

To the Public Utility Commission of Texas

ERCOT Wholesale Electricity Market Monthly Report

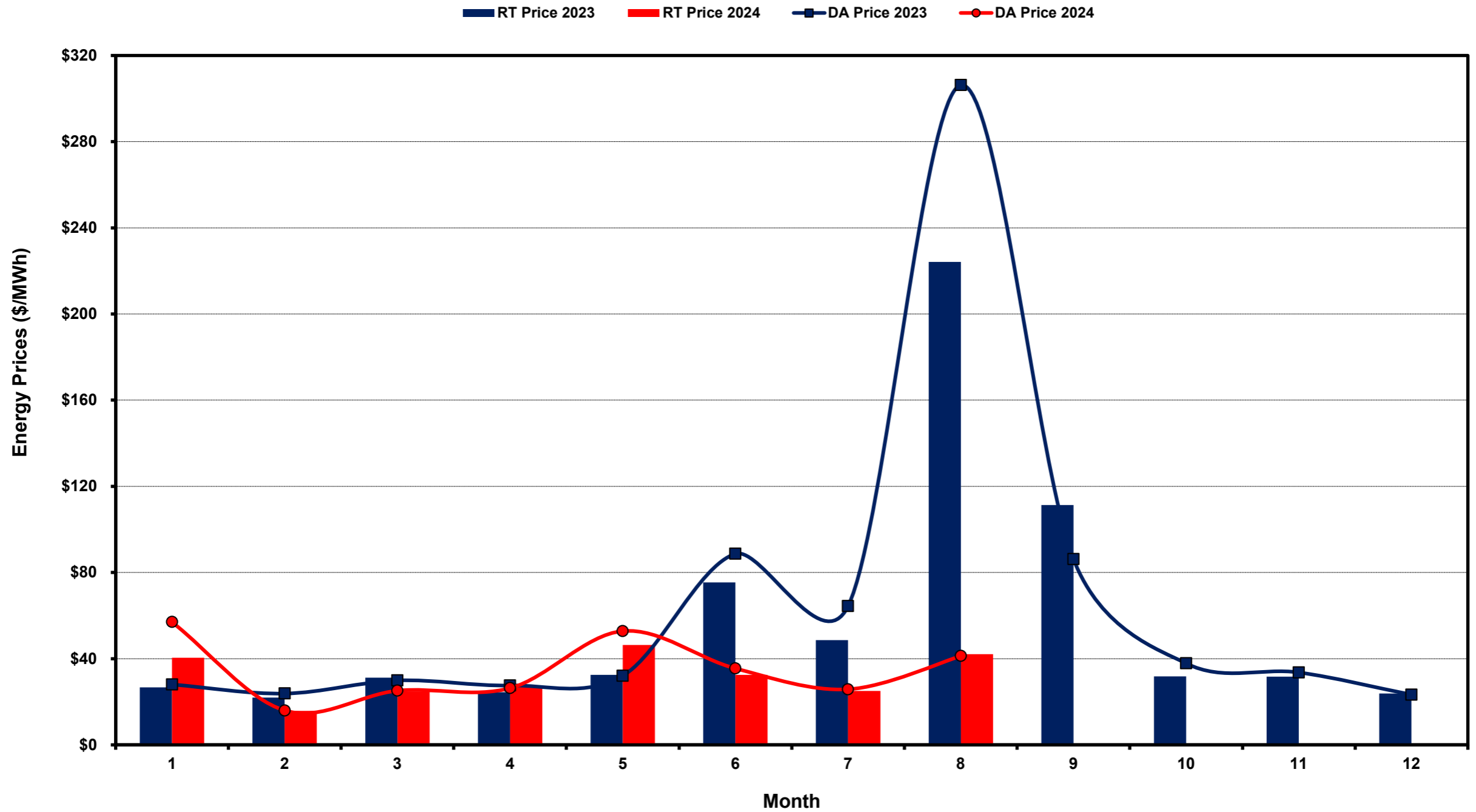
Tuesday, September 10, 2024

Potomac Economics, Ltd.
Independent Market Monitor

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ERCOT-wide Average Energy Prices DA vs RT

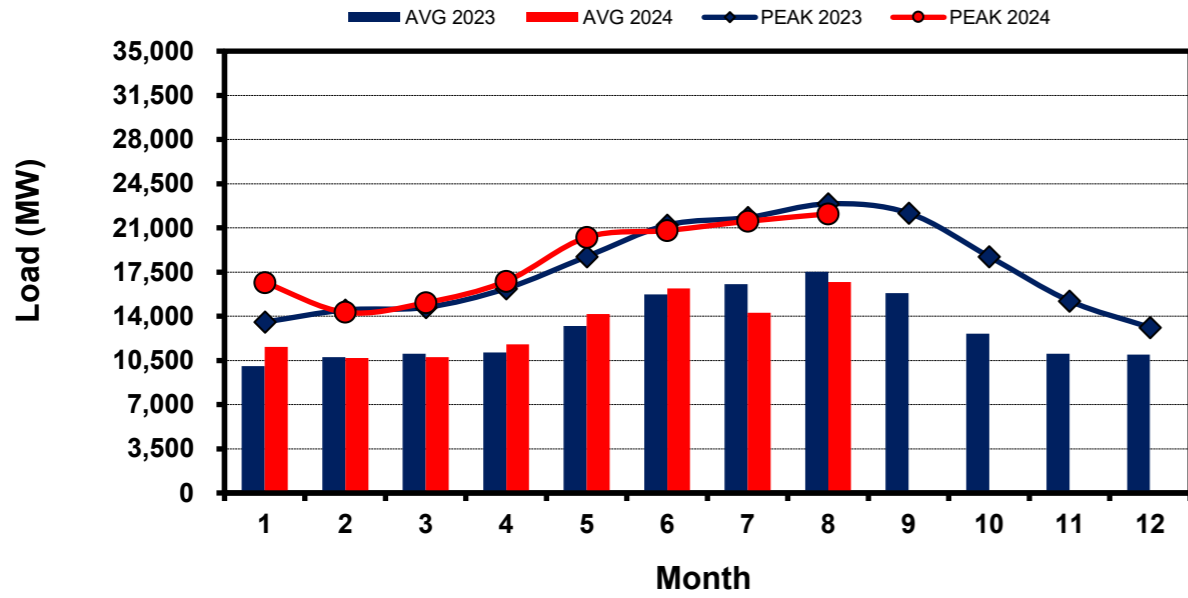
(avg. DA & RT SPPs weighted by Real Time Settlement Loads)



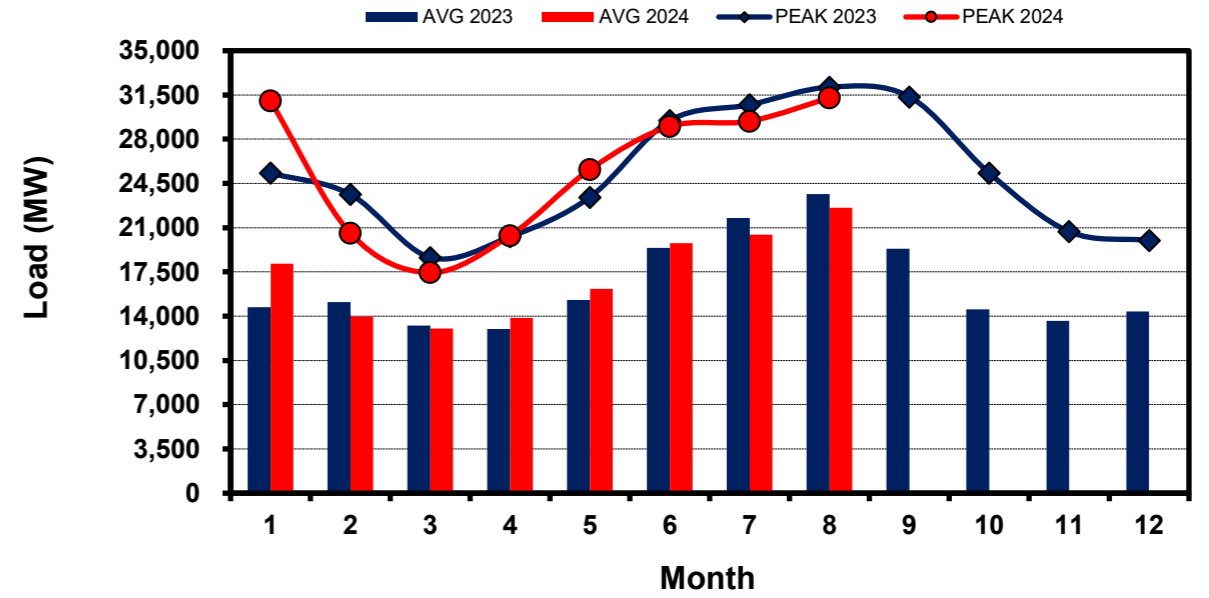
Load Zone Load Statistics

(Nodal load zone made comparable to zonal system Load Zone definitions*)

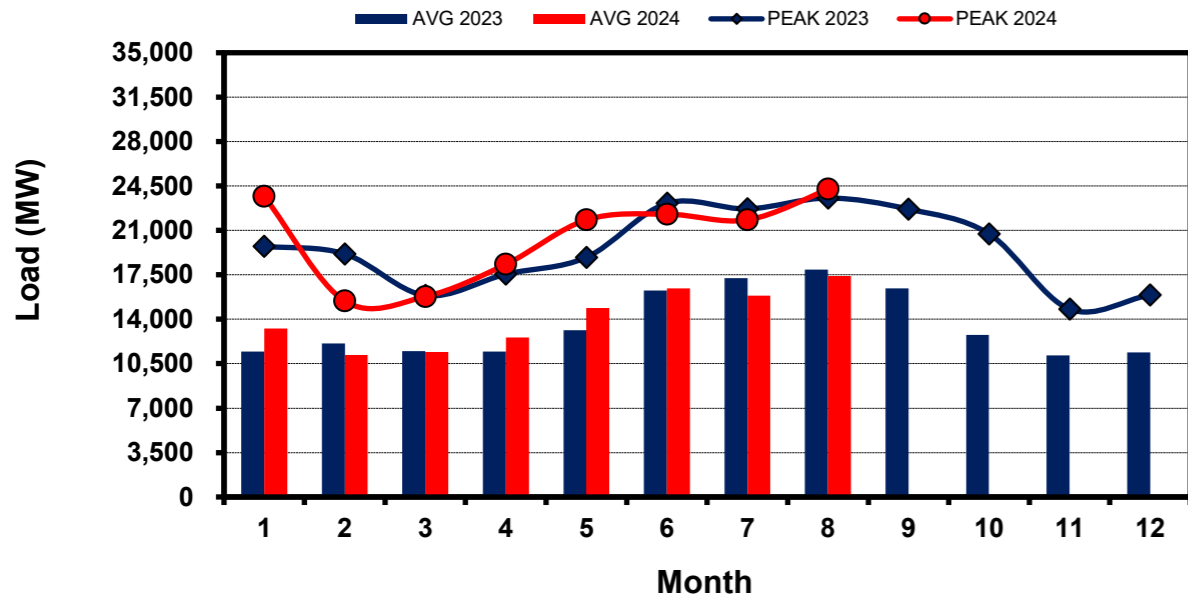
Houston Zone



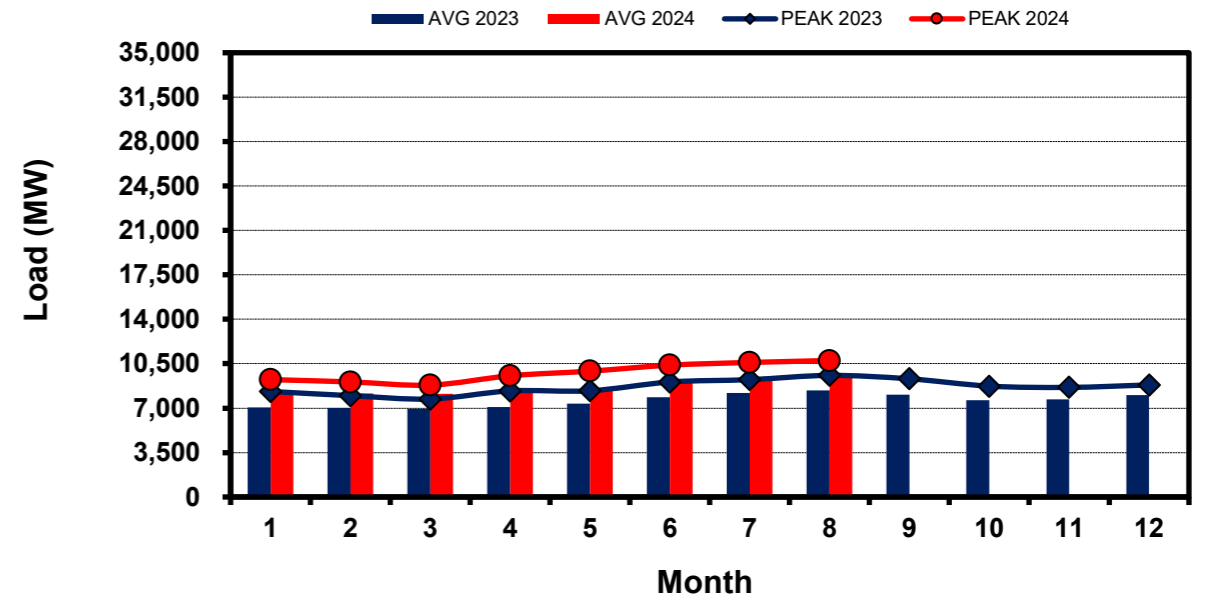
North Zone



South Zone



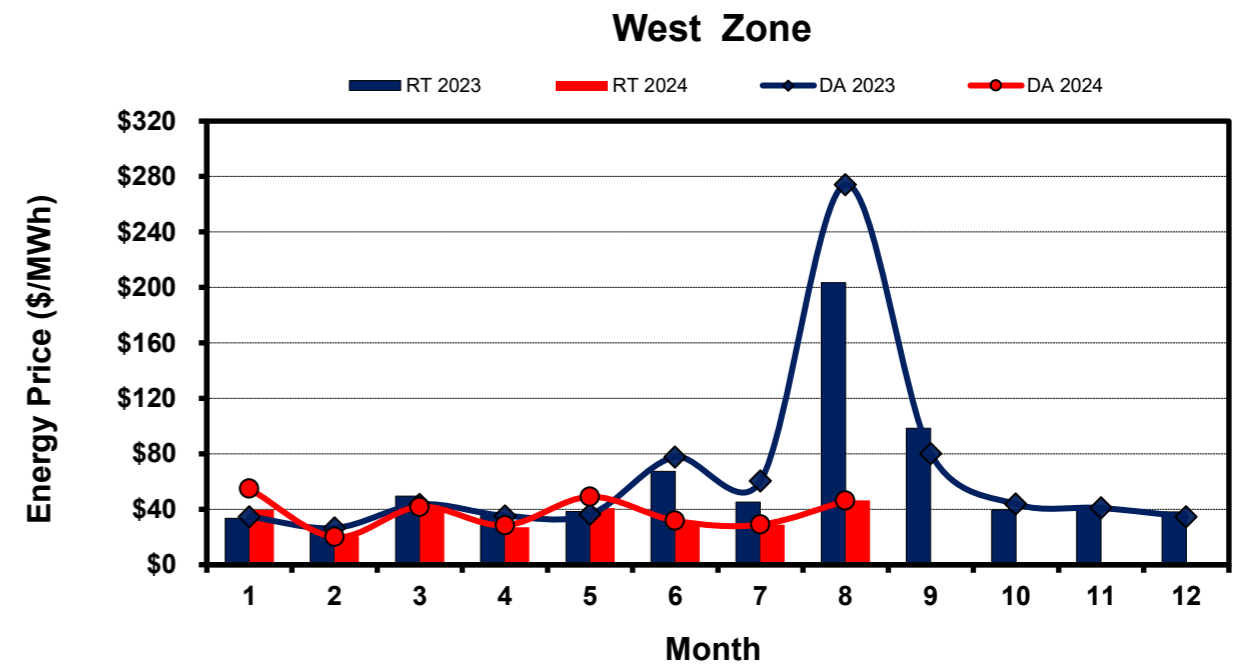
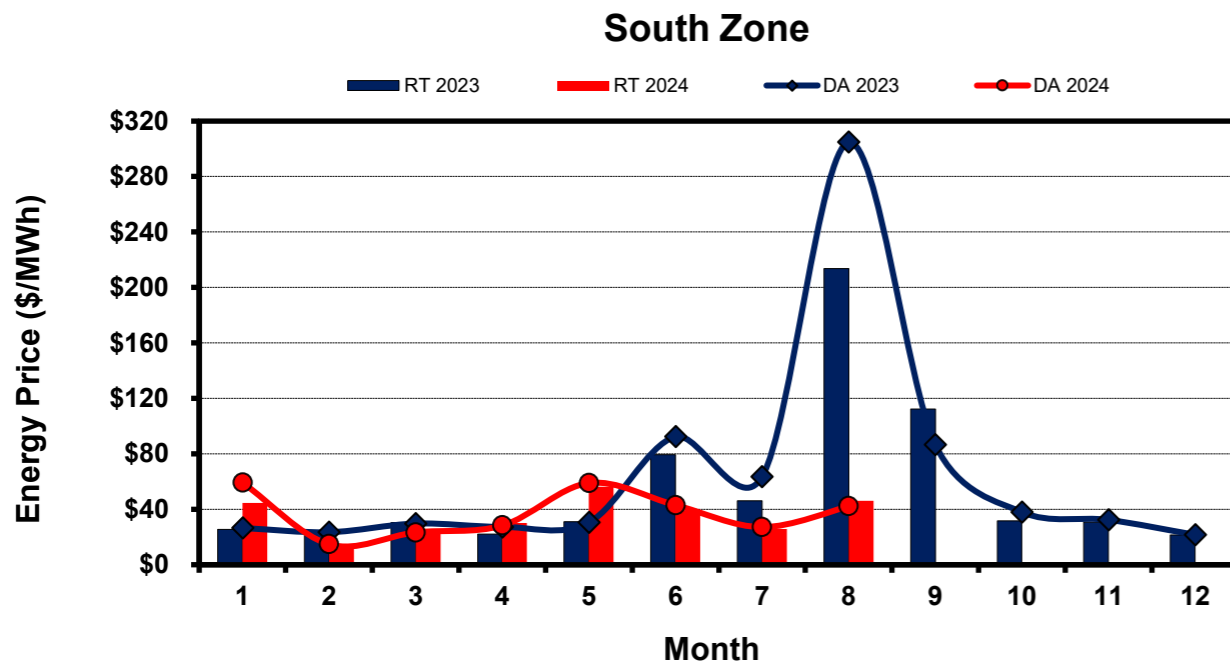
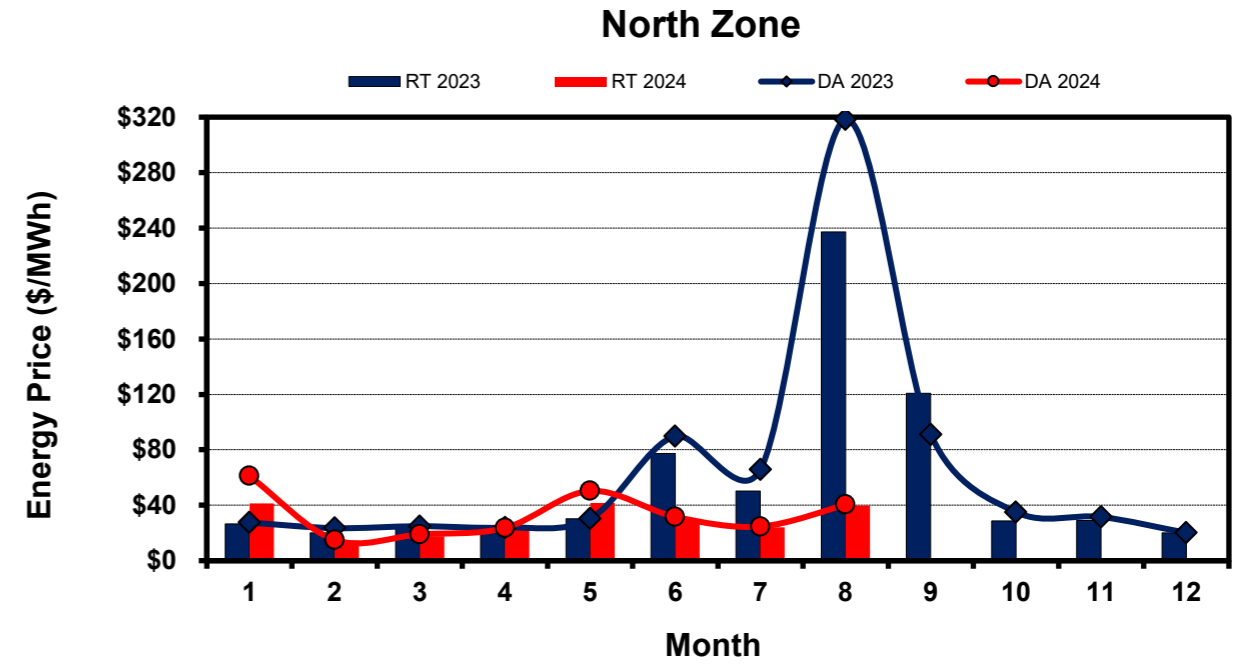
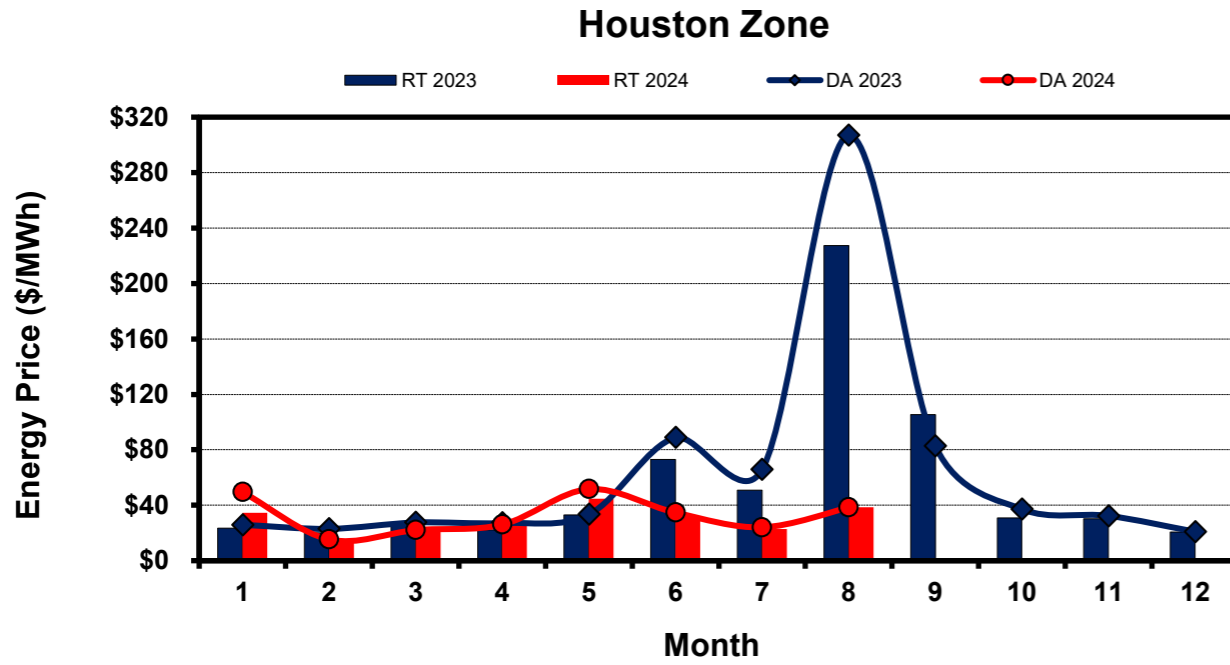
West Zone



Note: * Zonal load zone definition vs. Nodal comparable load zone definition: LZ_Houston=LZ_Houston; LZ_West=LZ_West; LZ_North=(LZ_North,LZ_RAYBN); LZ_South=(LZ_South,LZ_CPS,LZ_AEN,LZ_LCRA)

Load Zone Monthly Average Energy Price DA vs RT

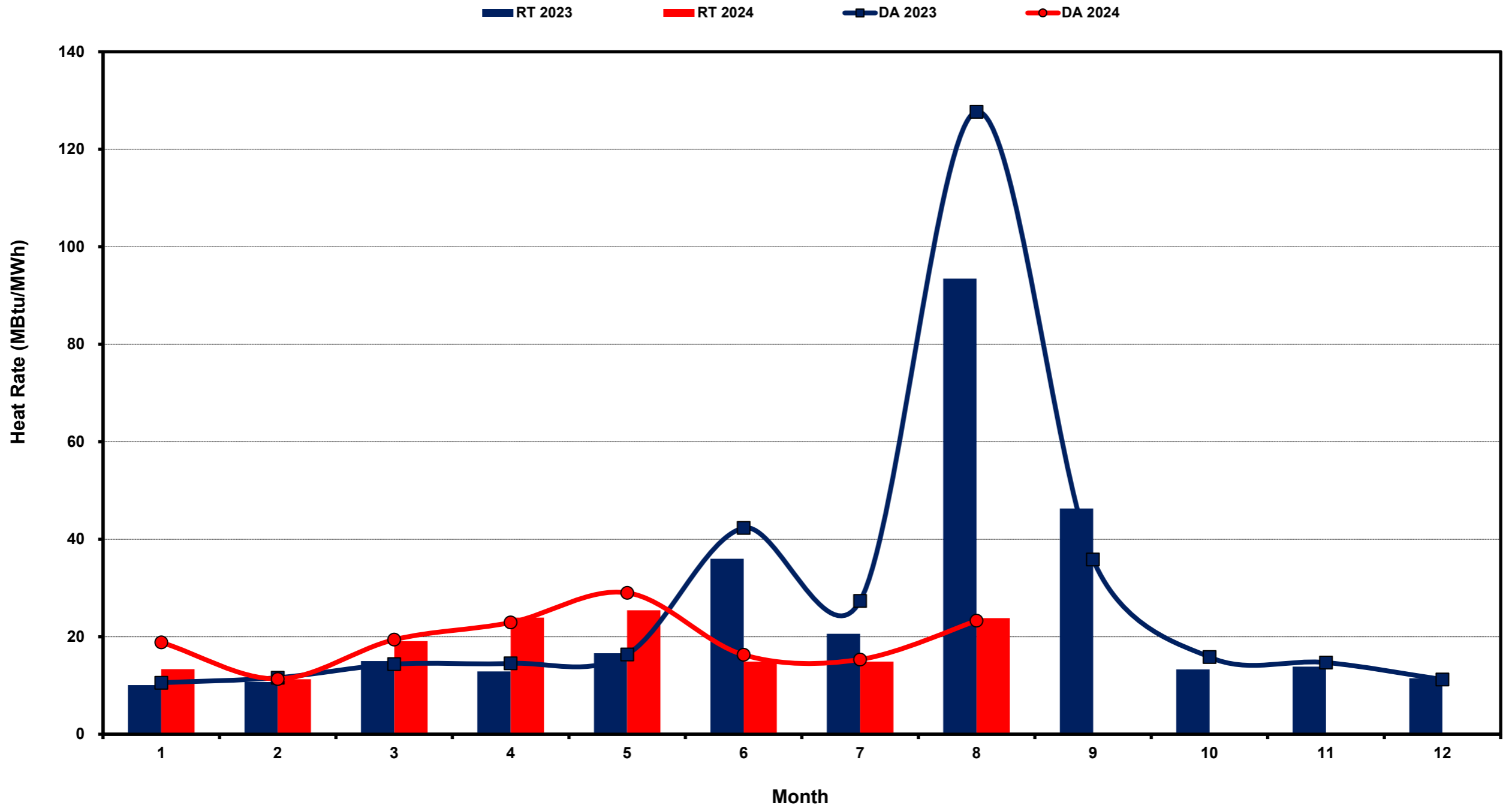
(avg. DA & RT SPPs weighted by Real Time Settlement Loads)
 (Nodal load zone made comparable to zonal sytem Load Zone definitions*)



Note: * Zonal load zone definition vs. Nodal comparable load zone definition: LZ_Houston=LZ_Houston; LZ_West=LZ_West; LZ_North=(LZ_North,LZ_RAYBN); LZ_South=(LZ_South,LZ_CPS,LZ_AEN,LZ_LCRA)

ERCOT-wide Monthly Implied Heat Rate DA vs RT

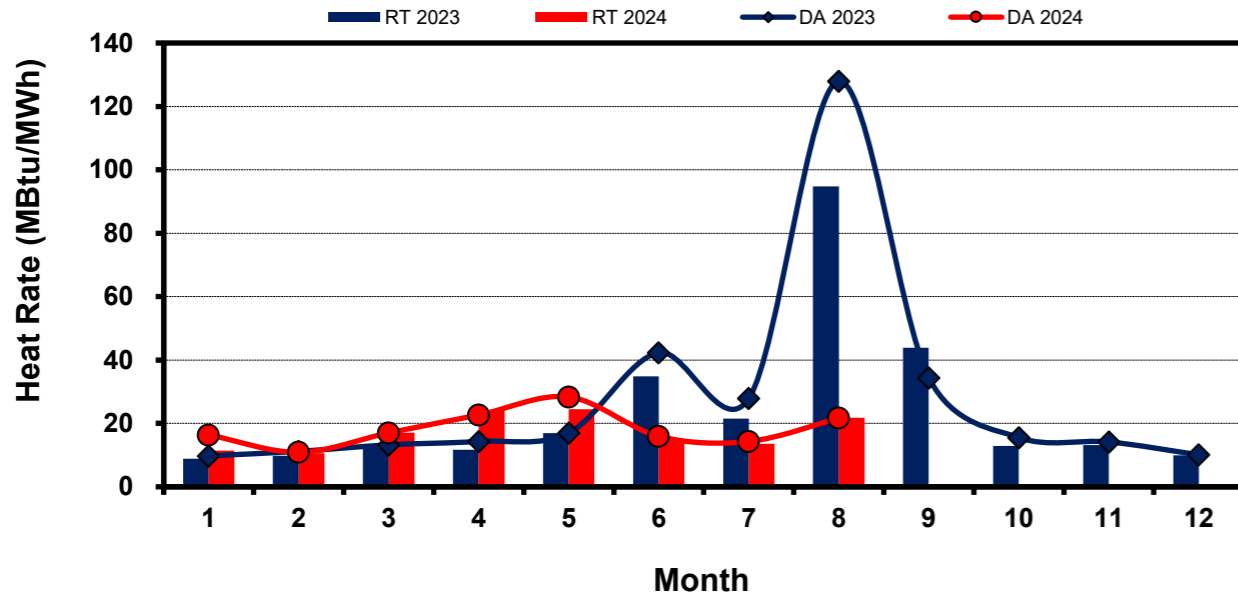
(avg. heat rates weighted by Real Time Settlement Loads)



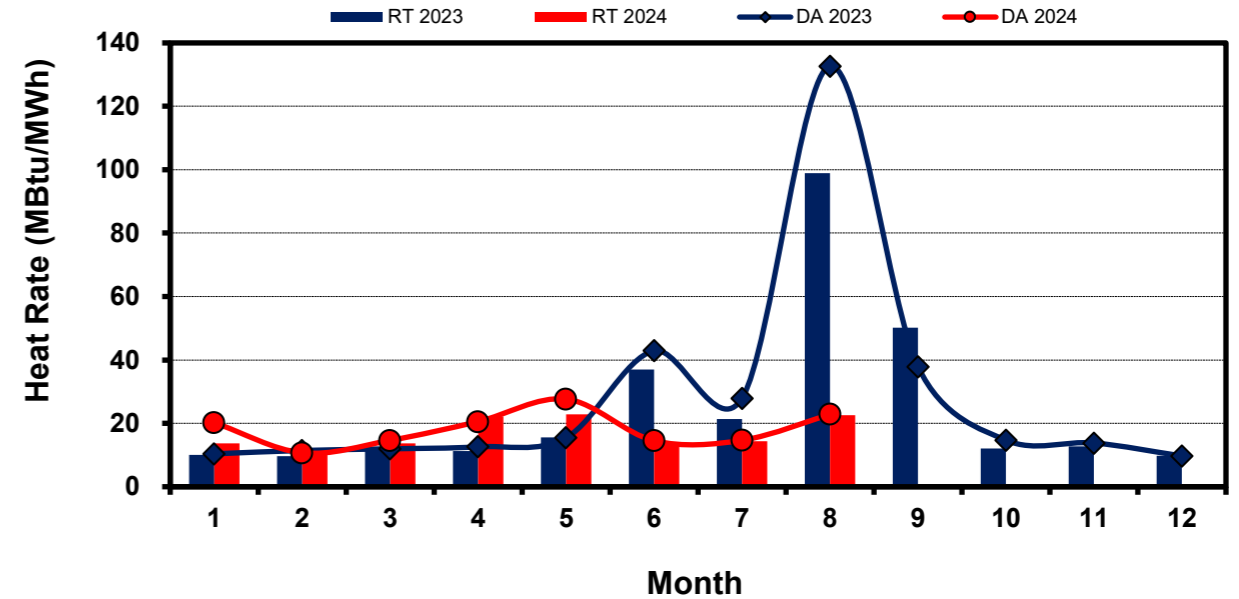
Load Zone Monthly Implied Heat Rate DA vs RT

(avg. heat rates weighted by Real Time Settlement Loads)
 (Nodal load zone made comparable to zonal sytem Load Zone definitions*)

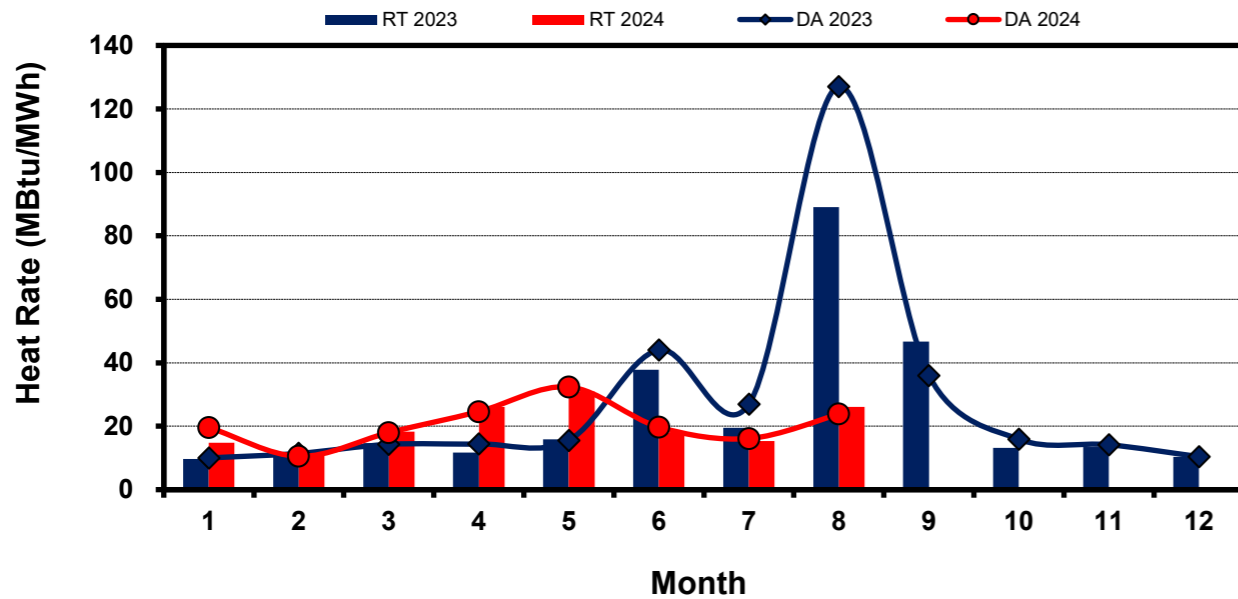
Houston Zone



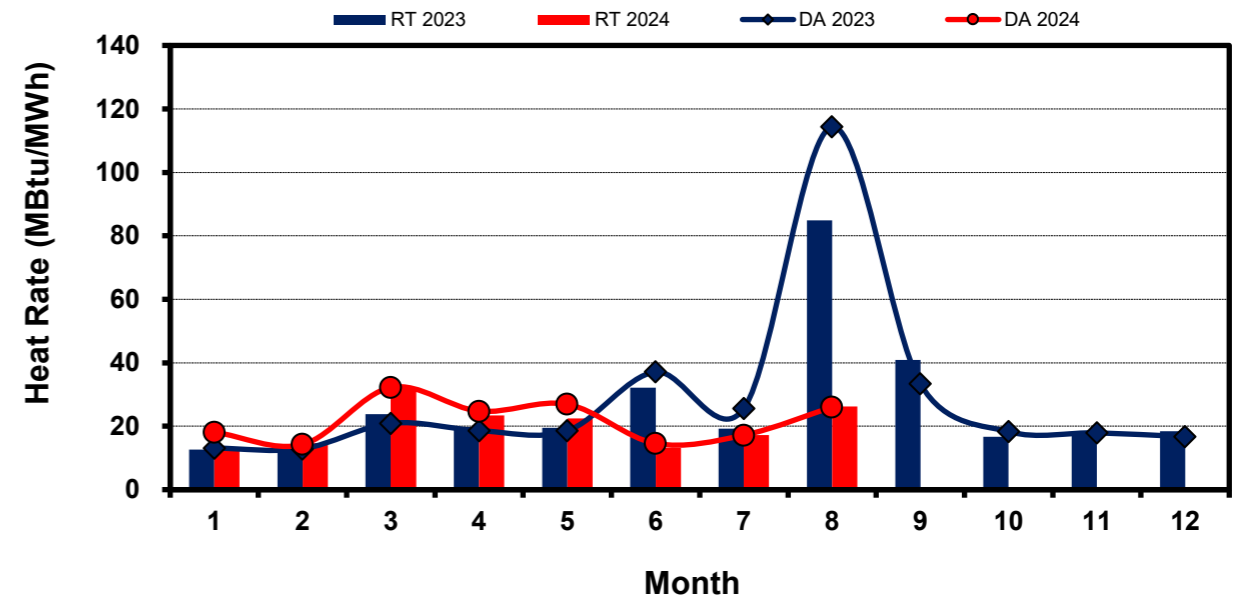
North Zone



South Zone



West Zone

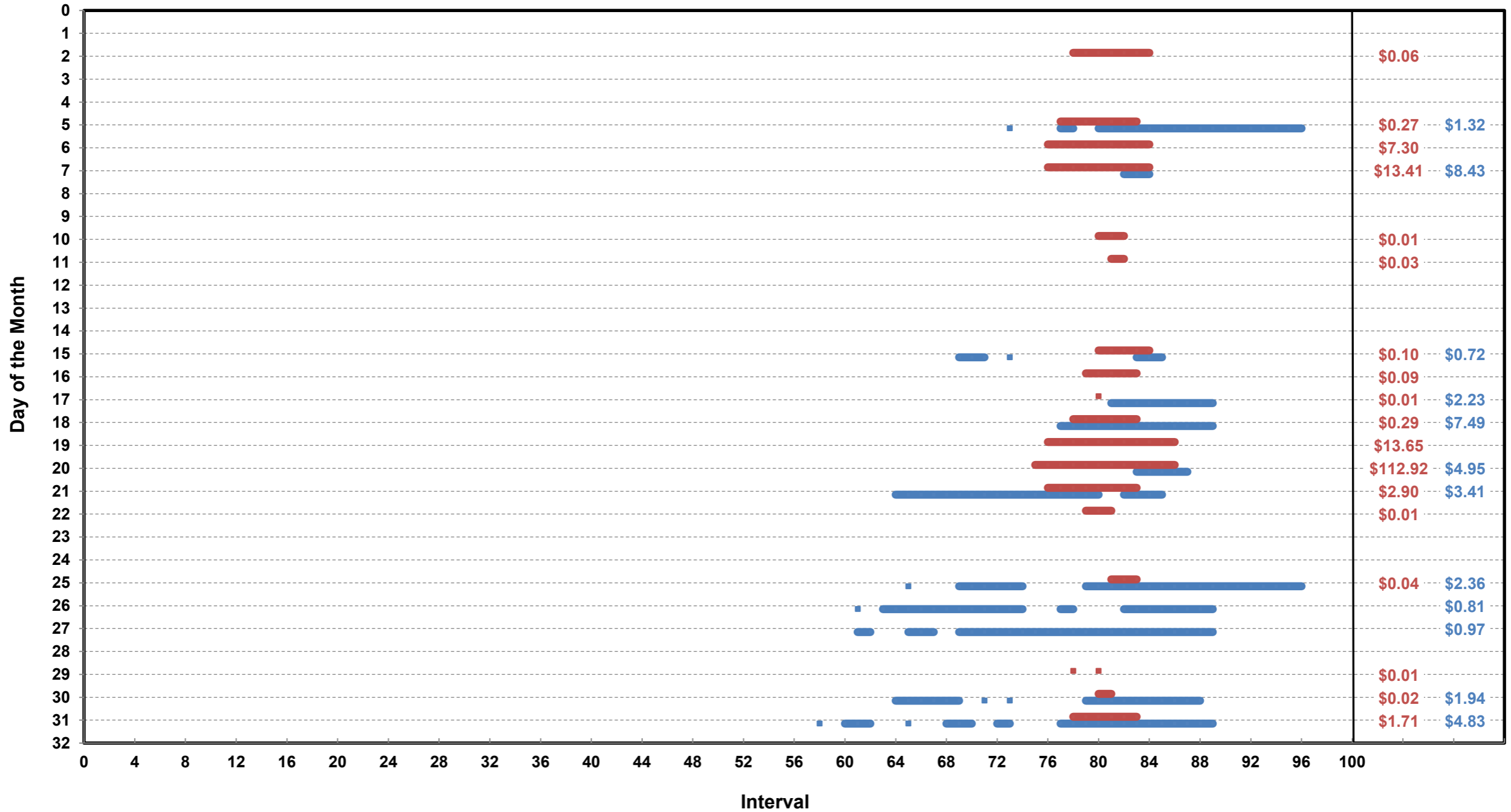


Note: * Zonal load zone definition vs. Nodal comparable load zone definition: LZ_Houston=LZ_Houston; LZ_West=LZ_West; LZ_North=(LZ_North,LZ_RAYBN); LZ_South=(LZ_South,LZ_CPS,LZ_AEN,LZ_LCRA)

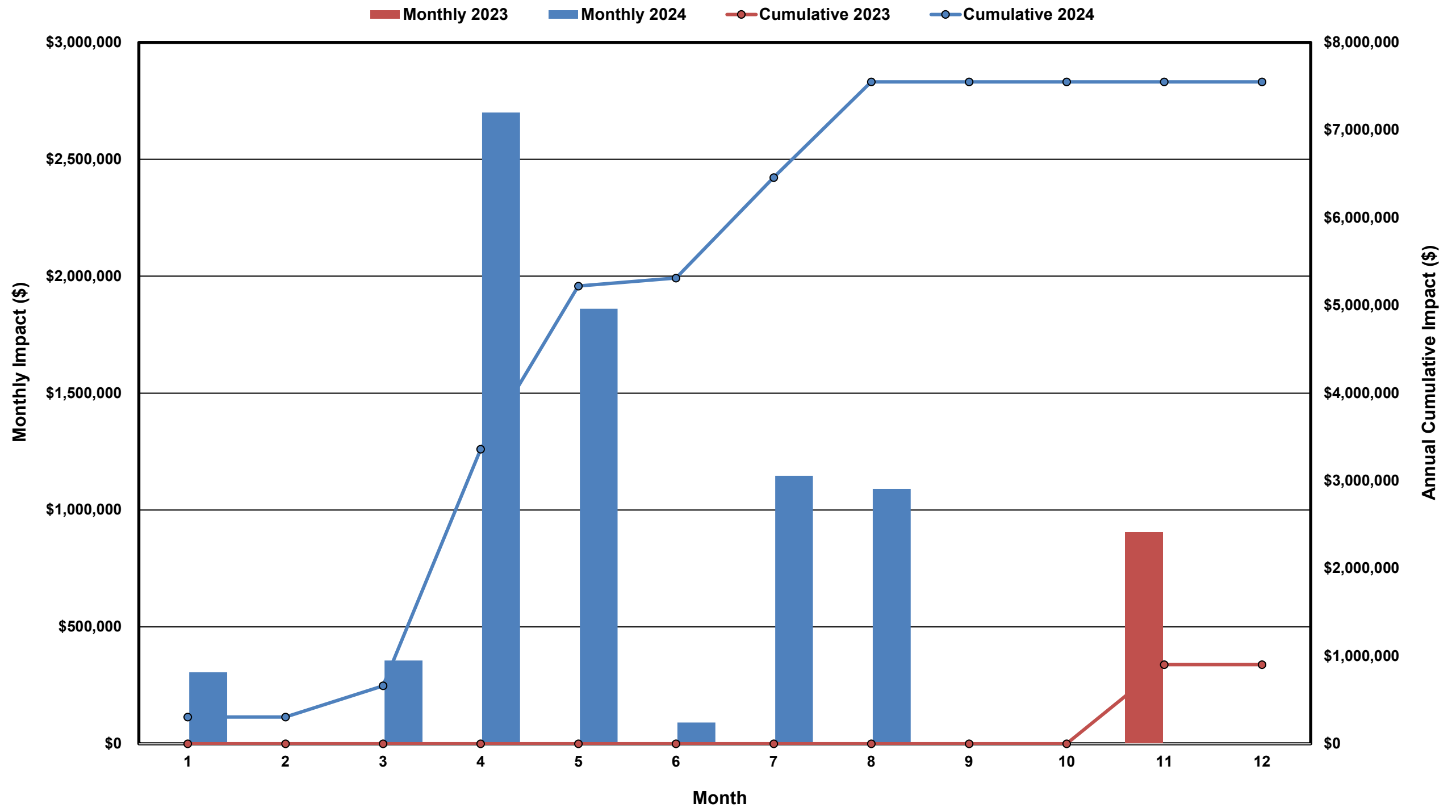
Daily ORDC Adders Average Values and Interval Duration Aug-2024

RDP Adder RS Adder

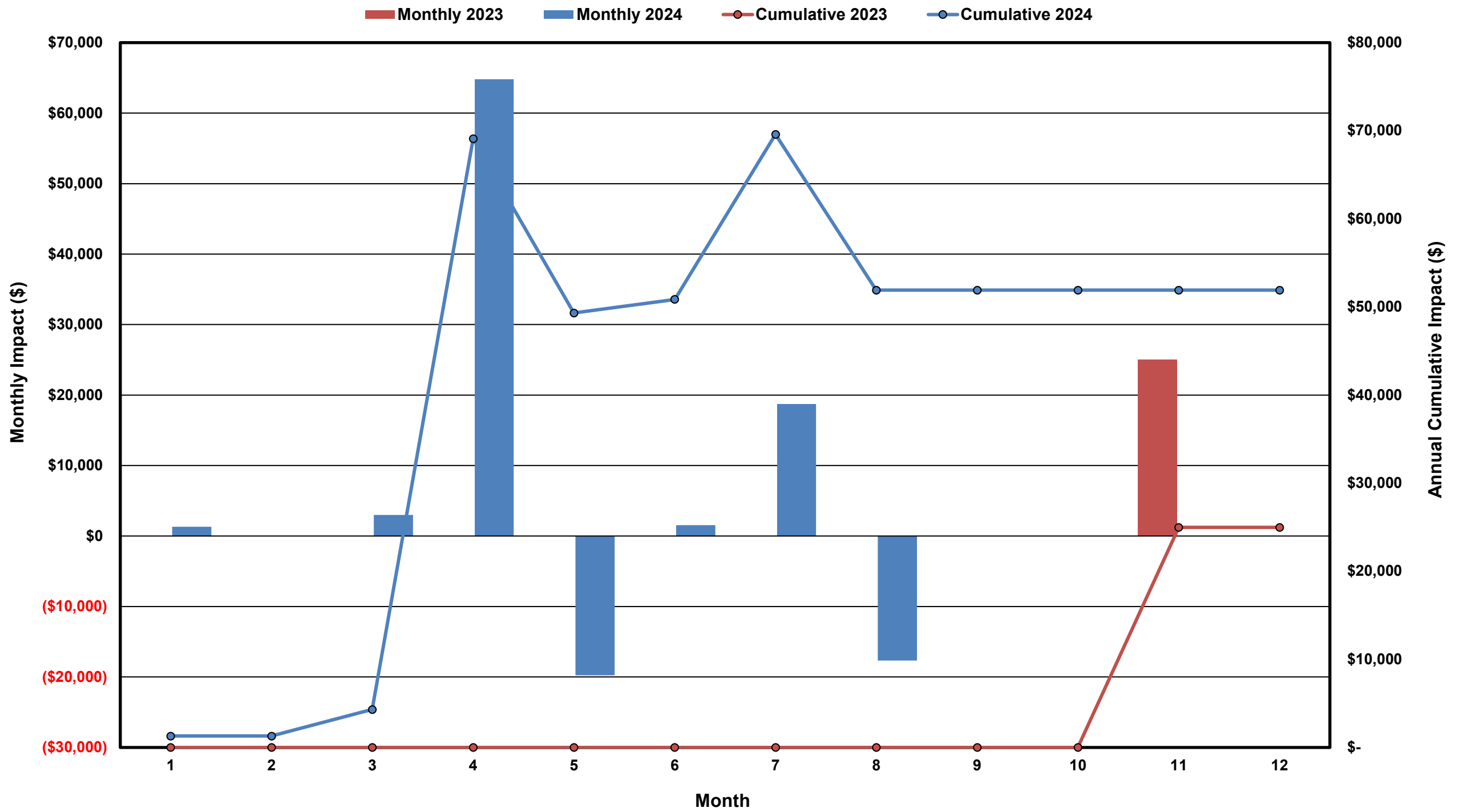
Daily Averages



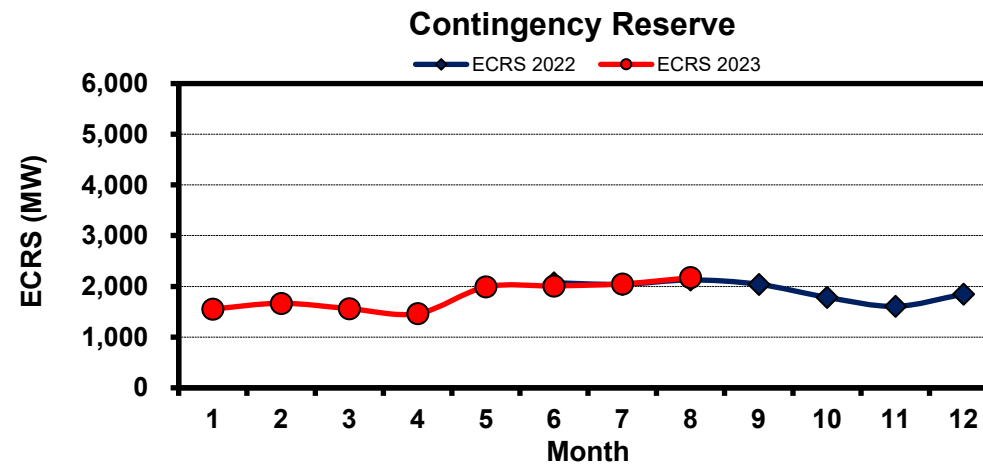
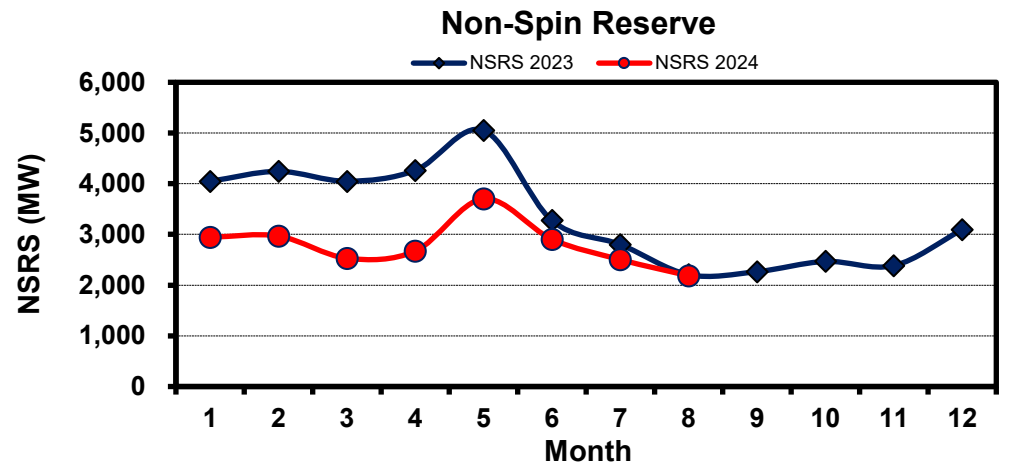
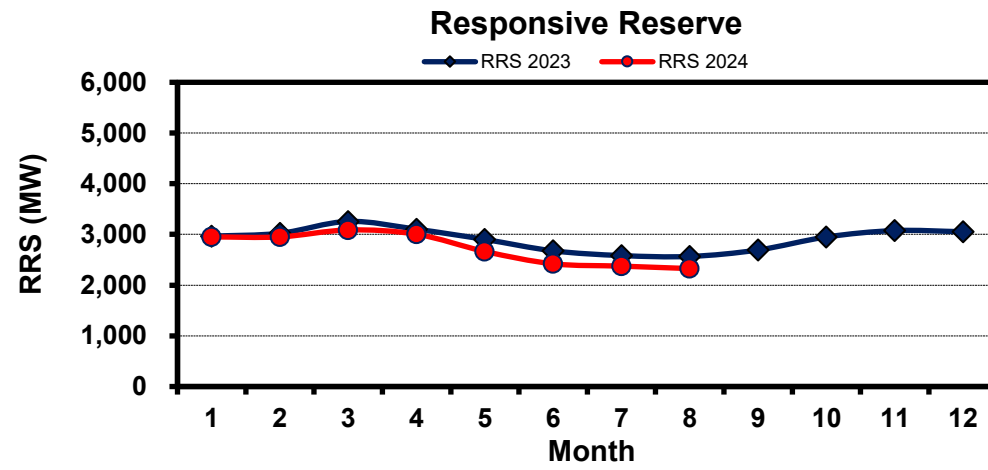
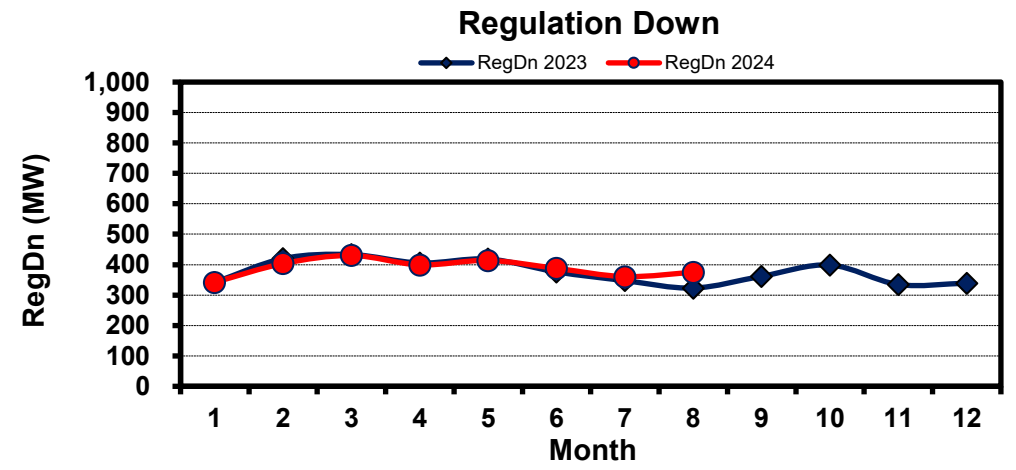
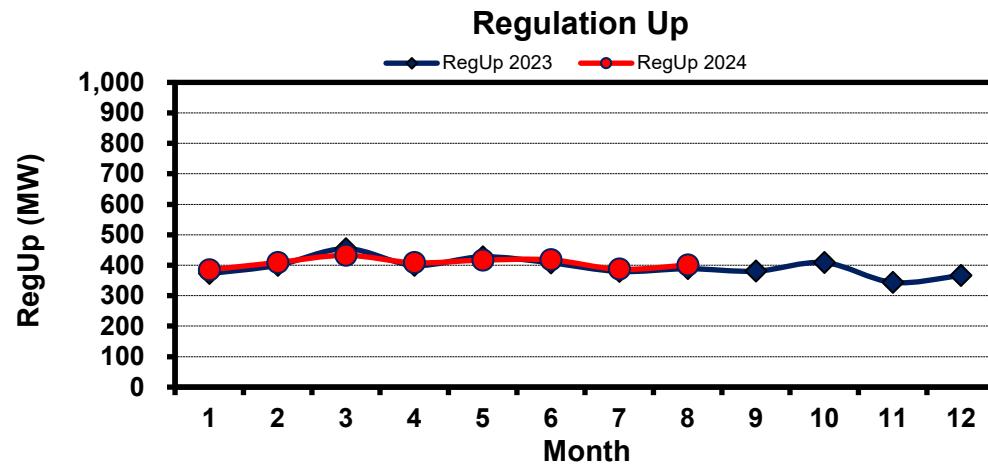
Monthly Total Impacts on Energy Cost from ORDC RS Adder Floors



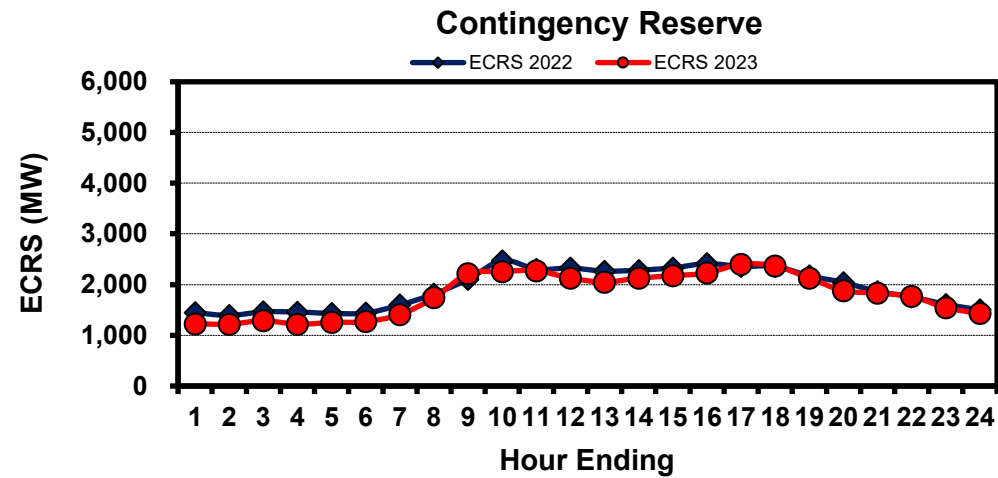
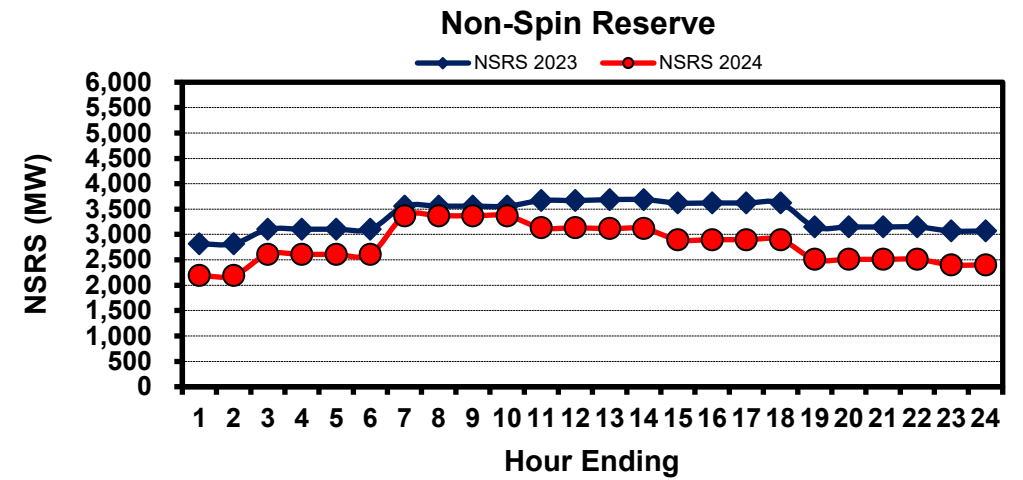
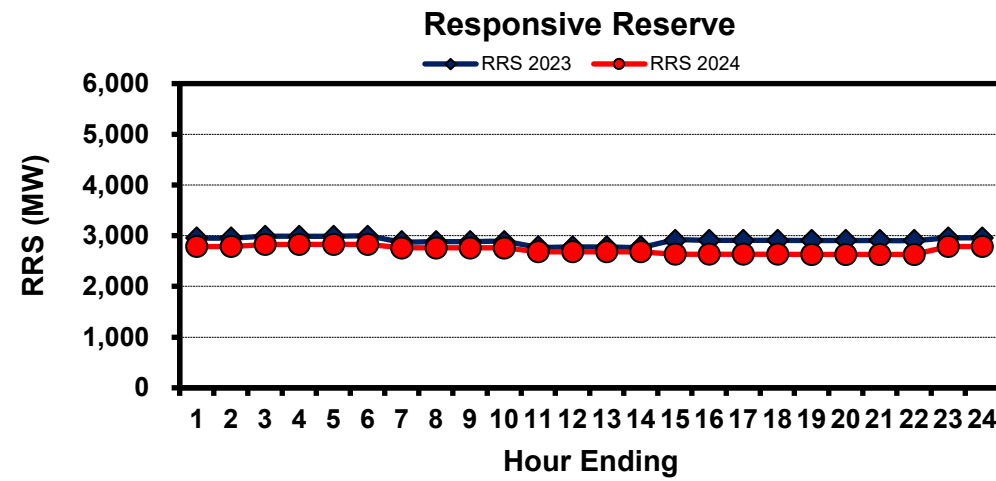
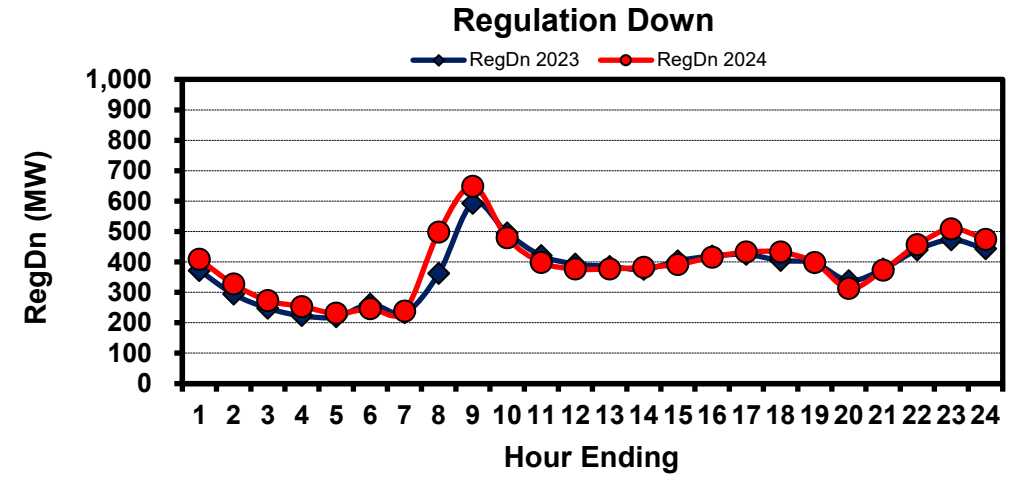
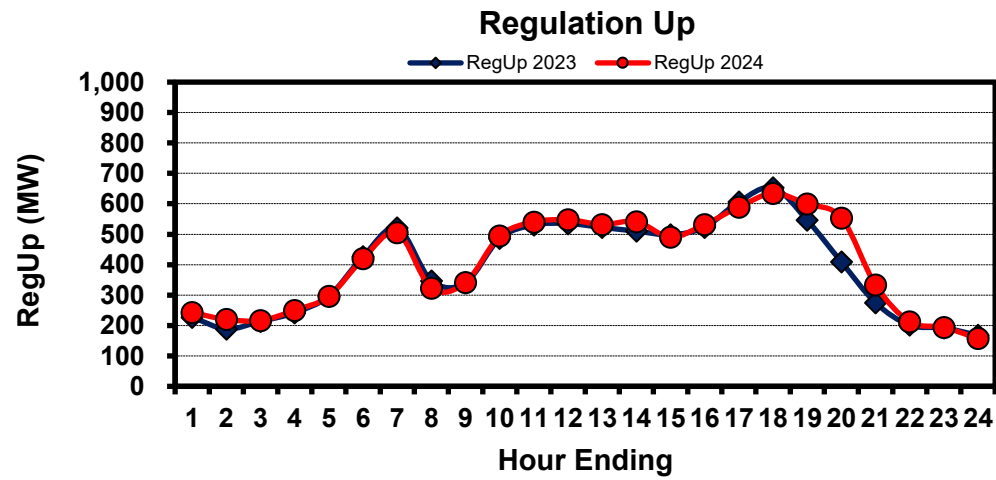
Monthly Total Impacts on A/S Imbalance from ORDC RS Adder Floors



Monthly Average of Ancillary Services Required MW

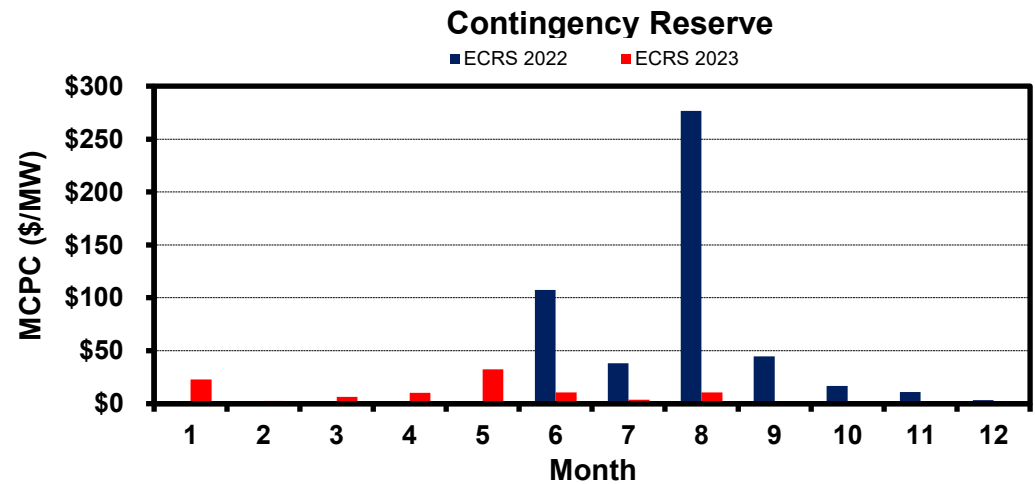
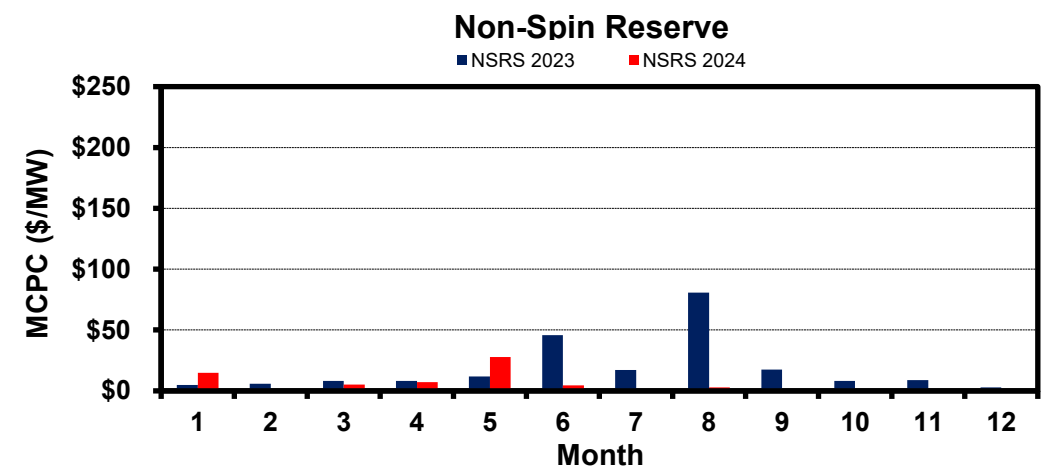
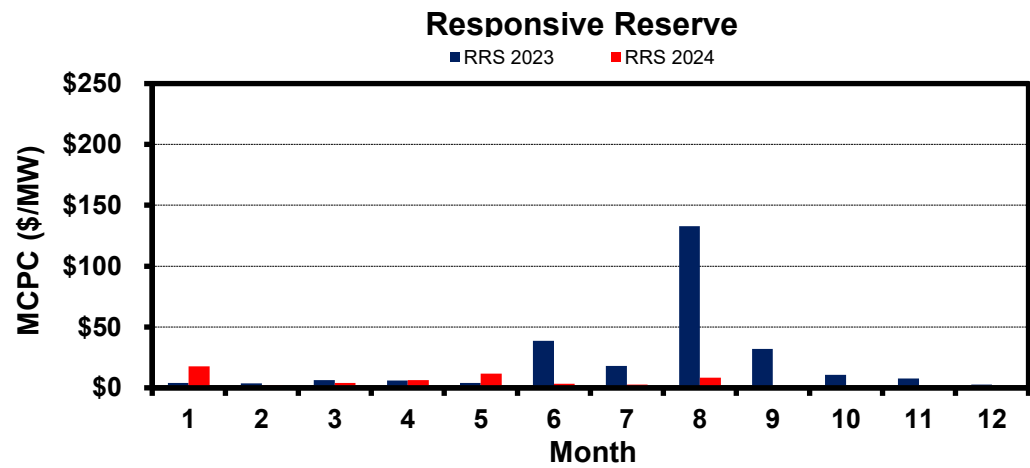
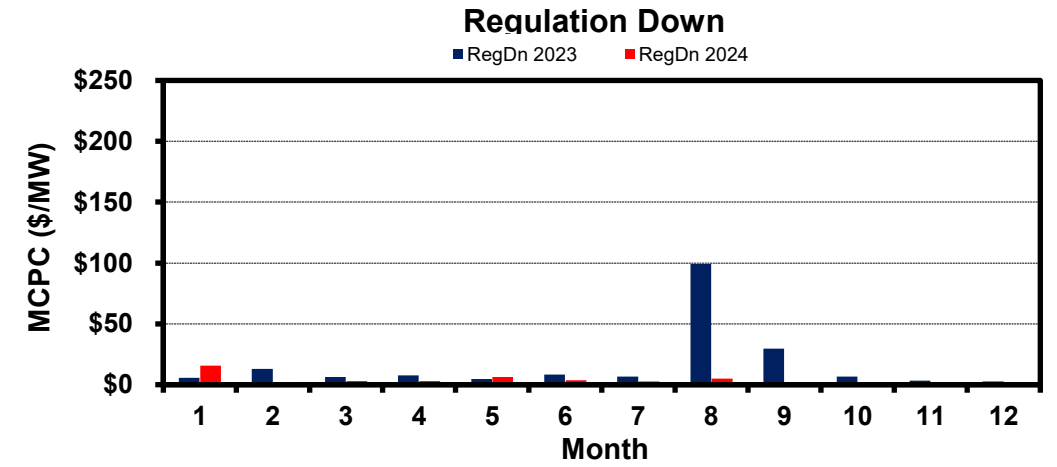
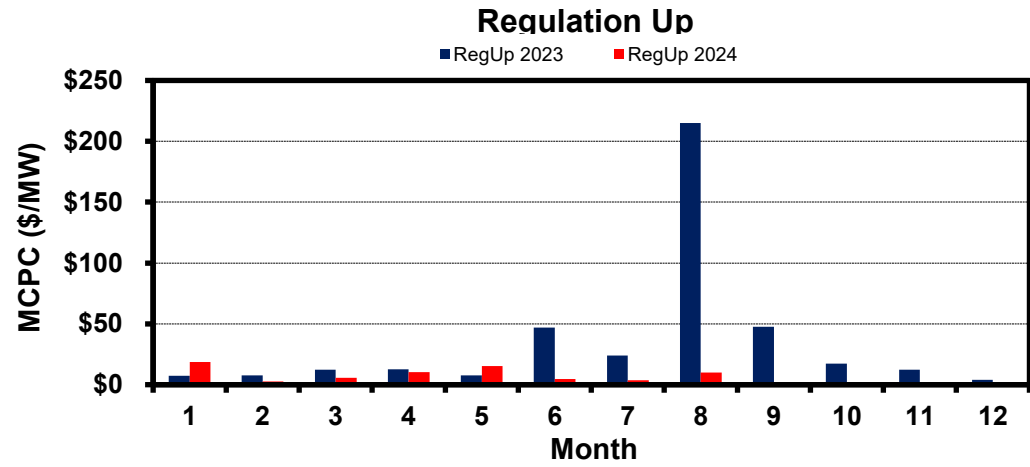


Hourly Average of Ancillary Services Required MW



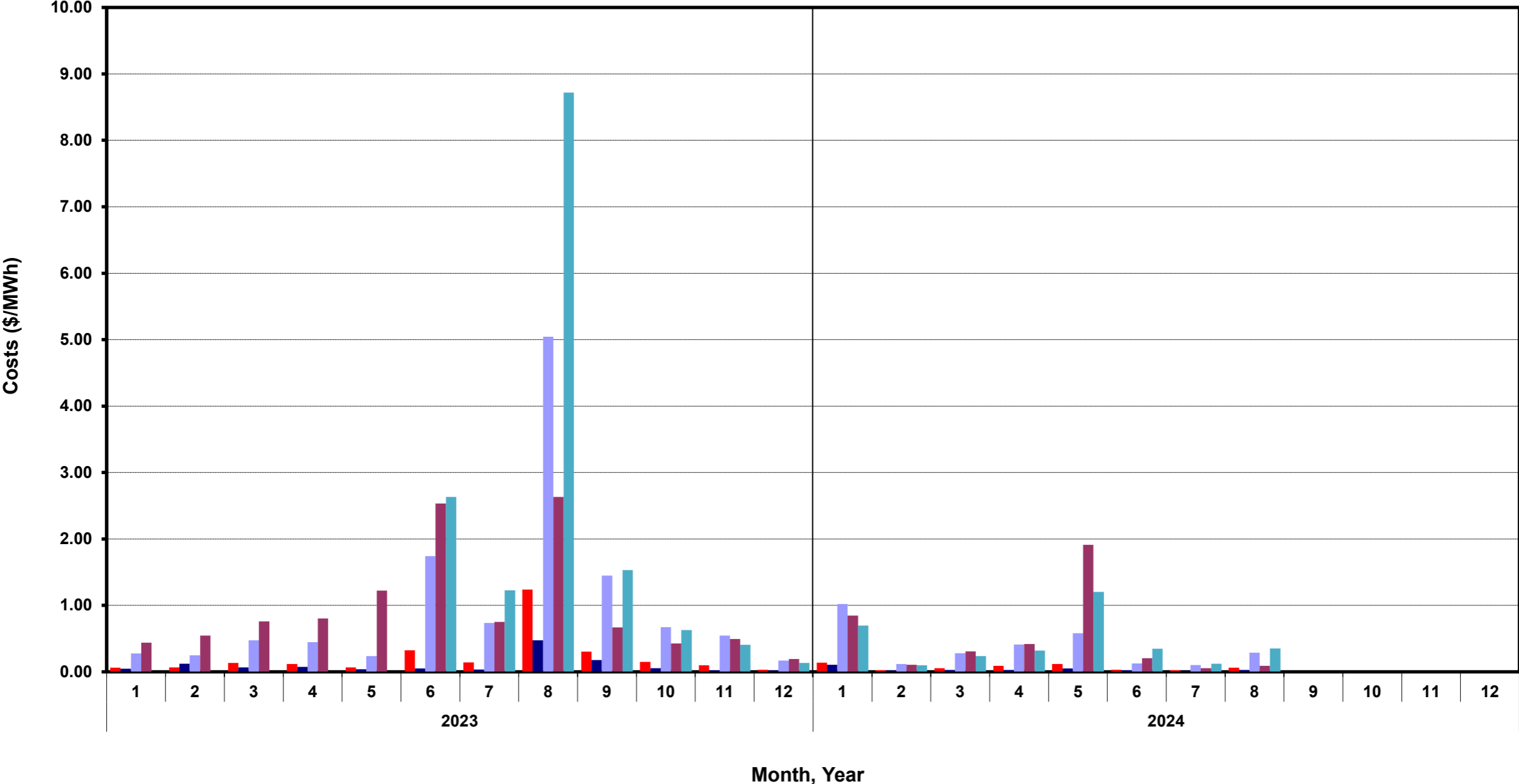
Monthly Average Ancillary Services Price

(weighted by A/S Quantities Required)

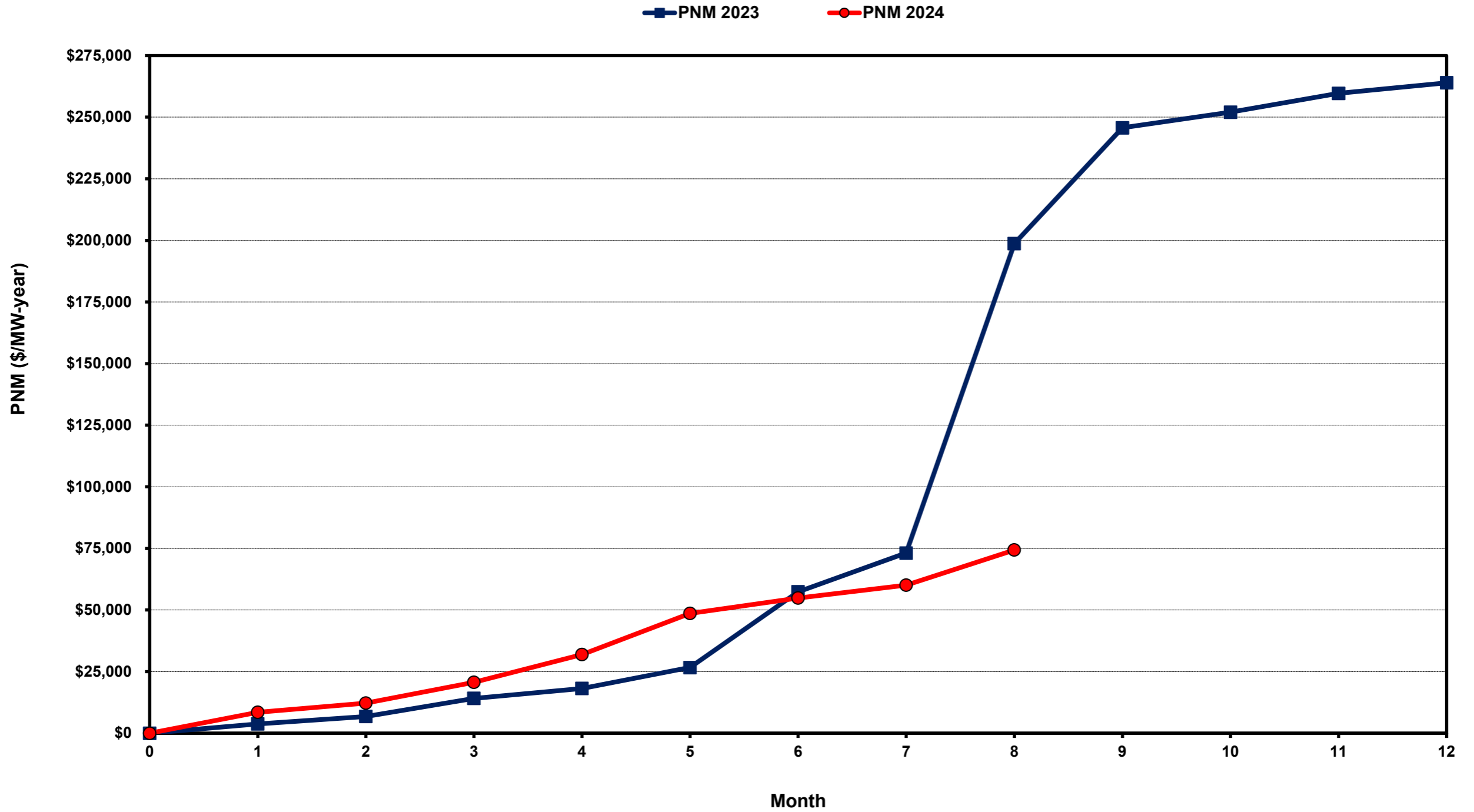


Monthly Average A/S Cost per MWh Load

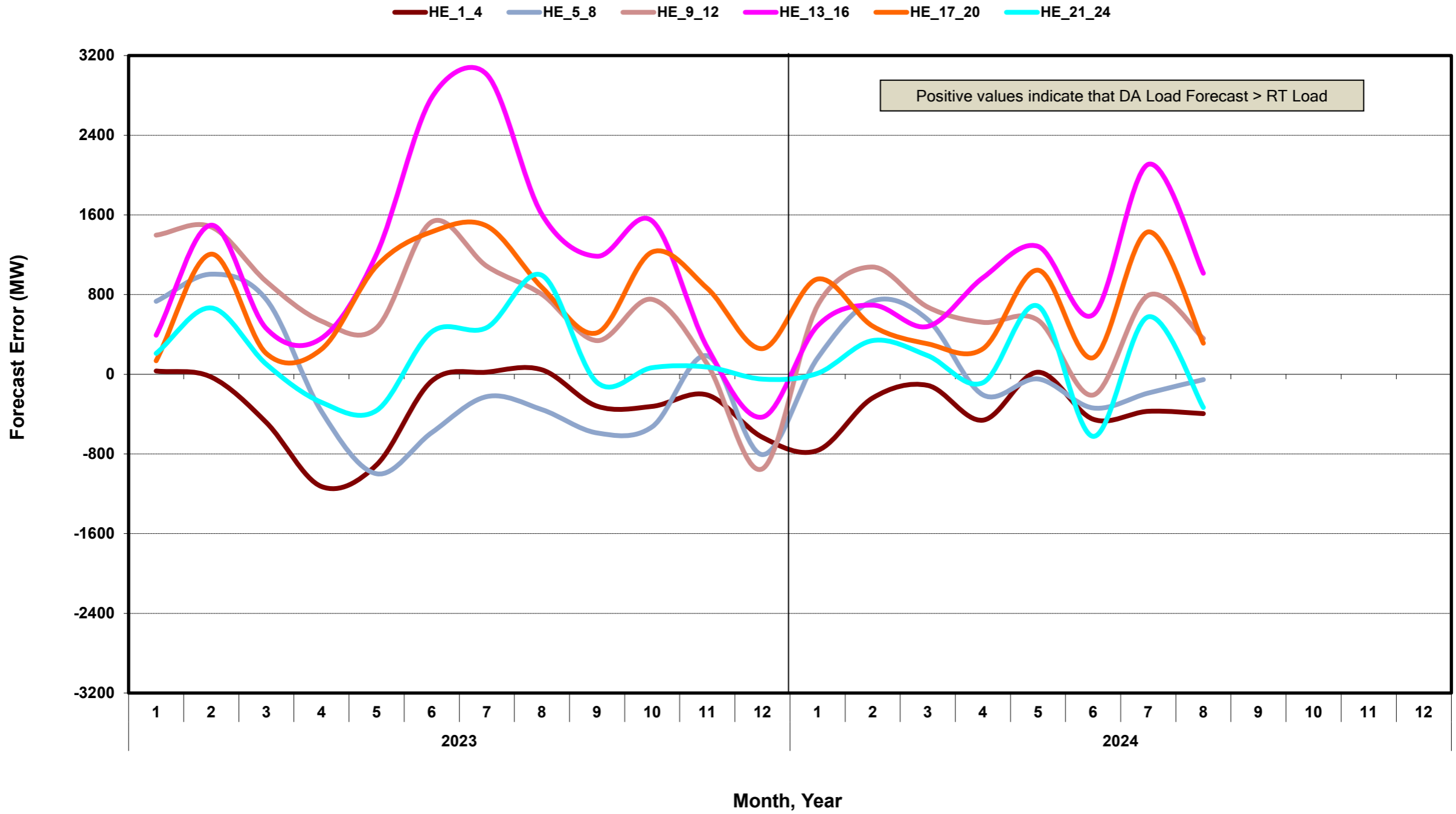
RegUp RegDn RRS NonSpin ECRS



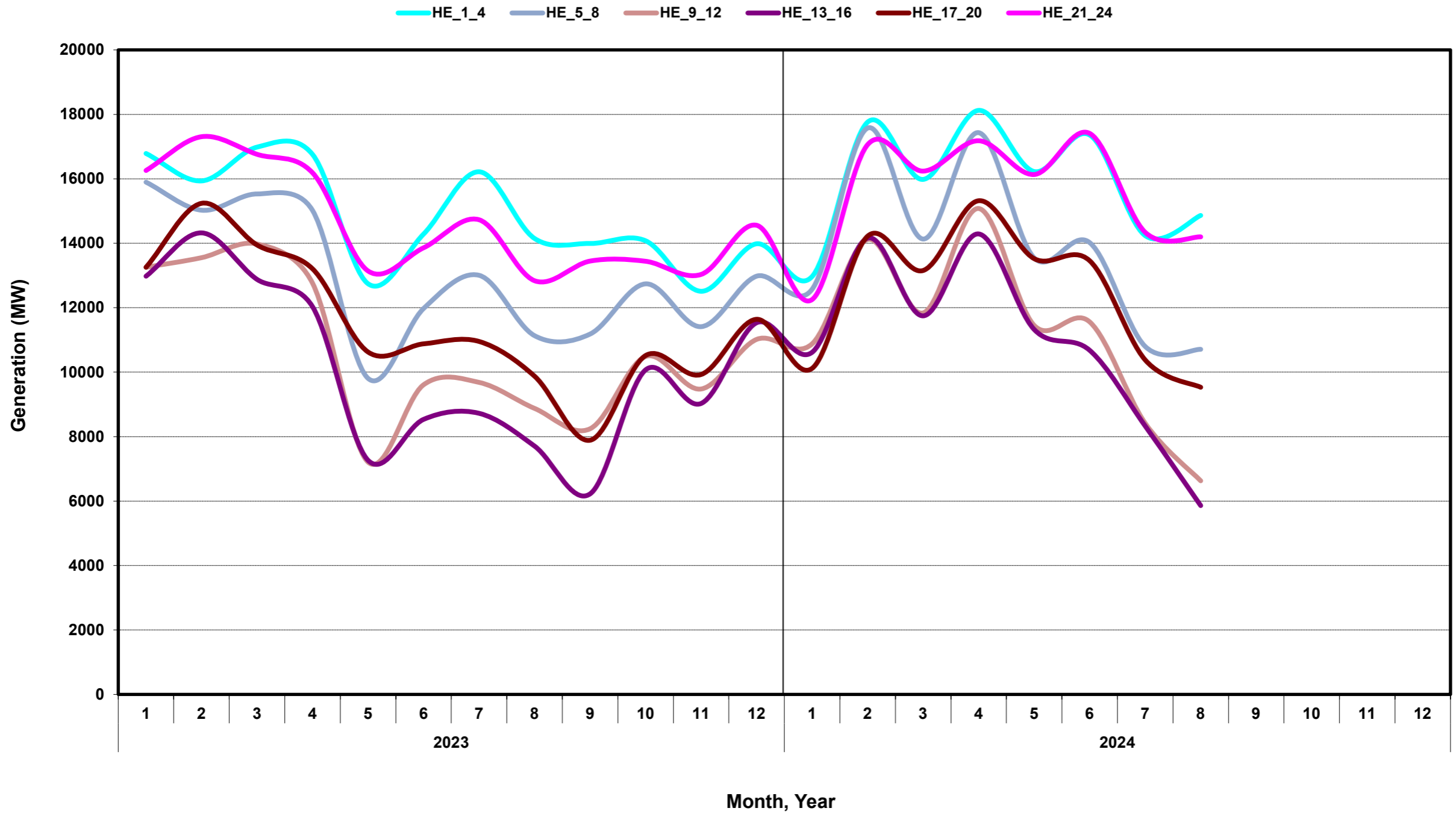
ERCOT-wide Cumulative Peaker Net Margin



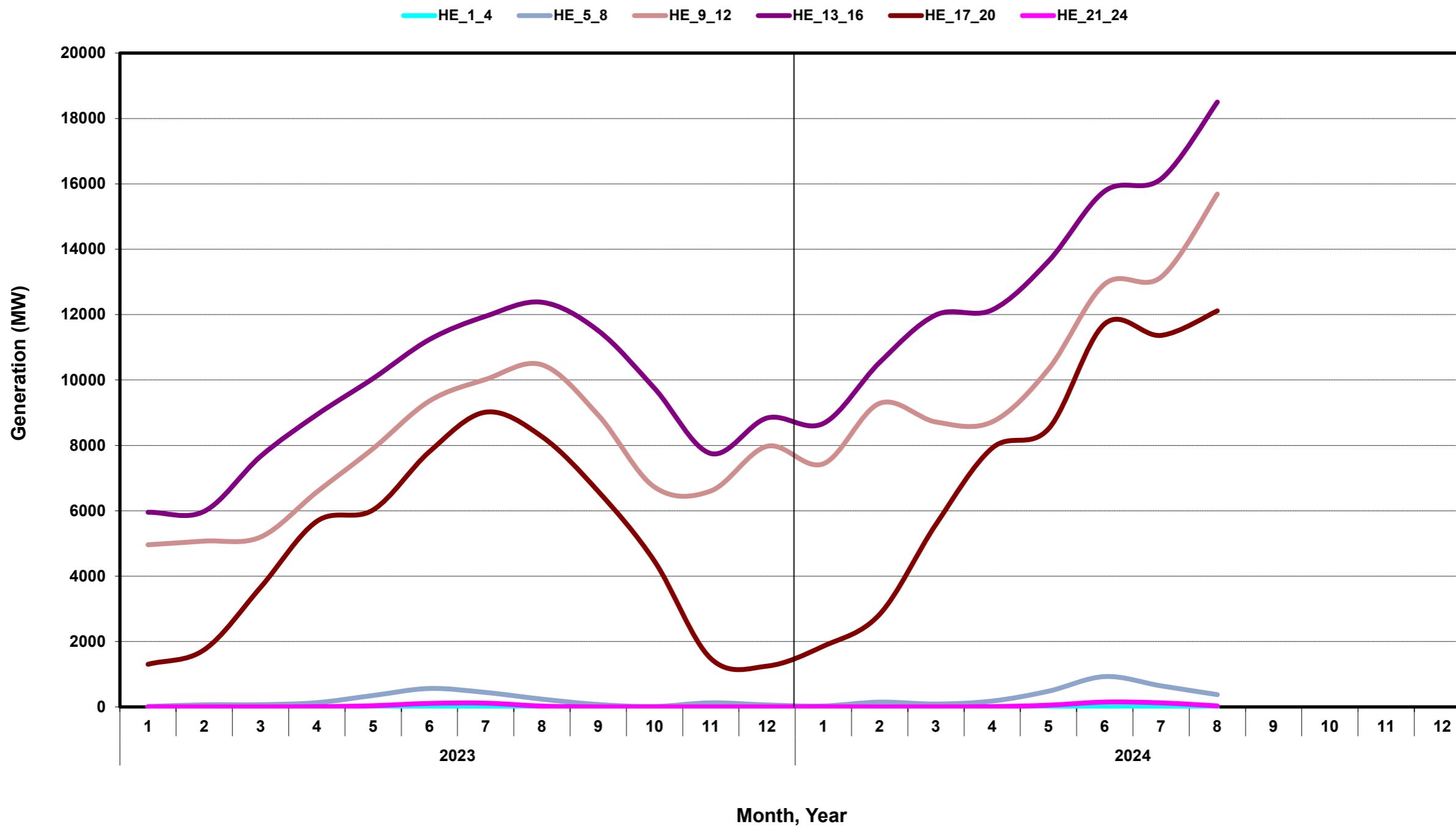
DA vs. RT Load Forecast Error by Hour Ending



Monthly Average of Wind Generation by Hour Ending

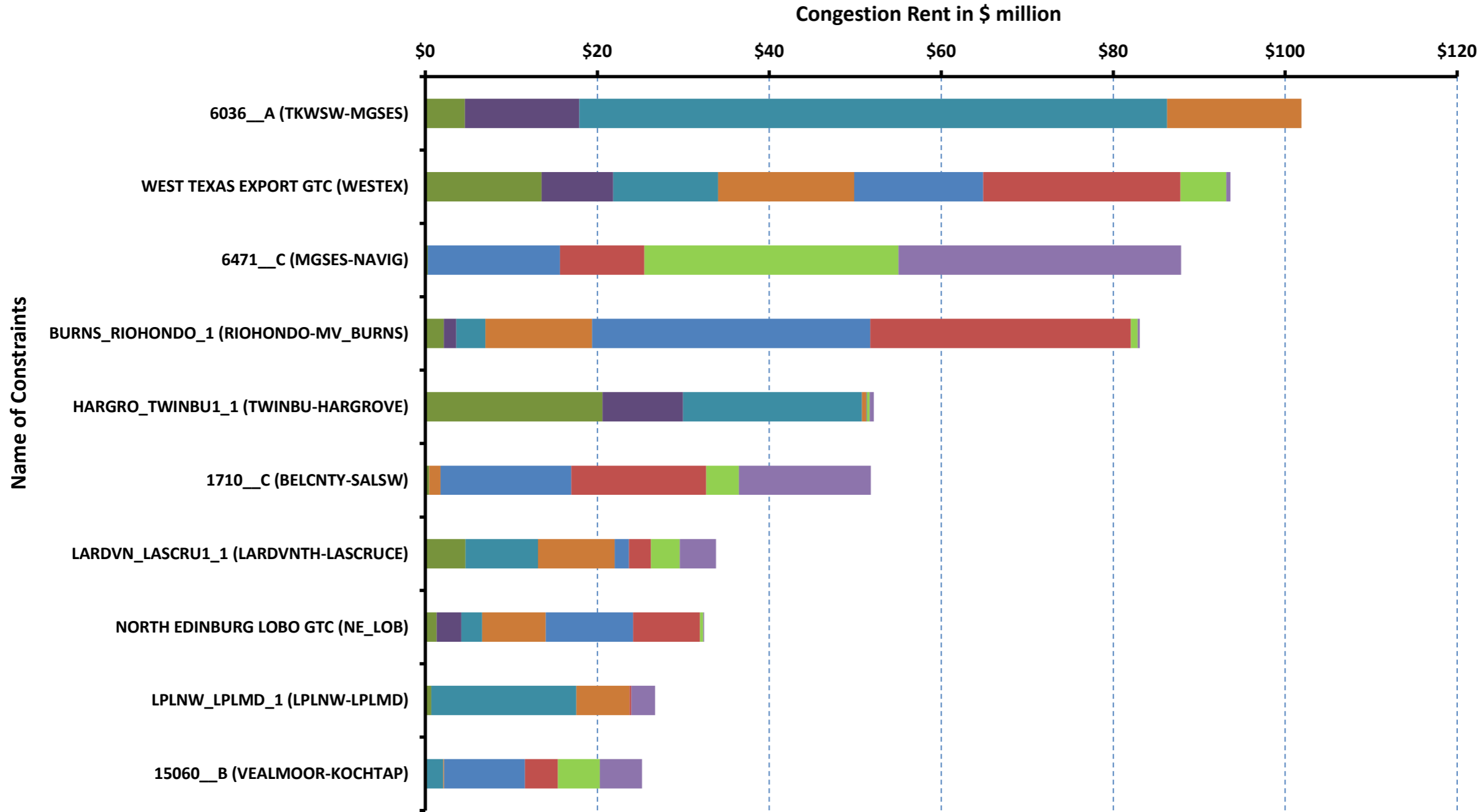


Monthly Average of Solar Generation by Hour Ending



RT Congestion Constraint Rankings - 1

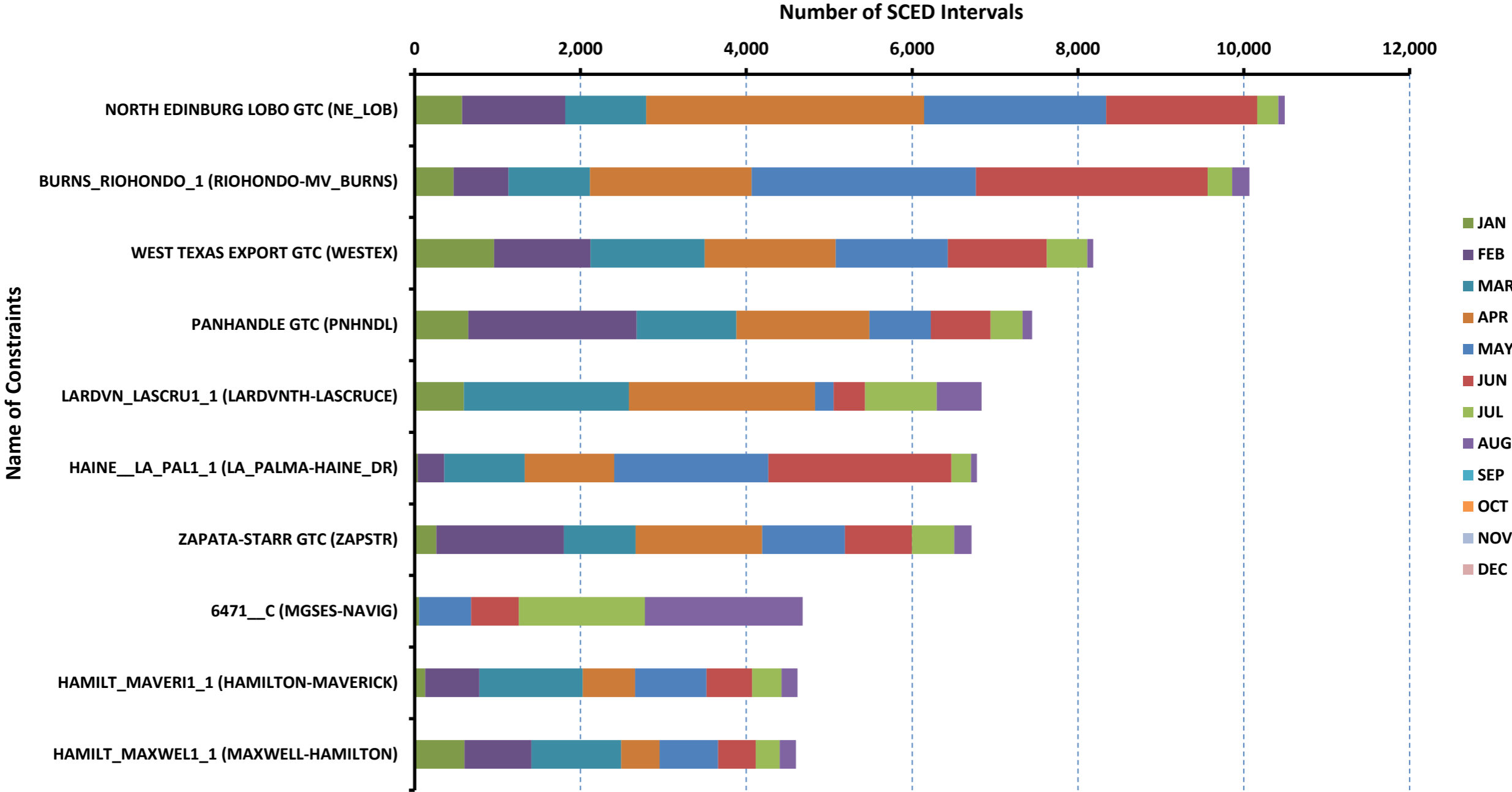
Top 10 Constraints by Total Congestion Value - 2024



MONTH	RENT_TOTAL
1	201.27
2	90.69
3	212.49
4	143.93
5	239.98
6	185.59
7	113.29
8	156.29
9	0.00
10	0.00
11	0.00
12	0.00
SUM-TOTAL	1343.53
(unit: \$ million)	

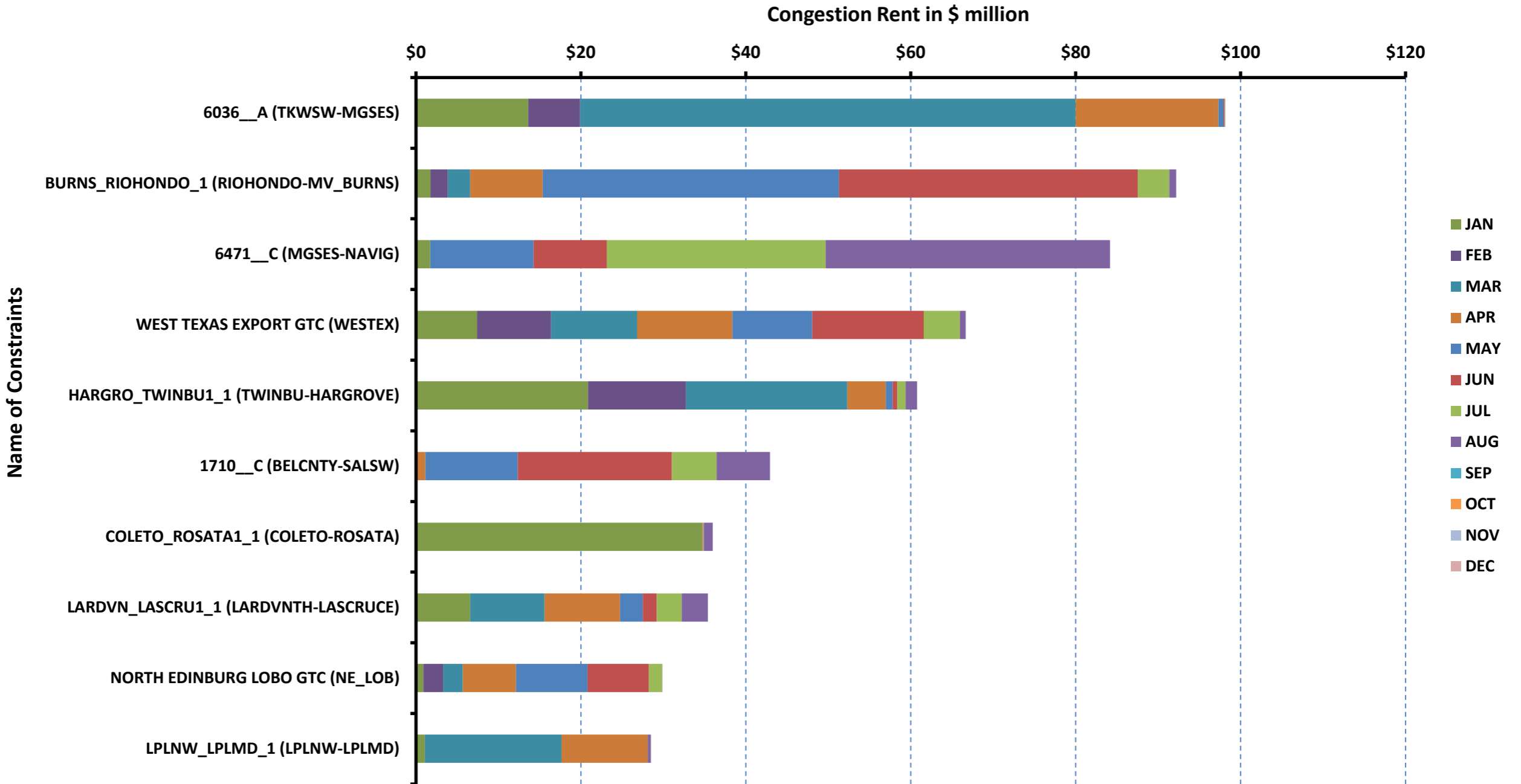
RT Congestion Constraint Rankings - 2

Top 10 Constraints by Binding Frequency - 2024



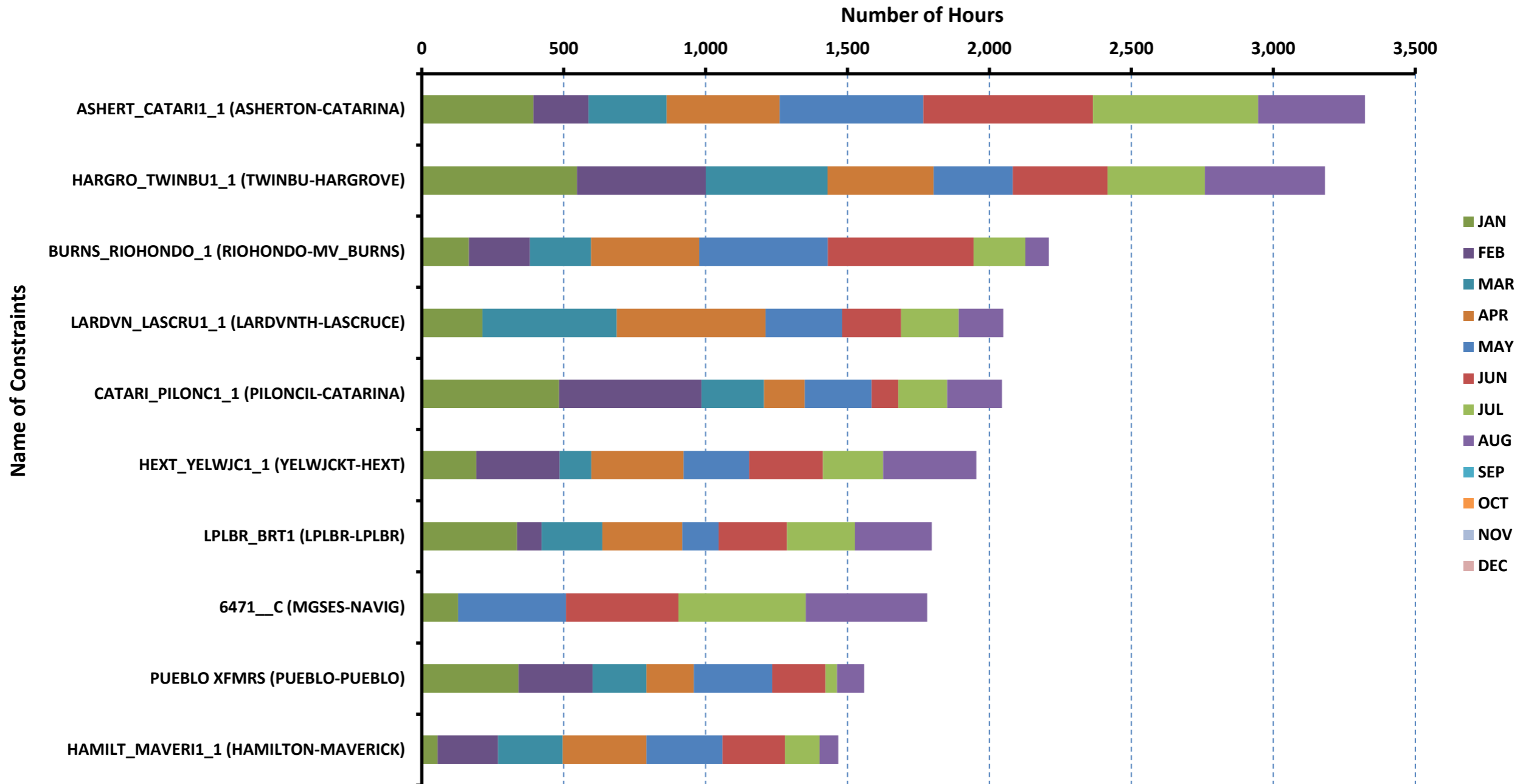
DA Congestion Constraint Rankings - 1

Top 10 Constraints by Total Congestion Value - 2024



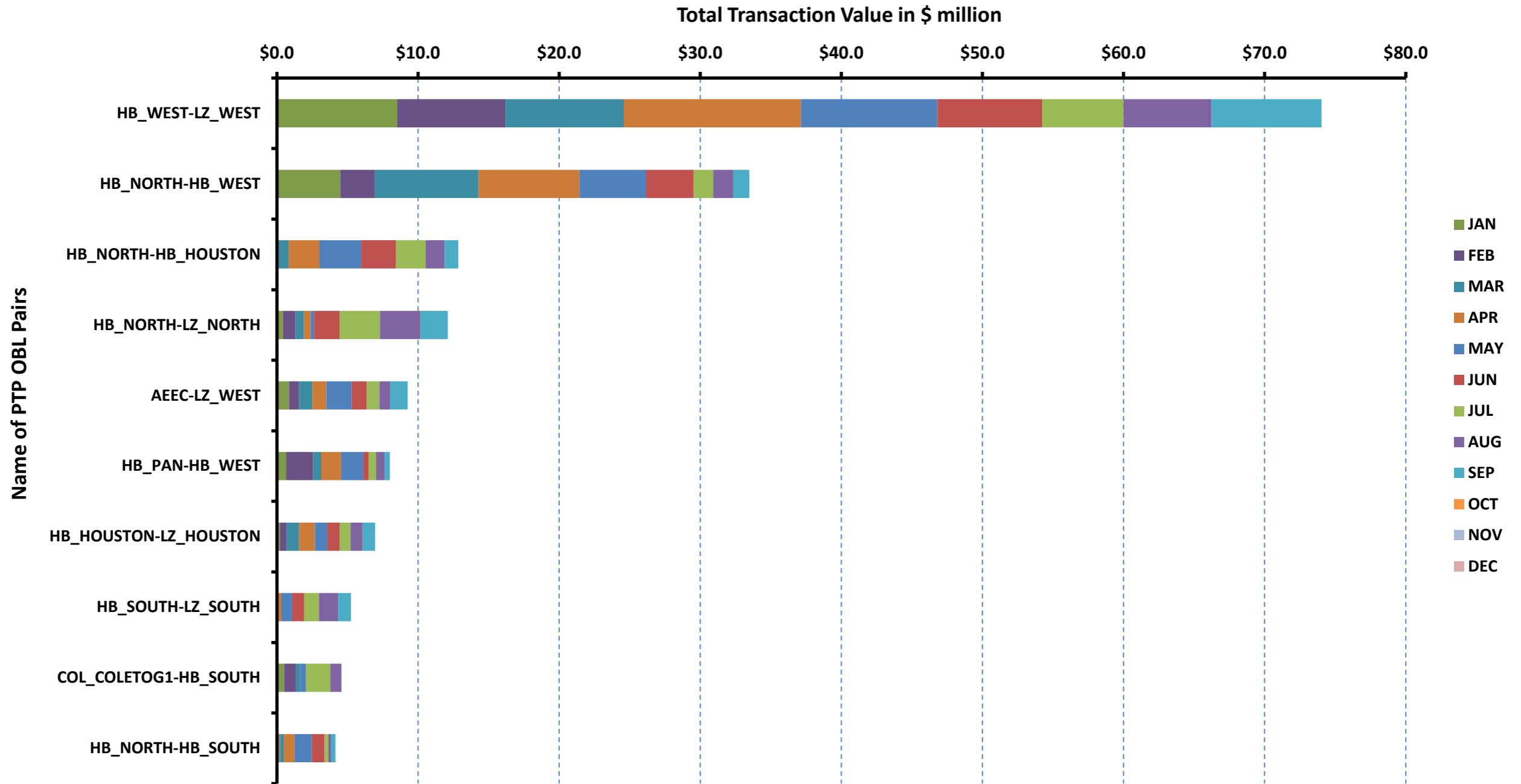
DA Congestion Constraint Rankings - 2

Top 10 Constraints by Binding Frequency - 2024



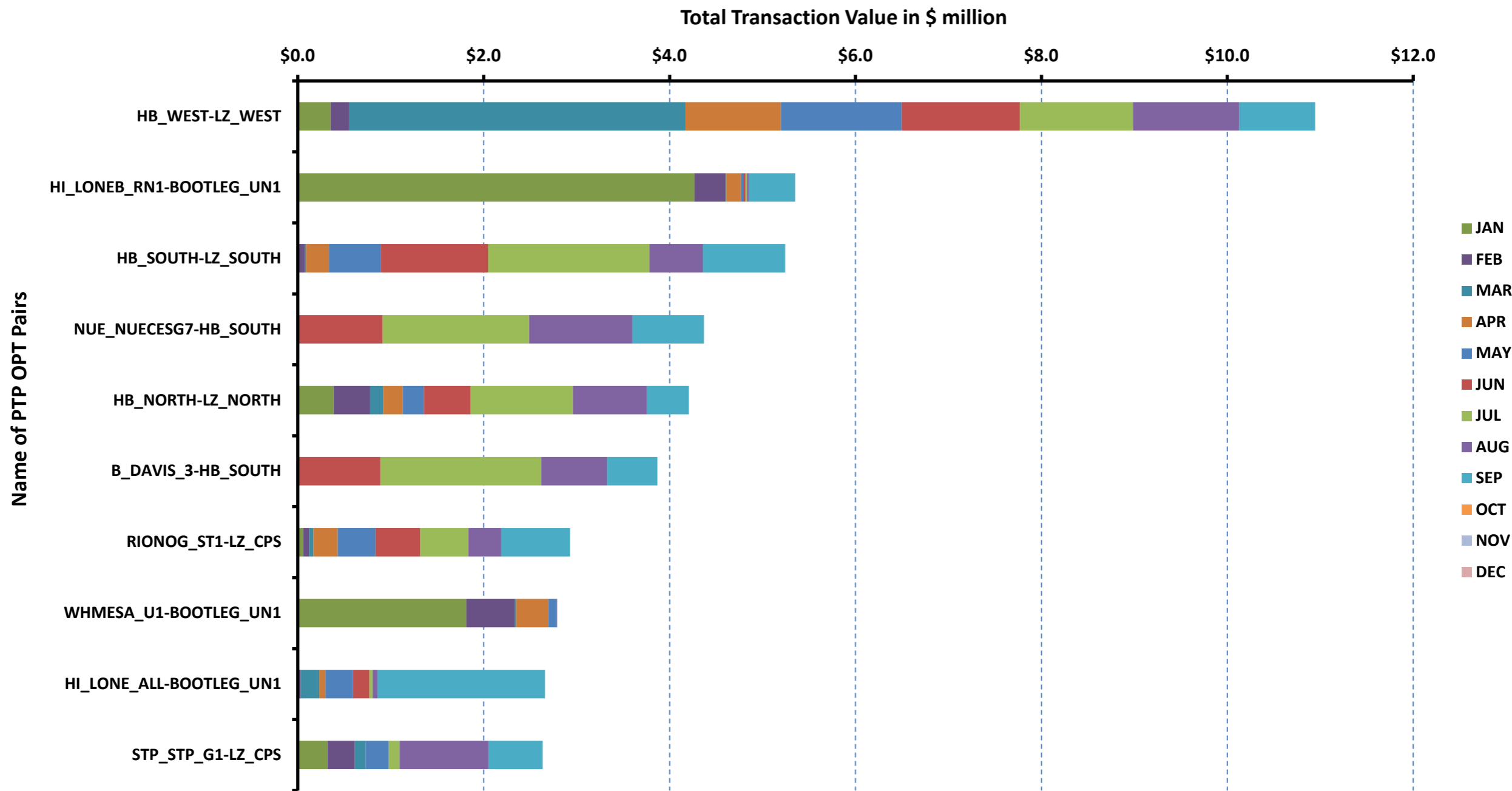
Top 10 CRR Pairs Ranked by Monthly Auction Values - 1

Top 10 PTP Obligations by Total Transaction Value - 2024



Top 10 CRR Pairs Ranked by Monthly Auction Values - 2

Top 10 PTP Options by Total Transaction Value - 2024



ERCOT-wide Avg. Energy Price - DA vs. RT			
year	month	dam_spp	rtm_spp
2023	1	\$ 28.02	\$ 26.68
	2	\$ 23.83	\$ 21.95
	3	\$ 29.90	\$ 31.20
	4	\$ 27.58	\$ 24.45
	5	\$ 32.08	\$ 32.48
	6	\$ 88.69	\$ 75.44
	7	\$ 64.45	\$ 48.58
	8	\$ 306.22	\$ 224.18
	9	\$ 86.20	\$ 111.36
	10	\$ 37.83	\$ 31.84
	11	\$ 33.62	\$ 31.71
	12	\$ 23.30	\$ 23.87
2024	1	\$ 57.00	\$ 40.43
	2	\$ 15.96	\$ 15.83
	3	\$ 25.15	\$ 24.75
	4	\$ 26.34	\$ 27.50
	5	\$ 52.83	\$ 46.32
	6	\$ 35.48	\$ 32.46
	7	\$ 25.81	\$ 25.05
	8	\$ 41.25	\$ 42.16
	9	\$ -	\$ -
	10	\$ -	\$ -
	11	\$ -	\$ -
	12	\$ -	\$ -

ERCOT-wide Monthly Implied Heat Rate - DA vs. RT						
year	month	gasprice	rtm_spp	HR_rtm	dam_spp	HR_dam
2023	1	\$ 2.65	\$ 26.68	10.07	\$ 28.02	10.58
	2	\$ 2.05	\$ 21.95	10.69	\$ 23.83	11.60
	3	\$ 2.08	\$ 31.20	15.00	\$ 29.90	14.37
	4	\$ 1.90	\$ 24.45	12.89	\$ 27.58	14.54
	5	\$ 1.96	\$ 32.48	16.59	\$ 32.08	16.39
	6	\$ 2.10	\$ 75.44	36.00	\$ 88.69	42.32
	7	\$ 2.36	\$ 48.58	20.62	\$ 64.45	27.35
	8	\$ 2.40	\$ 224.18	93.49	\$ 306.22	127.70
	9	\$ 2.41	\$ 111.36	46.30	\$ 86.20	35.84
	10	\$ 2.39	\$ 31.84	13.32	\$ 37.83	15.83
	11	\$ 2.29	\$ 31.71	13.88	\$ 33.62	14.71
	12	\$ 2.07	\$ 23.87	11.51	\$ 23.30	11.23
2024	1	\$ 3.02	\$ 40.43	13.37	\$ 57.00	18.85
	2	\$ 1.41	\$ 15.83	11.26	\$ 15.96	11.36
	3	\$ 1.30	\$ 24.75	19.09	\$ 25.15	19.40
	4	\$ 1.15	\$ 27.50	23.93	\$ 26.34	22.92
	5	\$ 1.82	\$ 46.32	25.44	\$ 52.83	29.02
	6	\$ 2.18	\$ 32.46	14.90	\$ 35.48	16.29
	7	\$ 1.68	\$ 25.05	14.89	\$ 25.81	15.34
	8	\$ 1.77	\$ 42.16	23.82	\$ 41.25	23.30
	9	\$ -	\$ -	-	\$ -	-
	10	\$ -	\$ -	-	\$ -	-
	11	\$ -	\$ -	-	\$ -	-
	12	\$ -	\$ -	-	\$ -	-

Daily ORDC Adders Average Values and Interval Duration								
YEAR	MONTH	DAY	PRICE_RS	PRICE_RDP	RS_CNT	RDP_CNT	RS_POS	RDP_POS
2024	8	1	\$ -	\$ -	0	0	80	90
2024	8	2	\$ 0.06	\$ -	7	0	80	90
2024	8	3	\$ -	\$ -	0	0	80	90
2024	8	4	\$ -	\$ -	0	0	80	90
2024	8	5	\$ 0.27	\$ 1.32	7	20	80	90
2024	8	6	\$ 7.30	\$ -	9	0	80	90
2024	8	7	\$ 13.41	\$ 8.43	9	3	80	90
2024	8	8	\$ -	\$ -	0	0	80	90
2024	8	9	\$ -	\$ -	0	0	80	90
2024	8	10	\$ 0.01	\$ -	3	0	80	90
2024	8	11	\$ 0.03	\$ -	2	0	80	90
2024	8	12	\$ -	\$ -	0	0	80	90
2024	8	13	\$ -	\$ -	0	0	80	90
2024	8	14	\$ -	\$ -	0	0	80	90
2024	8	15	\$ 0.10	\$ 0.72	5	7	80	90
2024	8	16	\$ 0.09	\$ -	5	0	80	90
2024	8	17	\$ 0.01	\$ 2.23	1	9	80	90
2024	8	18	\$ 0.29	\$ 7.49	6	13	80	90
2024	8	19	\$ 13.65	\$ -	11	0	80	90
2024	8	20	\$ 112.92	\$ 4.95	12	5	80	90
2024	8	21	\$ 2.90	\$ 3.41	8	21	80	90
2024	8	22	\$ 0.01	\$ -	3	0	80	90
2024	8	23	\$ -	\$ -	0	0	80	90
2024	8	24	\$ -	\$ -	0	0	80	90
2024	8	25	\$ 0.04	\$ 2.36	3	25	80	90
2024	8	26	\$ -	\$ 0.81	0	23	80	90
2024	8	27	\$ -	\$ 0.97	0	26	80	90
2024	8	28	\$ -	\$ -	0	0	80	90
2024	8	29	\$ 0.01	\$ -	2	0	80	90
2024	8	30	\$ 0.02	\$ 1.94	2	18	80	90
2024	8	31	\$ 1.71	\$ 4.83	6	23	80	90

ORDC RS Adder Floor Impact on Energy Cost

YEAR	MONTH	MONTHLY IMPACT	ANNUAL CUMULATIVE IMPACT
2023	1	\$ -	\$ -
	2	\$ -	\$ -
	3	\$ -	\$ -
	4	\$ -	\$ -
	5	\$ -	\$ -
	6	\$ -	\$ -
	7	\$ -	\$ -
	8	\$ -	\$ -
	9	\$ -	\$ -
	10	\$ -	\$ -
	11	\$ 903,568	\$ 903,568
	12	\$ -	\$ 903,568
2024	1	\$ 305,655	\$ 305,655
	2	\$ -	\$ 305,655
	3	\$ 356,079	\$ 661,734
	4	\$ 2,700,062	\$ 3,361,796
	5	\$ 1,860,853	\$ 5,222,649
	6	\$ 90,904	\$ 5,313,553
	7	\$ 1,146,000	\$ 6,459,552
	8	\$ 1,090,341	\$ 7,549,894
	9	\$ -	\$ 7,549,894
	10	\$ -	\$ 7,549,894
	11	\$ -	\$ 7,549,894
	12	\$ -	\$ 7,549,894

ORDC RS Adder Floor Impact on A/S Imbalance

YEAR	MONTH	MONTHLY IMPACT	ANNUAL CUMULATIVE IMPACT
2023	1	\$ -	\$ -
	2	\$ -	\$ -
	3	\$ -	\$ -
	4	\$ -	\$ -
	5	\$ -	\$ -
	6	\$ -	\$ -
	7	\$ -	\$ -
	8	\$ -	\$ -
	9	\$ -	\$ -
	10	\$ -	\$ -
	11	\$ 24,983	\$ 24,983
	12	\$ -	\$ 24,983
2024	1	\$ 1,307	\$ 1,307
	2	\$ -	\$ 1,307
	3	\$ 3,006	\$ 4,313
	4	\$ 64,791	\$ 69,104
	5	\$ (19,773)	\$ 49,331
	6	\$ 1,528	\$ 50,859
	7	\$ 18,731	\$ 69,590
	8	\$ (17,683)	\$ 51,907
	9	\$ -	\$ 51,907
	10	\$ -	\$ 51,907
	11	\$ -	\$ 51,907
	12	\$ -	\$ 51,907

Monthly Average of Ancillary Services Required MW						
year	month	ASMW_REGDN	ASMW_NSPIN	ASMW_RRS	ASMW_REGUP	ASMW_ECRS
2023	1	342	4,048	2,965	372	-
	2	420	4,243	3,022	400	-
	3	433	4,049	3,256	454	-
	4	405	4,262	3,102	400	-
	5	418	5,052	2,901	428	-
	6	376	3,275	2,676	408	2,073
	7	347	2,801	2,583	379	2,041
	8	323	2,207	2,566	389	2,127
	9	362	2,265	2,693	381	2,041
	10	399	2,467	2,950	409	1,784
	11	335	2,385	3,076	344	1,607
	12	339	3,092	3,053	366	1,847
2024	1	342	2,945	2,951	385	1,554
	2	403	2,968	2,951	409	1,668
	3	430	2,530	3,088	432	1,562
	4	399	2,672	3,003	408	1,464
	5	414	3,702	2,664	417	1,988
	6	388	2,906	2,420	418	2,009
	7	361	2,503	2,375	387	2,049
	8	375	2,185	2,326	401	2,172
	9	-	-	-	-	-
	10	-	-	-	-	-
	11	-	-	-	-	-
	12	-	-	-	-	-

Hourly Average of Ancillary Services Required MW						
year	DELIVERY_HOUR	ASMW_REGDN	ASMW_NSPIIN	ASMW_RRS	ASMW_REGUP	ASMW_ECRS
2023	1	372	2,816	2,954	227	1,447
	2	294	2,816	2,954	189	1,393
	3	248	3,101	2,987	214	1,462
	4	223	3,103	2,988	242	1,460
	5	219	3,103	2,988	297	1,431
	6	261	3,103	2,988	426	1,440
	7	233	3,558	2,883	521	1,598
	8	362	3,558	2,883	347	1,815
	9	592	3,558	2,883	340	2,104
	10	495	3,558	2,883	486	2,474
	11	421	3,668	2,778	530	2,305
	12	393	3,668	2,778	535	2,325
	13	385	3,687	2,778	522	2,267
	14	375	3,687	2,778	510	2,283
	15	404	3,620	2,908	499	2,331
	16	419	3,620	2,908	523	2,413
	17	424	3,620	2,908	606	2,359
	18	405	3,620	2,908	652	2,359
	19	397	3,147	2,905	546	2,172
	20	338	3,147	2,905	409	2,042
	21	376	3,147	2,905	275	1,864
	22	439	3,147	2,905	201	1,756
	23	472	3,068	2,954	192	1,612
	24	443	3,068	2,954	168	1,501
2024	1	408	2,189	2,787	243	1,228
	2	327	2,189	2,787	220	1,219
	3	273	2,611	2,827	217	1,288
	4	253	2,607	2,829	250	1,219
	5	231	2,607	2,829	296	1,254
	6	246	2,607	2,829	420	1,271
	7	239	3,368	2,758	505	1,410
	8	497	3,368	2,758	322	1,741
	9	648	3,368	2,758	342	2,212
	10	479	3,368	2,758	494	2,258
	11	398	3,131	2,682	540	2,275
	12	377	3,131	2,682	548	2,128
	13	377	3,115	2,682	532	2,051
	14	383	3,115	2,682	541	2,129
	15	392	2,897	2,636	490	2,174
	16	416	2,897	2,636	532	2,231
	17	432	2,897	2,636	590	2,400
	18	432	2,897	2,636	634	2,367
	19	398	2,510	2,631	599	2,127
	20	312	2,510	2,631	554	1,881
	21	373	2,510	2,631	333	1,832
	22	456	2,510	2,631	212	1,767
	23	509	2,401	2,787	194	1,545
	24	474	2,401	2,787	157	1,429

Monthly Average Ancillary Services Price

year	month	MCPC_REGDN	MCPC_NSPIN	MCPC_RRS	MCPC_REGUP	MCPC_ECRS
2023	1	\$ 5.69	\$ 4.69	\$ 4.00	\$ 7.27	\$ -
	2	\$ 12.99	\$ 5.79	\$ 3.72	\$ 7.58	\$ -
	3	\$ 6.42	\$ 8.01	\$ 6.24	\$ 12.47	\$ -
	4	\$ 7.65	\$ 8.03	\$ 6.12	\$ 12.52	\$ -
	5	\$ 4.74	\$ 11.87	\$ 4.03	\$ 7.66	\$ -
	6	\$ 8.20	\$ 45.87	\$ 38.57	\$ 47.00	\$ 107.44
	7	\$ 6.53	\$ 17.12	\$ 18.14	\$ 23.85	\$ 38.30
	8	\$ 99.16	\$ 80.61	\$ 132.73	\$ 215.17	\$ 276.73
	9	\$ 29.48	\$ 17.56	\$ 32.12	\$ 47.44	\$ 44.76
	10	\$ 6.59	\$ 8.23	\$ 10.82	\$ 17.38	\$ 16.78
	11	\$ 3.19	\$ 8.98	\$ 7.73	\$ 12.42	\$ 11.06
	12	\$ 2.60	\$ 2.81	\$ 2.50	\$ 3.91	\$ 3.28
2024	1	\$ 15.69	\$ 14.74	\$ 17.72	\$ 18.47	\$ 22.98
	2	\$ 2.15	\$ 1.58	\$ 1.74	\$ 2.65	\$ 2.64
	3	\$ 2.90	\$ 5.29	\$ 3.95	\$ 5.52	\$ 6.54
	4	\$ 3.01	\$ 7.30	\$ 6.37	\$ 10.41	\$ 10.16
	5	\$ 6.40	\$ 27.75	\$ 11.74	\$ 15.37	\$ 32.49
	6	\$ 3.62	\$ 4.39	\$ 3.20	\$ 4.71	\$ 10.62
	7	\$ 2.66	\$ 1.34	\$ 2.62	\$ 3.53	\$ 3.59
	8	\$ 4.91	\$ 2.70	\$ 8.17	\$ 10.10	\$ 10.67
	9	\$ -	\$ -	\$ -	\$ -	\$ -
	10	\$ -	\$ -	\$ -	\$ -	\$ -
	11	\$ -	\$ -	\$ -	\$ -	\$ -
	12	\$ -	\$ -	\$ -	\$ -	\$ -

Monthly Average A/S Cost per MWh Load							
year	month	AScost_REGDN	AScost_NSPIIN	AScost_RRS	AScost_REGUP	AScost_ECRS	
2023	1	\$ 0.04	\$ 0.44	\$ 0.27	\$ 0.06	\$ -	
	2	\$ 0.12	\$ 0.55	\$ 0.25	\$ 0.07	\$ -	
	3	\$ 0.06	\$ 0.76	\$ 0.48	\$ 0.13	\$ -	
	4	\$ 0.07	\$ 0.80	\$ 0.45	\$ 0.12	\$ -	
	5	\$ 0.04	\$ 1.22	\$ 0.24	\$ 0.07	\$ -	
	6	\$ 0.05	\$ 2.53	\$ 1.74	\$ 0.32	\$ 2.63	
	7	\$ 0.04	\$ 0.75	\$ 0.73	\$ 0.14	\$ 1.23	
	8	\$ 0.47	\$ 2.63	\$ 5.04	\$ 1.24	\$ 8.72	
	9	\$ 0.18	\$ 0.67	\$ 1.45	\$ 0.30	\$ 1.53	
	10	\$ 0.06	\$ 0.43	\$ 0.67	\$ 0.15	\$ 0.63	
	11	\$ 0.02	\$ 0.49	\$ 0.55	\$ 0.10	\$ 0.41	
	12	\$ 0.02	\$ 0.19	\$ 0.17	\$ 0.03	\$ 0.14	
2024	1	\$ 0.10	\$ 0.85	\$ 1.02	\$ 0.14	\$ 0.70	
	2	\$ 0.02	\$ 0.11	\$ 0.12	\$ 0.02	\$ 0.10	
	3	\$ 0.03	\$ 0.31	\$ 0.28	\$ 0.06	\$ 0.24	
	4	\$ 0.03	\$ 0.42	\$ 0.41	\$ 0.09	\$ 0.32	
	5	\$ 0.05	\$ 1.91	\$ 0.58	\$ 0.12	\$ 1.20	
	6	\$ 0.02	\$ 0.21	\$ 0.13	\$ 0.03	\$ 0.35	
	7	\$ 0.02	\$ 0.06	\$ 0.10	\$ 0.02	\$ 0.12	
	8	\$ 0.03	\$ 0.09	\$ 0.29	\$ 0.06	\$ 0.35	
	9	\$ -	\$ -	\$ -	\$ -	\$ -	
	10	\$ -	\$ -	\$ -	\$ -	\$ -	
	11	\$ -	\$ -	\$ -	\$ -	\$ -	
	12	\$ -	\$ -	\$ -	\$ -	\$ -	

ERCOT-wide Cumulative PNM			
year	month	pnm	pnm_accum
2023	0	\$ -	\$ -
	1	\$ 3,758.67	\$ 3,758.67
	2	\$ 3,066.65	\$ 6,825.32
	3	\$ 7,327.65	\$ 14,152.97
	4	\$ 3,963.19	\$ 18,116.16
	5	\$ 8,532.76	\$ 26,648.92
	6	\$ 30,725.00	\$ 57,373.92
	7	\$ 15,736.44	\$ 73,110.36
	8	\$ 125,626.42	\$ 198,736.78
	9	\$ 46,968.45	\$ 245,705.23
	10	\$ 6,305.54	\$ 252,010.77
	11	\$ 7,639.84	\$ 259,650.61
	12	\$ 4,296.20	\$ 263,946.81
2024	0	\$ -	\$ -
	1	\$ 8,527.11	\$ 8,527.11
	2	\$ 3,701.32	\$ 12,228.43
	3	\$ 8,447.84	\$ 20,676.27
	4	\$ 11,209.11	\$ 31,885.38
	5	\$ 16,738.09	\$ 48,623.47
	6	\$ 6,214.57	\$ 54,838.04
	7	\$ 5,216.01	\$ 60,054.05
	8	\$ 14,288.91	\$ 74,342.96
	9	\$ -	\$ -
	10	\$ -	\$ -
	11	\$ -	\$ -
	12	\$ -	\$ -

DA vs. RT Load Forecast Error by Hour Ending							
year	month	HE_1_4	HE_5_8	HE_9_12	HE_13_16	HE_17_20	HE_21_24
2023	1	33	732	1,397	392	136	210
	2	(28)	1,005	1,480	1,497	1,206	666
	3	(484)	750	931	459	208	100
	4	(1,127)	(373)	534	362	252	(282)
	5	(909)	(998)	467	1,207	1,088	(363)
	6	(68)	(586)	1,530	2,778	1,430	426
	7	22	(224)	1,085	3,009	1,488	469
	8	45	(355)	802	1,604	872	994
	9	(320)	(589)	338	1,185	417	(82)
	10	(322)	(527)	752	1,539	1,228	67
	11	(207)	186	101	268	863	73
	12	(632)	(806)	(949)	(429)	258	(48)
2024	1	(764)	163	690	486	956	9
	2	(237)	735	1,077	694	483	339
	3	(112)	549	675	481	306	187
	4	(461)	(206)	522	969	256	(84)
	5	21	(47)	543	1,284	1,045	684
	6	(451)	(338)	(208)	598	167	(623)
	7	(371)	(188)	793	2,108	1,430	577
	8	(395)	(53)	360	1,014	312	(333)
	9	-	-	-	-	-	-
	10	-	-	-	-	-	-
	11	-	-	-	-	-	-
	12	-	-	-	-	-	-

Monthly Average of Wind Generation by Hour Ending							
year	month	HE_1_4	HE_5_8	HE_9_12	HE_13_16	HE_17_20	HE_21_24
2023	1	16,786	15,896	13,255	12,978	13,256	16,258
	2	15,935	15,026	13,552	14,322	15,239	17,307
	3	16,983	15,530	13,978	12,878	13,946	16,760
	4	16,756	15,018	12,761	12,031	13,207	16,187
	5	12,744	9,807	7,209	7,265	10,625	13,140
	6	14,285	11,975	9,609	8,535	10,879	13,859
	7	16,218	13,006	9,683	8,723	10,953	14,729
	8	14,147	11,131	8,875	7,705	9,874	12,837
	9	13,994	11,182	8,244	6,223	7,888	13,447
	10	14,077	12,740	10,486	10,071	10,516	13,441
	11	12,510	11,412	9,478	9,029	9,928	13,033
	12	13,984	12,979	11,017	11,534	11,641	14,558
2024	1	12,969	12,574	10,880	10,617	10,118	12,254
	2	17,760	17,575	14,116	14,160	14,221	17,060
	3	15,982	14,130	11,839	11,747	13,155	16,239
	4	18,123	17,432	15,079	14,290	15,320	17,181
	5	16,225	13,545	11,451	11,325	13,522	16,133
	6	17,360	14,020	11,560	10,678	13,458	17,409
	7	14,238	10,798	8,413	8,329	10,379	14,340
	8	14,863	10,709	6,629	5,859	9,531	14,198
	9	-	-	-	-	-	-
	10	-	-	-	-	-	-
	11	-	-	-	-	-	-
	12	-	-	-	-	-	-

Monthly Average of Solar Generation by Hour Ending							
year	month	HE_1_4	HE_5_8	HE_9_12	HE_13_16	HE_17_20	HE_21_24
2023	1	0.3	14.6	4,959.9	5,954.5	1,303.5	0.7
	2	0.9	64.5	5,072.6	5,984.7	1,750.2	1.0
	3	0.2	67.8	5,196.4	7,665.3	3,657.6	0.4
	4	0.2	130.2	6,575.6	8,939.2	5,678.3	7.1
	5	0.2	350.0	7,903.1	10,047.5	6,026.7	36.3
	6	0.3	563.2	9,356.5	11,237.5	7,807.2	107.4
	7	0.5	442.2	10,019.0	11,950.8	9,016.3	114.9
	8	0.3	237.9	10,464.6	12,377.6	8,266.7	25.0
	9	0.2	73.3	8,924.6	11,508.5	6,593.0	0.4
	10	0.1	13.8	6,723.8	9,743.6	4,456.3	0.7
	11	0.4	125.5	6,606.1	7,750.9	1,479.5	0.4
	12	0.0	59.6	7,972.6	8,837.9	1,248.3	0.1
2024	1	0.1	29.9	7,435.8	8,671.2	1,858.3	2.4
	2	0.3	147.0	9,285.9	10,538.0	2,832.7	0.4
	3	0.8	88.2	8,715.8	11,990.2	5,583.0	0.7
	4	0.7	179.2	8,720.3	12,143.5	7,918.3	8.9
	5	0.9	480.7	10,332.1	13,635.7	8,505.4	52.3
	6	0.5	928.2	12,935.4	15,777.8	11,719.2	147.9
	7	1.0	644.3	13,145.4	16,149.5	11,363.5	123.5
	8	0.3	375.8	15,688.4	18,500.9	12,114.1	30.5
	9	-	-	-	-	-	-
	10	-	-	-	-	-	-
	11	-	-	-	-	-	-
	12	-	-	-	-	-	-

RT Congestion Constraint Rankings - Top 10 Constraints by Binding Frequency and Top 10 Constraints by Total Congestion Rent																
CATEGORY	YEAR	CONSTRAINT	RANKVAR	RANK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
FREQ_EXIST	2024	NORTH EDINBURG LOBO GTC (NE_LOB)	10494	1	571	1245	977	3350	2195	1822	257	77	0	0	0	0
FREQ_EXIST	2024	BURNS RIOHONDO_1 (RIOHONDO-MV_BURNS)	10069	2	469	664	982	1949	2705	2794	296	210	0	0	0	0
FREQ_EXIST	2024	WEST TEXAS EXPORT GTC (WESTEX)	8184	3	958	1163	1377	1578	1353	1195	487	73	0	0	0	0
FREQ_EXIST	2024	PANHANDLE GTC (PNHNDL)	7447	4	647	2029	1204	1604	742	721	385	115	0	0	0	0
FREQ_EXIST	2024	LARDVN_LASCRU1_1 (LARDVNTH-LASCRUCE)	6838	5	595	0	1988	2246	223	380	863	543	0	0	0	0
FREQ_EXIST	2024	HAINE_LA_PAL1_1 (LA_PALMA-HAINE_DR)	6781	6	36	321	971	1079	1859	2209	234	72	0	0	0	0
FREQ_EXIST	2024	ZAPATA-STARR GTC (ZAPSTR)	6715	7	261	1539	864	1526	998	810	511	206	0	0	0	0
FREQ_EXIST	2024	6471_C (MGSES-NAVIG)	4681	8	52	0	0	0	630	574	1520	1905	0	0	0	0
FREQ_EXIST	2024	HAMILT_MAVERI1_1 (HAMILTON-MAVERICK)	4616	9	127	654	1246	630	862	552	352	193	0	0	0	0
FREQ_EXIST	2024	HAMILT_MAXWEL1_1 (MAXWELL-HAMILTON)	4600	10	599	809	1083	462	706	455	290	196	0	0	0	0
TOP10_RENT	2024	6036_A (TKWSW-MGSES)	\$ 101.90	1	\$ 4.60	\$ 13.29	\$ 68.38	\$ 15.63	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOP10_RENT	2024	WEST TEXAS EXPORT GTC (WESTEX)	\$ 93.62	2	\$ 13.53	\$ 8.32	\$ 12.19	\$ 15.85	\$ 14.98	\$ 22.95	\$ 5.34	\$ 0.47	\$ -	\$ -	\$ -	\$ -
TOP10_RENT	2024	6471_C (MGSES-NAVIG)	\$ 87.90	3	\$ 0.29	\$ -	\$ -	\$ -	\$ 15.37	\$ 9.80	\$ 29.57	\$ 32.88	\$ -	\$ -	\$ -	\$ -
TOP10_RENT	2024	BURNS RIOHONDO_1 (RIOHONDO-MV_BURNS)	\$ 83.11	4	\$ 2.14	\$ 1.46	\$ 3.38	\$ 12.42	\$ 32.34	\$ 30.31	\$ 0.79	\$ 0.27	\$ -	\$ -	\$ -	\$ -
TOP10_RENT	2024	HARGRO_TWINBU1_1 (TWINBU-HARGROVE)	\$ 52.17	5	\$ 20.59	\$ 9.39	\$ 20.80	\$ 0.51	\$ 0.05	\$ -	\$ 0.33	\$ 0.49	\$ -	\$ -	\$ -	\$ -
TOP10_RENT	2024	1710_C (BELCNTY-SALSW)	\$ 51.81	6	\$ 0.46	\$ -	\$ -	\$ 1.32	\$ 15.19	\$ 15.71	\$ 3.79	\$ 15.35	\$ -	\$ -	\$ -	\$ -
TOP10_RENT	2024	LARDVN_LASCRU1_1 (LARDVNTH-LASCRUCE)	\$ 33.81	7	\$ 4.67	\$ -	\$ 8.45	\$ 8.91	\$ 1.66	\$ 2.56	\$ 3.35	\$ 4.22	\$ -	\$ -	\$ -	\$ -
TOP10_RENT	2024	NORTH EDINBURG LOBO GTC (NE_LOB)	\$ 32.42	8	\$ 1.33	\$ 2.85	\$ 2.42	\$ 7.41	\$ 10.17	\$ 7.77	\$ 0.39	\$ 0.09	\$ -	\$ -	\$ -	\$ -
TOP10_RENT	2024	LPLNW_LPLMD_1 (LPLNW-LPLMD)	\$ 26.72	9	\$ 0.68	\$ -	\$ 16.88	\$ 6.19	\$ -	\$ 0.21	\$ -	\$ 2.76	\$ -	\$ -	\$ -	\$ -
TOP10_RENT	2024	15060_B (VEALMOOR-KOCHTAP)	\$ 25.21	10	\$ 0.17	\$ -	\$ 1.92	\$ 0.10	\$ 9.39	\$ 3.82	\$ 4.89	\$ 4.91	\$ -	\$ -	\$ -	\$ -

MONTH	RENT_TOTAL
1	201.27
2	90.69
3	212.49
4	143.93
5	239.98
6	185.59
7	113.29
8	156.29
9	0.00
10	0.00
11	0.00
12	0.00
Sum-Total	1343.53

DA Congestion Constraint Rankings - Top 10 Constraints by Binding Frequency and Top 10 Constraints by Total Congestion Rent																
category	year	item	rankvar	rank	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
FREQ_EXIST	2024	ASHERT_CATARI1_1 (ASHERTON-CATARINA)	3,323	1	393	194	276	398	506	597	582	377	-	-	-	-
FREQ_EXIST	2024	HARGRO_TWINBU1_1 (TWINBU-HARGROVE)	3,182	2	547	454	428	374	279	334	343	423	-	-	-	-
FREQ_EXIST	2024	BURNS_RIOHONDO_1 (RIOHONDO-MV_BURNS)	2,209	3	166	215	215	381	453	514	182	83	-	-	-	-
FREQ_EXIST	2024	LARDVN_LASCRU1_1 (LARDVNTH-LASCRUCE)	2,048	4	214	-	473	524	270	207	203	157	-	-	-	-
FREQ_EXIST	2024	CATARI_PILONC1_1 (PILONCIL-CATARINA)	2,044	5	484	501	221	143	236	93	173	193	-	-	-	-
FREQ_EXIST	2024	HEXT_YELWJC1_1 (YELWJCKT-HEXT)	1,954	6	192	293	112	325	231	260	212	329	-	-	-	-
FREQ_EXIST	2024	LPLBR_BRT1 (LPLBR-LPLBR)	1,797	7	336	86	214	282	128	241	239	271	-	-	-	-
FREQ_EXIST	2024	6471_C (MGSES-NAVIG)	1,780	8	128	-	-	-	380	396	449	427	-	-	-	-
FREQ_EXIST	2024	PUEBLO_XFMRS (PUEBLO-PUEBLO)	1,558	9	341	261	189	167	276	188	41	95	-	-	-	-
FREQ_EXIST	2024	HAMILT_MAVERI1_1 (HAMILTON-MAVERICK)	1,467	10	56	213	227	295	268	221	121	66	-	-	-	-
TOP10_RENT	2024	6036_A (TKWSW-MGSES)	\$ 98.12	1	\$ 13.59	\$ 6.30	\$ 60.11	\$ 17.30	\$ 0.63	\$ 0.11	\$ 0.06	\$ 0.02	\$ -	\$ -	\$ -	\$ -
TOP10_RENT	2024	BURNS_RIOHONDO_1 (RIOHONDO-MV_BURNS)	\$ 92.19	2	\$ 1.76	\$ 2.08	\$ 2.73	\$ 8.78	\$ 35.95	\$ 36.21	\$ 3.83	\$ 0.84	\$ -	\$ -	\$ -	\$ -
TOP10_RENT	2024	6471_C (MGSES-NAVIG)	\$ 84.16	3	\$ 1.72	\$ -	\$ -	\$ -	\$ 12.53	\$ 8.90	\$ 26.55	\$ 34.46	\$ -	\$ -	\$ -	\$ -
TOP10_RENT	2024	WEST TEXAS EXPORT GTC (WESTEX)	\$ 66.65	4	\$ 7.41	\$ 8.98	\$ 10.43	\$ 11.52	\$ 9.72	\$ 13.50	\$ 4.40	\$ 0.69	\$ -	\$ -	\$ -	\$ -
TOP10_RENT	2024	HARGRO_TWINBU1_1 (TWINBU-HARGROVE)	\$ 60.77	5	\$ 20.87	\$ 11.87	\$ 19.58	\$ 4.65	\$ 0.83	\$ 0.57	\$ 1.01	\$ 1.40	\$ -	\$ -	\$ -	\$ -
TOP10_RENT	2024	1710_C (BELCNTY-SALSW)	\$ 42.94	6	\$ 0.00	\$ -	\$ 0.01	\$ 1.12	\$ 11.22	\$ 18.65	\$ 5.43	\$ 6.50	\$ -	\$ -	\$ -	\$ -
TOP10_RENT	2024	COLETO_ROSATA1_1 (COLETO-ROSATA)	\$ 35.98	7	\$ 34.68	\$ -	\$ -	\$ -	\$ -	\$ 0.09	\$ 0.12	\$ 1.09	\$ -	\$ -	\$ -	\$ -
TOP10_RENT	2024	LARDVN_LASCRU1_1 (LARDVNTH-LASCRUCE)	\$ 35.39	8	\$ 6.56	\$ -	\$ 9.01	\$ 9.18	\$ 2.75	\$ 1.69	\$ 3.01	\$ 3.18	\$ -	\$ -	\$ -	\$ -
TOP10_RENT	2024	NORTH EDINBURG LOBO GTC (NE_LOB)	\$ 29.85	9	\$ 0.89	\$ 2.41	\$ 2.38	\$ 6.44	\$ 8.67	\$ 7.45	\$ 1.60	\$ 0.01	\$ -	\$ -	\$ -	\$ -
TOP10_RENT	2024	LPLNW_LPLMD_1 (LPLNW-LPLMD)	\$ 28.48	10	\$ 1.07	\$ -	\$ 16.58	\$ 10.47	\$ -	\$ 0.00	\$ 0.01	\$ 0.36	\$ -	\$ -	\$ -	\$ -

Top 10 CRR Pairs Ranked by Monthly Auction Values - Top 10 PTP Obligations by Total Transaction Values and Top 10 PTP Options by Total Transaction Values																
ft_option	year	pair	total_value	rank	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
N	2024	HB_WEST-LZ_WEST	\$ 74.02	1	\$ 8.52	\$ 7.67	\$ 8.38	\$ 12.56	\$ 9.68	\$ 7.43	\$ 5.76	\$ 6.23	\$ 7.79	\$ -	\$ -	\$ -
N	2024	HB_NORTH-HB_WEST	\$ 33.47	2	\$ 4.48	\$ 2.45	\$ 7.35	\$ 7.16	\$ 4.72	\$ 3.37	\$ 1.39	\$ 1.41	\$ 1.14	\$ -	\$ -	\$ -
N	2024	HB_NORTH-HB_HOUSTON	\$ 12.85	3	\$ 0.04	\$ 0.02	\$ 0.77	\$ 2.18	\$ 2.97	\$ 2.46	\$ 2.11	\$ 1.33	\$ 0.97	\$ -	\$ -	\$ -
N	2024	HB_NORTH-LZ_NORTH	\$ 12.11	4	\$ 0.44	\$ 0.87	\$ 0.61	\$ 0.46	\$ 0.25	\$ 1.83	\$ 2.84	\$ 2.88	\$ 1.94	\$ -	\$ -	\$ -
N	2024	AEEC-LZ_WEST	\$ 9.27	5	\$ 0.85	\$ 0.71	\$ 0.95	\$ 0.98	\$ 1.80	\$ 1.07	\$ 0.89	\$ 0.76	\$ 1.26	\$ -	\$ -	\$ -
N	2024	HB_PAN-HB_WEST	\$ 8.00	6	\$ 0.65	\$ 1.90	\$ 0.59	\$ 1.41	\$ 1.58	\$ 0.38	\$ 0.53	\$ 0.61	\$ 0.37	\$ -	\$ -	\$ -
N	2024	HB_HOUSTON-LZ_HOUSTON	\$ 6.95	7	\$ 0.21	\$ 0.47	\$ 0.89	\$ 1.12	\$ 0.88	\$ 0.88	\$ 0.74	\$ 0.87	\$ 0.88	\$ -	\$ -	\$ -
N	2024	HB_SOUTH-LZ_SOUTH	\$ 5.25	8	\$ -	\$ -	\$ 0.00	\$ 0.31	\$ 0.77	\$ 0.85	\$ 1.05	\$ 1.36	\$ 0.92	\$ -	\$ -	\$ -
N	2024	COL_COLETG1-HB_SOUTH	\$ 4.58	9	\$ 0.51	\$ 0.82	\$ 0.33	\$ 0.00	\$ 0.38	\$ 0.03	\$ 1.70	\$ 0.79	\$ 0.02	\$ -	\$ -	\$ -
N	2024	HB_NORTH-HB_SOUTH	\$ 4.15	10	\$ 0.20	\$ 0.06	\$ 0.23	\$ 0.77	\$ 1.23	\$ 0.89	\$ 0.26	\$ 0.19	\$ 0.33	\$ -	\$ -	\$ -
Y	2024	HB_WEST-LZ_WEST	\$ 10.95	1	\$ 0.35	\$ 0.20	\$ 3.62	\$ 1.03	\$ 1.30	\$ 1.27	\$ 1.22	\$ 1.14	\$ 0.82	\$ -	\$ -	\$ -
Y	2024	HI_LONEB_RN1-BOOTLEG_UN1	\$ 5.35	2	\$ 4.27	\$ 0.33	\$ 0.01	\$ 0.16	\$ 0.03	\$ 0.02	\$ 0.02	\$ 0.02	\$ 0.50	\$ -	\$ -	\$ -
Y	2024	HB_SOUTH-LZ_SOUTH	\$ 5.24	3	\$ 0.02	\$ 0.06	\$ 0.01	\$ 0.25	\$ 0.56	\$ 1.15	\$ 1.74	\$ 0.57	\$ 0.89	\$ -	\$ -	\$ -
Y	2024	NUE_NUECESG7-HB_SOUTH	\$ 4.37	4	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 0.91	\$ 1.58	\$ 1.11	\$ 0.77	\$ -	\$ -	\$ -
Y	2024	HB_NORTH-LZ_NORTH	\$ 4.21	5	\$ 0.39	\$ 0.39	\$ 0.14	\$ 0.21	\$ 0.23	\$ 0.50	\$ 1.10	\$ 0.80	\$ 0.45	\$ -	\$ -	\$ -
Y	2024	B_DAVIS_3-HB_SOUTH	\$ 3.87	6	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 0.89	\$ 1.73	\$ 0.71	\$ 0.54	\$ -	\$ -	\$ -
Y	2024	RIONOG_ST1-LZ_CPS	\$ 2.93	7	\$ 0.06	\$ 0.06	\$ 0.05	\$ 0.26	\$ 0.41	\$ 0.48	\$ 0.52	\$ 0.35	\$ 0.74	\$ -	\$ -	\$ -
Y	2024	WHMESA_U1-BOOTLEG_UN1	\$ 2.79	8	\$ 1.81	\$ 0.52	\$ 0.01	\$ 0.35	\$ 0.09	\$ 0.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Y	2024	HI_LONE_ALL-BOOTLEG_UN1	\$ 2.66	9	\$ -	\$ 0.03	\$ 0.20	\$ 0.07	\$ 0.29	\$ 0.18	\$ 0.03	\$ 0.05	\$ 1.80	\$ -	\$ -	\$ -
Y	2024	STP_STP_G1-LZ_CPS	\$ 2.63	10	\$ 0.32	\$ 0.29	\$ 0.11	\$ -	\$ 0.25	\$ -	\$ 0.12	\$ 0.96	\$ 0.58	\$ -	\$ -	\$ -