

CAOR Simulation Results

Market Pricing Work Group
February 25, 2005



- **All simulations assume the implementation of the new VCR re: pricing in times of reserve shortages**
- **Total number of hours with manual OR reduction: 236 (2.68% of all hours in 2004)**
- **Total of 10 Simulations:**
 - **Case 1: assuming no manual OR reduction and no additional CAOR**
 - **Case 2: additional CAOR: 100MW @ \$30**
 - **Case 3: additional CAOR: 200MW @ \$30**
 - **Case 4: additional CAOR: 400MW @ \$30**
 - **Case 5: additional CAOR: 100MW @ \$50**
 - **Case 6: additional CAOR: 200MW @ \$50**
 - **Case 7: additional CAOR: 400MW @ \$50**
 - **Case 8: additional CAOR: 100MW @ \$100**
 - **Case 9: additional CAOR: 200MW @ \$100**
 - **Case 10: additional CAOR: 400MW @ \$100**

Price Impact of the Use of Additional CAOR in 2004

Scenario	CAOR	Actual Price	New Price	Diff	No. of hours affected	Total hours	% hours	No. of intervals affected	Total intervals	% e of intervals
1	no additional CAOR	49.91	50.72	0.81	194	8784	2.21%		105408	
2	\$30X100 MW	49.91	50.29	0.38	63	8784	0.72%	438	105408	0.42%
3	\$30X200 MW	49.91	50.12	0.21	49	8784	0.56%	305	105408	0.29%
4	\$30X400 MW	49.91	50.00	0.09	27	8784	0.31%	157	105408	0.15%
5	\$50X100 MW	49.91	50.29	0.38	59	8784	0.67%	450	105408	0.43%
6	\$50X200 MW	49.91	50.15	0.24	45	8784	0.51%	353	105408	0.33%
7	\$50X400 MW	49.91	50.01	0.10	19	8784	0.22%	145	105408	0.14%
8	\$100X100 MW	49.91	50.31	0.40	43	8784	0.49%	336	105408	0.32%
9	\$100X200 MW	49.91	50.15	0.24	25	8784	0.28%	196	105408	0.19%
10	\$100X400 MW	49.91	50.02	0.11	13	8784	0.15%	94	105408	0.09%

OR Prices with Additional CAOR in 2004

		OR Price (\$/MW)		
Scenario		10S	10N	30R
	Actual	5.75	3.71	3.48
1	No additional CAOR	6.67	4.64	4.48
2	\$30X100MW	6.18	4.14	3.97
3	\$30X200MW	6.18	4.14	3.96
4	\$30X400MW	6.20	4.16	3.97
5	\$50X100MW	5.99	3.95	3.77
6	\$50X200MW	6.02	3.98	3.79
7	\$50X400MW	6.02	3.98	3.79
8	\$100X100MW	5.86	3.81	3.58
9	\$100X200MW	5.86	3.82	3.59
10	\$100X400MW	5.87	3.83	3.60

OR Price Impact of the Use of Additional CAOR in 2004

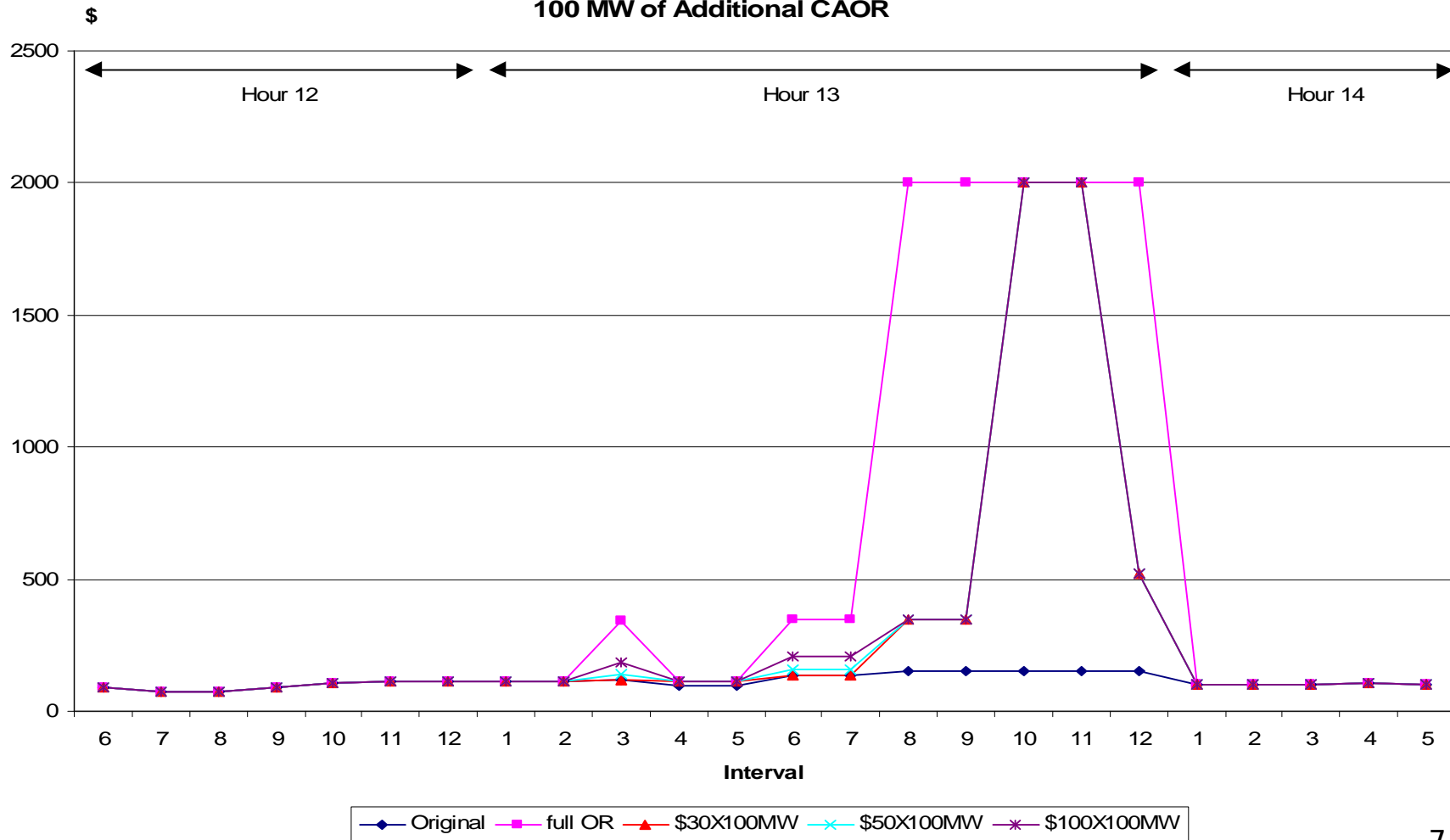
		OR Price Increase (\$/MW)		
Scenario		10S	10N	30R
1	No additional CAOR	0.92	0.93	1.00
2	\$30X100MW	0.43	0.43	0.49
3	\$30X200MW	0.43	0.43	0.48
4	\$30X400MW	0.45	0.45	0.49
5	\$50X100MW	0.24	0.24	0.29
6	\$50X200MW	0.27	0.27	0.31
7	\$50X400MW	0.27	0.27	0.31
8	\$100X100MW	0.11	0.10	0.10
9	\$100X200MW	0.11	0.11	0.11
10	\$100X400MW	0.12	0.12	0.12

No. of Hours With Price Increased by Specific Amount

Scenario	CAOR	Number of Hours With Difference Between Simulated Price and Actual Price in Range		
		≥ 25	≥ 50	≥ 100
1	No additional CAOR, No Manual Reductions	30	23	14
2	\$30X100MW	17	9	7
3	\$30X200MW	6	4	4
4	\$30X400MW	2	2	2
5	\$50X100MW	17	9	7
6	\$50X200MW	10	5	2
7	\$50X400MW	3	2	2
8	\$100X100MW	24	13	7
9	\$100X200MW	13	8	4
10	\$100X400MW	6	3	2

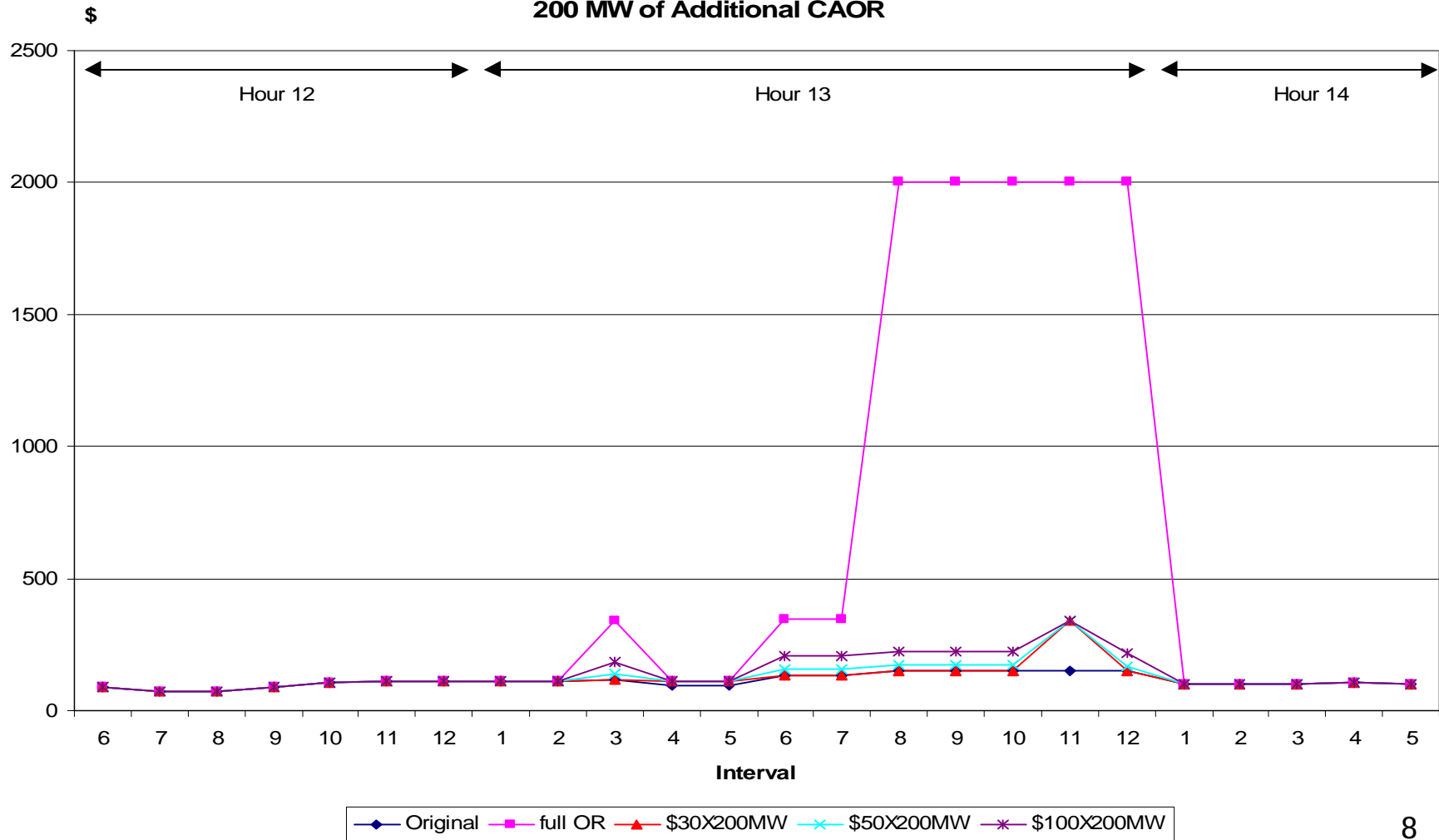
Example with Shortage Prices

Additional CAOR July 4, 2004
100 MW of Additional CAOR



Example with Shortage Prices

Additional CAOR July 4, 2004
200 MW of Additional CAOR



Example with Shortage Prices

Additional CAOR July 4, 2004
400 MW of Additional CAOR

