

EX CCS 4.16
Example Illustrating Need to Derate Minimum Capacity and Adjust Heat Rates

Scenario 1 - No Minimum Loading Constraint

Probabilistic Example

Case	Comb. Prob.	Prob Hunter	Prob Gadsby	State Hunter	mW Hunter	Avg Cost Hunter	Total Cost Hunter	State Gadsby	mW Gadsby	Inc. Cost Gadsby	Avg Cost Gadsby	Total Cost Gadsby	Purchase or Sale mW	Cost/mWh	Total Cost Purchase	Load = Combined mW	Tot. Cost	\$/mWh	Error
1	78.2609%	86.9565%	90.0000%	Up	460	11.85	5449	Up	70	67.99	75.88	5311	-30	67.99	(2,039.75)	500	8,721	17.44	
2	8.6957%	86.9565%	10.0000%	Up	460	11.85	5449	Down	0	0	0	0	40	67.99	2,719.66	500	8,169	16.34	
3	11.7391%	13.0435%	90.0000%	Down	0	0	0	Up	70	67.99	75.88	5311	430	67.99	29,236.37	500	34,548	69.10	
4	1.3043%	13.0435%	10.0000%	Down	0	0	0	Down	0	0	0	0	500	67.99	33,995.78	500	33,996	67.99	
Probability Wtd.					400.0		4,738		63.0		75.88	4,780	37.0		2,516	500	12,034	24.07	0
Derate Method - Unadjusted Heat Rates				Up	400	11.87	4749	Up	70	67.99	75.88	5311	30	67.99	2,039.75	500	12,100	24.20	66
Derate Method - Correct Heat Rates				UP	400	11.85	4738	Up	63	67.99	75.88	4780	37	67.99	2,515.69	500	12,034	24.07	0

Scenario 1 - Minimum Loading Constraint is Binding

Probabilistic Example

Case	Comb. Prob.	Prob Hunter	Prob Gadsby	State Hunter	mW Hunter	Avg Cost Hunter	Total Cost Hunter	State Gadsby	mW Gadsby	Inc. Cost Gadsby	Avg Cost Gadsby	Total Cost Gadsby	Purchase or Sale mW	Cost/mWh	Total Cost Purchase	Load = Combined mW	Tot. Cost	\$/mWh	Error
1	90.0000%	100.0000%	90.0000%	Up	360	11.91	4288	Up	40	67.44	82.00	3280	0	67.99	-	400	7,568	18.92	
2	10.0000%	100.0000%	10.0000%	Up	400	11.87	4749	Down	0	0	0	0	0	67.99	-	400	4,749	11.87	
3	0.0000%	0.0000%	90.0000%	Down	0	0	0	Up	40	67.44	82.00	3280	360	67.99	24,476.96	400	27,757	69.39	
4	0.0000%	0.0000%	10.0000%	Down	0	0	0	Down	0	0	0	0	400	67.99	27,196.62	400	27,197	67.99	
Probability Wtd.					364.0	11.9	4,334.3		36.0		73.8	2,952.0	0.0	#DIV/0!	0.0	400.0	7,286.3	18.2	0
Derate Method - Unadjusted Heat Rates				Up	360	11.91	4288	Up	40	67.44	82.00	3280	0	67.99	-	400	7,568	18.92	282
Derate Method - Correct Heat Rates				UP	364.00	11.91	4334	Up	36.0	67.44	82.00	2952	0	67.99	-	400	7,286	18.22	(0)