

To the Public Utility Commission of Texas

ERCOT Wholesale Electricity Market Monthly Report

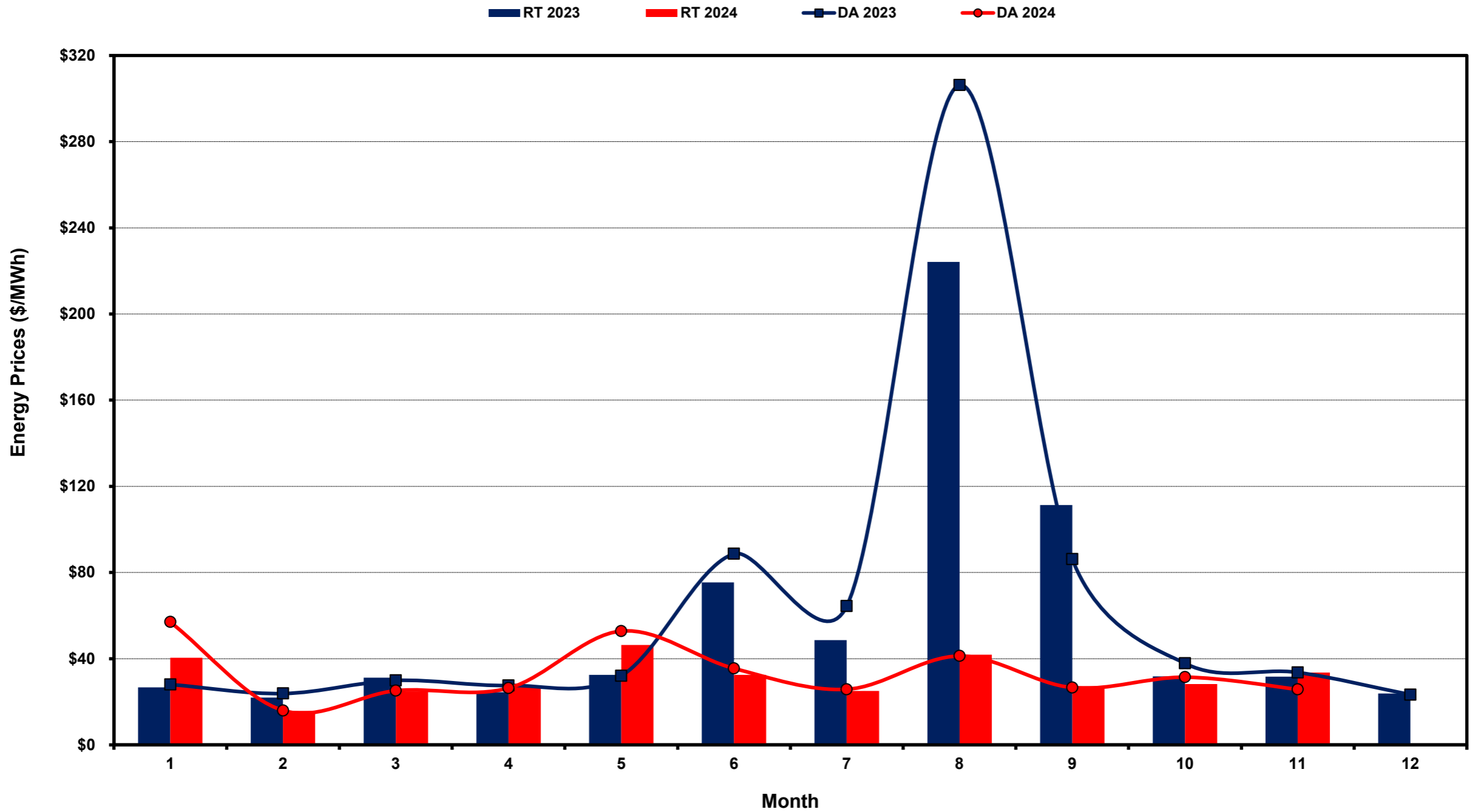
Tuesday, December 10, 2024

Potomac Economics, Ltd.
Independent Market Monitor

1	ERCOT-wide Average Energy Prices DA vs. RT
2	Load Zone Load Statistics
3	Load Zone Monthly Average Energy Prices DA vs RT
4	ERCOT-wide Monthly Implied Heat Rates DA vs RT
5	Load Zone Monthly Implied Heat Rates DA vs RT
6	Daily Shortage (ORDC) and Reliability Adders Avg. Value and Duration
7	Shortage (ORDC) and Reliability Adder Floor Impact on Energy Cost
8	Shortage (ORDC) and Reliability Adder Floor Impact on A/S Imbalance
9	Monthly Ancillary Services Required MW
10	Hourly Average of Ancillary Services Required MW
11	Monthly Average Ancillary Services Prices
12	Monthly Average Ancillary Services Cost per MWh Load
13	Ercot-wide Cumulative Peaker Net Margin
14	DA vs. RT Load Forecast Error by Hour Ending
15	Monthly Average of Wind Generation by Hour Ending
16	Monthly Average of Solar Generation by Hour Ending
17	Monthly Average of Battery Generation by Hour Ending
18	RT Constraint Rankings
	- Top 10 Constraints by Total Congestion Value
	- Top 10 Constraints by Binding Frequency
19	DA Constraint Rankings
	- Top 10 Constraints by Total Congestion Value
	- Top 10 Constraints by Binding Frequency
20	CRR Pairs by Monthly Auction Value Rankings
	- Top 10 PTP Obligations by Total Transaction Value
	- Top 10 PTP Options by Total Transaction Value

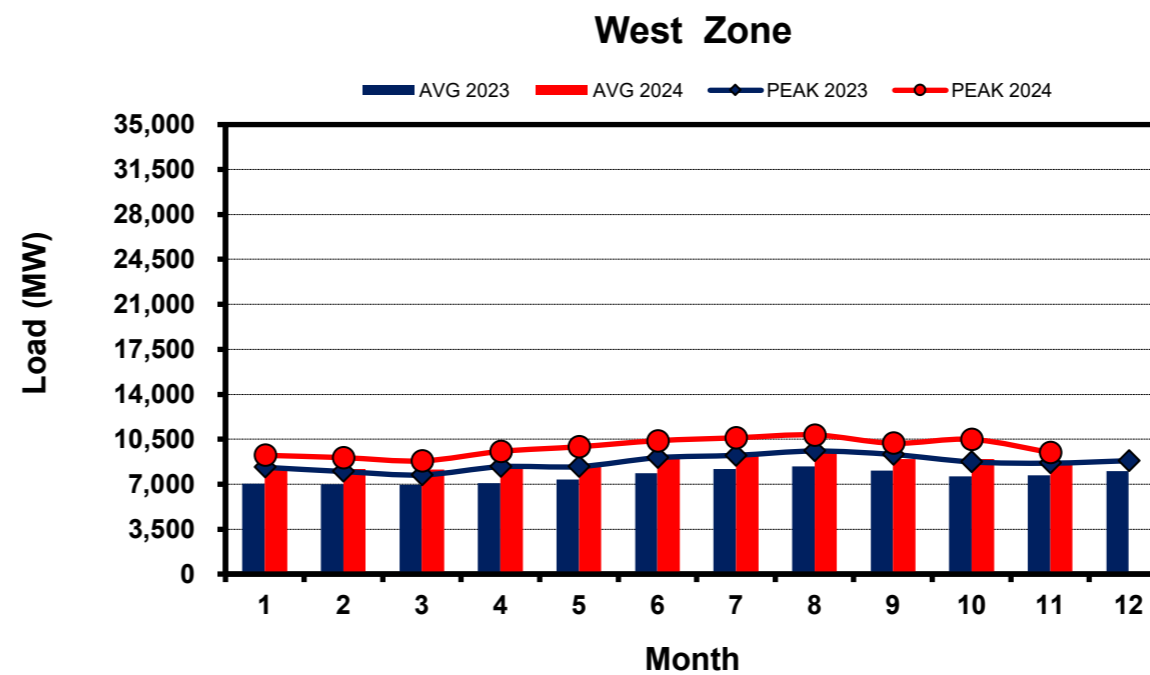
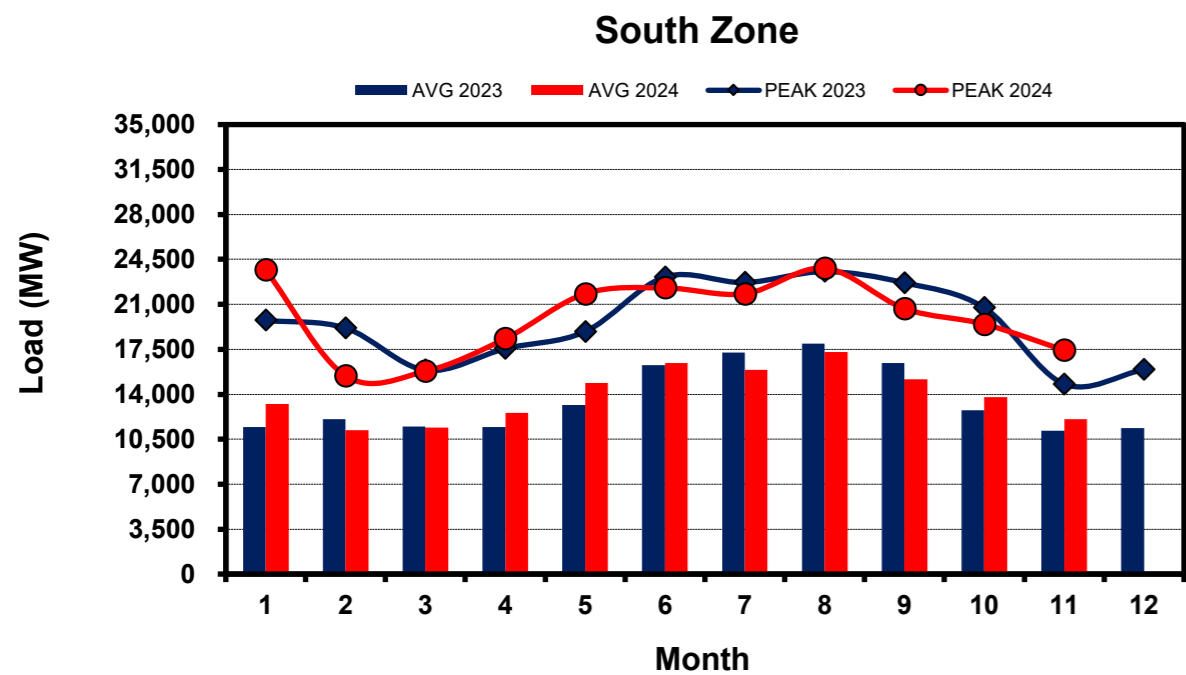
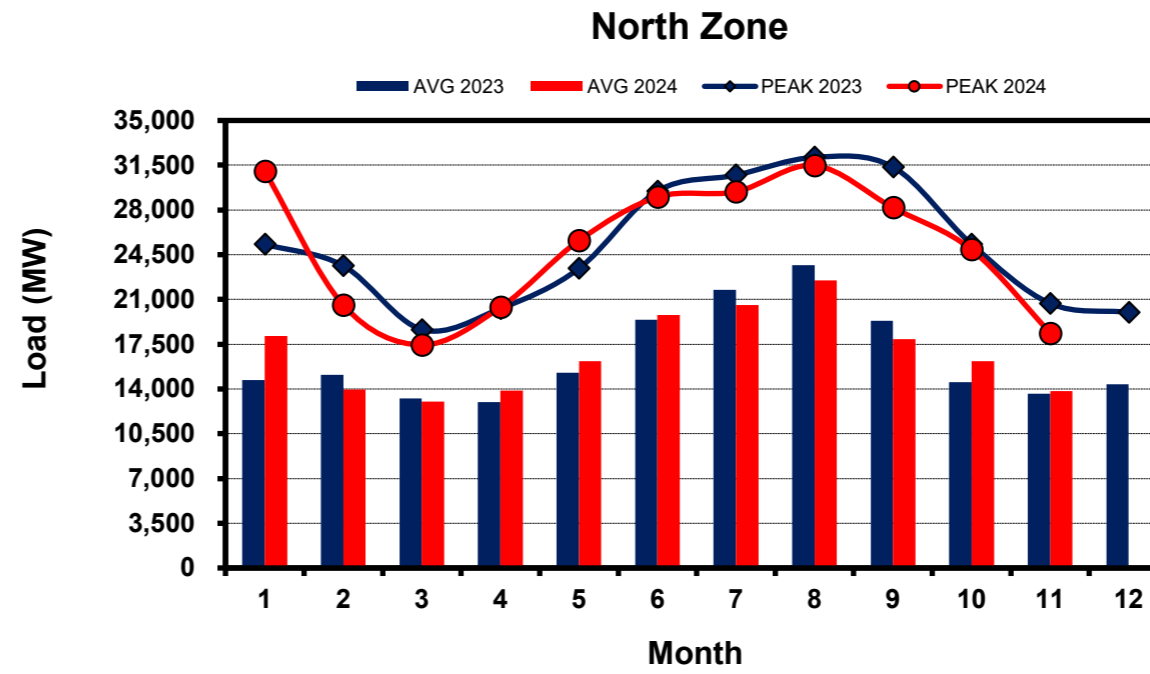
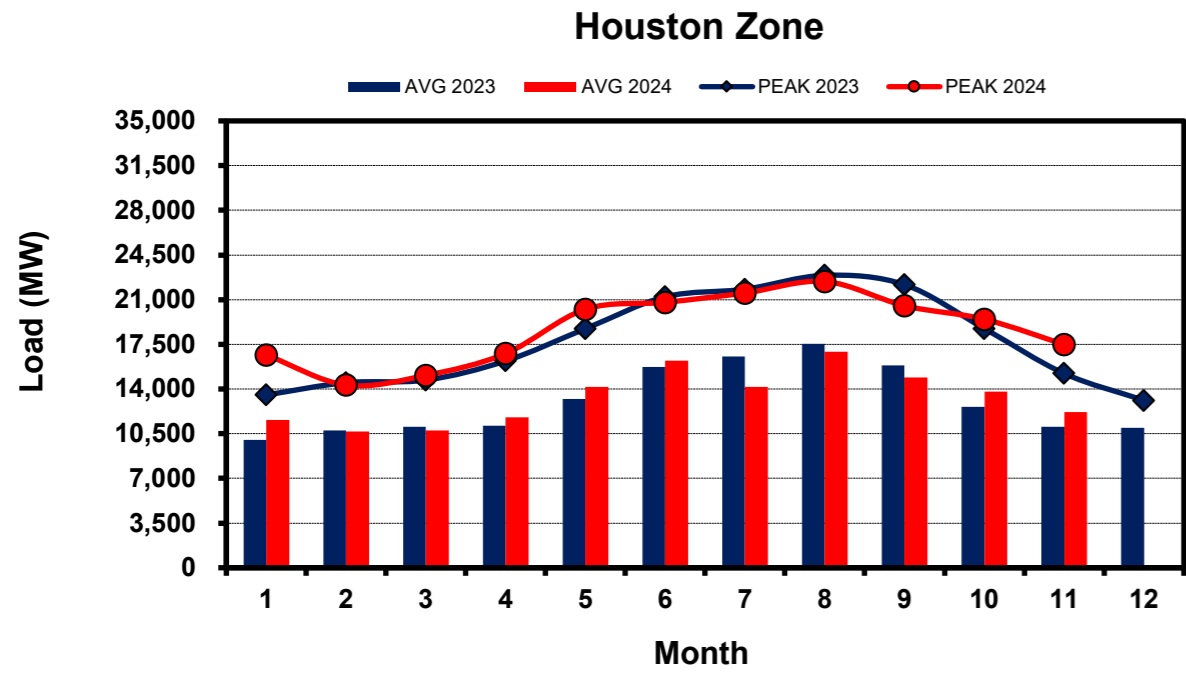
ERCOT-wide Average Energy Prices DA vs RT

(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*)

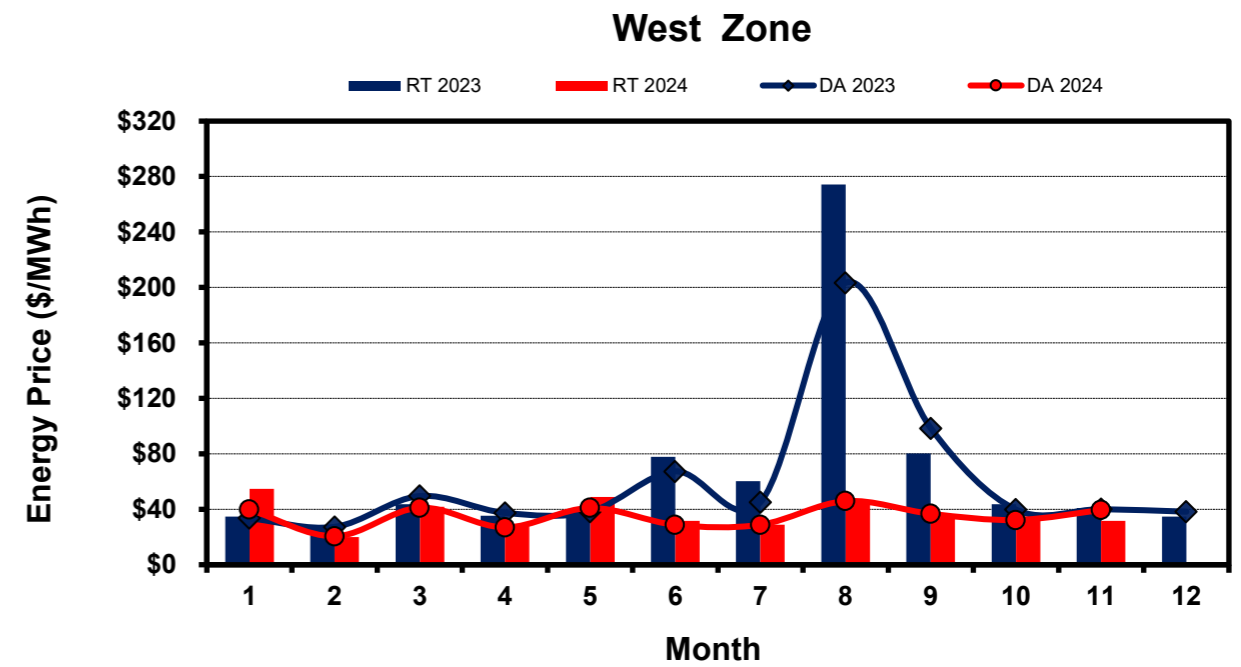
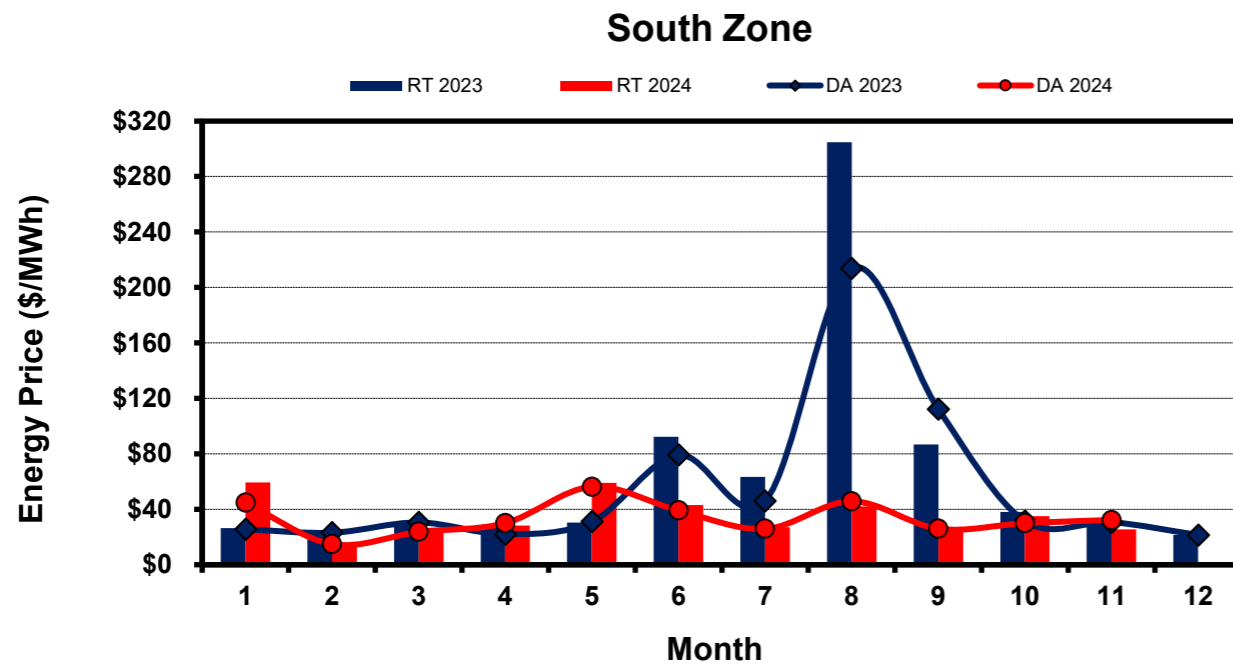
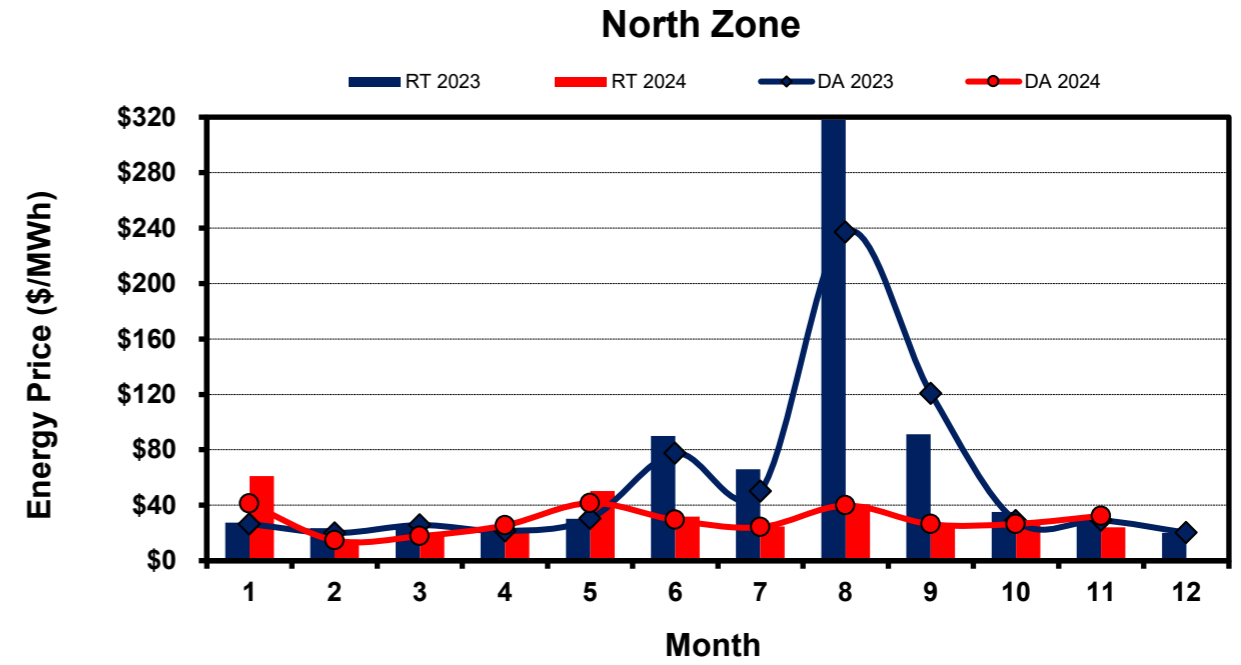
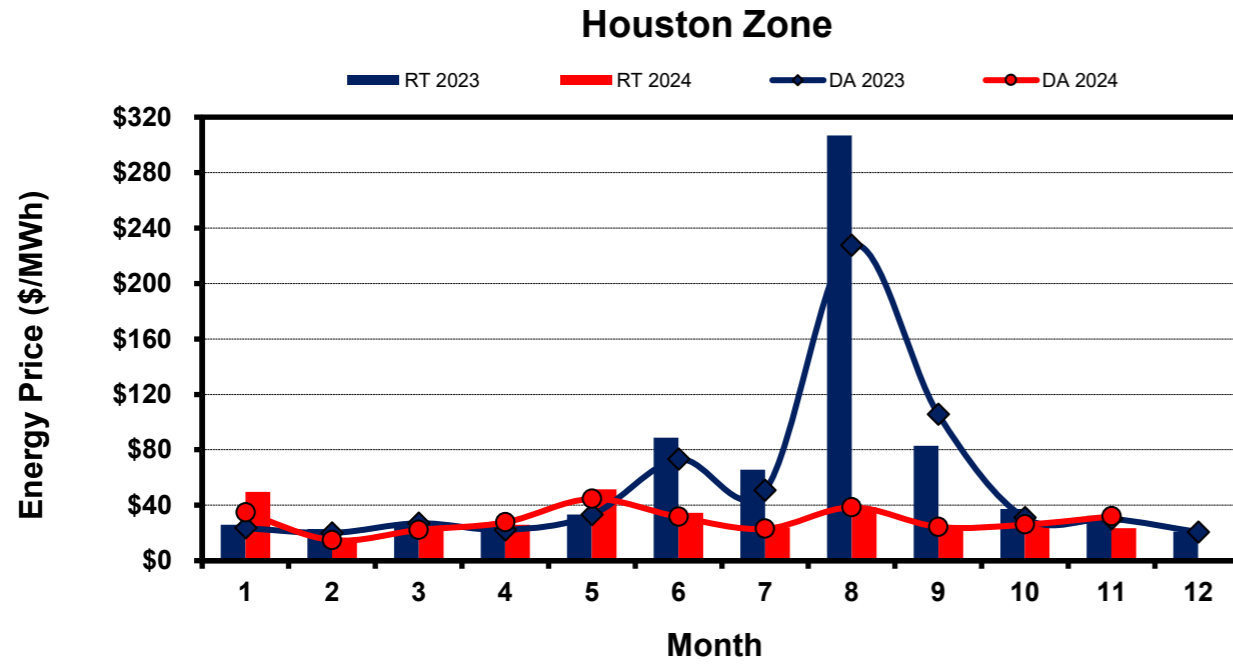


Year	Month	ERCOT-Wide	
		Average Load	Peak Load
2023	1	10,807	25,319
2023	2	11,244	23,636
2023	3	10,687	18,648
2023	4	10,657	20,284
2023	5	12,251	23,418
2023	6	14,813	29,468
2023	7	15,935	30,724
2023	8	16,882	32,117
2023	9	14,912	31,357
2023	10	11,890	25,315
2023	11	10,877	20,691
2023	12	11,181	19,994
2024	1	12,830	31,031
2024	2	11,000	20,566
2024	3	10,835	17,450
2024	4	11,618	20,381
2024	5	13,431	25,610
2024	6	15,407	29,012
2024	7	14,971	29,426
2024	8	16,559	31,479
2024	9	14,236	28,175
2024	10	13,180	24,900
2024	11	11,705	18,358
2024	12	-	-

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

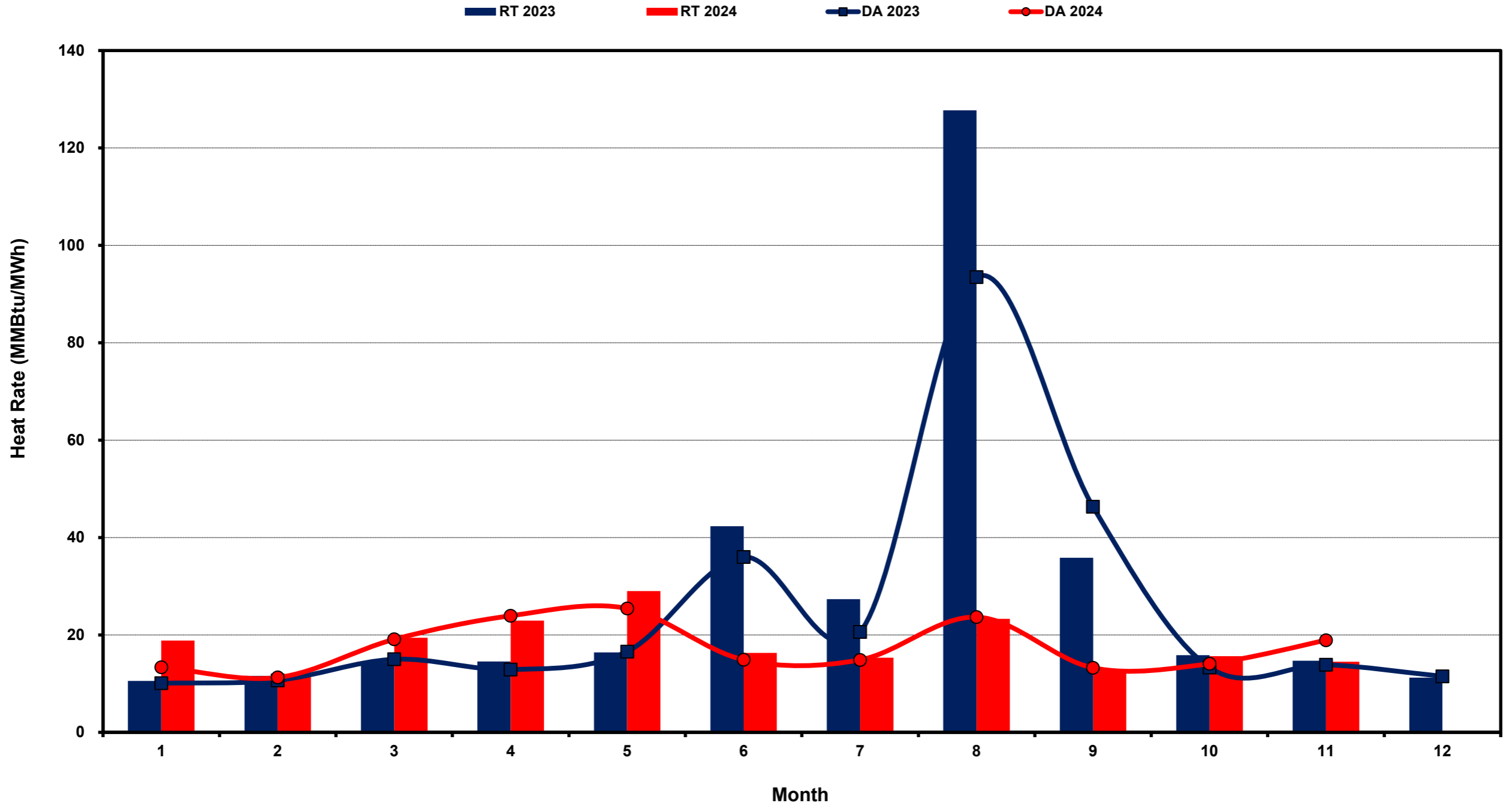
(avg. DA & RT SPPs weighted by Real Time Settlement Loads)
 (Nodal load zone made comparable to zonal system Load Zone definitions*)



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

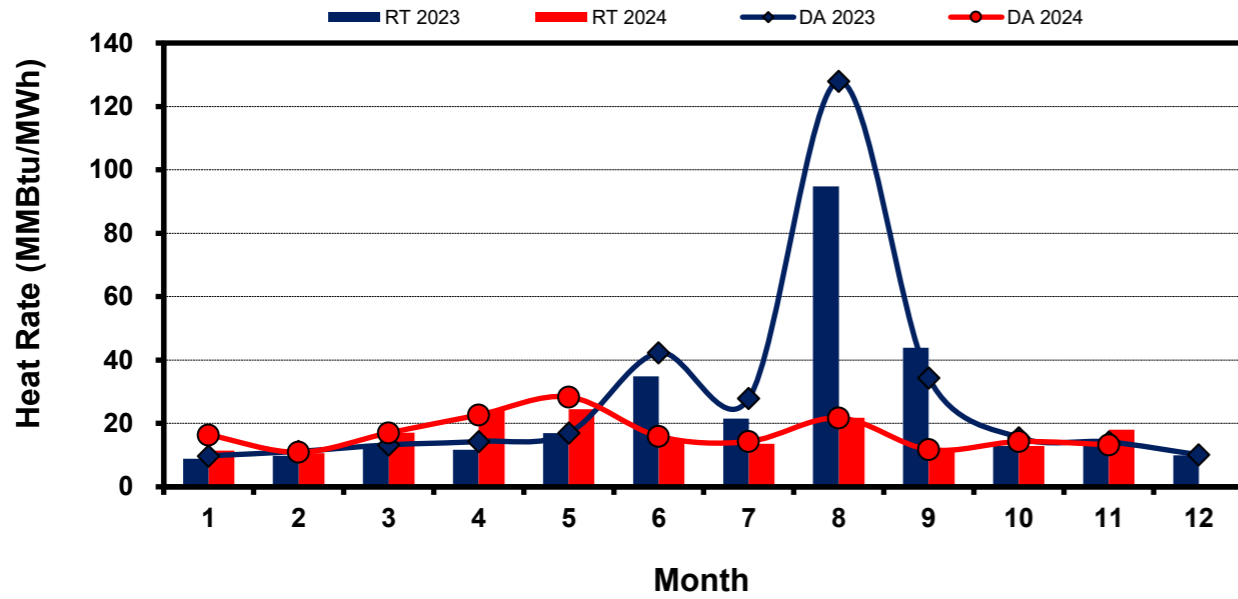
(avg. heat rates weighted by Real Time Settlement Loads)



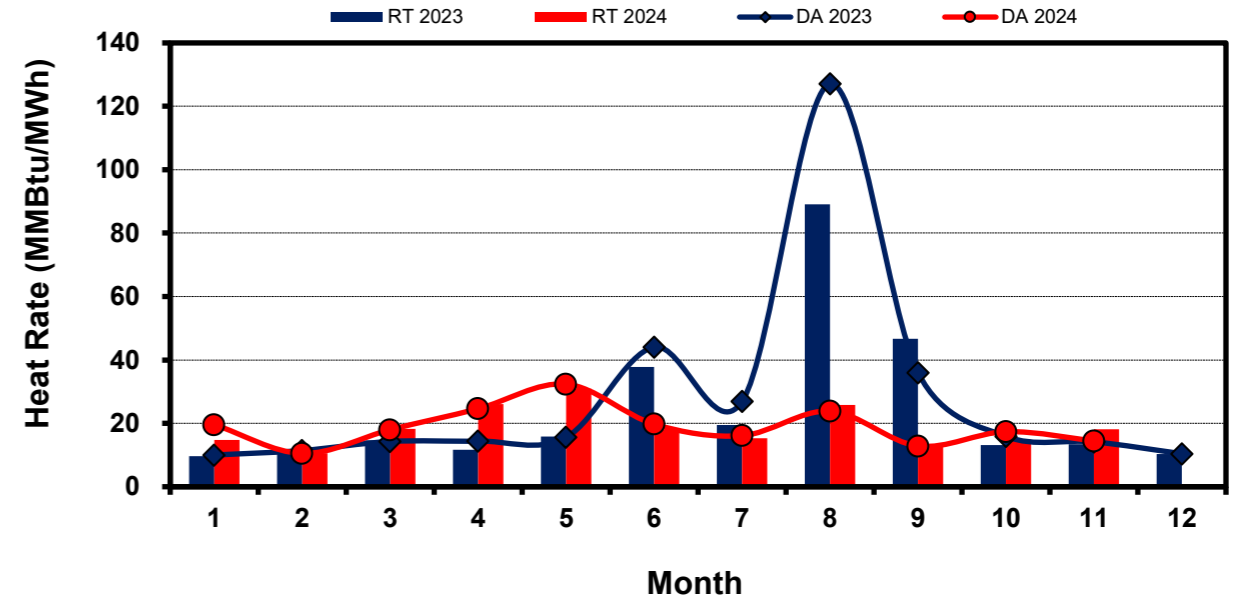
Load Zone Monthly Implied Heat Rate DA vs RT

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

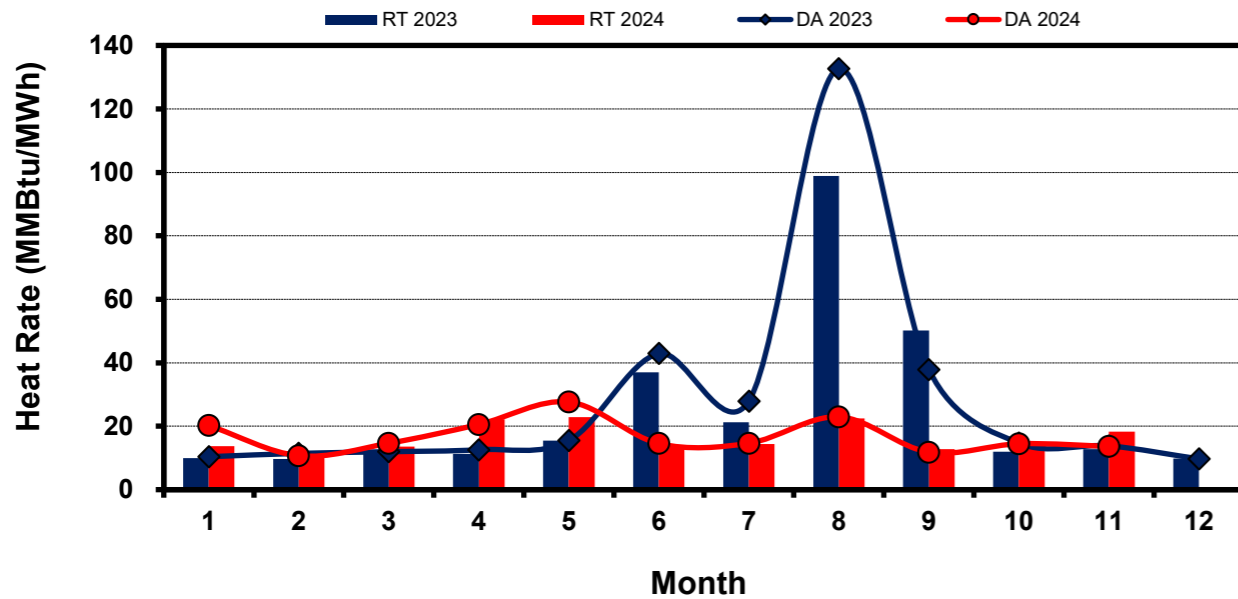
Houston Zone



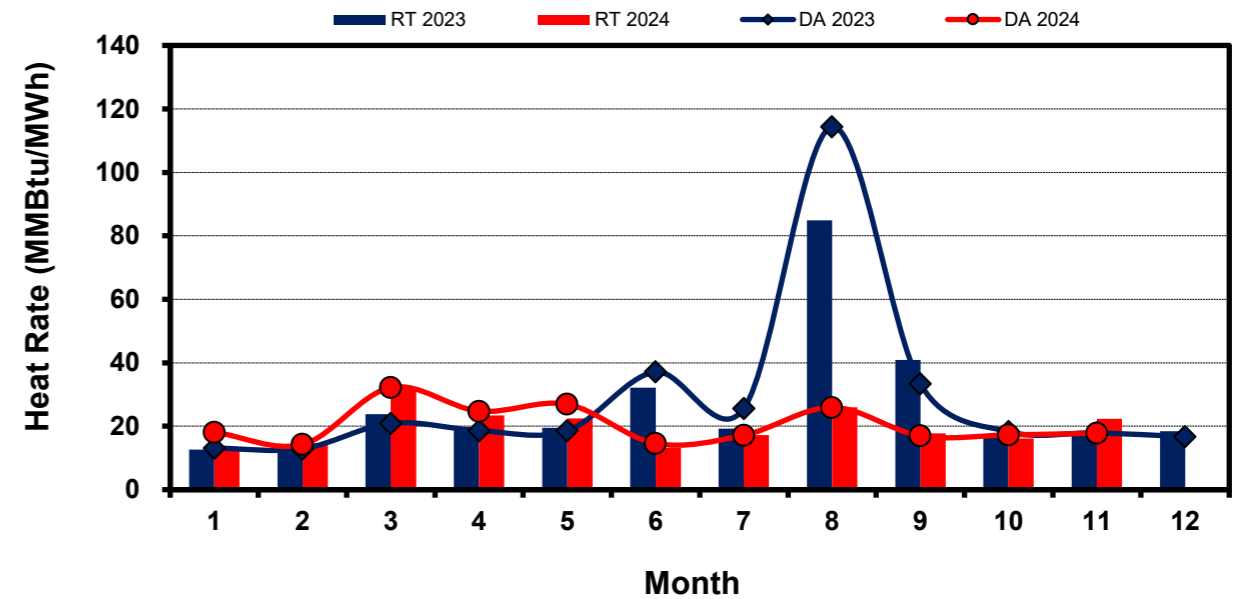
North Zone



South Zone



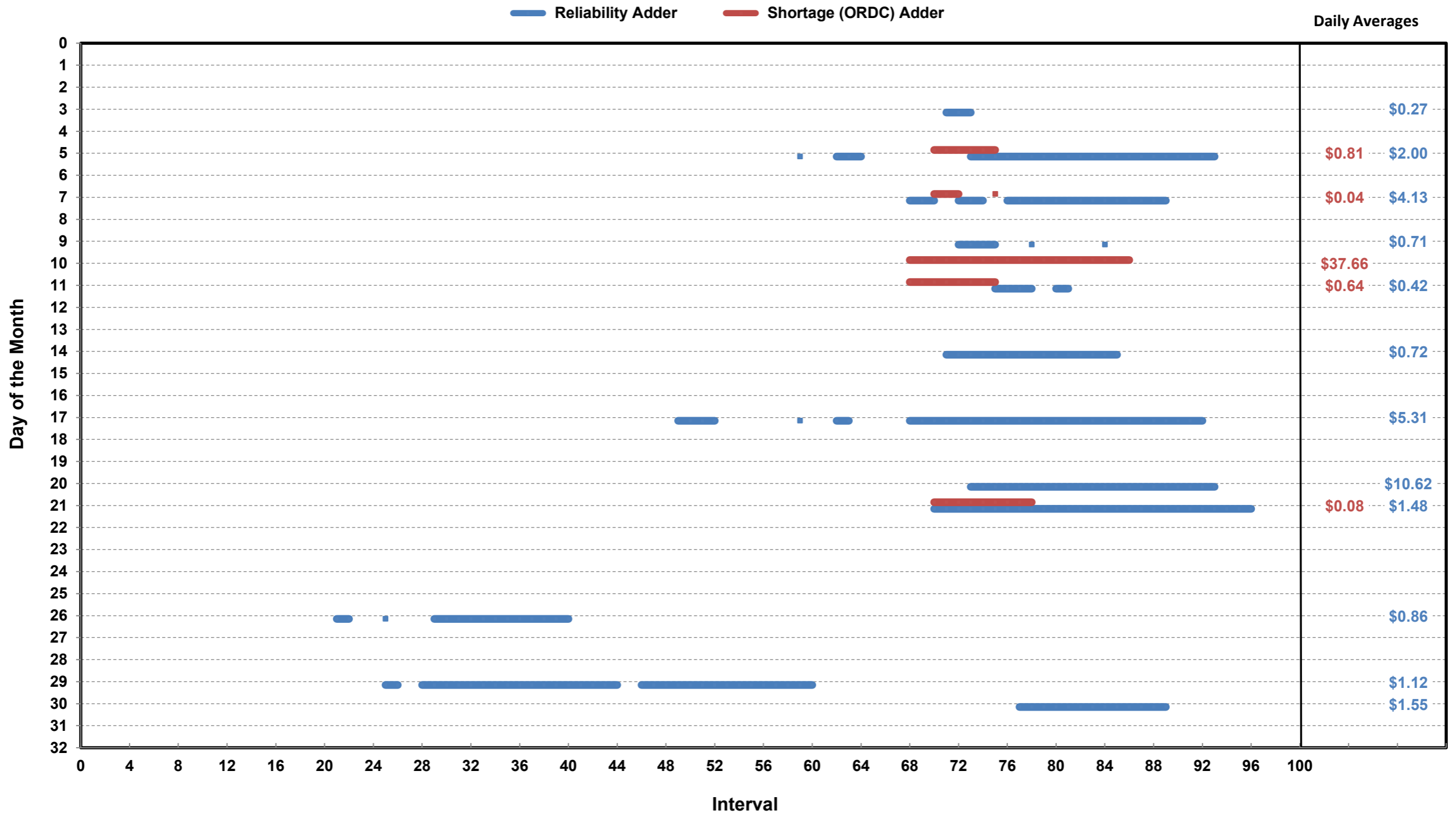
West Zone



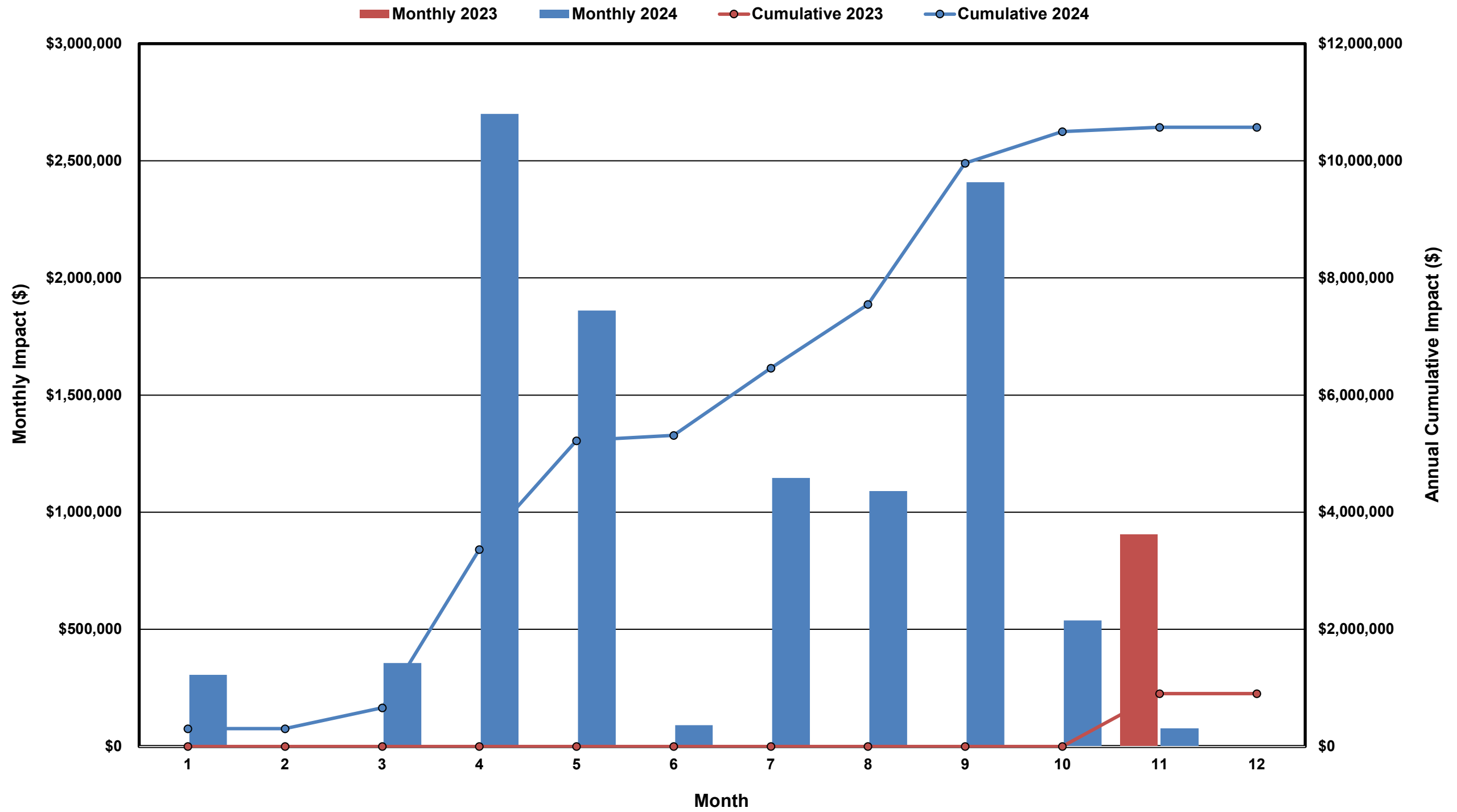
Note: * Zonal load zone definition vs. Nodal comparable load zone definition: LZ_Houston=LZ_Houston; LZ_West=LZ_West; LZ_North=(LZ_North,LZ_RAYBN); LZ_South=(LZ_South,LZ_CPS,LZ_AEN,LZ_LCRA)

Daily Shortage (ORDC) and Reliability Adders Average Values and Duration

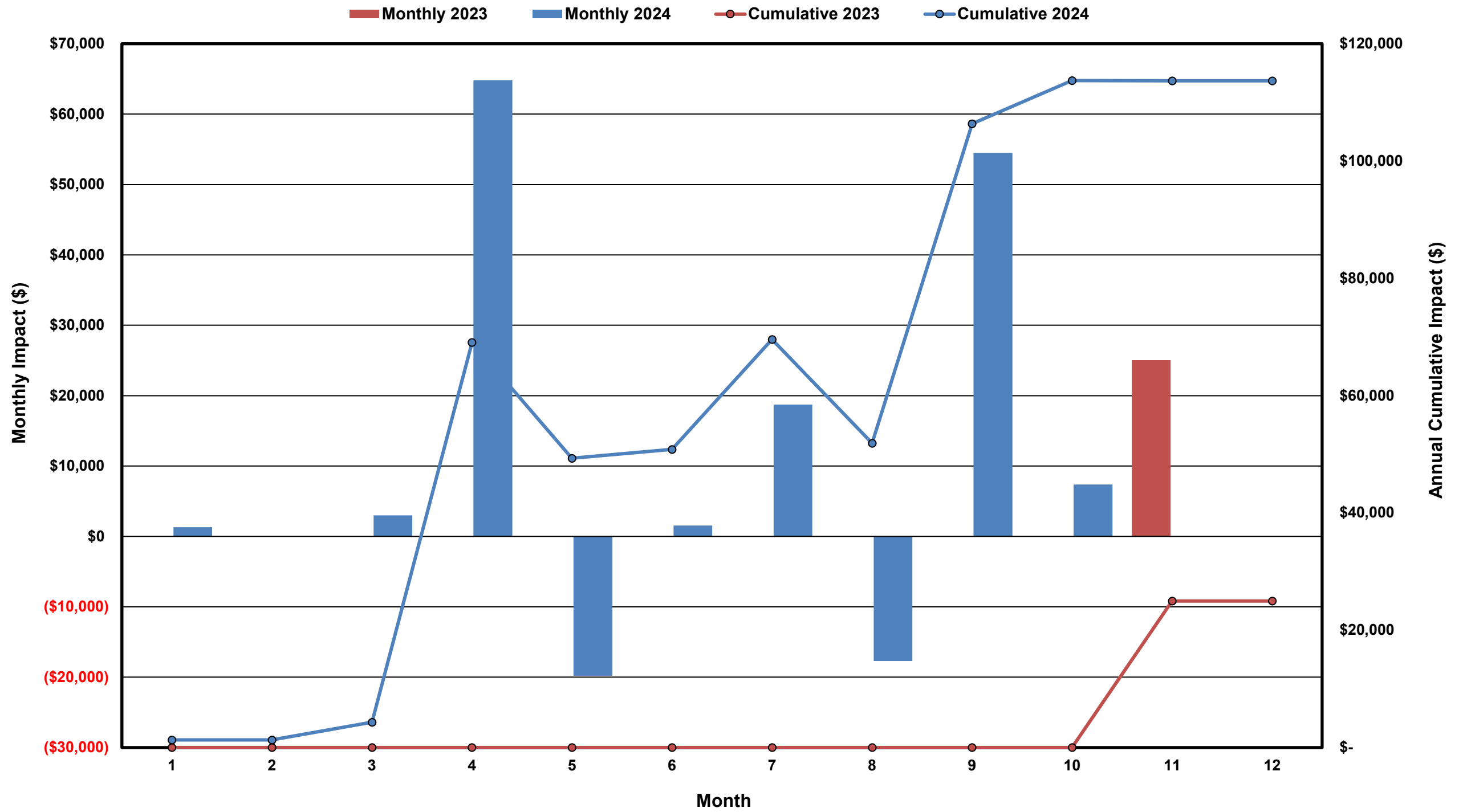
Nov-2024



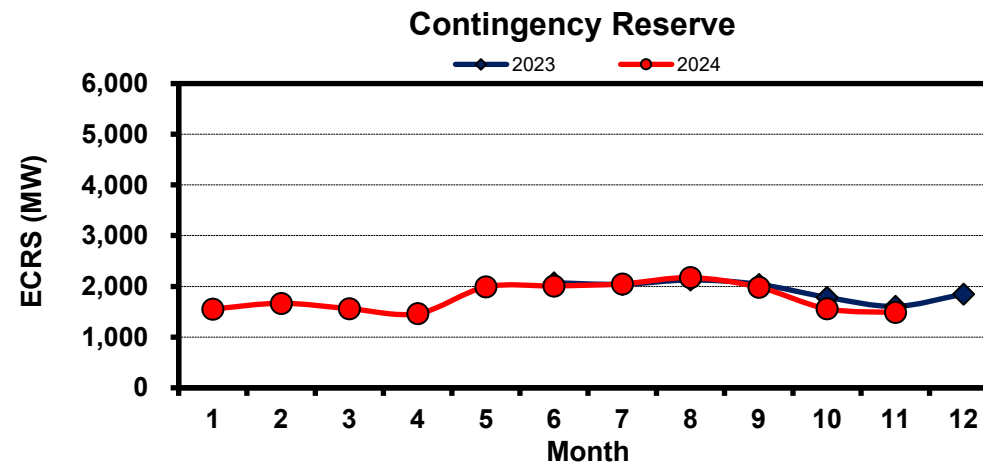
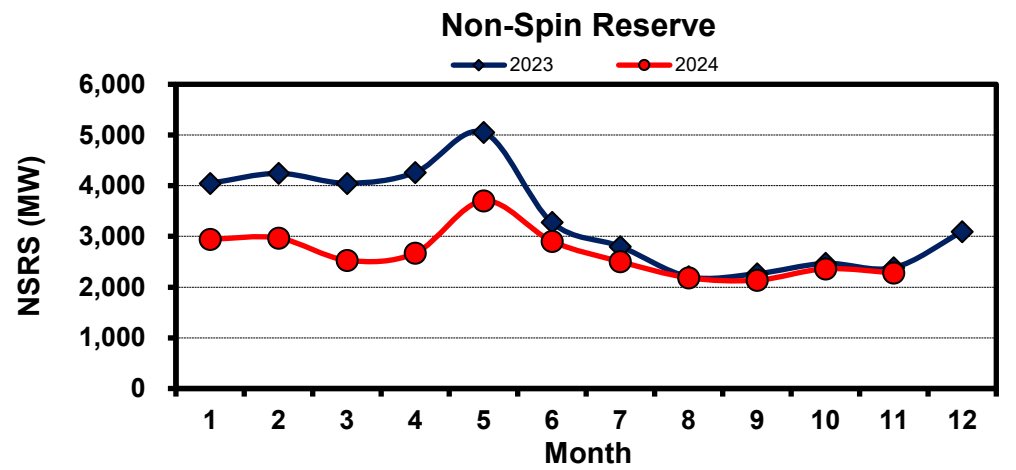
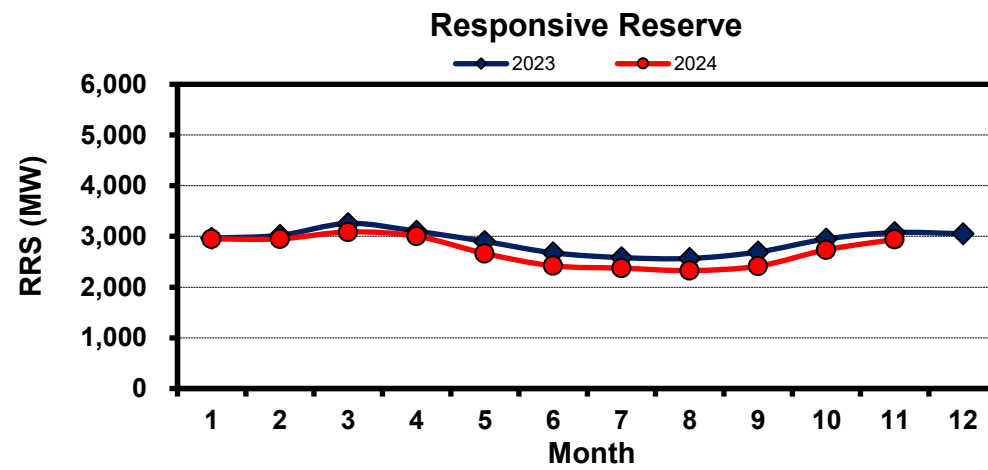
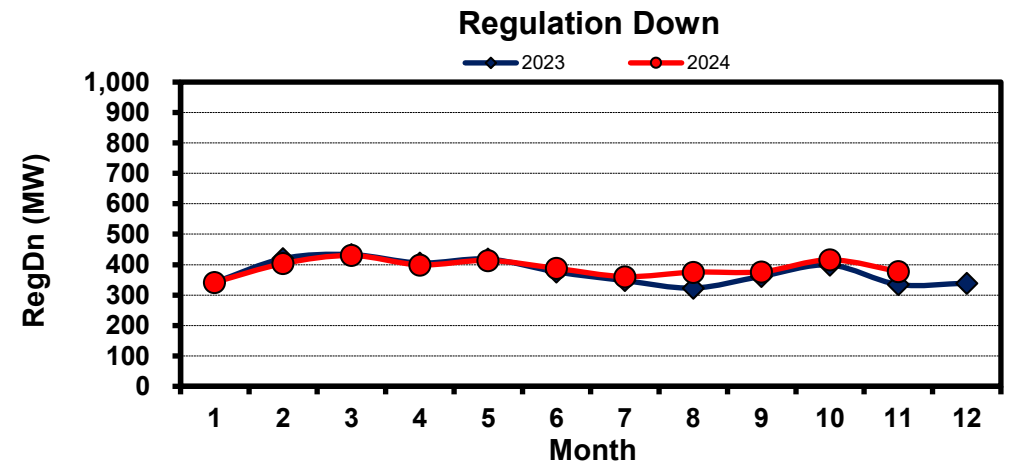
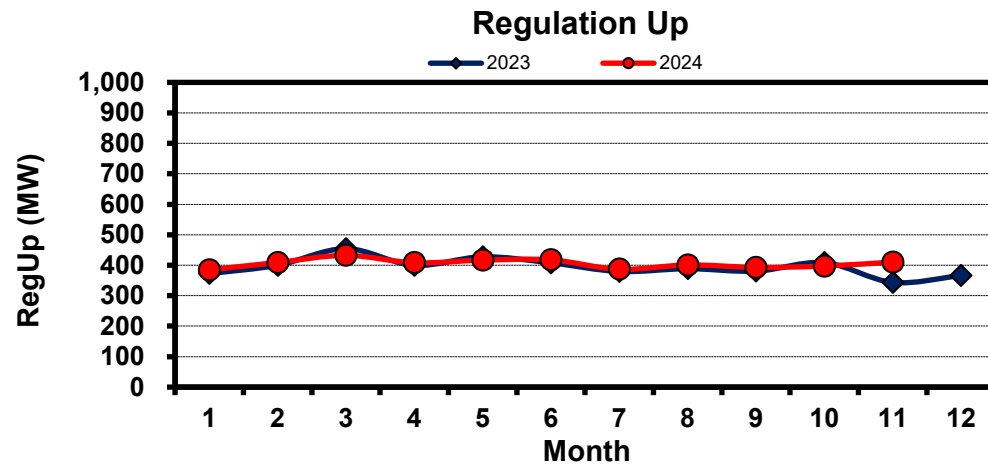
Shortage (ORDC) and Reliability Adder Floor Impact on Energy Cost



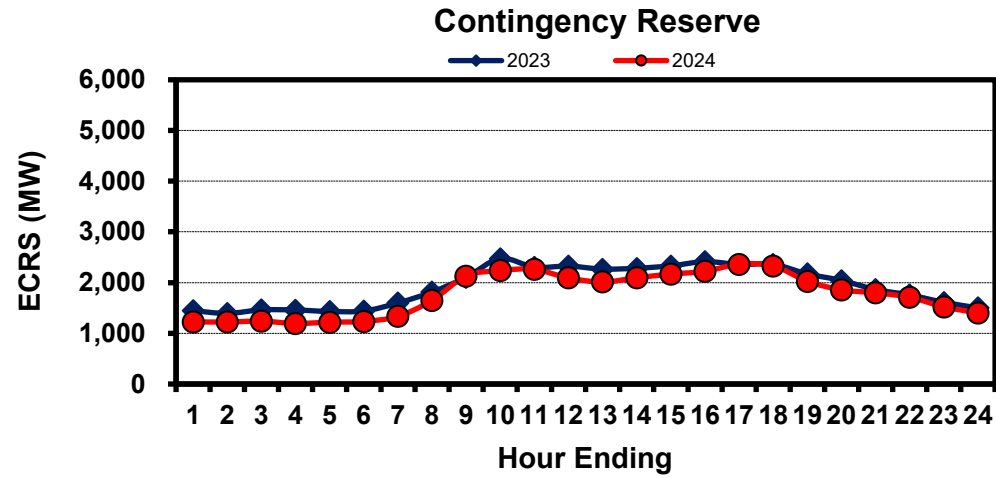
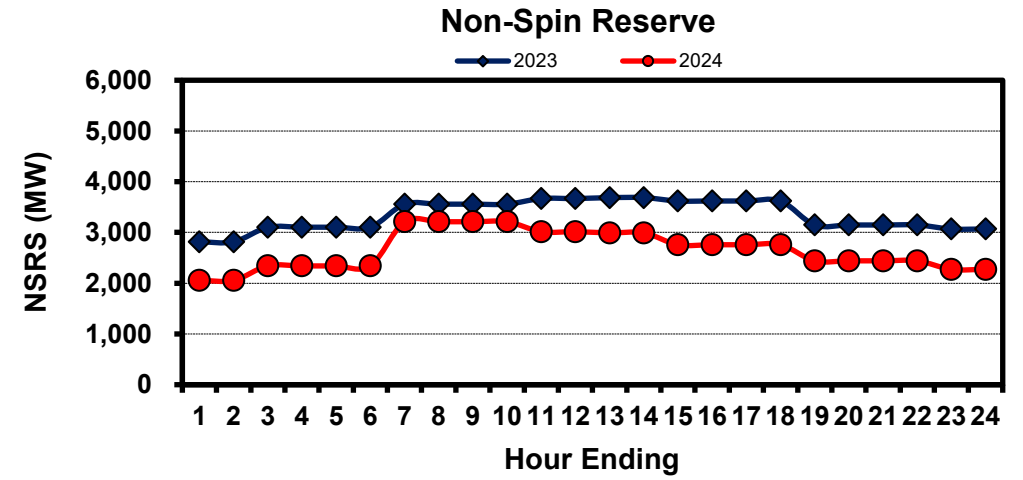
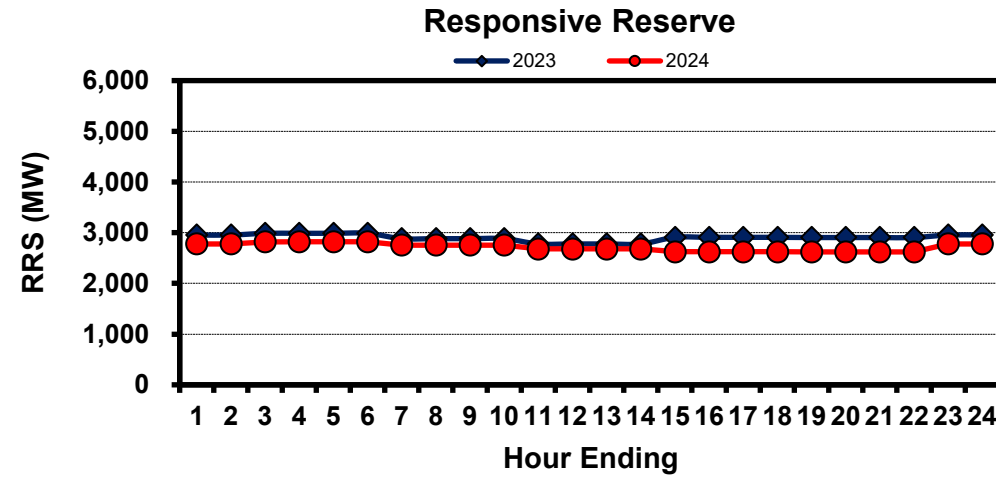
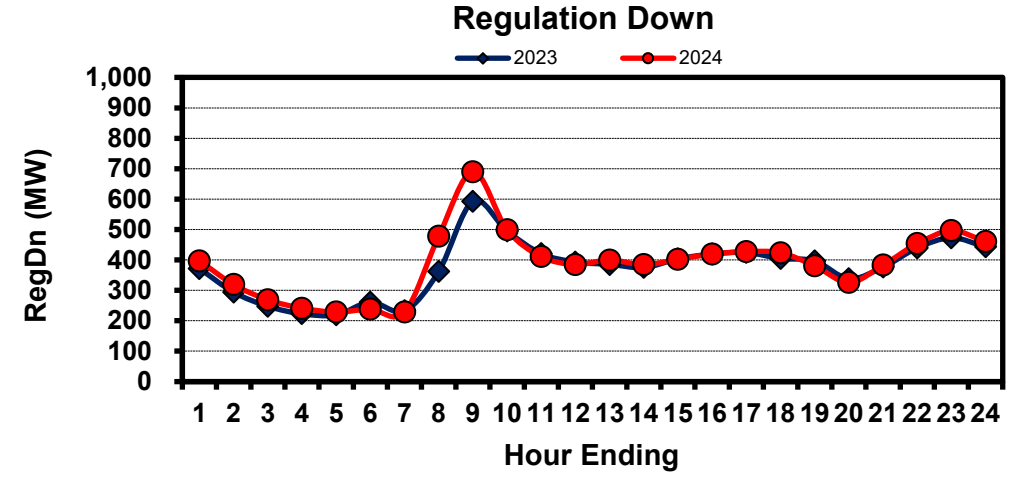
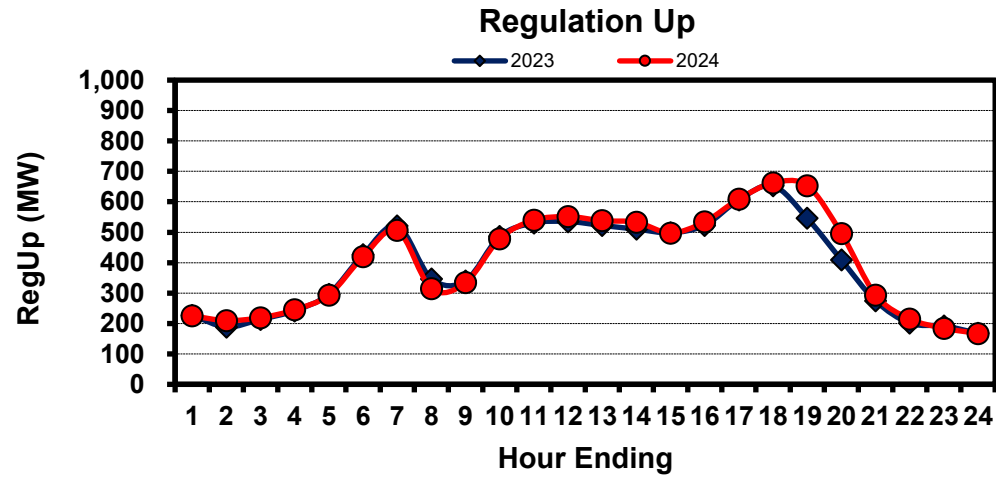
Shortage (ORDC) and Reliability Adder Floor Impact on A/S Imbalance



Monthly Average of Ancillary Services Required MW

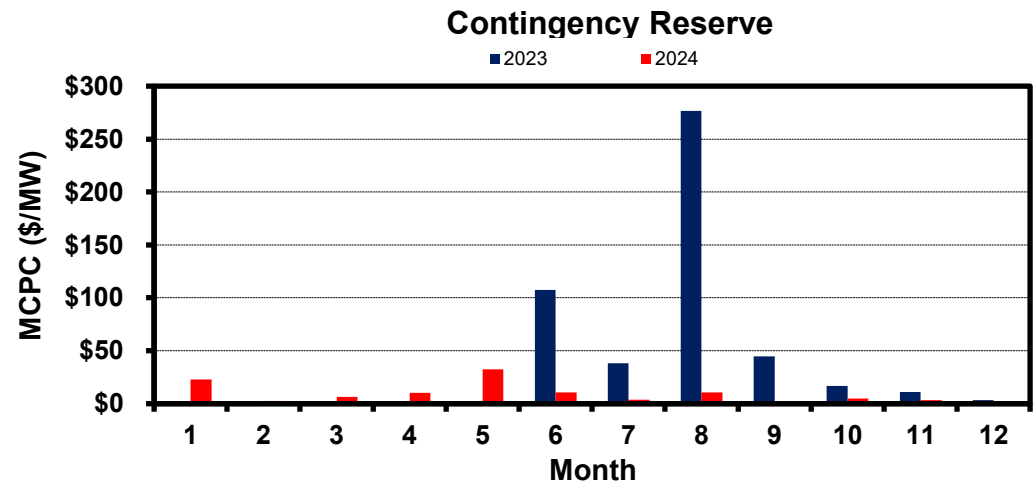
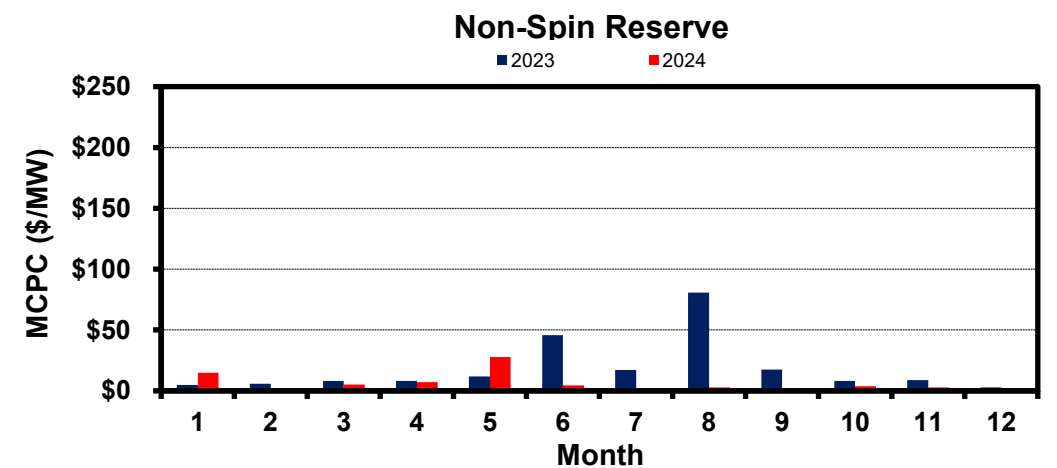
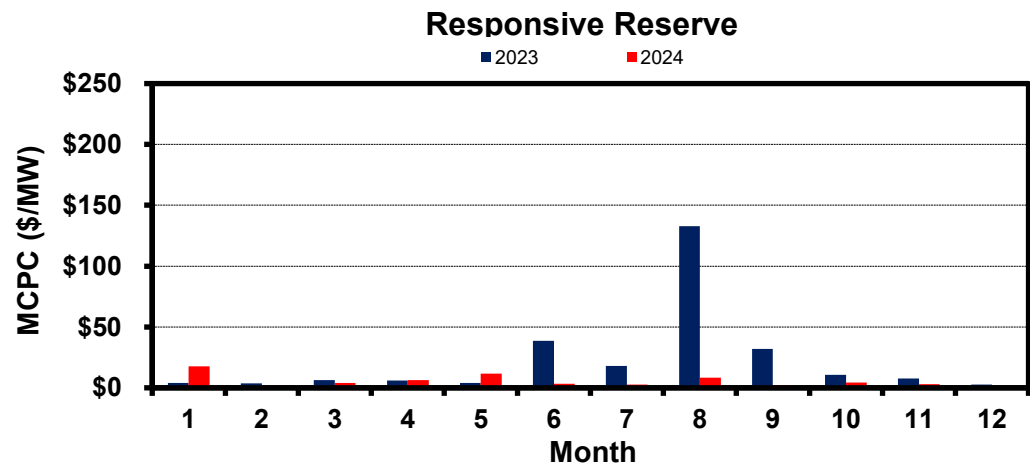
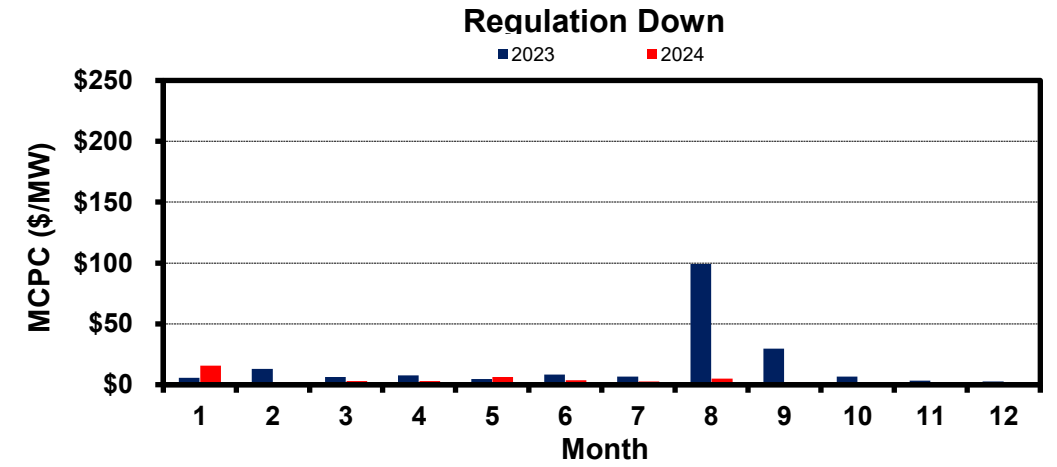
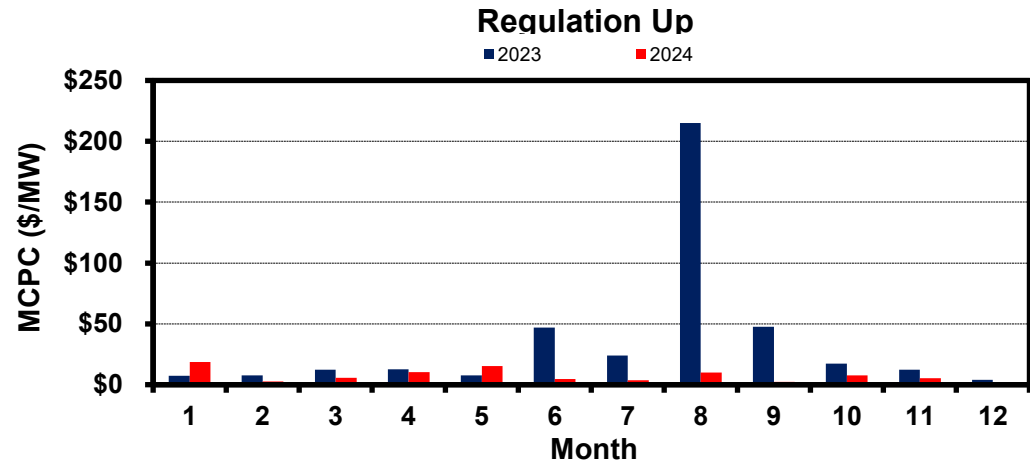


Hourly Average of Ancillary Services Required MW



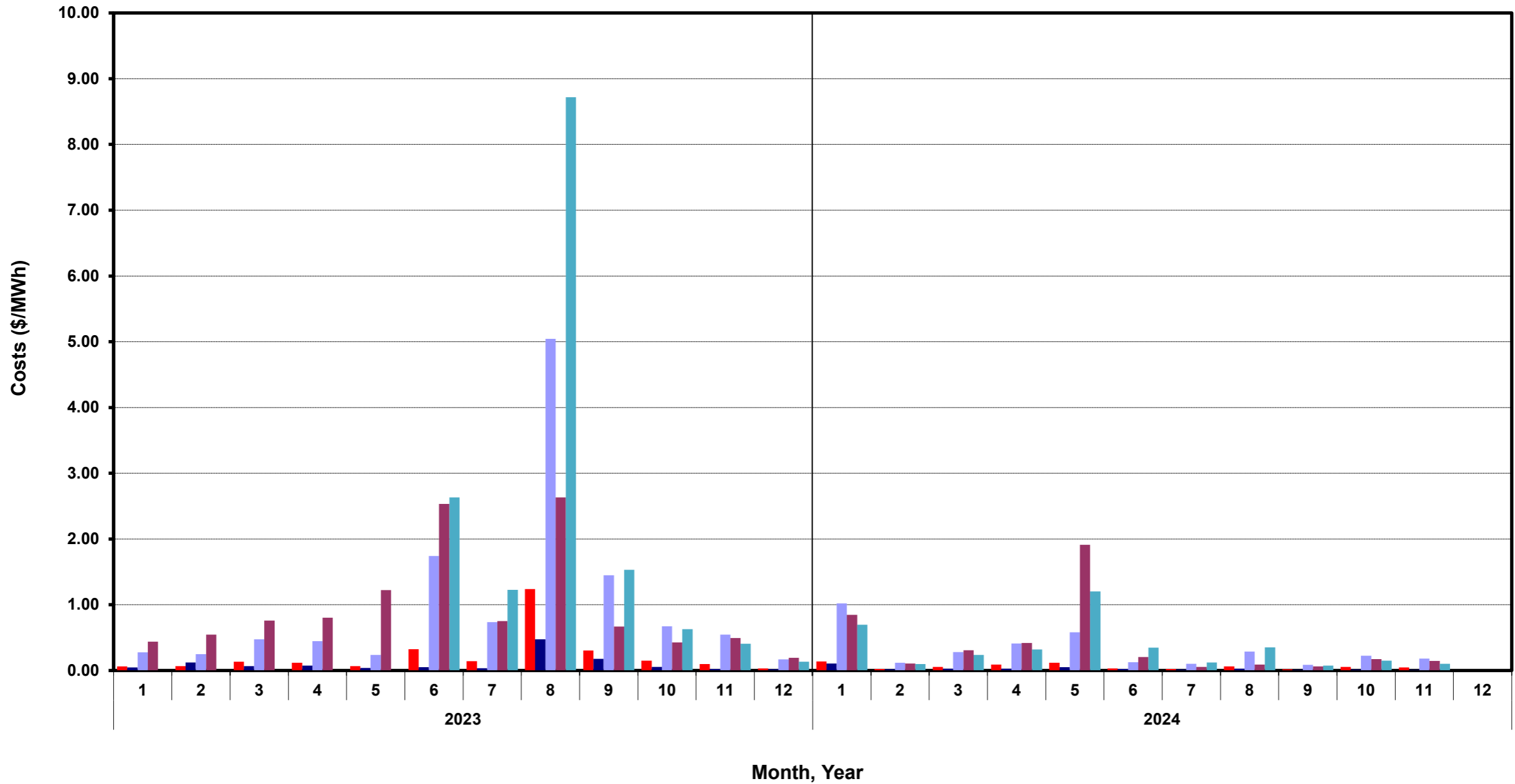
Monthly Average Ancillary Services Prices

(weighted by A/S Quantities Required)

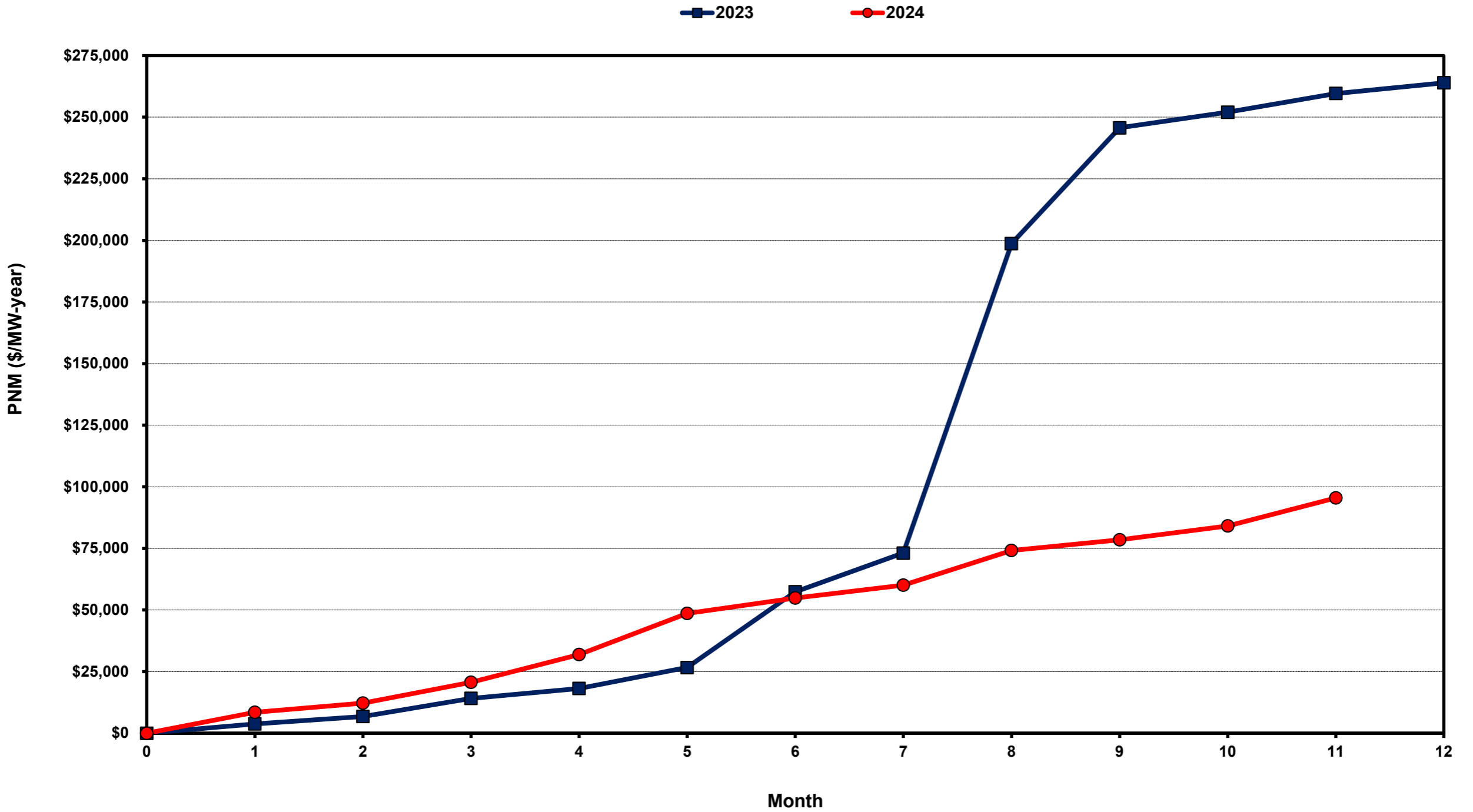


Monthly Average Ancillary Services Cost per MWh Load

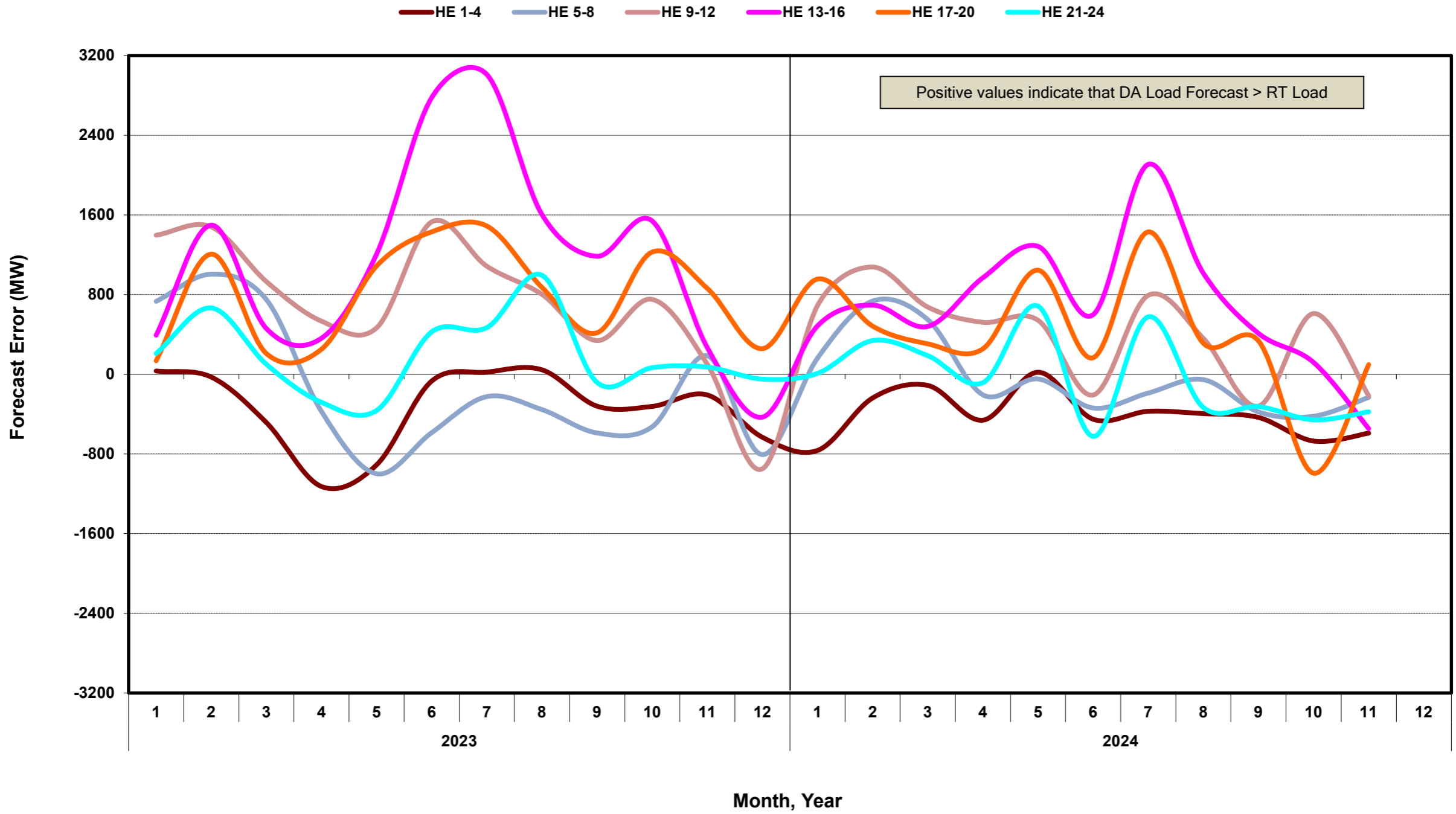
RegUp RegDn RRS NonSpin ECRS



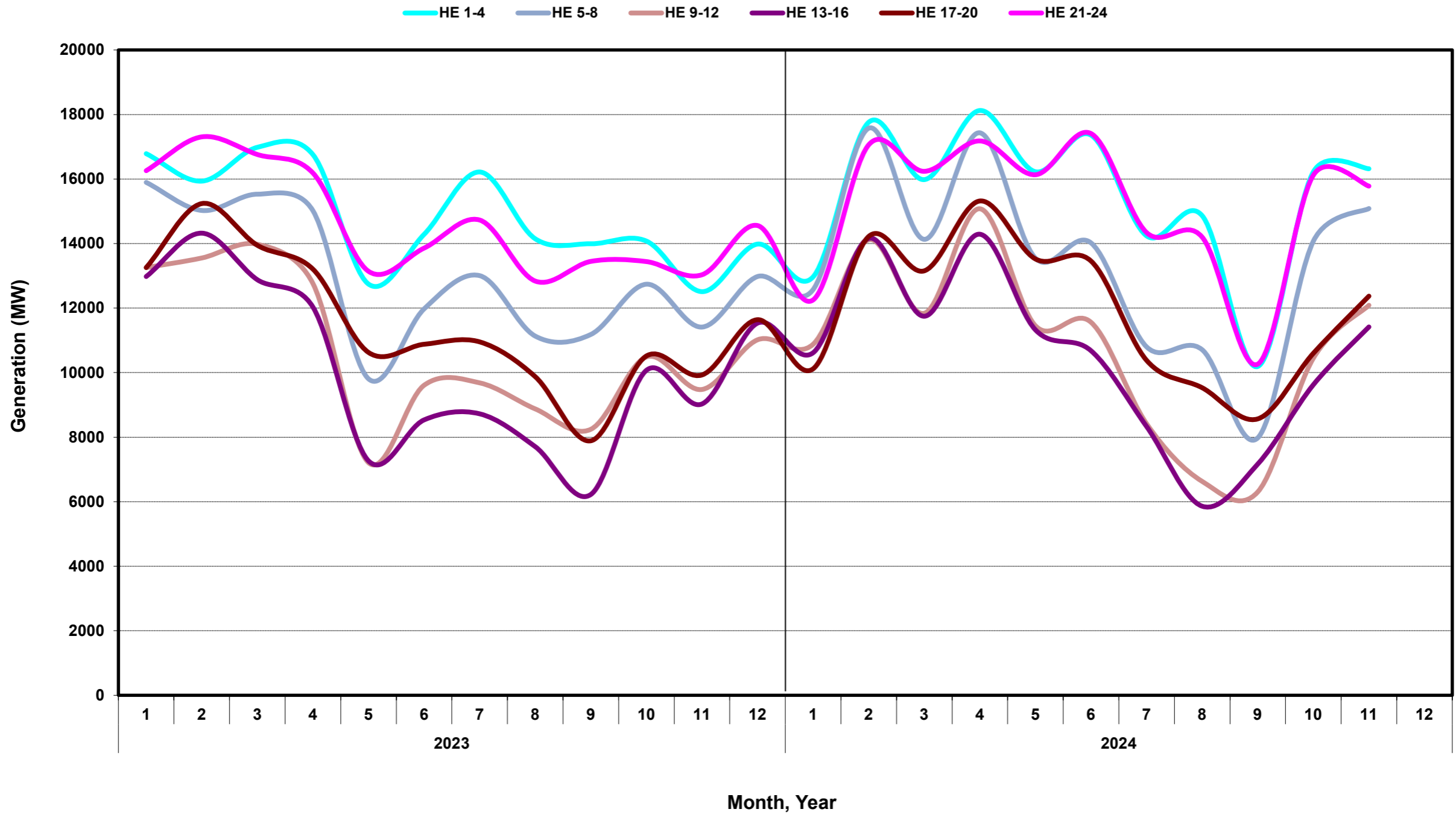
ERCOT-wide Cumulative Peaker Net Margin



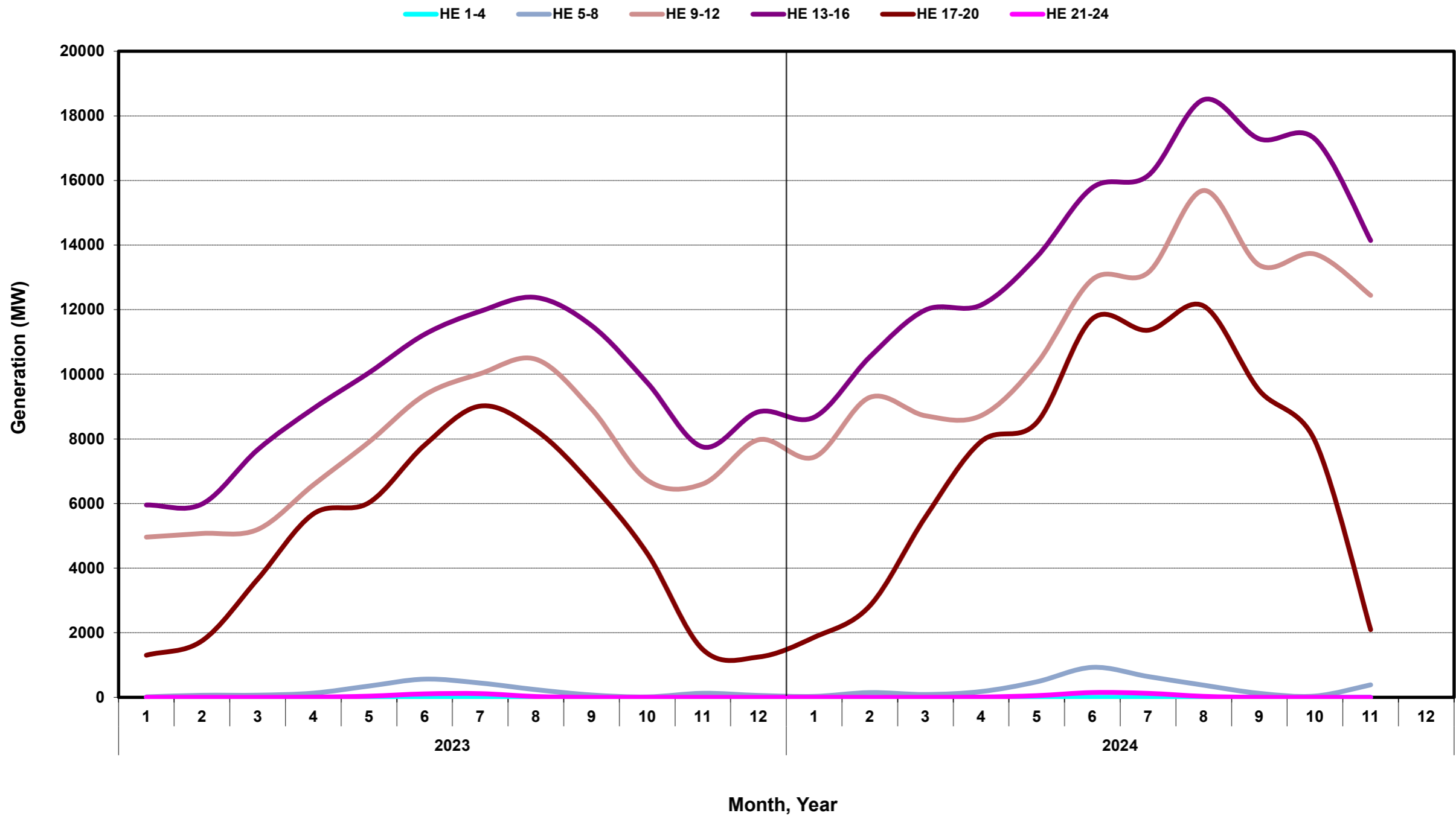
DA vs. RT Load Forecast Error by Hour Ending



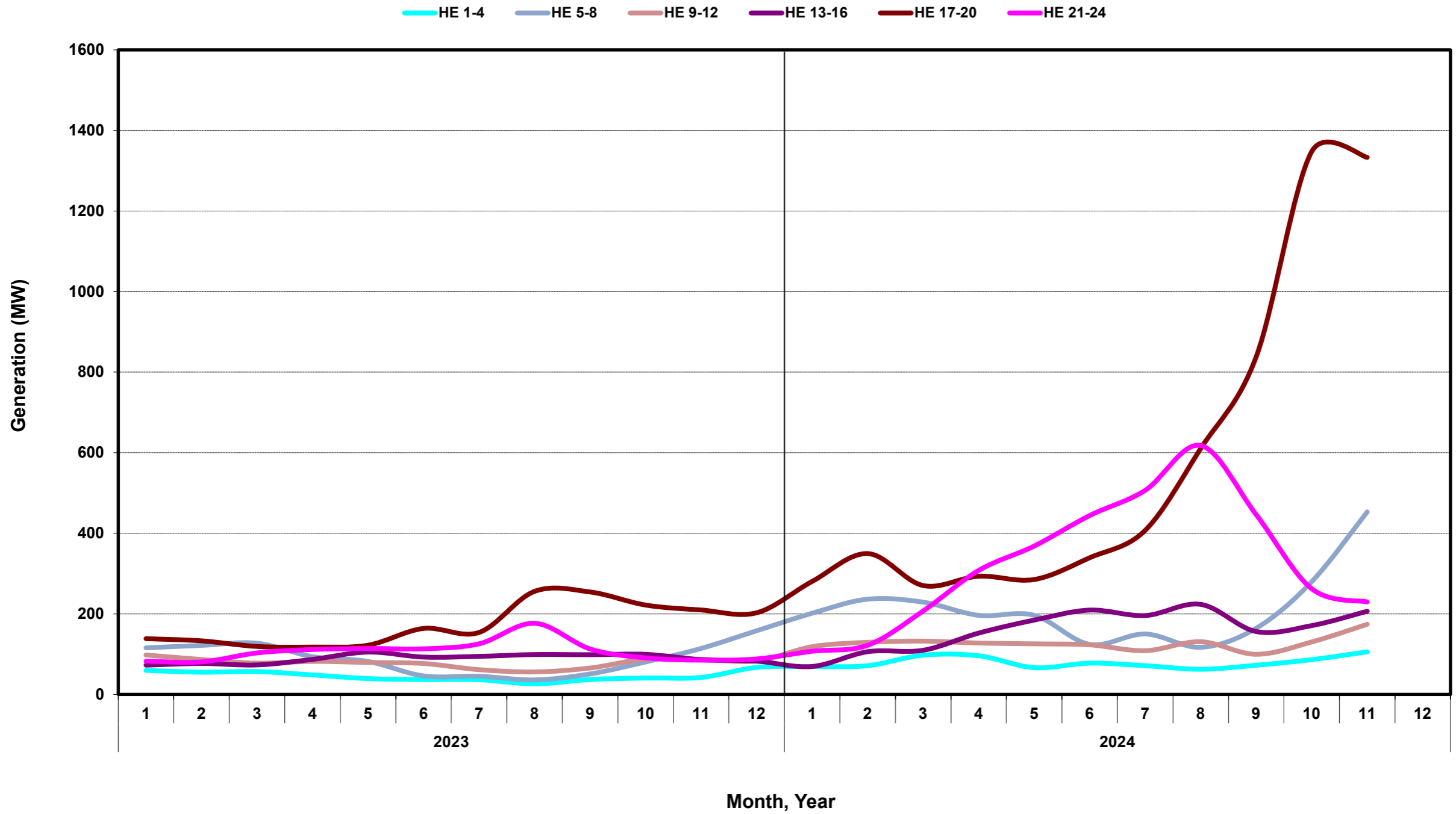
Monthly Average of Wind Generation by Hour Ending



Monthly Average of Solar Generation by Hour Ending

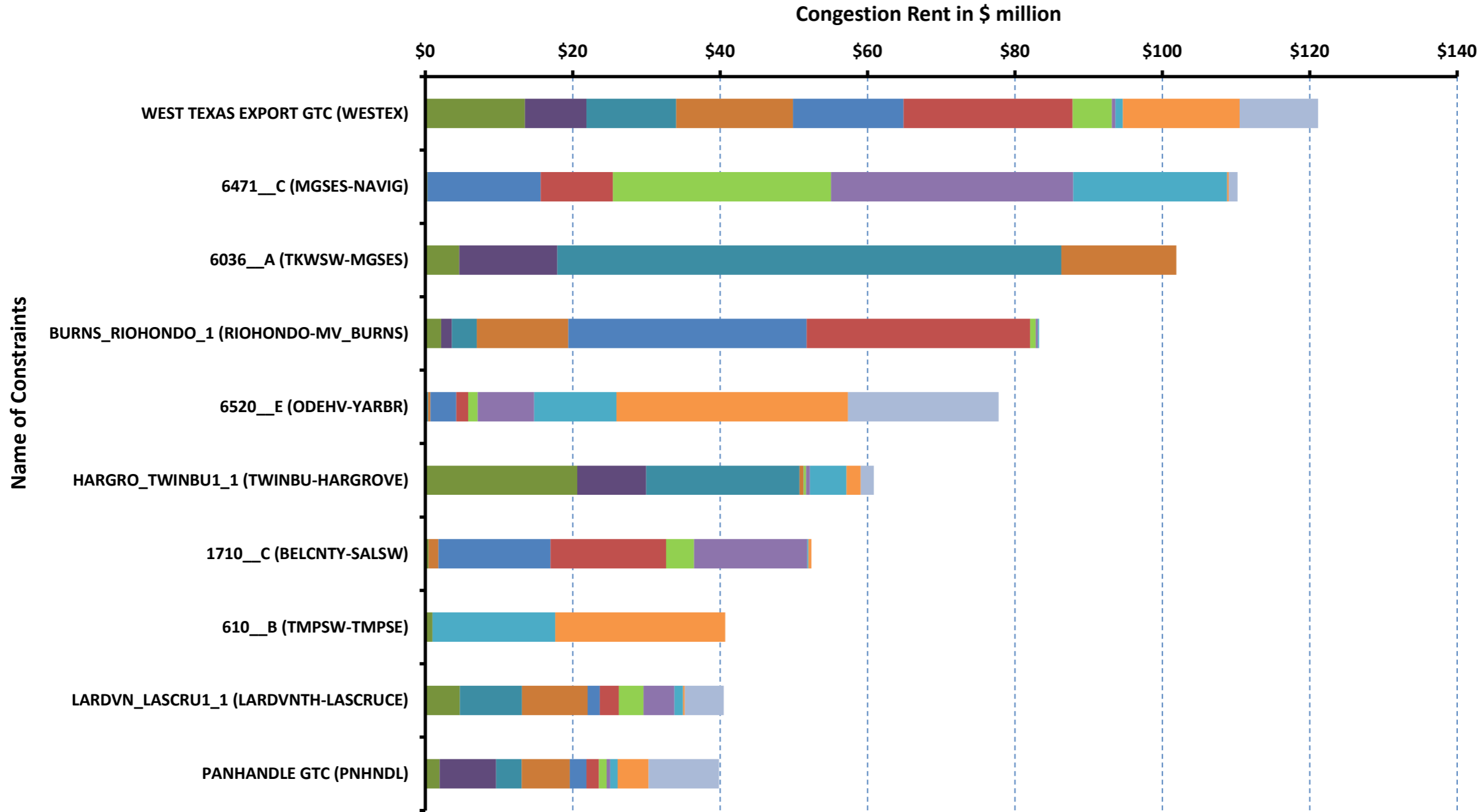


Monthly Average of Battery Generation by Hour Ending



RT Congestion Constraint Rankings - 1

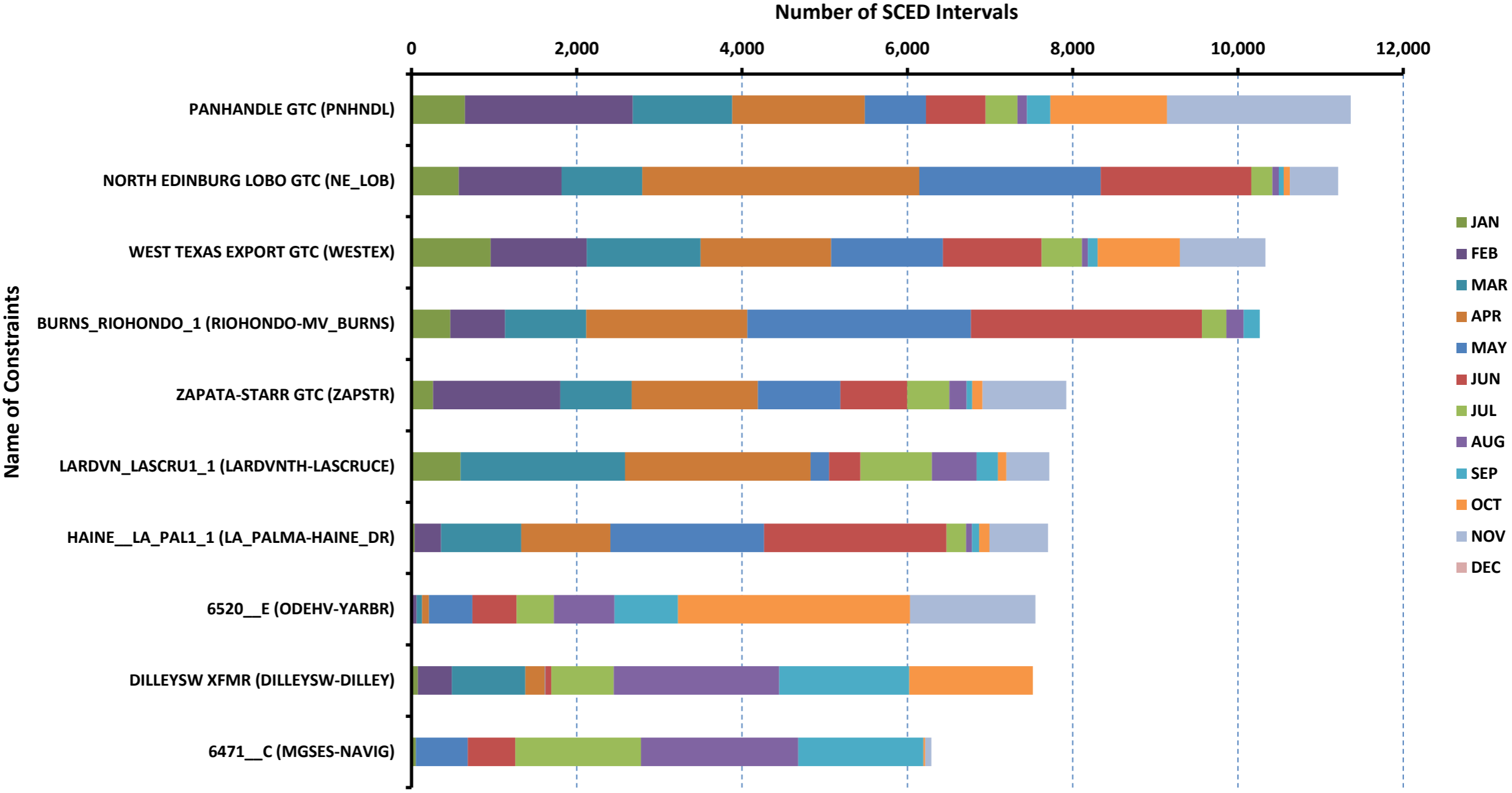
Top 10 Constraints by Total Congestion Value - 2024



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	137.24
10	182.11
11	169.86
12	0.00
SUM-TOTAL	1832.75
(unit: \$ million)	

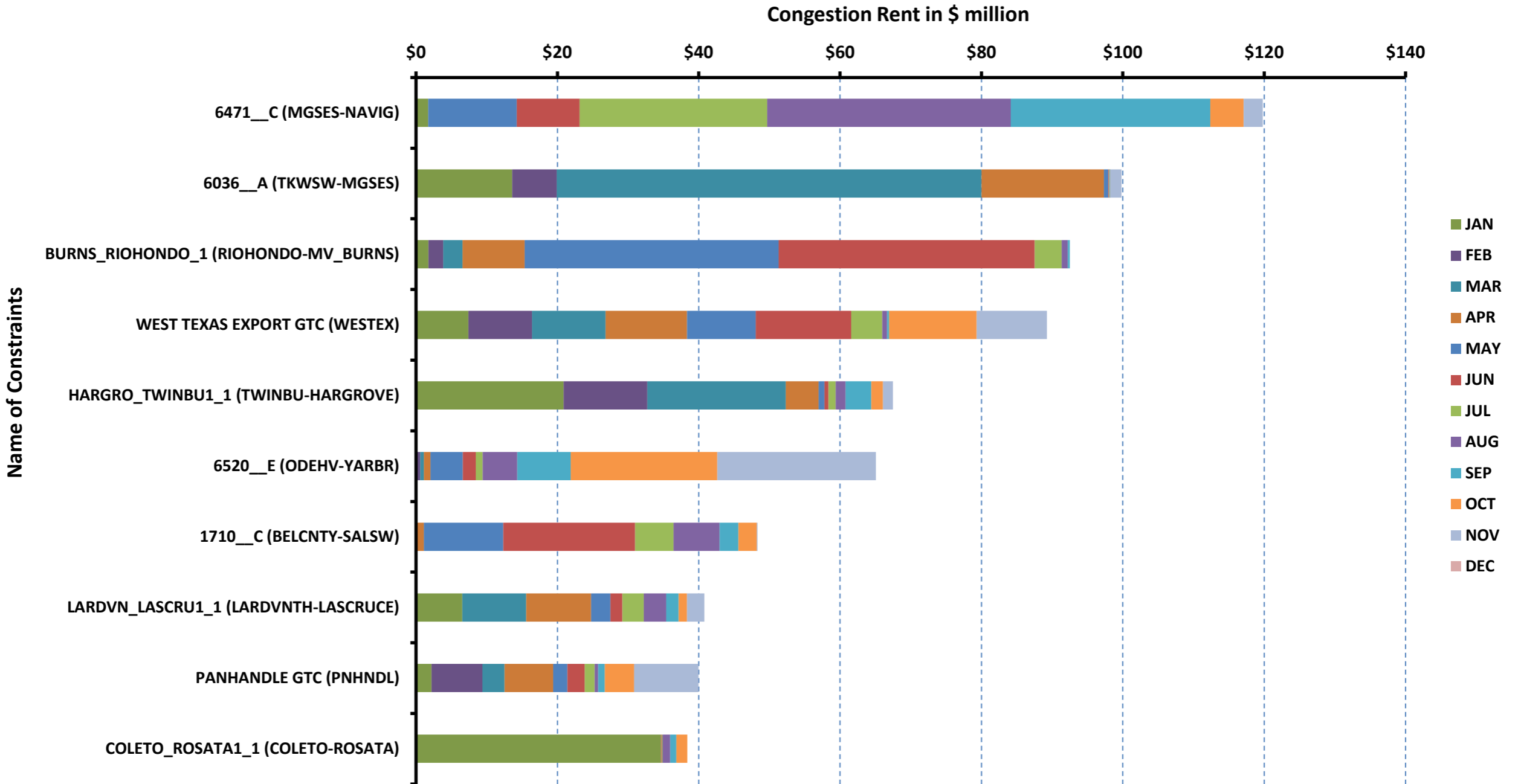
RT Congestion Constraint Rankings - 2

Top 10 Constraints by Binding Frequency - 2024



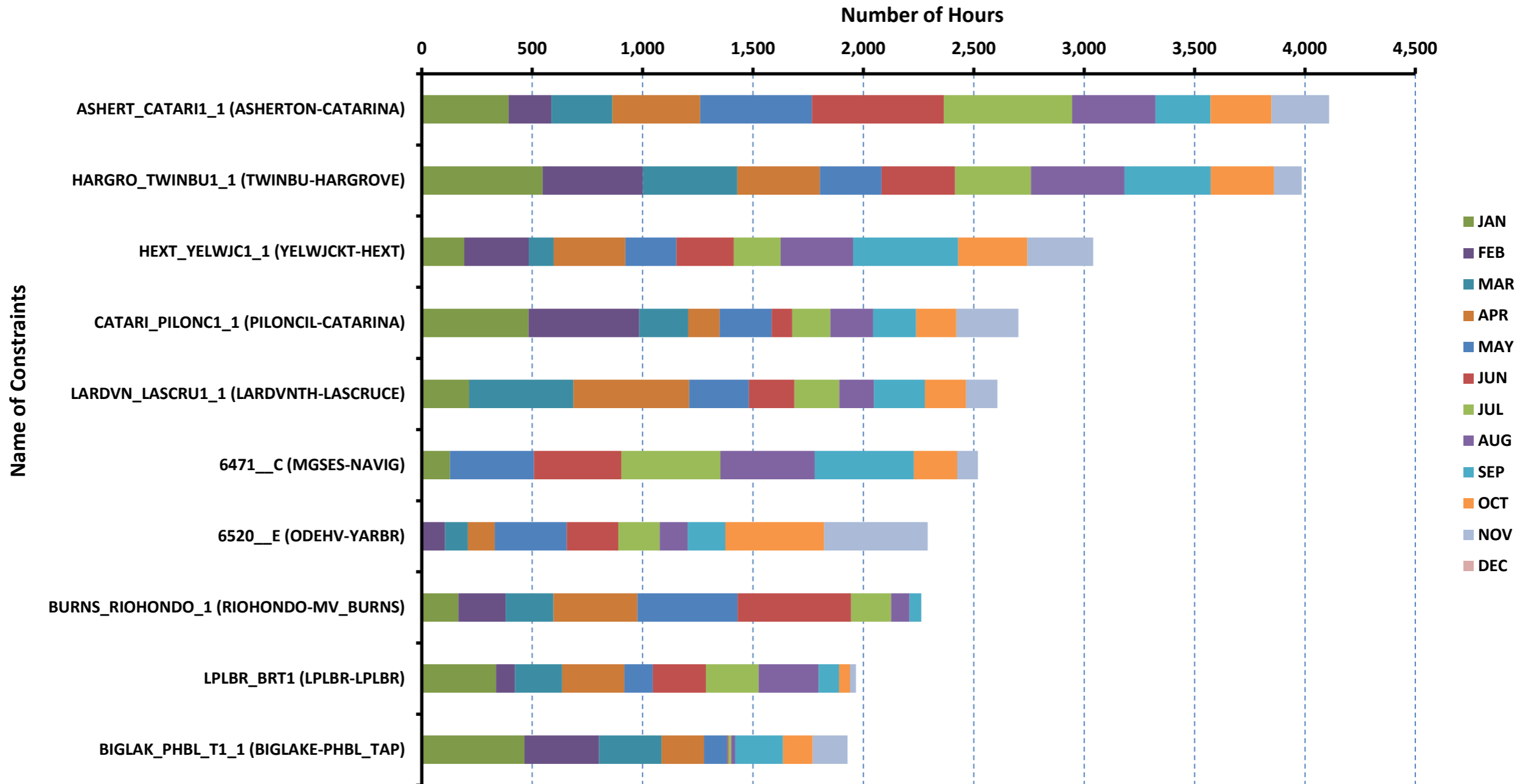
DA Congestion Constraint Rankings - 1

Top 10 Constraints by Total Congestion Value - 2024



DA Congestion Constraint Rankings - 2

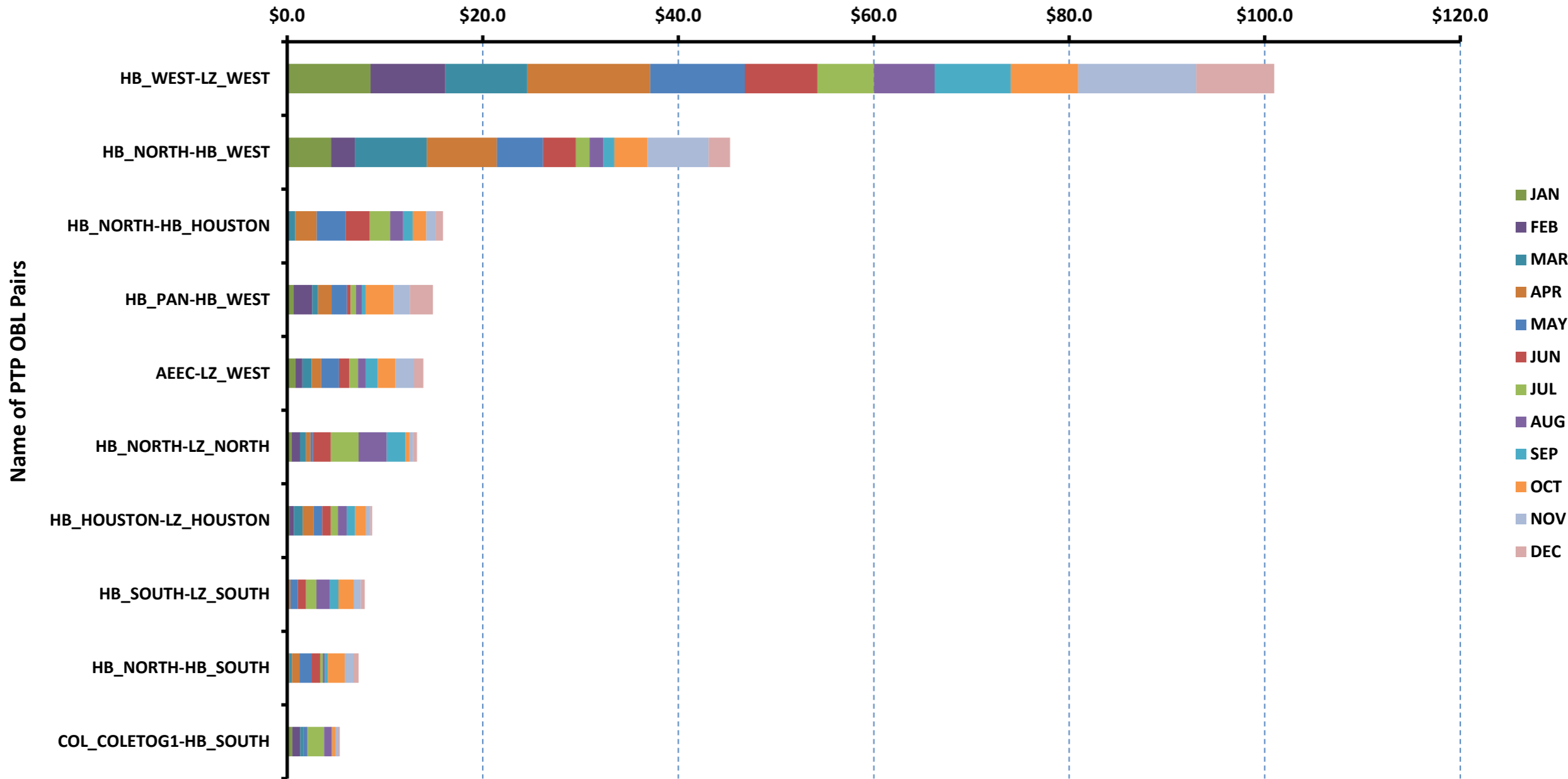
Top 10 Constraints by Binding Frequency - 2024



Top 10 CRR Pairs Ranked by Monthly Auction Values - 1

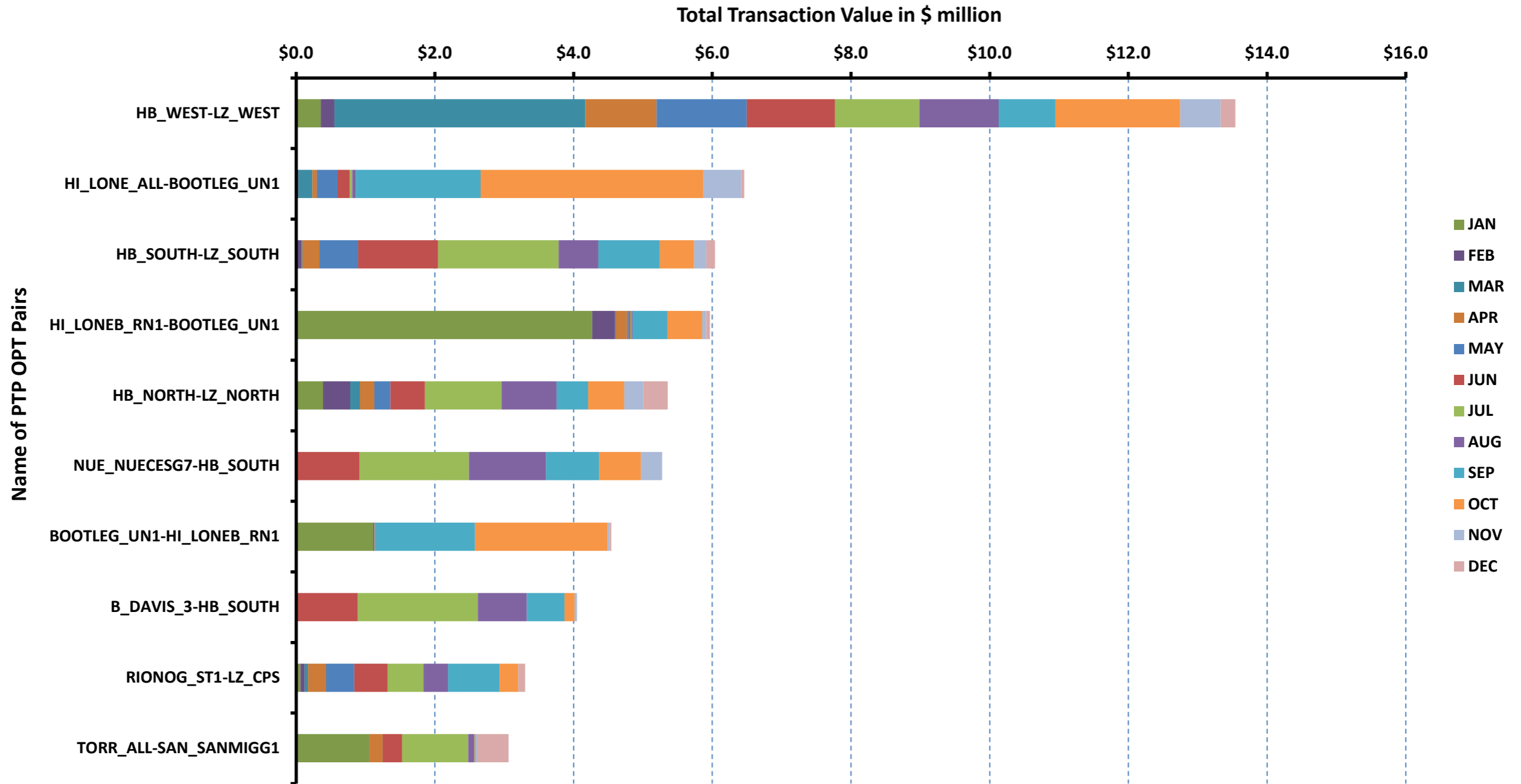
Top 10 PTP Obligations by Total Transaction Value - 2024

Total Transaction Value in \$ million



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	DA Settlement Point Price (\$/MWh)	RT Settlement Point Price (\$/MWh)
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	\$ 25.80	\$ 25.03
	8	\$ 41.24	\$ 41.88
	9	\$ 26.58	\$ 27.32
	10	\$ 31.42	\$ 28.24
	11	\$ 25.74	\$ 33.57
	12	\$ -	\$ -

ERCOT-wide Monthly Implied Heat Rate - DA vs. RT

Year	Month	Gas Price (\$/MMBtu)	DA Settlement Point Price (\$/MWh)	DA Heat Rate (MWh/MMBtu)	RT Settlement Point Price (\$/MWh)	RT Heat Rate (MWh/MMBtu)
2023	1	\$ 2.65	\$ 28.02	10.58	\$ 26.68	10.07
	2	\$ 2.05	\$ 23.83	11.60	\$ 21.95	10.69
	3	\$ 2.08	\$ 29.90	14.37	\$ 31.20	15.00
	4	\$ 1.90	\$ 27.58	14.54	\$ 24.45	12.89
	5	\$ 1.96	\$ 32.08	16.39	\$ 32.48	16.59
	6	\$ 2.10	\$ 88.69	42.32	\$ 75.44	36.00
	7	\$ 2.36	\$ 64.45	27.35	\$ 48.58	20.62
	8	\$ 2.40	\$ 306.22	127.70	\$ 224.18	93.49
	9	\$ 2.41	\$ 86.20	35.84	\$ 111.36	46.30
	10	\$ 2.39	\$ 37.83	15.83	\$ 31.84	13.32
	11	\$ 2.29	\$ 33.62	14.71	\$ 31.71	13.88
	12	\$ 2.07	\$ 23.30	11.23	\$ 23.87	11.51
2024	1	\$ 3.02	\$ 57.00	18.85	\$ 40.43	13.37
	2	\$ 1.41	\$ 15.96	11.36	\$ 15.83	11.26
	3	\$ 1.30	\$ 25.15	19.40	\$ 24.75	19.09
	4	\$ 1.15	\$ 26.34	22.92	\$ 27.50	23.93
	5	\$ 1.82	\$ 52.83	29.02	\$ 46.32	25.44
	6	\$ 2.18	\$ 35.48	16.29	\$ 32.46	14.90
	7	\$ 1.68	\$ 25.80	15.34	\$ 25.03	14.88
	8	\$ 1.77	\$ 41.24	23.30	\$ 41.88	23.66
	9	\$ 2.06	\$ 26.58	12.88	\$ 27.32	13.24
	10	\$ 2.01	\$ 31.42	15.65	\$ 28.24	14.06
	11	\$ 1.77	\$ 25.74	14.51	\$ 33.57	18.92
	12	\$ -	\$ -	-	\$ -	-

Daily Shortage (ORDC) and Reliability Adders Average Values and Duration						
Year	Month	Day	Shortage Adder (\$/MW)	Reliability Adder (\$/MW)	Hours of Positive Shortage Adder	Hours of Positive Reliability Adder
2024	11	1	\$ -	\$ -	0	0
2024	11	2	\$ -	\$ -	0	0
2024	11	3	\$ -	\$ 0.27	0	3
2024	11	4	\$ -	\$ -	0	0
2024	11	5	\$ 0.81	\$ 2.00	6	25
2024	11	6	\$ -	\$ -	0	0
2024	11	7	\$ 0.04	\$ 4.13	4	20
2024	11	8	\$ -	\$ -	0	0
2024	11	9	\$ -	\$ 0.71	0	6
2024	11	10	\$ 37.66	\$ -	19	0
2024	11	11	\$ 0.64	\$ 0.42	8	6
2024	11	12	\$ -	\$ -	0	0
2024	11	13	\$ -	\$ -	0	0
2024	11	14	\$ -	\$ 0.72	0	15
2024	11	15	\$ -	\$ -	0	0
2024	11	16	\$ -	\$ -	0	0
2024	11	17	\$ -	\$ 5.31	0	32
2024	11	18	\$ -	\$ -	0	0
2024	11	19	\$ -	\$ -	0	0
2024	11	20	\$ -	\$ 10.62	0	21
2024	11	21	\$ 0.08	\$ 1.48	9	27
2024	11	22	\$ -	\$ -	0	0
2024	11	23	\$ -	\$ -	0	0
2024	11	24	\$ -	\$ -	0	0
2024	11	25	\$ -	\$ -	0	0
2024	11	26	\$ -	\$ 0.86	0	15
2024	11	27	\$ -	\$ -	0	0
2024	11	28	\$ -	\$ -	0	0
2024	11	29	\$ -	\$ 1.12	0	34
2024	11	30	\$ -	\$ 1.55	0	13
0	0	0	\$ -	\$ -	0	0

Shortage (ORDC) and Reliability Adder Floor Impact on Energy Cost			
Year	Month	Monthly Impact (\$)	Annual Cumulative Impact (\$)
2023	1	\$ -	\$ -
2023	2	\$ -	\$ -
2023	3	\$ -	\$ -
2023	4	\$ -	\$ -
2023	5	\$ -	\$ -
2023	6	\$ -	\$ -
2023	7	\$ -	\$ -
2023	8	\$ -	\$ -
2023	9	\$ -	\$ -
2023	10	\$ -	\$ -
2023	11	\$ 903,568	\$ 903,568
2023	12	\$ -	\$ 903,568
2024	1	\$ 305,655	\$ 305,655
2024	2	\$ -	\$ 305,655
2024	3	\$ 356,079	\$ 661,734
2024	4	\$ 2,700,062	\$ 3,361,796
2024	5	\$ 1,860,853	\$ 5,222,649
2024	6	\$ 90,904	\$ 5,313,553
2024	7	\$ 1,146,261	\$ 6,459,814
2024	8	\$ 1,090,732	\$ 7,550,546
2024	9	\$ 2,408,895	\$ 9,959,442
2024	10	\$ 537,670	\$ 10,497,112
2024	11	\$ 75,492	\$ 10,572,604
0	0	\$ -	\$ 10,572,604

Shortage (ORDC) and Reliability Adder Floor Impact on A/S Imbalance			
Year	Month	Monthly Impact (\$)	Annual Cumulative Impact (\$)
2023	1	\$ -	\$ -
2023	2	\$ -	\$ -
2023	3	\$ -	\$ -
2023	4	\$ -	\$ -
2023	5	\$ -	\$ -
2023	6	\$ -	\$ -
2023	7	\$ -	\$ -
2023	8	\$ -	\$ -
2023	9	\$ -	\$ -
2023	10	\$ -	\$ -
2023	11	\$ 24,983	\$ 24,983
2023	12	\$ -	\$ 24,983
2024	1	\$ 1,307	\$ 1,307
2024	2	\$ -	\$ 1,307
2024	3	\$ 3,006	\$ 4,313
2024	4	\$ 64,791	\$ 69,104
2024	5	\$ (19,782)	\$ 49,322
2024	6	\$ 1,528	\$ 50,851
2024	7	\$ 18,724	\$ 69,574
2024	8	\$ (17,690)	\$ 51,885
2024	9	\$ 54,477	\$ 106,362
2024	10	\$ 7,356	\$ 113,717
2024	11	\$ (25)	\$ 113,692
0	0	\$ -	\$ 113,692

Monthly Average of Ancillary Services Required MW						
Year	Month	Regulation Down (MW)	Non-Spinning Reserve Service (MW)	Responsive Reserve Service (MW)	Regulation Up (MW)	ERCOT Contingency Reserve Service (MW)
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	377	2,137	2,414	393	1,983
	10	416	2,361	2,737	397	1,558
	11	377	2,278	2,939	410	1,488
	12	-	-	-	-	-

Hourly Average of Ancillary Services Required MW

Year	Month	Regulation Down (MW)	Non-Spinning Reserve Service (MW)	Responsive Reserve Service (MW)	Regulation Up (MW)	ERCOT Contingency Reserve Service (MW)
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	397	2,056	2,782	225	1,227
	2	319	2,056	2,782	210	1,223
	3	269	2,342	2,821	219	1,240
	4	241	2,341	2,822	245	1,194
	5	229	2,341	2,822	294	1,220
	6	238	2,341	2,822	420	1,234
	7	228	3,211	2,757	507	1,335
	8	478	3,211	2,757	315	1,651
	9	690	3,211	2,757	334	2,131
	10	499	3,211	2,757	479	2,239
	11	411	3,015	2,678	539	2,260
	12	385	3,015	2,678	551	2,092
	13	400	2,992	2,678	538	2,012
	14	384	2,992	2,678	533	2,096
	15	402	2,758	2,625	498	2,168
	16	419	2,758	2,625	534	2,223
	17	427	2,758	2,625	609	2,363
	18	423	2,758	2,625	662	2,330
	19	381	2,441	2,621	653	2,027
	20	325	2,441	2,621	496	1,857
	21	383	2,441	2,621	294	1,799
	22	453	2,441	2,621	215	1,710
	23	496	2,273	2,782	184	1,523
	24	461	2,273	2,782	167	1,401

Monthly Average Ancillary Services Prices

Year	Month	Regulation Down (MW)	Non-Spinning Reserve Service (MW)	Responsive Reserve Service (MW)	Regulation Up (MW)	ERCOT Contingency Reserve Service (MW)
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	\$ 1.87	\$ 1.69	\$ 2.07	\$ 2.47	\$ 2.17
	10	\$ 1.73	\$ 3.88	\$ 4.36	\$ 7.51	\$ 5.05
	11	\$ 1.35	\$ 2.97	\$ 2.88	\$ 5.33	\$ 3.21
	12	\$ -	\$ -	\$ -	\$ -	\$ -

Monthly Average Ancillary Services Cost per MWh Load						
Year	Month	Regulation Down (MW)	Non-Spinning Reserve Service (MW)	Responsive Reserve Service (MW)	Regulation Up (MW)	ERCOT Contingency Reserve Service (MW)
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	\$ 0.01	\$ 0.06	\$ 0.09	\$ 0.02	\$ 0.08
	10	\$ 0.01	\$ 0.17	\$ 0.23	\$ 0.06	\$ 0.15
	11	\$ 0.01	\$ 0.14	\$ 0.18	\$ 0.05	\$ 0.10
	12	\$ -	\$ -	\$ -	\$ -	\$ -

ERCOT-wide Cumulative Peaker Net Margin			
Year	Month	PNM (\$)	Cumulative (\$)
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	\$ 6,299.66	\$ 252,004.89
	11	\$ 7,639.84	\$ 259,644.73
	12	\$ 4,296.20	\$ 263,940.93
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	\$ 14,133.36	\$ 74,187.41
	9	\$ 4,269.52	\$ 78,456.93
	10	\$ 5,634.59	\$ 84,091.52
	11	\$ 11,380.65	\$ 95,472.17
	12	\$ -	\$ -

DA vs. RT Load Forecast Error (MW) 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	(433)	(378)	(319)	411	336	(323)
	10	(670)	(421)	610	119	(993)	(457)
	11	(591)	(232)	(215)	(545)	97	(376)
	12	-	-	-	-	-	-

RT Congestion Constraint Rankings - Top 10 Constraints by Binding Frequency and Top 10 Constraints by Total Congestion Rent																
Category	Year	Constraint	Value	Rank	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
FREQ_EXIST	2024	PANHANDLE GTC (PNHNDL)	11366	1	647	2029	1204	1604	742	721	385	115	284	1412	2223	0
FREQ_EXIST	2024	NORTH EDINBURG LOBO GTC (NE_LOB)	11214	2	571	1245	977	3350	2195	1822	257	77	59	76	585	0
FREQ_EXIST	2024	WEST TEXAS EXPORT GTC (WESTEX)	10333	3	958	1163	1377	1578	1353	1195	487	73	117	996	1036	0
FREQ_EXIST	2024	BURNS_RIOHONDO_1 (RIOHONDO-MV_BURNS)	10263	4	469	664	982	1949	2705	2794	296	210	194	0	0	0
FREQ_EXIST	2024	ZAPATA-STARR GTC (ZAPSTR)	7923	5	261	1539	864	1526	998	810	511	206	69	125	1014	0
FREQ_EXIST	2024	LARDVN_LASCRU1_1 (LARDVNTH-LASCRUCE)	7719	6	595	0	1988	2246	223	380	863	543	259	100	522	0
FREQ_EXIST	2024	HAINA_LA_PAL1_1 (LA_PALMA-HAINA_DR)	7702	7	36	321	971	1079	1859	2209	234	72	88	125	708	0
FREQ_EXIST	2024	6520_E (ODEHV-YARBR)	7551	8	0	62	64	84	527	535	449	735	769	2806	1520	0
FREQ_EXIST	2024	DILLEYSW XFMR (DILLEYSW-DILLEY)	7519	9	77	412	888	235	7	72	756	2003	1574	1495	0	0
FREQ_EXIST	2024	6471_C (MGSES-NAVIG)	6289	10	52	0	0	0	630	574	1520	1905	1512	23	73	0
TOP10_RENT	2024	WEST TEXAS EXPORT GTC (WESTEX)	\$ 121.12	1	\$ 13.53	\$ 8.32	\$ 12.19	\$ 15.85	\$ 14.98	\$ 22.95	\$ 5.34	\$ 0.47	\$ 1.01	\$ 15.88	\$ 10.62	\$ -
TOP10_RENT	2024	6471_C (MGSES-NAVIG)	\$ 110.20	2	\$ 0.29	\$ -	\$ -	\$ -	\$ 15.37	\$ 9.80	\$ 29.57	\$ 32.88	\$ 20.88	\$ 0.20	\$ 1.22	\$ -
TOP10_RENT	2024	6036_A (TKWSW-MGSES)	\$ 101.90	3	\$ 4.60	\$ 13.29	\$ 68.38	\$ 15.63	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOP10_RENT	2024	BURNS_RIOHONDO_1 (RIOHONDO-MV_BURNS)	\$ 83.29	4	\$ 2.14	\$ 1.46	\$ 3.38	\$ 12.42	\$ 32.34	\$ 30.31	\$ 0.79	\$ 0.27	\$ 0.18	\$ -	\$ -	\$ -
TOP10_RENT	2024	6520_E (ODEHV-YARBR)	\$ 77.79	5	\$ -	\$ 0.14	\$ 0.22	\$ 0.35	\$ 3.51	\$ 1.61	\$ 1.29	\$ 7.64	\$ 11.16	\$ 31.44	\$ 20.44	\$ -
TOP10_RENT	2024	HARGRO_TWINBU1_1 (TWINBU-HARGROVE)	\$ 60.87	6	\$ 20.59	\$ 9.39	\$ 20.80	\$ 0.51	\$ 0.05	\$ -	\$ 0.33	\$ 0.49	\$ 4.96	\$ 1.95	\$ 1.80	\$ -
TOP10_RENT	2024	1710_C (BELCNTY-SALSW)	\$ 52.36	7	\$ 0.46	\$ -	\$ -	\$ 1.32	\$ 15.19	\$ 15.71	\$ 3.79	\$ 15.35	\$ 0.15	\$ 0.40	\$ -	\$ -
TOP10_RENT	2024	610_B (TMPSW-TMPSE)	\$ 40.69	8	\$ 0.99	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 16.64	\$ 23.05	\$ -	\$ -
TOP10_RENT	2024	LARDVN_LASCRU1_1 (LARDVNTH-LASCRUCE)	\$ 40.49	9	\$ 4.67	\$ -	\$ 8.45	\$ 8.91	\$ 1.66	\$ 2.56	\$ 3.35	\$ 4.22	\$ 1.14	\$ 0.25	\$ 5.29	\$ -
TOP10_RENT	2024	PANHANDLE GTC (PNHNDL)	\$ 39.86	10	\$ 1.92	\$ 7.68	\$ 3.48	\$ 6.52	\$ 2.25	\$ 1.71	\$ 1.06	\$ 0.47	\$ 1.01	\$ 4.20	\$ 9.55	\$ -

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	\$137.24
10	\$182.11
11	\$169.86
12	\$0.00
Cumulative	\$1,832.75

DA Congestion Constraint Rankings - Top 10 Constraints by Binding Frequency and Top 10 Constraints by Total Congestion Rent																
Category	Year	Constraint	Value	Rank	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
FREQ_EXIST	2024	ASHERT_CATARI1_1 (ASHERTON-CATARINA)	4,110	1	393	194	276	398	506	597	582	377	249	277	261	-
FREQ_EXIST	2024	HARGRO_TWINBU1_1 (TWINBU-HARGROVE)	3,985	2	547	454	428	374	279	334	343	423	391	287	125	-
FREQ_EXIST	2024	HEXT_YELWJC1_1 (YELWJCKT-HEXT)	3,041	3	192	293	112	325	231	260	212	329	475	314	298	-
FREQ_EXIST	2024	CATARI_PILONC1_1 (PILONCIL-CATARINA)	2,702	4	484	501	221	143	236	93	173	193	195	182	281	-
FREQ_EXIST	2024	LARDVN_LASCRU1_1 (LARDVNTH-LASCRUCE)	2,607	5	214	-	473	524	270	207	203	157	231	186	142	-
FREQ_EXIST	2024	6471_C (MGSES-NAVIG)	2,519	6	128	-	-	-	380	396	449	427	449	196	94	-
FREQ_EXIST	2024	6520_E (ODEHV-YARBR)	2,292	7	5	101	103	121	327	233	188	126	171	448	469	-
FREQ_EXIST	2024	BURNS_RIOHONDO_1 (RIOHONDO-MV_BURNS)	2,262	8	166	215	215	381	453	514	182	83	53	-	-	-
FREQ_EXIST	2024	LPLBR_BRT1 (LPLBR-LPLBR)	1,967	9	336	86	214	282	128	241	239	271	93	50	27	-
FREQ_EXIST	2024	BIGLAK_PHBL_T1_1 (BIGLAKE-PHBL_TAP)	1,928	10	465	338	283	193	105	6	12	17	217	134	158	-
TOP10_RENT	2024	6471_C (MGSES-NAVIG)	\$ 119.80	1	\$ 1.72	\$ -	\$ -	\$ -	\$ 12.53	\$ 8.90	\$ 26.55	\$ 34.46	\$ 28.23	\$ 4.71	\$ 2.70	\$ -
TOP10_RENT	2024	6036_A (TKWSW-MGSES)	\$ 99.80	2	\$ 13.59	\$ 6.30	\$ 60.11	\$ 17.30	\$ 0.63	\$ 0.11	\$ 0.06	\$ 0.02	\$ 0.09	\$ 0.01	\$ 1.58	\$ -
TOP10_RENT	2024	BURNS_RIOHONDO_1 (RIOHONDO-MV_BURNS)	\$ 92.50	3	\$ 1.76	\$ 2.08	\$ 2.73	\$ 8.78	\$ 35.95	\$ 36.21	\$ 3.83	\$ 0.84	\$ 0.30	\$ -	\$ -	\$ -
TOP10_RENT	2024	WEST TEXAS EXPORT GTC (WESTEX)	\$ 89.26	4	\$ 7.41	\$ 8.98	\$ 10.43	\$ 11.52	\$ 9.72	\$ 13.50	\$ 4.40	\$ 0.69	\$ 0.29	\$ 12.37	\$ 9.94	\$ -
TOP10_RENT	2024	HARGRO_TWINBU1_1 (TWINBU-HARGROVE)	\$ 67.47	5	\$ 20.87	\$ 11.87	\$ 19.58	\$ 4.65	\$ 0.83	\$ 0.57	\$ 1.01	\$ 1.40	\$ 3.66	\$ 1.65	\$ 1.40	\$ -
TOP10_RENT	2024	6520_E (ODEHV-YARBR)	\$ 65.06	6	\$ 0.00	\$ 0.62	\$ 0.49	\$ 0.94	\$ 4.57	\$ 1.83	\$ 1.00	\$ 4.89	\$ 7.57	\$ 20.73	\$ 22.42	\$ -
TOP10_RENT	2024	1710_C (BELCNTY-SALSW)	\$ 48.33	7	\$ 0.00	\$ -	\$ 0.01	\$ 1.12	\$ 11.22	\$ 18.65	\$ 5.43	\$ 6.50	\$ 2.67	\$ 2.59	\$ 0.13	\$ -
TOP10_RENT	2024	LARDVN_LASCRU1_1 (LARDVNTH-LASCRUCE)	\$ 40.77	8	\$ 6.56	\$ -	\$ 9.01	\$ 9.18	\$ 2.75	\$ 1.69	\$ 3.01	\$ 3.18	\$ 1.75	\$ 1.18	\$ 2.45	\$ -
TOP10_RENT	2024	PANHANDLE GTC (PNHNDL)	\$ 39.98	9	\$ 2.20	\$ 7.21	\$ 3.12	\$ 6.87	\$ 2.02	\$ 2.45	\$ 1.40	\$ 0.49	\$ 0.94	\$ 4.16	\$ 9.12	\$ -
TOP10_RENT	2024	COLETO_ROSATA1_1 (COLETO-ROSATA)	\$ 38.37	10	\$ 34.68	\$ -	\$ -	\$ -	\$ -	\$ 0.09	\$ 0.12	\$ 1.09	\$ 0.85	\$ 1.54	\$ -	\$ -

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																
FTR Option	Year	CCR Pair	Total Value	Rank	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
N	2024	HB_WEST-LZ_WEST	\$ 100.97	1	\$ 8.52	\$ 7.67	\$ 8.38	\$ 12.56	\$ 9.68	\$ 7.43	\$ 5.76	\$ 6.23	\$ 7.79	\$ 6.90	\$ 12.06	\$ 7.99
N	2024	HB_NORTH-HB_WEST	\$ 45.31	2	\$ 4.48	\$ 2.45	\$ 7.35	\$ 7.16	\$ 4.72	\$ 3.37	\$ 1.39	\$ 1.41	\$ 1.14	\$ 3.41	\$ 6.22	\$ 2.22
N	2024	HB_NORTH-HB_HOUSTON	\$ 15.94	3	\$ 0.04	\$ 0.02	\$ 0.77	\$ 2.18	\$ 2.97	\$ 2.46	\$ 2.11	\$ 1.33	\$ 0.97	\$ 1.37	\$ 0.97	\$ 0.75
N	2024	HB_PAN-HB_WEST	\$ 14.90	4	\$ 0.65	\$ 1.90	\$ 0.59	\$ 1.41	\$ 1.58	\$ 0.38	\$ 0.53	\$ 0.61	\$ 0.37	\$ 2.85	\$ 1.68	\$ 2.37
N	2024	AEEC-LZ_WEST	\$ 13.93	5	\$ 0.85	\$ 0.71	\$ 0.95	\$ 0.98	\$ 1.80	\$ 1.07	\$ 0.89	\$ 0.76	\$ 1.26	\$ 1.81	\$ 1.89	\$ 0.95
N	2024	HB_NORTH-LZ_NORTH	\$ 13.29	6	\$ 0.44	\$ 0.87	\$ 0.61	\$ 0.46	\$ 0.25	\$ 1.83	\$ 2.84	\$ 2.88	\$ 1.94	\$ 0.41	\$ 0.36	\$ 0.41
N	2024	HB_HOUSTON-LZ_HOUSTON	\$ 8.69	7	\$ 0.21	\$ 0.47	\$ 0.89	\$ 1.12	\$ 0.88	\$ 0.88	\$ 0.74	\$ 0.87	\$ 0.88	\$ 1.12	\$ 0.43	\$ 0.19
N	2024	HB_SOUTH-LZ_SOUTH	\$ 7.93	8	\$ -	\$ -	\$ 0.00	\$ 0.31	\$ 0.77	\$ 0.85	\$ 1.05	\$ 1.36	\$ 0.92	\$ 1.53	\$ 0.75	\$ 0.40
N	2024	HB_NORTH-HB_SOUTH	\$ 7.30	9	\$ 0.20	\$ 0.06	\$ 0.23	\$ 0.77	\$ 1.23	\$ 0.89	\$ 0.26	\$ 0.19	\$ 0.33	\$ 1.74	\$ 0.89	\$ 0.51
N	2024	COL_COLETG1-HB_SOUTH	\$ 5.38	10	\$ 0.51	\$ 0.82	\$ 0.33	\$ 0.00	\$ 0.38	\$ 0.03	\$ 1.70	\$ 0.79	\$ 0.02	\$ 0.34	\$ 0.31	\$ 0.14
Y	2024	HB_WEST-LZ_WEST	\$ 13.54	1	\$ 0.35	\$ 0.20	\$ 3.62	\$ 1.03	\$ 1.30	\$ 1.27	\$ 1.22	\$ 1.14	\$ 0.82	\$ 1.80	\$ 0.58	\$ 0.21
Y	2024	HI_LONE_ALL-BOOTLEG_UN1	\$ 6.46	2	\$ -	\$ 0.03	\$ 0.20	\$ 0.07	\$ 0.29	\$ 0.18	\$ 0.03	\$ 0.05	\$ 1.80	\$ 3.21	\$ 0.55	\$ 0.04
Y	2024	HB_SOUTH-LZ_SOUTH	\$ 6.04	3	\$ 0.02	\$ 0.06	\$ 0.01	\$ 0.25	\$ 0.56	\$ 1.15	\$ 1.74	\$ 0.57	\$ 0.89	\$ 0.49	\$ 0.18	\$ 0.13
Y	2024	HI_LONEB_RN1-BOOTLEG_UN1	\$ 5.96	4	\$ 4.27	\$ 0.33	\$ 0.01	\$ 0.16	\$ 0.03	\$ 0.02	\$ 0.02	\$ 0.02	\$ 0.50	\$ 0.50	\$ 0.06	\$ 0.05
Y	2024	HB_NORTH-LZ_NORTH	\$ 5.36	5	\$ 0.39	\$ 0.39	\$ 0.14	\$ 0.21	\$ 0.23	\$ 0.50	\$ 1.10	\$ 0.80	\$ 0.45	\$ 0.52	\$ 0.28	\$ 0.35
Y	2024	NUE_NUECESG7-HB_SOUTH	\$ 5.28	6	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 0.91	\$ 1.58	\$ 1.11	\$ 0.77	\$ 0.60	\$ 0.31	\$ -
Y	2024	BOOTLEG_UN1-HI_LONEB_RN1	\$ 4.54	7	\$ 1.11	\$ 0.01	\$ 0.01	\$ 0.01	\$ 0.01	\$ 0.00	\$ -	\$ -	\$ 1.43	\$ 1.92	\$ 0.03	\$ 0.03
Y	2024	B_DAVIS_3-HB_SOUTH	\$ 4.05	8	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 0.89	\$ 1.73	\$ 0.71	\$ 0.54	\$ 0.14	\$ 0.03	\$ -
Y	2024	RIONOG_ST1-LZ_CPS	\$ 3.30	9	\$ 0.06	\$ 0.06	\$ 0.05	\$ 0.26	\$ 0.41	\$ 0.48	\$ 0.52	\$ 0.35	\$ 0.74	\$ 0.27	\$ -	\$ 0.10
Y	2024	TORR_ALL-SAN_SANMIGG1	\$ 3.06	10	\$ 1.05	\$ 0.00	\$ 0.00	\$ 0.19	\$ 0.00	\$ 0.28	\$ 0.95	\$ 0.08	\$ 0.01	\$ 0.02	\$ 0.02	\$ 0.45