



# Reserve Price Formation Update

Market Implementation Committee  
1/11/2023

- The average monthly reserve clearing prices in December are higher than those in previous months in Day-ahead Market and especially in Real-time Market
- The significant increase in Reserve clearing prices are due to:
  - Extreme cold weather during Christmas holidays
  - Large amount of shortage intervals in Real Time Market in Dec. 23 and 24



# Monthly Reserve Market Clearing Price Summary

Month	Day-Ahead					Real-Time				
	SRMCP (\$/MWh)		NSRMCP (\$/MWh)		SecRMCP (\$/MWh)	SRMCP (\$/MWh)		NSRMCP (\$/MWh)		SecRMCP (\$/MWh)
	RTO	MAD	RTO	MAD	RTO	RTO	MAD	RTO	MAD	RTO
Oct. 2022	0.41	0.50	0.29	0.36	0	0.76	0.80	0.11	0.11	0
Nov. 2022	1.47	1.49	1.22	1.23	0	0.35	0.35	0.02	0.02	0
Dec. 2022	2.28	3.57	0.41	1.02	0	24.41	35.66	18.38	28.68	0.97

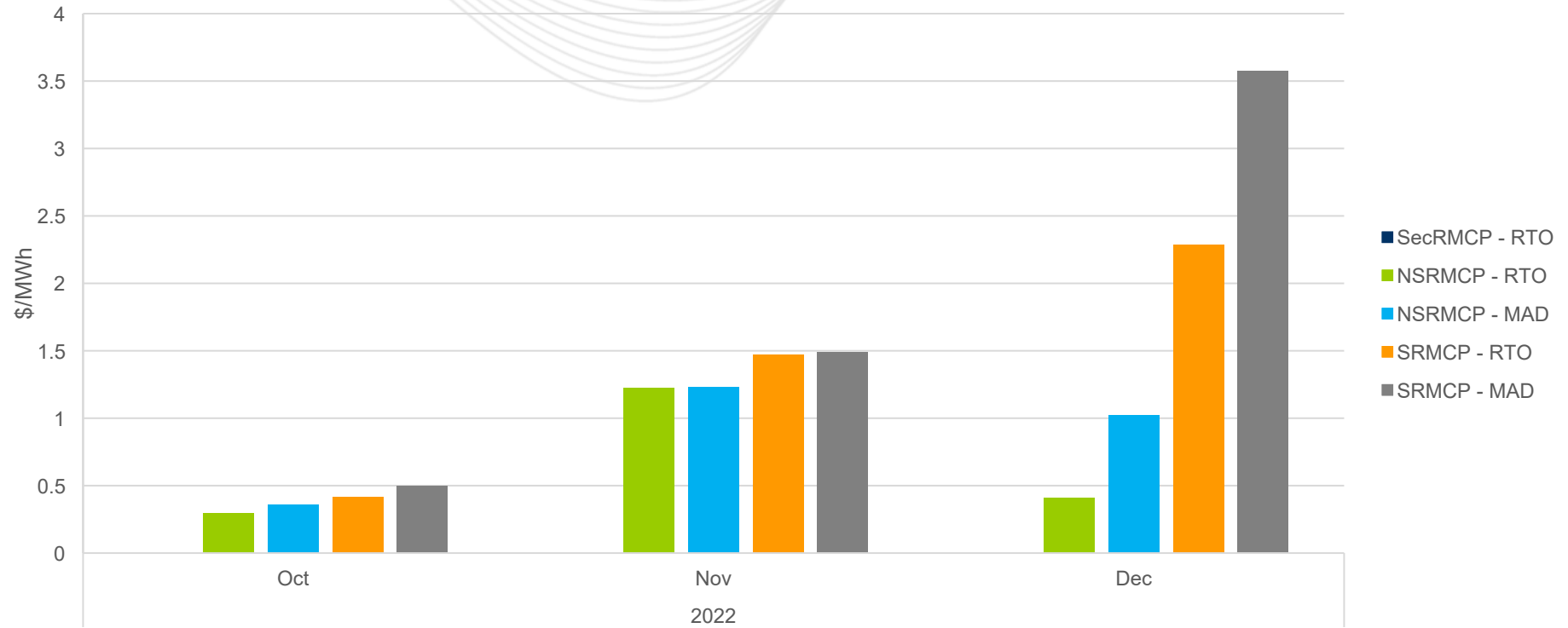
Month	Reserve Offer Price Cap
Oct. 2022	\$0.02/MWh
Nov. 2022	\$0.02/MWh
Dec. 2022	\$0.11/MWh
Jan. 2023	\$0.09/MWh



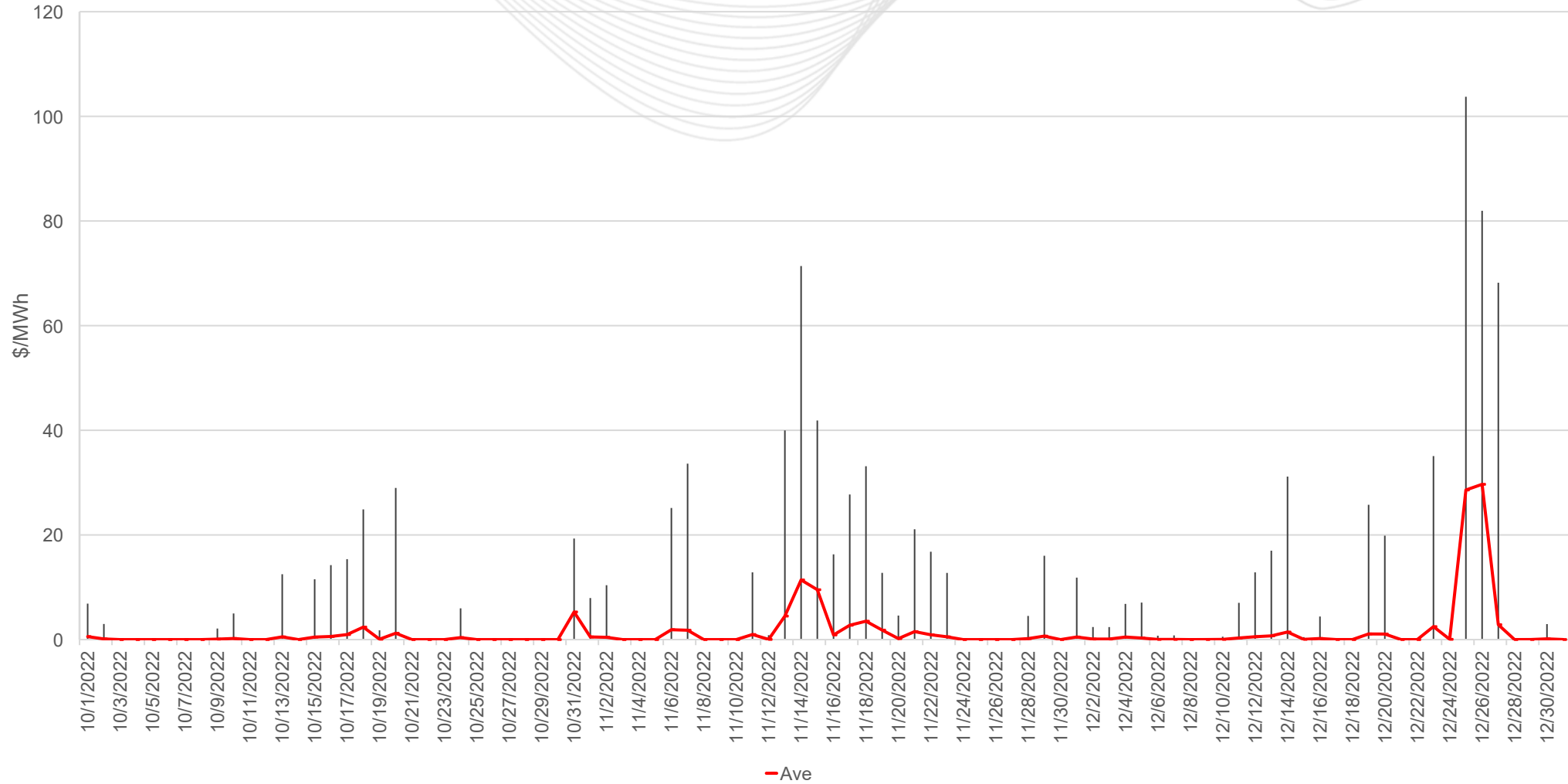
# Day-Ahead Market Metrics

October, 2022 – December, 2022

# Reserve Market Clearing Prices

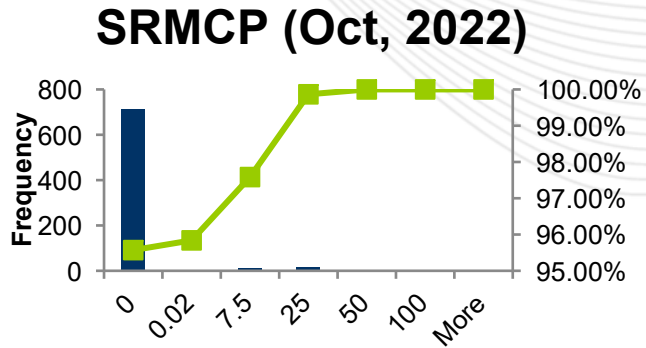


### SRMCP (Daily Max vs. Average)

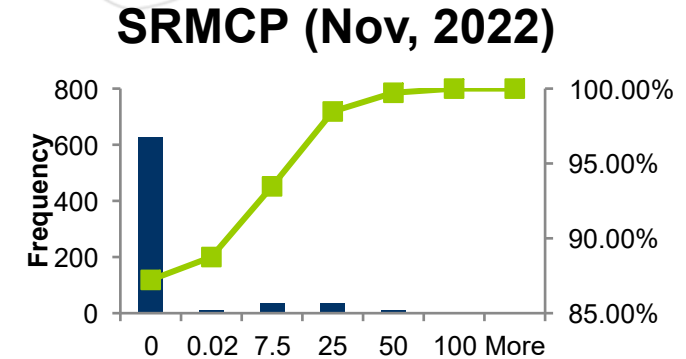


# SRMCP Distribution & Histogram: Oct-Dec, 2022

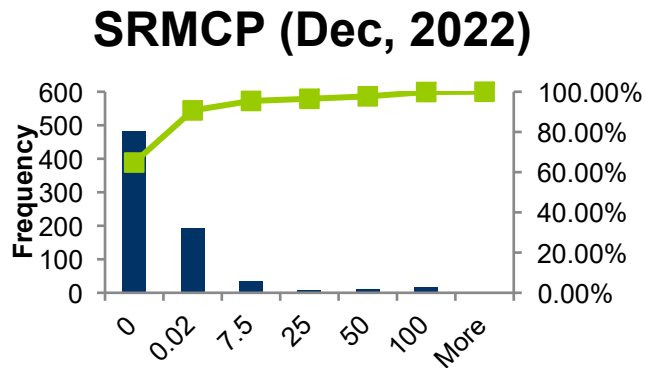
Price	Frequency	Cumulative %
0	712	95.57%
0.02	2	95.84%
7.5	13	97.58%
25	17	99.87%
50	1	100.00%
100	0	100.00%
More	0	100.00%



Price	Frequency	Cumulative %
0	628	87.22%
0.02	11	88.75%
7.5	34	93.47%
25	36	98.47%
50	9	99.72%
100	2	100.00%
More	0	100.00%



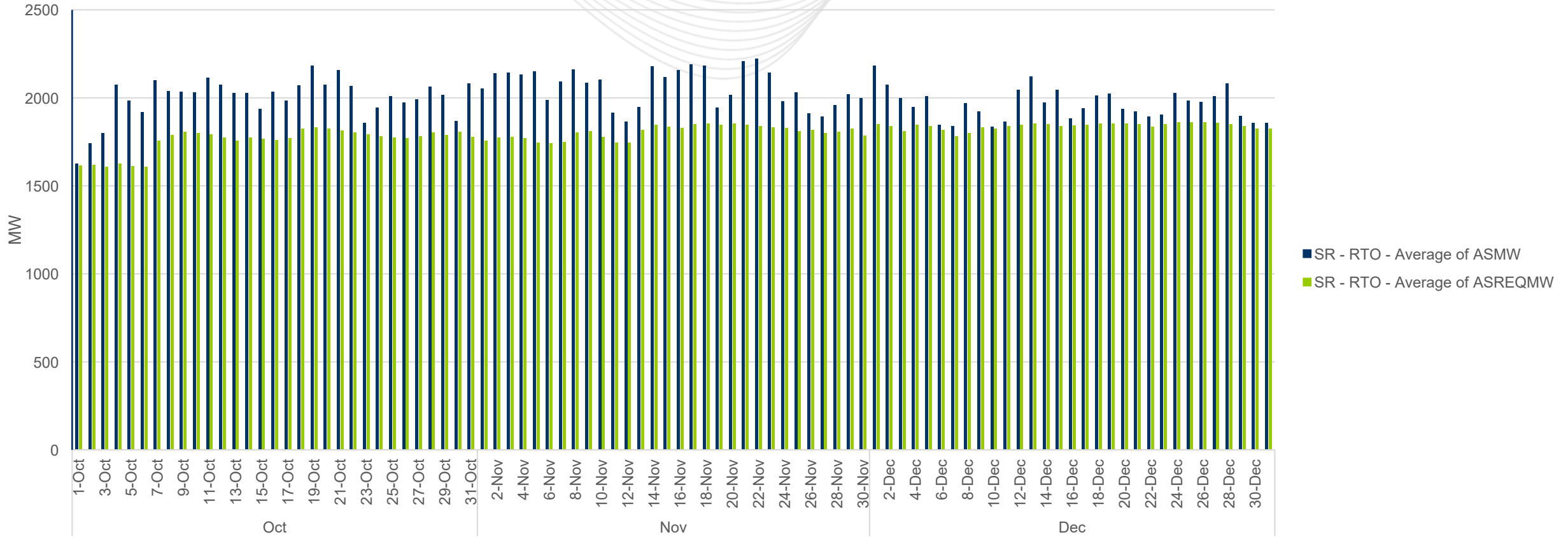
Price	Frequency	Cumulative %
0	482	64.78%
0.02	193	90.73%
7.5	35	95.43%
25	8	96.51%
50	9	97.72%
100	16	99.87%
More	1	100.00%

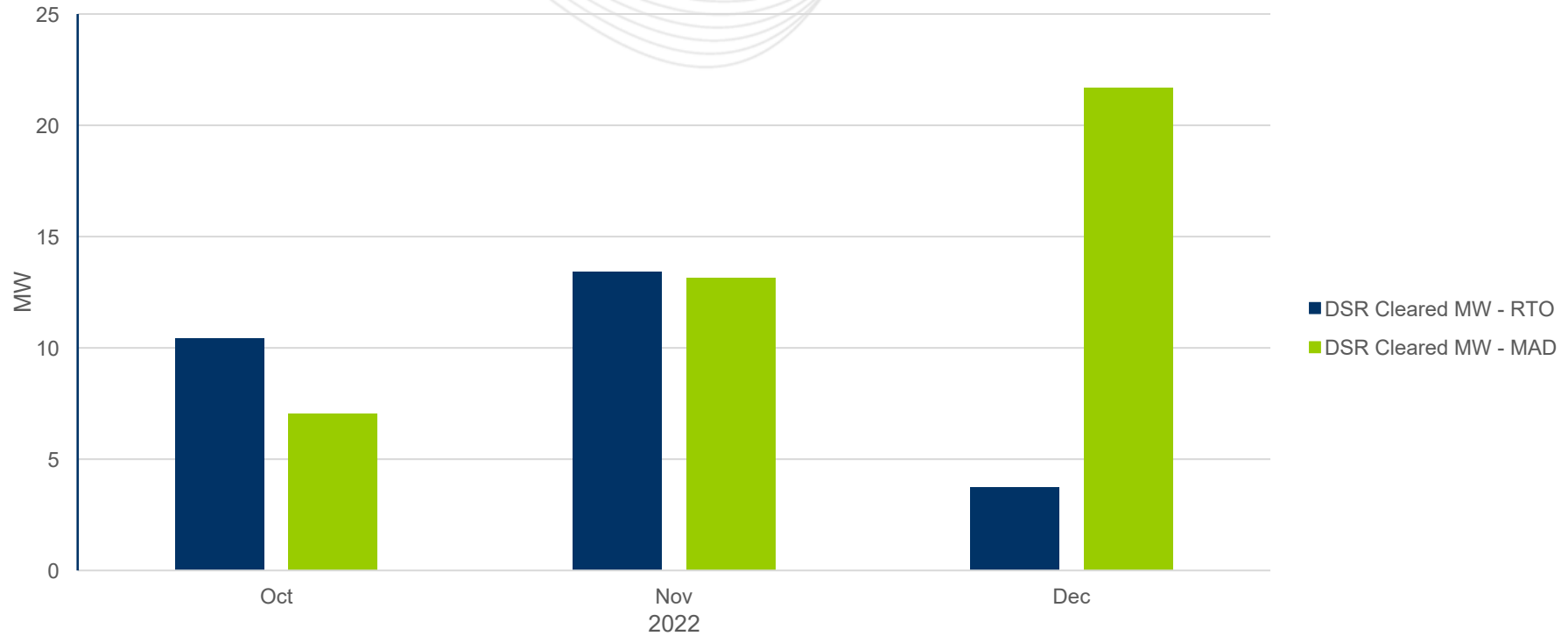


**Key Takeaway:** SRMCPs were less or equal to \$0.02/MWh most of the time.



# AS Requirement (RTO SR) vs. ASMW

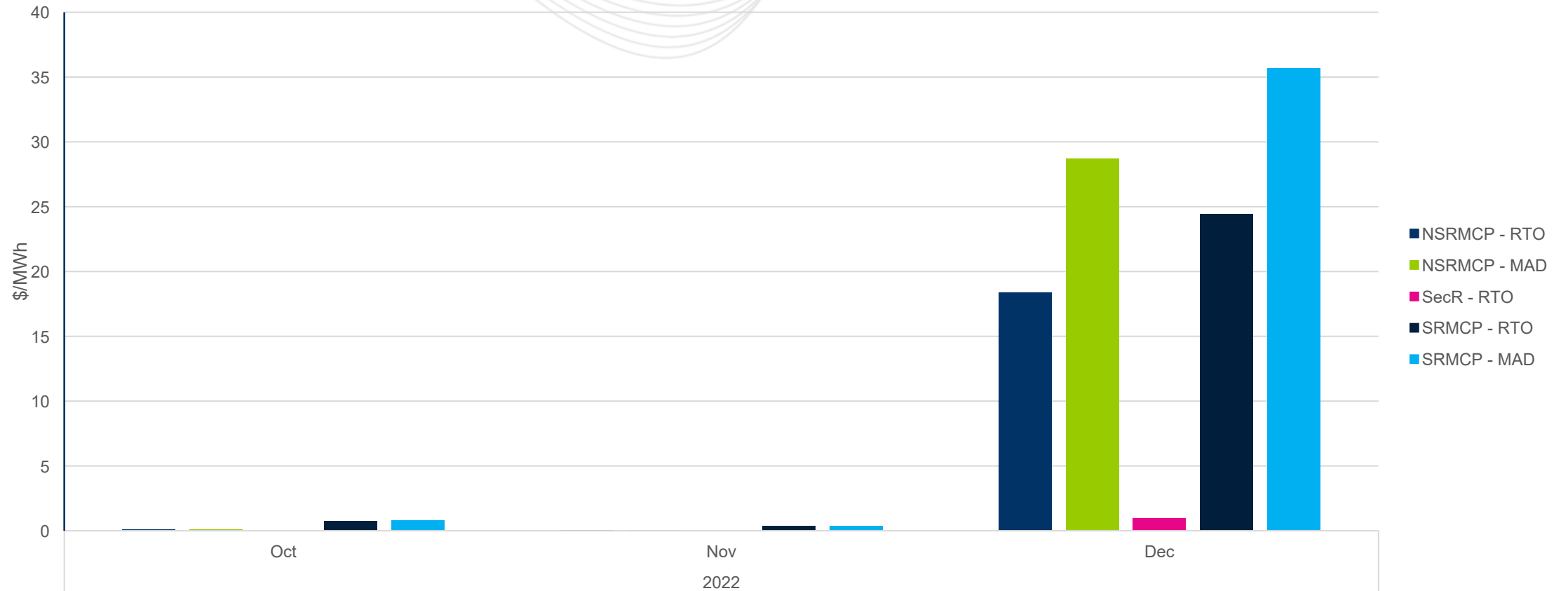




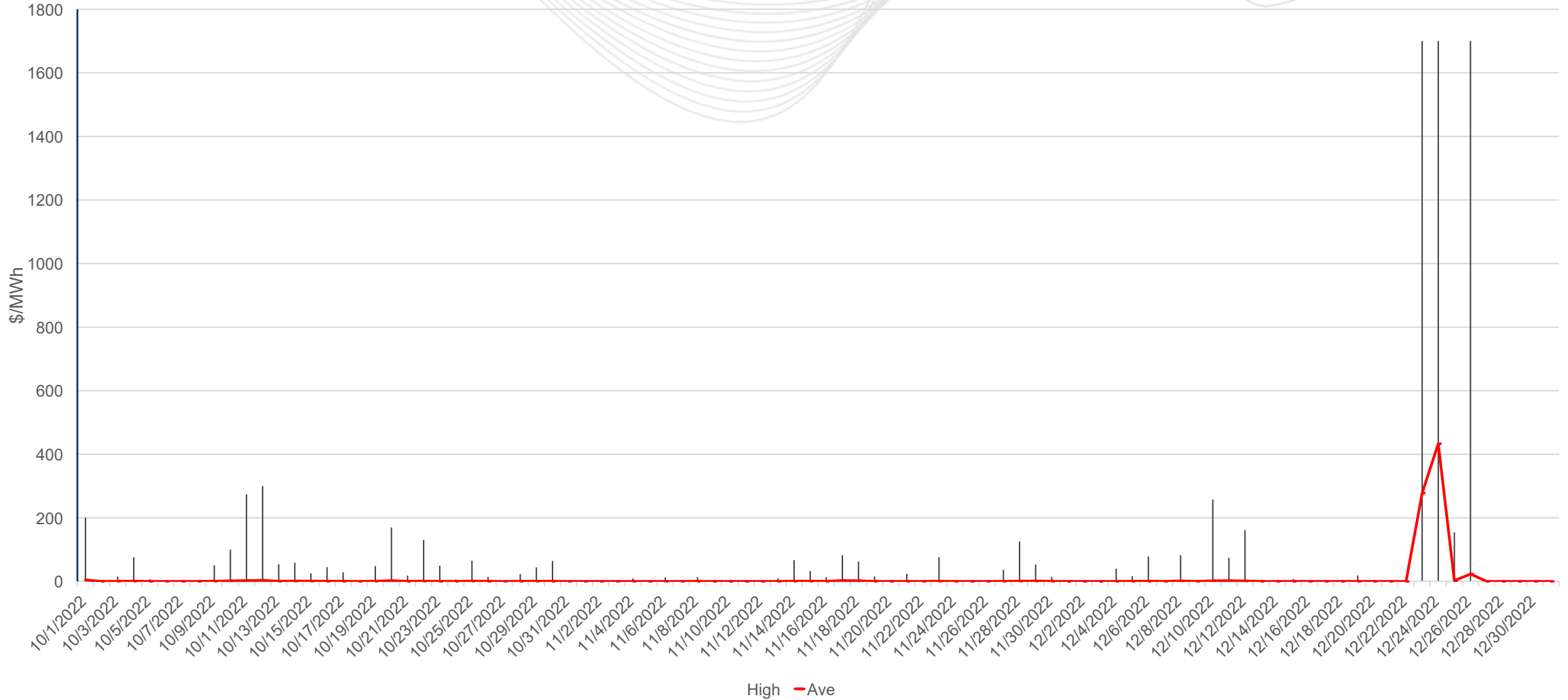


# Real-Time Market Metrics

October, 2022 – December, 2022



SRMCP (Daily Max vs. Average)

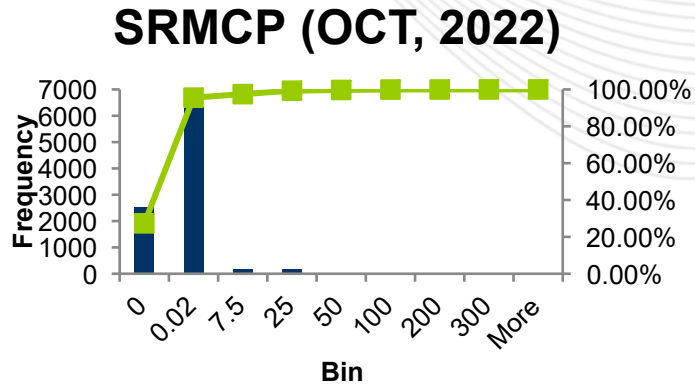


High - Ave

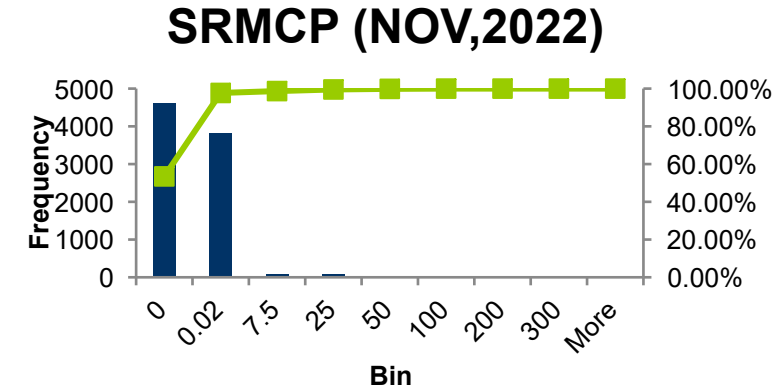


# SRMCP Distribution & Histogram: Oct-Dec, 2022

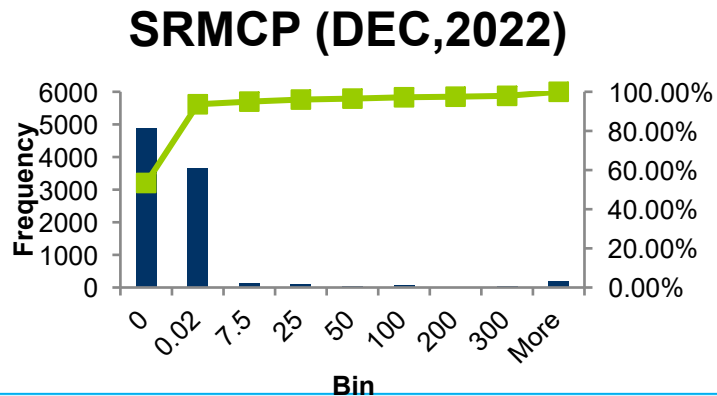
Price	Frequency	Cumulative %
0	2542	27.36%
0.02	6335	95.53%
7.5	179	97.46%
25	172	99.31%
50	37	99.71%
100	20	99.92%
200	4	99.97%
300	3	100.00%
More	0	100.00%



Price	Frequency	Cumulative %
0	4620	53.47%
0.02	3821	97.70%
7.5	86	98.69%
25	74	99.55%
50	27	99.86%
100	12	100.00%
200	0	100.00%
300	0	100.00%
More	0	100.00%

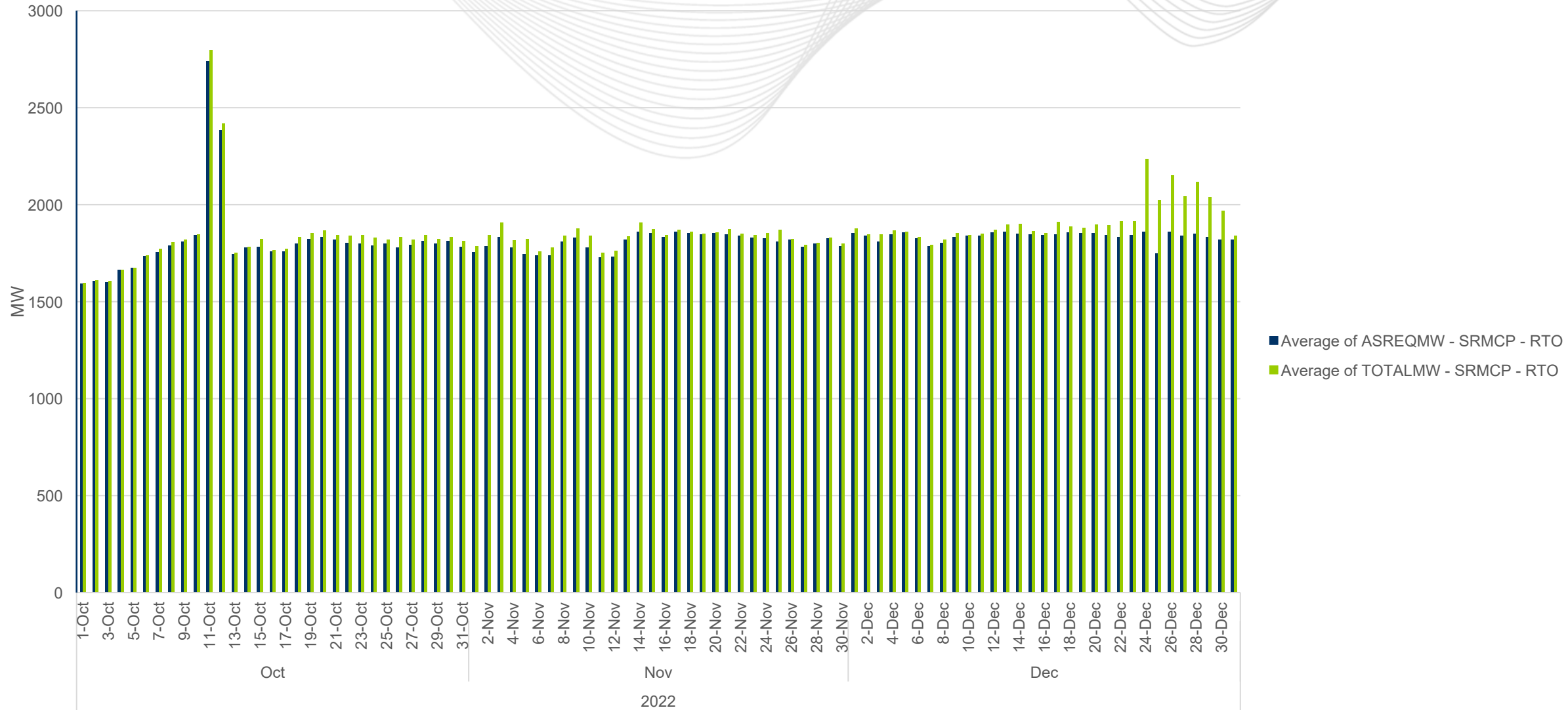


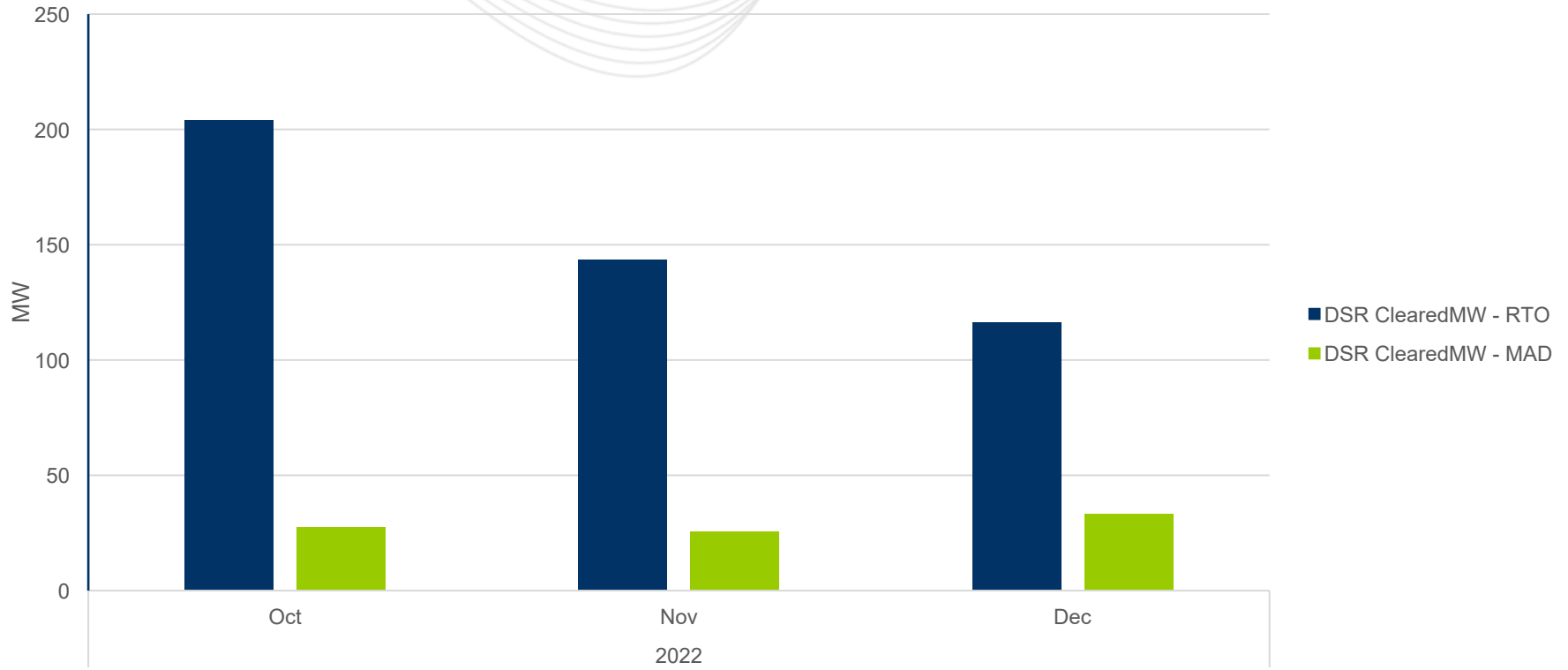
Price	Frequency	Cumulative %
0	4881	53.41%
0.02	3676	93.63%
7.5	123	94.98%
25	96	96.03%
50	45	96.52%
100	62	97.20%
200	27	97.49%
300	40	97.93%
More	189	100.00%



**Key Takeaway:** SRMCPs were less or equal to \$0.02/MWh most of the time after RPF.

# AS Requirement (RTO SR) vs. ASMW







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**Reserve Price Formation Update**



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