

Unit Cost Analysis

Varying Fuel Cost Only:

Case Year	Load Level %	# hrs	# Starts	Concord													Germantown						Fuel Cost	Unit Cost ⁽¹⁾				
				Units Started				Startup Costs \$/Start	Unit Output								Heat Rate BTU/MW hr				# Starts	Unit Started			Startup Costs \$/Start	Unit Output		Heat Rate BTU/MW hr Unit 5
				1	2	3	4		1	2	3	4	1	2	3	4	1	2	3	4						5	MVAr	
				E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W			X	Y	Z	AA
2010	85-90	92		1	0	0	0		38.0	69.6	0	0	0	0	0	0			0	0		0		0.0	0.0		\$3.00	\$129,002.40
	90-95	84		0	0	0	0		38.0	70.5	0	0	0	0	0	0			0	0		1		45.0	43.5		\$3.00	\$286,183.80
	95-100	37		0	1	0	0		94.0	70.5	94.0	70.5	0	0	0	0			0	0		0		90.8	56.0		\$3.00	\$406,346.58
	Total	213																									Total	\$821,532.78
2010	85-90	92		1	0	0	0		38.0	69.6	0	0	0	0	0	0			0	0		0		0.0	0.0		\$5.00	\$215,004.00
	90-95	84		0	0	0	0		38.0	70.5	0	0	0	0	0	0			0	0		1		45.0	43.5		\$5.00	\$476,973.00
	95-100	37		0	1	0	0		94.0	70.5	94.0	70.5	0	0	0	0			0	0		0		90.8	56.0		\$5.00	\$677,244.30
	Total	213																									Total	\$1,369,221.30
2010	85-90	92		1	0	0	0		38.0	69.6	0	0	0	0	0	0			0	0		0		0.0	0.0		\$6.89	\$296,275.51
	90-95	84		0	0	0	0		38.0	70.5	0	0	0	0	0	0			0	0		1		45.0	43.5		\$6.89	\$657,268.79
	95-100	37		0	1	0	0		94.0	70.5	94.0	70.5	0	0	0	0			0	0		0		90.8	56.0		\$6.89	\$933,242.65
	Total	213																									Total	\$1,886,786.95
2010	85-90	92		1	0	0	0		38.0	69.6	0	0	0	0	0	0			0	0		0		0.0	0.0		\$12.79	\$549,980.23
	90-95	84		0	0	0	0		38.0	70.5	0	0	0	0	0	0			0	0		1		45.0	43.5		\$12.79	\$1,220,096.93
	95-100	37		0	1	0	0		94.0	70.5	94.0	70.5	0	0	0	0			0	0		0		90.8	56.0		\$12.79	\$1,732,390.92
	Total	213																									Total	\$3,502,468.09

Varying Fuel Cost and maintaining unit power factor, pf (Concord 0.8, Germantown 0.85):

Case Year	Load Level %	# hrs	# Starts	Concord													Germantown						Fuel Cost	Unit Cost ⁽¹⁾				
				Units Started				Startup Costs \$/Start	Unit Output								Heat Rate BTU/MW hr				# Starts	Unit Started			Startup Costs \$/Start	Unit Output		Heat Rate BTU/MW hr Unit 5
				1	2	3	4		1	2	3	4	1	2	3	4	1	2	3	4						5	MVAr	
				E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W			X	Y	Z	AA
2010	85-90	92		1	0	0	0		92.8	69.6	0	0	0	0	0	0			0	0		0		0.0	0.0		\$3.00	\$315,037.44
	90-95	84		1	0	0	0		94.0	70.5	0	0	0	0	0	0			0	0		1		70.2	43.5		\$3.00	\$554,064.84
	95-100	37		1	1	0	0		94.0	70.5	94.0	70.5	0	0	0	0			0	0		0		90.8	56.0		\$3.00	\$406,346.58
	Total	213																									Total	\$1,275,448.86
2010	85-90	92		1	0	0	0		92.8	69.6	0	0	0	0	0	0			0	0		0		0.0	0.0		\$5.00	\$525,062.40
	90-95	84		0	0	0	0		94.0	70.5	0	0	0	0	0	0			0	0		1		70.2	43.5		\$5.00	\$923,441.40
	95-100	37		0	1	0	0		94.0	70.5	94.0	70.5	0	0	0	0			0	0		0		90.8	56.0		\$5.00	\$677,244.30
	Total	213																									Total	\$2,125,748.10
2010	85-90	92		1	0	0	0		92.8	69.6	0	0	0	0	0	0			0	0		0		0.0	0.0		\$6.89	\$723,535.99
	90-95	84		0	0	0	0		94.0	70.5	0	0	0	0	0	0			0	0		1		70.2	43.5		\$6.89	\$1,272,502.25
	95-100	37		0	1	0	0		94.0	70.5	94.0	70.5	0	0	0	0			0	0		0		90.8	56.0		\$6.89	\$933,242.65
	Total	213																									Total	\$2,929,280.88
2010	85-90	92		1	0	0	0		92.8	69.6	0	0	0	0	0	0			0	0		0		0.0	0.0		\$8.24	\$865,302.84
	90-95	84		0	0	0	0		94.0	70.5	0	0	0	0	0	0			0	0		1		70.2	43.5		\$8.24	\$1,521,831.43
	95-100	37		0	1	0	0		94.0	70.5	94.0	70.5	0	0	0	0			0	0		0		90.8	56.0		\$8.24	\$1,116,098.61
	Total	213																									Total	\$3,503,232.87

(1) Unit Cost Equation = C x [J x R) + (L x S) + (N x T) + (P x U) + (Y x AA)] x AB + (E + F + G + H) x D x I + W x V x X

Unit Cost Analysis

Varying Fuel Cost Only and including Start-up costs:

Case Year	Load Level %	# hrs	# Starts	Concord													Germantown					Fuel Cost	Unit Cost ⁽¹⁾						
				Units Started				Unit Output								Heat Rate BTU/MW hr				# Starts	Unit Started			Startup Costs	Unit Output		Heat Rate BTU/MW hr		
				1	2	3	4	1		2		3		4		Units									5				
				E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V			W	X	Y	Z	AA	
2010	85-90	92	10	1	0	0	0	\$3,760	38.0	69.6	0	0	0	0	0	0	0	0	0	0	10	0	\$3,620	0.0	0.0		\$3.00	\$166,602.40	
	90-95	84	10	0	0	0	0	\$3,760	38.0	70.5	0	0	0	0	0	0	0	0	0	0	10	1	\$3,620	45.0	43.5		\$3.00	\$322,383.80	
	95-100	37	10	0	1	0	0	\$3,760	94.0	70.5	94.0	70.5	0	0	0	0	0	0	0	0	10	0	\$3,620	90.8	56.0		\$3.00	\$443,946.58	
	Total	213																										Total	\$932,932.78
2010	85-90	92	10	1	0	0	0	\$3,760	38.0	69.6	0	0	0	0	0	0	0	0	0	0	10	0	\$3,620	0.0	0.0		\$5.00	\$252,604.00	
	90-95	84	10	0	0	0	0	\$3,760	38.0	70.5	0	0	0	0	0	0	0	0	0	0	10	1	\$3,620	45.0	43.5		\$5.00	\$513,173.00	
	95-100	37	10	0	1	0	0	\$3,760	94.0	70.5	94.0	70.5	0	0	0	0	0	0	0	0	10	0	\$3,620	90.8	56.0		\$5.00	\$714,844.30	
	Total	213																										Total	\$1,480,621.30
2010	85-90	92	10	1	0	0	0	\$3,760	38.0	69.6	0	0	0	0	0	0	0	0	0	0	10	0	\$3,620	0.0	0.0		\$6.89	\$333,875.51	
	90-95	84	10	0	0	0	0	\$3,760	38.0	70.5	0	0	0	0	0	0	0	0	0	0	10	1	\$3,620	45.0	43.5		\$6.89	\$693,468.79	
	95-100	37	10	0	1	0	0	\$3,760	94.0	70.5	94.0	70.5	0	0	0	0	0	0	0	0	10	0	\$3,620	90.8	56.0		\$6.89	\$970,842.65	
	Total	213																										Total	\$1,998,186.95
2010	85-90	92	10	1	0	0	0	\$3,760	38.0	69.6	0	0	0	0	0	0	0	0	0	0	10	0	\$3,620	0.0	0.0		\$12.38	\$569,949.90	
	90-95	84	10	0	0	0	0	\$3,760	38.0	70.5	0	0	0	0	0	0	0	0	0	0	10	1	\$3,620	45.0	43.5		\$12.38	\$1,217,185.15	
	95-100	37	10	0	1	0	0	\$3,760	94.0	70.5	94.0	70.5	0	0	0	0	0	0	0	0	10	0	\$3,620	90.8	56.0		\$12.38	\$1,714,456.89	
	Total	213																										Total	\$3,501,591.94

Varying Fuel Cost, maintaining unit power factor, pf (Concord 0.8, Germantown 0.85) and including start-up costs:

Case Year	Load Level %	# hrs	# Starts	Concord													Germantown					Fuel Cost	Unit Cost ⁽¹⁾						
				Units Started				Unit Output								Heat Rate BTU/MW hr				# Starts	Unit Started			Startup Costs	Unit Output		Heat Rate BTU/MW hr		
				1	2	3	4	1		2		3		4		Units									5				
				E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V			W	X	Y	Z	AA	
2010	85-90	92	10	1	0	0	0	\$3,760	92.8	69.6	0	0	0	0	0	0	0	0	0	0	10	0	\$3,620	0.0	0.0		\$3.00	\$352,637.44	
	90-95	84	10	0	0	0	0	\$3,760	94.0	70.5	0	0	0	0	0	0	0	0	0	0	10	1	\$3,620	70.2	43.5		\$3.00	\$590,264.84	
	95-100	37	10	0	1	0	0	\$3,760	94.0	70.5	94.0	70.5	0	0	0	0	0	0	0	0	10	0	\$3,620	90.8	56.0		\$3.00	\$443,946.58	
	Total	213																										Total	\$1,386,848.86
2010	85-90	92	10	1	0	0	0	\$3,760	92.8	69.6	0	0	0	0	0	0	0	0	0	0	10	0	\$3,620	0.0	0.0		\$5.00	\$562,662.40	
	90-95	84	10	0	0	0	0	\$3,760	94.0	70.5	0	0	0	0	0	0	0	0	0	0	10	1	\$3,620	70.2	43.5		\$5.00	\$959,641.40	
	95-100	37	10	0	1	0	0	\$3,760	94.0	70.5	94.0	70.5	0	0	0	0	0	0	0	0	10	0	\$3,620	90.8	56.0		\$5.00	\$714,844.30	
	Total	213																										Total	\$2,237,148.10
2010	85-90	92	10	1	0	0	0	\$3,760	92.8	69.6	0	0	0	0	0	0	0	0	0	0	10	0	\$3,620	0.0	0.0		\$6.89	\$761,135.99	
	90-95	84	10	0	0	0	0	\$3,760	94.0	70.5	0	0	0	0	0	0	0	0	0	0	10	1	\$3,620	70.2	43.5		\$6.89	\$1,308,702.25	
	95-100	37	10	0	1	0	0	\$3,760	94.0	70.5	94.0	70.5	0	0	0	0	0	0	0	0	10	0	\$3,620	90.8	56.0		\$6.89	\$970,842.65	
	Total	213																										Total	\$3,040,680.88
2010	85-90	92	10	1	0	0	0	\$3,760	92.8	69.6	0	0	0	0	0	0	0	0	0	0	10	0	\$3,620	0.0	0.0		\$7.98	\$875,599.59	
	90-95	84	10	0	0	0	0	\$3,760	94.0	70.5	0	0	0	0	0	0	0	0	0	0	10	1	\$3,620	70.2	43.5		\$7.98	\$1,510,012.47	
	95-100	37	10	0	1	0	0	\$3,760	94.0	70.5	94.0	70.5	0	0	0	0	0	0	0	0	10	0	\$3,620	90.8	56.0		\$7.98	\$1,118,481.90	
	Total	213																										Total	\$3,504,093.97

(1) Unit Cost Equation = C x [(J x R) + (L x S) + (N x T) + (P x U) + (Y x AA)] x AB + (E + F + G + H) x D x I + W x V x X