1 _1	$ 255,256.03
34548_KETTLEMN_70.0_34552_GATES _70.0_BR_1 _1	$ 240,977.99
31336_HPLND JT_60.0_31370_CLVRDLJT_60.0_BR_1 _1	$ 210,309.31
24114_PARDEE _230_24147_SYLMAR S_230_BR_2 _1	$ 171,858.89
25001_GOODRICH_230_24076_LAGUBELL_230_BR_1 _1	$ 167,929.69
31218_ER_FTNJT_115_31220_EGLE RCK_115_BR_1 _1	$ 122,992.48
33541_AEC_TP1 _115_33540_TESLA _115_BR_1 _1	$ 109,821.52
34758_LAMONT _115_34805_ARVINJ1 _115_BR_1 _1	$ 108,383.98
31990_DAVIS _115_31962_WDLND_BM_115_BR_1 _1	$ 105,381.43
24016_BARRE _230_25201_LEWIS _230_BR_1 _1	$ 94,276.40
30050_LOSBANOS_500_30055_GATES1 _500_BR_1 _1	$ 84,381.84
34859_PRMTFMTP_70.0_34873_Q484TP _70.0_BR_1 _1	$ 81,714.95
31378_FULTON _60.0_31382_FTCHMTNP_60.0_BR_1 _1	$ 68,670.14
34112_EXCHEQUR_115_34116_LE GRAND_115_BR_1 _1	$ 56,293.04
7820_TL 230S_IV-SX-OUT_NG	$ 47,415.55
34469_GFFNJCT _70.0_34470_GIFFEN _70.0_BR_1 _1	$ 29,033.43
34887_TAP SKRN_70.0_34882_SAN EMDO_70.0_BR_1 _1	$ 27,086.99
34418_KINGSBRG_115_34405_FRWT TAP_115_BR_1 _1	$ 25,915.03
22773_BAY BLVD_69.0_22604_OTAY _69.0_BR_1 _1	$ 22,344.16
24153_VESTAL _230_24235_RECTOR _230_BR_1 _1	$ 20,799.82
31461_JESSTAP _115_31464_COTWDPGE_115_BR_1 _1	$ 17,182.34
22604_OTAY _69.0_22616_OTAYLKTP_69.0_BR_1 _1	$ 15,799.56
30523_CC SUB _230_30525_C.COSTA _230_BR_1 _1	$ 15,431.33
34116_LE GRAND_115_34134_WILSONAB_115_BR_1 _1	$ 13,049.60
34474_HELM _70.0_34556_STRD JCT_70.0_BR_1 _1	$ 12,706.09
32218_DRUM _115_32244_BRNSWKT2_115_BR_2 _1	$ 12,369.47
32208_GLEAF TP_115_32214_RIO OSO _115_BR_1 _1	$ 11,862.67
30435_LAKEVILE_230_30460_VACA-DIX_230_BR_1 _1	$ 11,492.70
31214_GEYERS56_115_31220_EGLE RCK_115_BR_1 _1	$ 11,000.58
33360_HILLSDLE_60.0_33361_HLLSDLJT_60.0_BR_1 _1	$ 7,375.95
34864_GARDNER _70.0_34867_MARICOPW_70.0_BR_1 _1	$ 6,080.18
31696_CNTRVLLE_60.0_31704_CLARK RD_60.0_BR_1 _1	$ 5,388.35

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

Transmission Constraint	Congestion Rent
30055_GATES1 _500_30060_MIDWAY _500_BR_1 _3	$ 5,280.25
HUMBOLDT_IMP_NG	$ 5,091.70
32212_E.NICOLS_115_32214_RIO OSO _115_BR_1 _1	$ 4,752.80
36851_NORTHERN_115_36852_SCOTT _115_BR_2 _1	$ 4,643.62
31692_DE SABLA_60.0_31696_CNTRVLLE_60.0_BR_1 _1	$ 4,151.66
31464_COTWDPGE_115_30105_COTTNWD _230_XF_1	$ 3,636.52
24092_MIRALOMA_500_24093_MIRALOM _230_XF_4 _P	$ 3,569.99
32056_CORTINA _60.0_30451_CRTNA_M_ 1.0_XF_1	$ 2,232.10
32314_SMRTSVLE_60.0_32349_BEALE2J1_60.0_BR_1 _1	$ 1,364.64
31512_BIG BEN2_115_31516_WYANDJT2_115_BR_1 _2	$ 1,209.40
31080_HUMBOLDT_60.0_31088_HMBLT JT_60.0_BR_1 _1	$ 969.25
32326_ENCL TAP_60.0_32332_PEASE _60.0_BR_1 _1	$ 941.88
34700_SMYRNA 2_115_34742_SEMITRPJ_115_BR_1 _1	$ 805.36
31576_WNTU PMS_60.0_31578_LOMS JCT_60.0_BR_1 _1	$ 785.33
33045_FIBRJCT1_115_33049_RIVERVEW_115_BR_1 _1	$ 685.73
22480_MIRAMAR _69.0_22756_SCRIPPS _69.0_BR_1 _1	$ 583.48
31104_CARLOTTA_60.0_31105_RIODLLTP_60.0_BR_1 _1	$ 531.94
31110_BRDGVLLE_60.0_31112_FRUITLND_60.0_BR_1 _1	$ 485.21
31000_HUMBOLDT_115_31452_TRINITY _115_BR_1 _1	$ 416.71
31593_COWCREEK_60.0_31597_DESCHTP1_60.0_BR_1 _1	$ 98.12
31604_COTTONWD_60.0_31611_RAWSON _60.0_BR_2 _1	$ 60.29
31566_KESWICK _60.0_31582_STLLWATR_60.0_BR_1 _1	$ 55.69
22296_FENTONTP_69.0_22292_FENTON _69.0_BR_1 _1	$ 44.93
Totals	**$ 13,155,534.60**

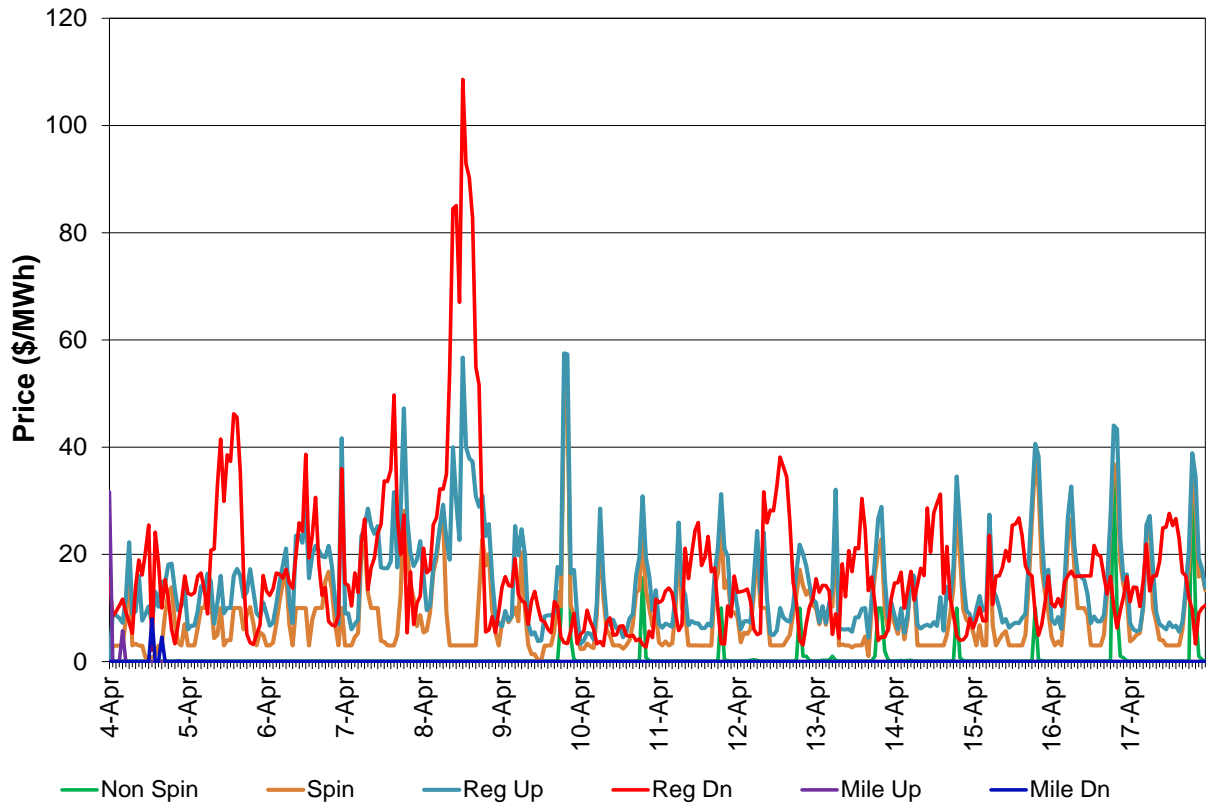**Figure 4: Day-Ahead (IFM) Average A/S Price**
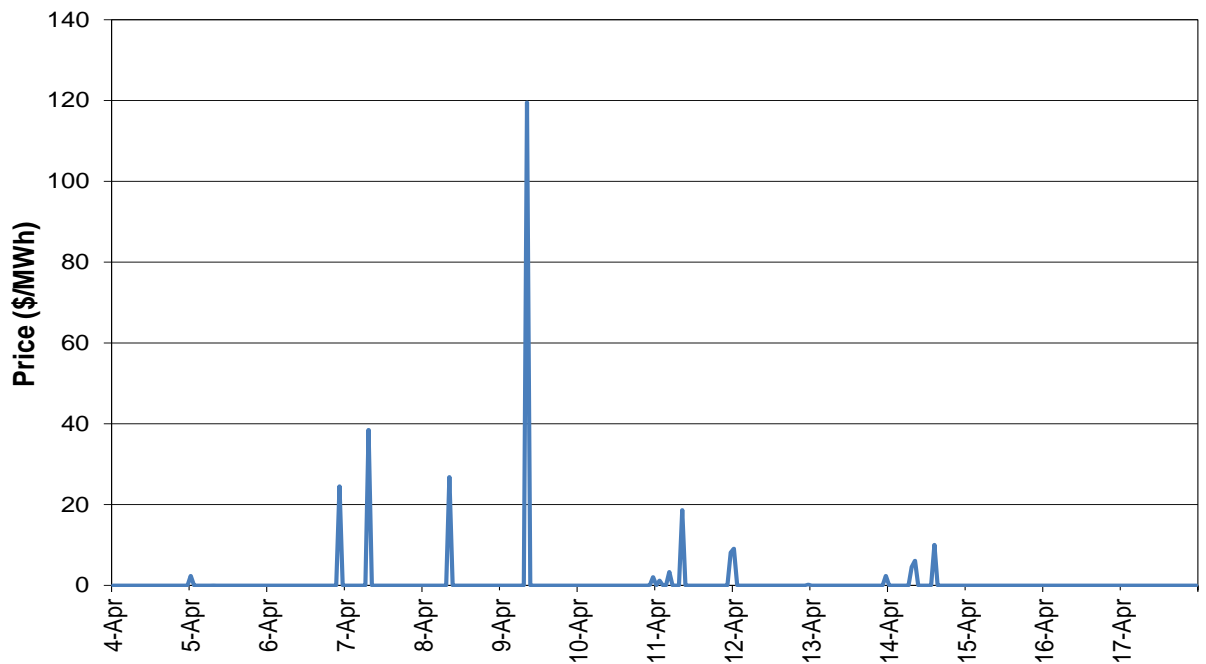

Figure 5: Day-Ahead Average RUC Price

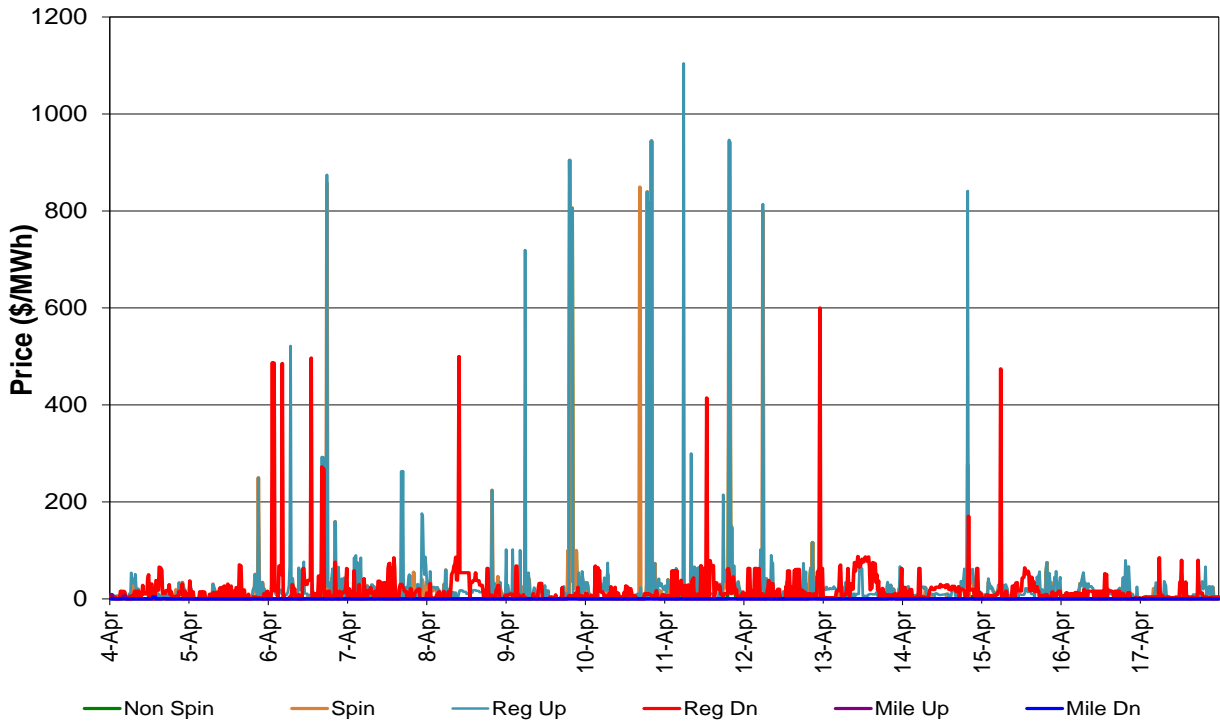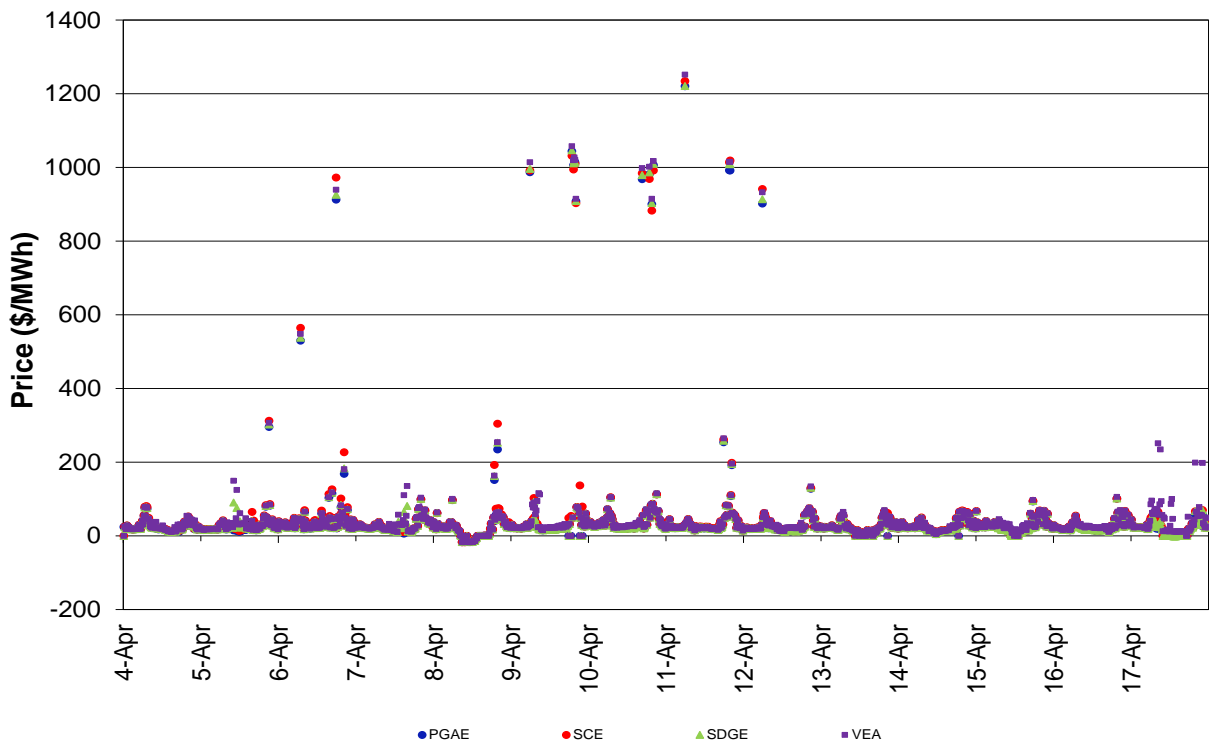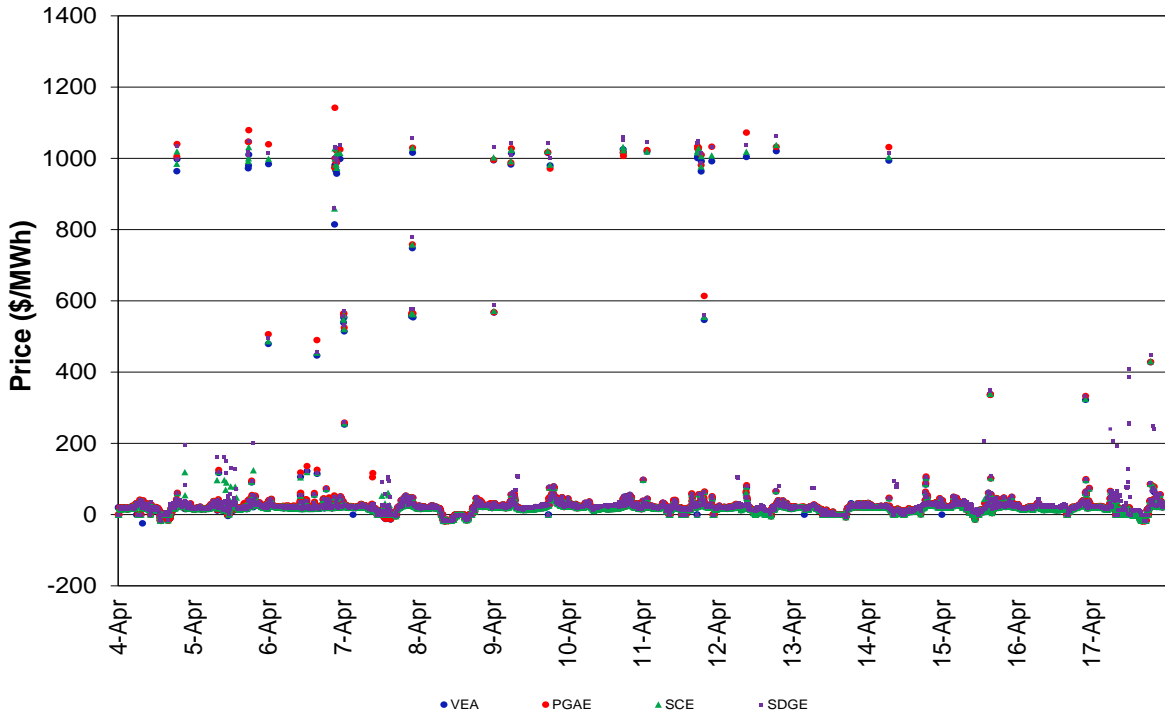**Figure 6: Real-Time FMM Average A/S Price**

Figure 7: Real-Time FMM DLAP LMP
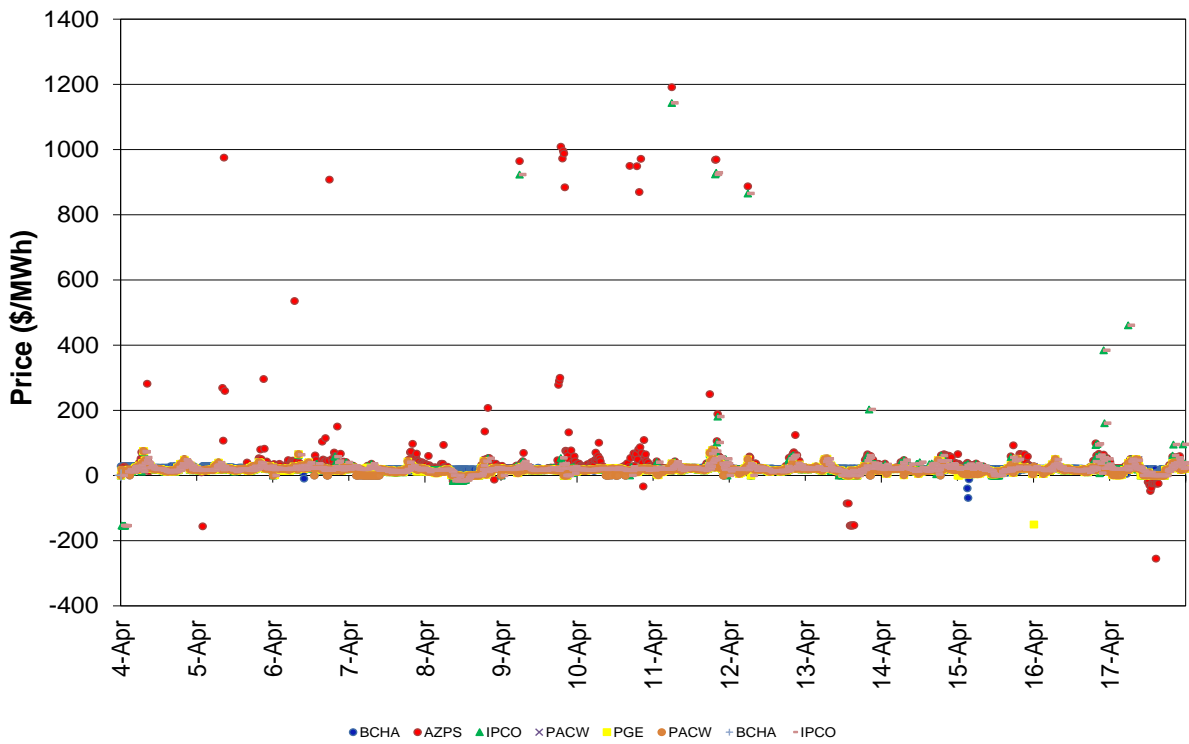
Figure 8: Real-Time RTD DLAP LMP

Figure 9: Real-Time FMM ELAP LMP

Figure 10: Real-Time RTD ELAP LMP