

### Baseline Emissions

	Pre-Control				1995	1996	1997	
	Average 2006 - 2008 (tons/year)	(lb/MMBtu)	Uncontrolled (tons/year)	(lb/MMBtu)		tons/yr		lb/MMBtu
Unit 5								
NOx	<b>768</b>	<b>0.378</b>	864.4	0.835	1133	742	718.141	0.8346 from CAMD
SO2	<b>1269</b>	<b>0.629</b>	567.3		713	474.3	514.717	from CAMD
PM	<b>27</b>	<b>0.013</b>	26906.7	13.499 from APENs				
PM10	<b>26.9</b>	<b>0.013</b>	26906.7	13.499 from APENs				
Unit 6								
NOx	<b>1413</b>	<b>0.415</b>	2578.4	0.881	2738	2255	2742.156	0.8809 from CAMD
SO2	<b>2785</b>	<b>0.820</b>	2091.4		2059	1837.3	2091.376	from CAMD
PM	<b>58</b>	<b>0.020</b>	57606.7	20.256 from APENs				
PM10	<b>57.6</b>	<b>0.020</b>	57606.7	20.256 from APENs				
Unit 7								
NOx	<b>2081.0</b>	<b>0.393</b>	4422.1	0.928	4237	4294	4735.183	0.9281 from CAMD
SO2	<b>4428.7</b>	<b>0.833</b>	3147.5		2930	3079.2	3433.429	from CAMD
PM	<b>54.6</b>	<b>0.011</b>	54573.3	10.505 from APENs				
PM10	<b>54.6</b>	<b>0.011</b>	54573.3	10.505 from APENs				

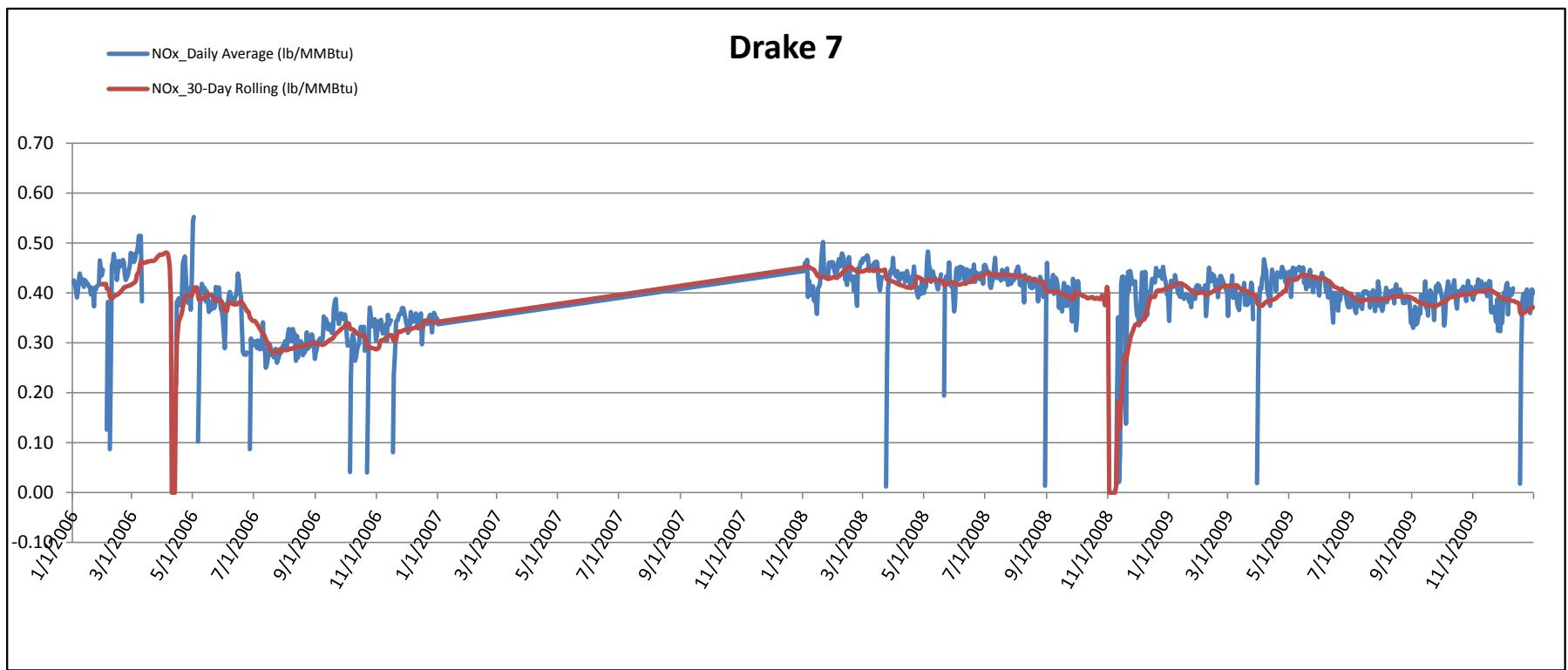
Used data from CAMD query

Heat Input (MMBtu/year)	2006	2007	2008	Average	(lb/year)	(lb/hr)
Unit 5	4123787	3464652	4371282	3986573.667	406,890,110	48893.30809
Unit 6	3446957	7105510	6510699	5687722		
Unit 7	10155928	11454052	9559725	10389901.67		

Unit 5				
Uncontrolled AP-42 Emission Factors	NOx	SO2	PM	PM10
(lb/ton)	(lb/ton)	(lb/ton)	(lb/ton)	(lb/ton)
	22	13.62	81.45	18.73
convert to lb/MMBtu	1.123	0.695	4.156	0.956
Controlled (%)	54.7%	n/a	99.7%	98.6%

Unit 6				
Uncontrolled AP-42 Emission Factors	NOx	SO2	PM	PM10
(lb/ton)	(lb/ton)	(lb/ton)	(lb/ton)	(lb/ton)
	22	17.898	103.82	23.88
convert to lb/MMBtu	1.023	0.833	4.829	1.111
Controlled (%)	52.8%	n/a	99.6%	98.2%

Unit 7				
Uncontrolled AP-42 Emission Factors	NOx	SO2	PM	PM10
(lb/ton)	(lb/ton)	(lb/ton)	(lb/ton)	(lb/ton)
	22	18.81	111.43	25.63
convert to lb/MMBtu	0.990	0.846	5.012	1.153
Controlled (%)	57.7%	n/a	99.8%	99.1%



Maximum 30-day rolling Emission Rate  
'NOx [lb/MMBtu] = 0.5357

### CSU DRAKE BART SO<sub>2</sub> COST ANALYSIS

Alternative	Control Efficiency (%)	Resultant Emissions								
		Unit 5			Unit 6			Unit 7		
		(tons/year)	Annual Average (lb/MMBtu)	30-day Rolling Average (lb/MMBtu)	(tons/year)	Annual Average (lb/MMBtu)	30-day Rolling Average (lb/MMBtu)	(tons/year)	Annual Average (lb/MMBtu)	30-day Rolling Average (lb/MMBtu)
Baseline	---	1,269	0.63		2,785	0.82		4,429	0.83	
DSI	60	508	0.25	0.26	1,114	0.33	0.34	1,771	0.33	0.35
Dry FGD (LSD) @ 82% control	82				501	0.15	0.15	797	0.15	0.16
Dry FGD (LSD) @ 85% control	85				418	0.12	0.13	664	0.12	0.13
Dry FGD (LSD) @ 90% control	90				279	0.08	0.09	443	0.08	0.09

UNIT 5				
Alternative	Emissions Reduction (tpy)	Annualized Cost (\$)	Cost Effectiveness (\$/ton)	Incremental Cost (\$/ton)
Baseline	0	\$0	\$0	---
DSI	761.5	\$1,340,663	\$1,760	\$1,760

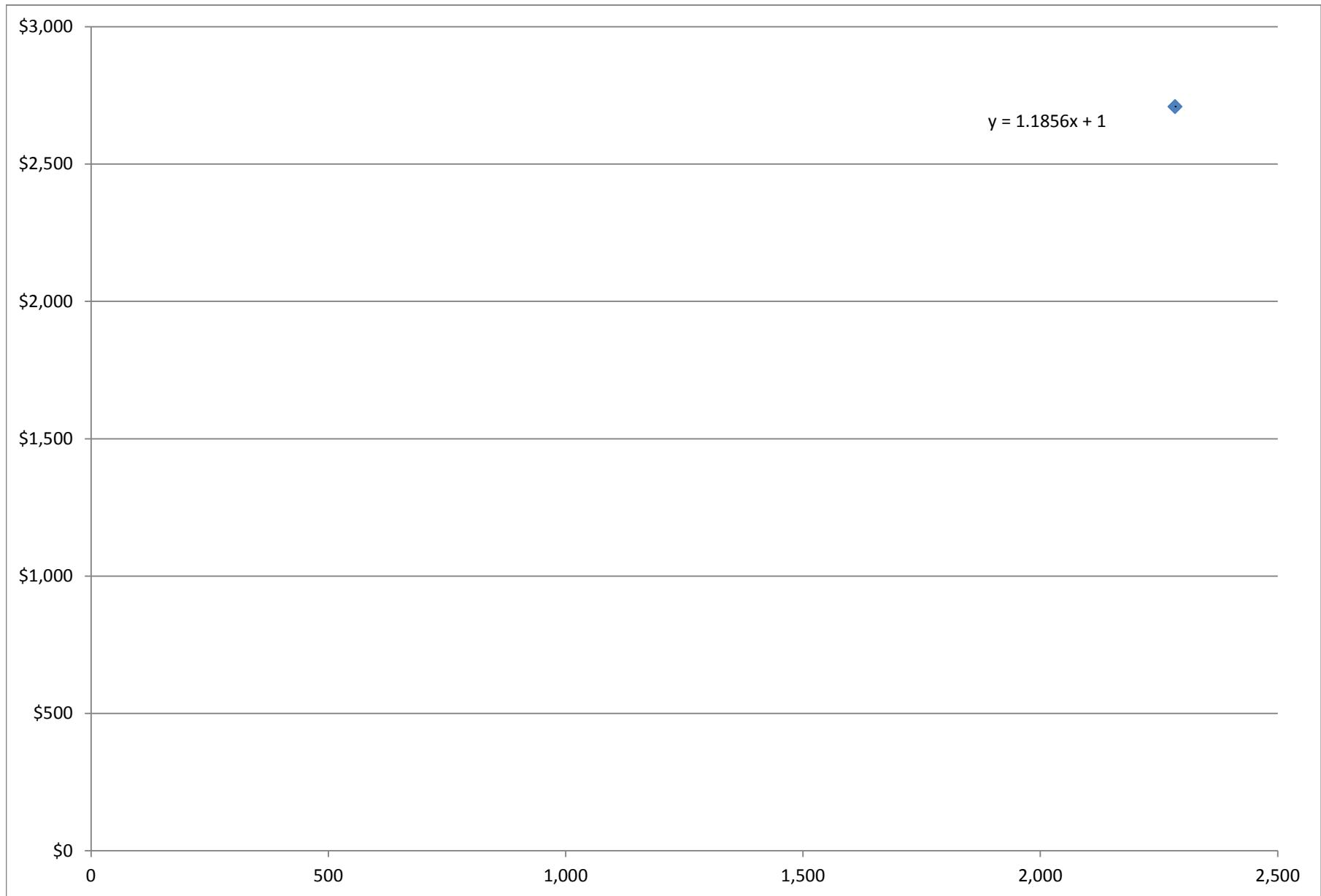
FOR SCALING:

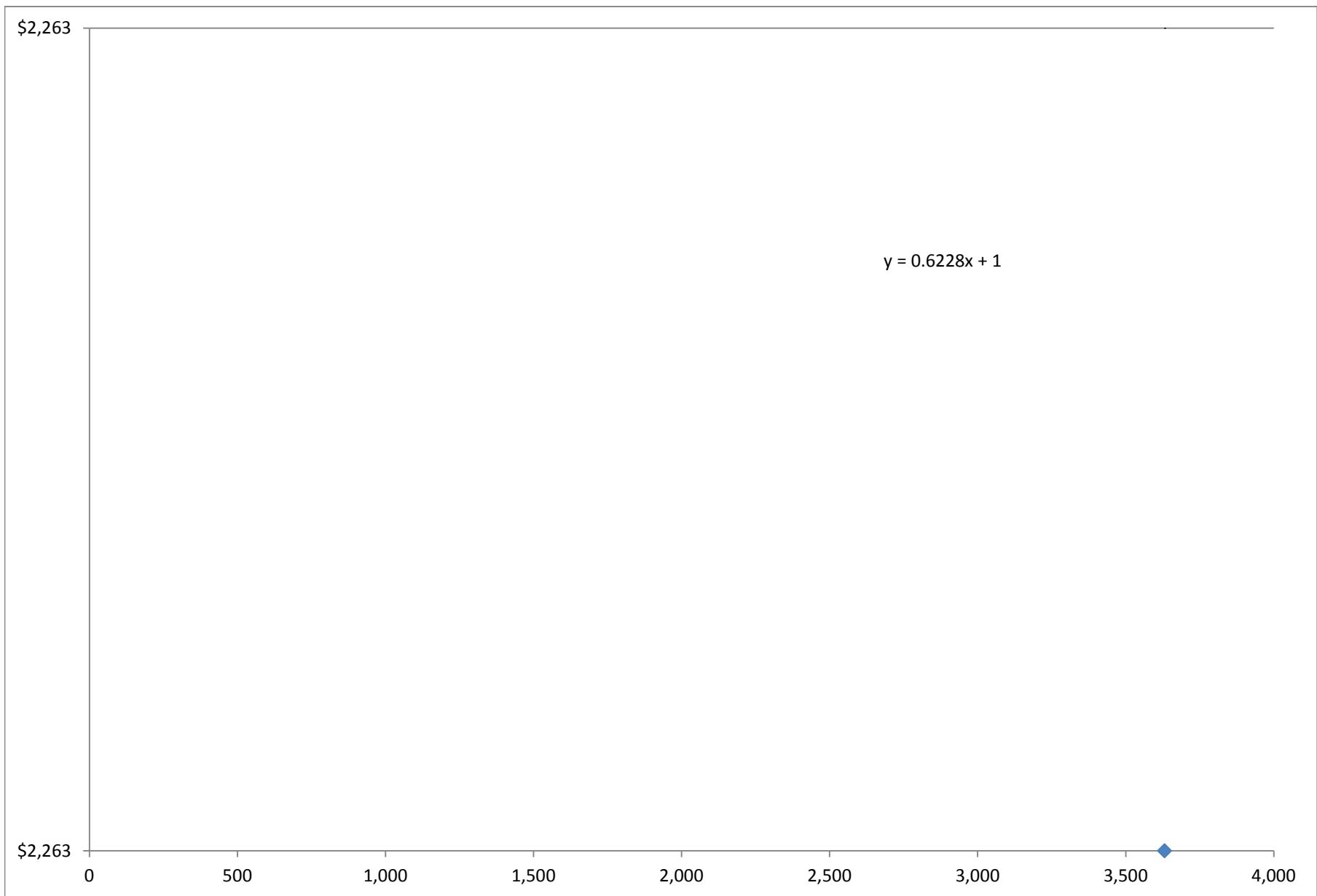
Unit 5	51 MW
Unit 6	85 MW
Unit 7	142 MW

UNIT 6				
Alternative	Emissions Reduction (tpy)	Annualized Cost (\$)	Cost Effectiveness (\$/ton)	Incremental Cost (\$/ton)
Baseline	0	\$0	\$0	---
DSI	1,671	\$2,234,438	\$1,337	\$1,337
Dry FGD (LSD) @ 82% control (0.15 lb/MMBtu)	2,284	\$6,186,854	\$2,709	\$6,450
Dry FGD (LSD) @ 85% control (0.12 lb/MMBtu)	2,367.5	\$6,647,835	\$2,808	\$5,517
Dry FGD (LSD) @ 90% control (0.08 lb/MMBtu)	2,507	\$7,452,788	\$2,973	\$5,780

UNIT 7				
Alternative	Emissions Reduction (tpy)	Annualized Cost (\$)	Cost Effectiveness (\$/ton)	Incremental Cost (\$/ton)
Baseline	0	\$0	\$0	---
DSI	2,657	\$3,732,826	\$1,405	\$1,405
Dry FGD (LSD) @ 82% control (0.15 lb/MMBtu)	3,632	\$8,216,863	\$2,263	\$4,602
Dry FGD (LSD) @ 85% control (0.12 lb/MMBtu)	3,764.4	\$8,829,321	\$2,345	\$4,610
Dry FGD (LSD) @ 90% control (0.08 lb/MMBtu)	3,986	\$9,898,382	\$2,483	\$4,828

CSU DSI COSTS (partially based on CENC cost estimates)			PROVIDED ON MAY 10, 2010 AT DIVISION'S REQUEST
Capital Costs			
Trona - DSI (Unit 5)			
SCALING	SIZE	CAPITAL COSTS	
CEN Boiler 4	\$35	\$ 6,111,180	
CEN Boiler 5	\$65	\$ 6,111,180	
Drake Unit 5	\$51	\$ 6,000,000	rough estimate based on comparison to similarly sized DSI systems; informal estimate by DSI vendor, order of magnitude estimate for BOP
Addition of activated carbon for Hg (mercury) removal	\$	850,000	previously provided to APCD in BART analysis for Drake power plant - not included in Division cost analysis
TOTAL CAPITAL COSTS	\$	6,000,000	
O&M Costs			
Trona - DSI (Unit 5)			
Annual Trona Costs	\$	238,587	(Assumes Trona is \$130/ton)
Annual Disposal Costs			
Annual Electrical Costs			
Operating Labor			
Supervisor			
Maintenance Labor			
Maintenance Materials			
Overhead	\$	600,000	estimated as 10% of cap
Property Tax			
Insurance			
Administration			
Mercury removal cost	\$	225,000	previously provided to APCD in BART analysis for Drake power plant - not included in Division cost analysis
Capital Recovery	\$	502,076	5.5%, 20 years
Original Annualized Costs	\$	1,340,663	
COMPARISON (Annualized to total)		22%	
CSU semi-dry FGD COSTS			PROVIDED IN BART UPDATE SUBMITTAL (March 29, 2007)
CAPITAL COSTS			
TOTAL PLANT COST	\$	38,000,000	\$ 44,166,000
Annual Capital Recovery Cost (5.5% interest, 20 years)	\$	3,179,815	\$ 3,695,781
O&M COSTS			
Maintenance Labor & Materials	\$	492,685	\$ 638,597
Operating Labor			
Admin & Support			
Prorated Common Maint Labor & Mat'l, Operating Labor, Admin & Support	\$	859,047	\$ 1,332,970
TOTAL FIXED O&M COSTS	\$	1,351,732	\$ 1,971,567
Reagent Costs (1.2 stoic. Ratio)	\$	393,750	\$ 612,500
All other variable operating costs	\$	525,297	\$ 815,095
TOTAL VARIABLE O&M COSTS	\$	919,047	\$ 1,427,595
Replacement Energy Cost	\$	643,860	\$ 981,120
Replacement Capacity Cost	\$	92,400	\$ 140,800
TOTAL SCRUBBING COST	\$	6,186,854	\$ 8,216,863
Mercury Removal Capital Cost	\$	857,500	\$ 1,750,000
Annual Mercury Capital Recovery Cost	\$	71,755	\$ 146,439
Mercury Removal O&M Cost	\$	325,000	\$ 450,000
Total Mercury Removal Cost	\$	396,755	\$ 596,439 NOT INCLUDED IN APCD'S COST
SO2 Allowance Savings per Ton (estimate of 2013 allowance value)	\$	(200)	\$ (200) ANALYSIS





**CSU DRAKE BART NOx COST ANALYSIS**

Alternative	Control Efficiency (%)	Resultant Emissions		
		Unit 5		
		Annual Emissions (tons/year)	Annual Average (lb/MMBtu)	30-day rolling (lb/MMBtu)
Baseline	---	768	0.38	0.44
Overfire air (OFA)	20	615	0.30	0.35
Ultra-low NOx burners (ULNBs)	26	569	0.280	0.32
Ultra-low NOx burners (ULNBs) + OFA	28	553	0.272	0.31
Selective Non-Catalytic Reduction (SNCR)	30	538	0.26	0.30
ULNB+SCR	81.5	142	0.070	0.080
Selective Catalytic Reduction (SCR)	81.5	142	0.070	0.080

Alternative	UNIT 5			
	Emissions Reduction (tpy)	Annualized Cost (\$)	Cost Effectiveness (\$/ton)	Incremental Cost (\$/ton)
Baseline	0	\$0	\$0	---
Overfire air (OFA)	154	\$141,844	\$923	\$923
Ultra-low NOx burners (ULNBs)	200	\$147,000	\$736	\$112
Ultra-low NOx burners (ULNBs) + OFA	215.2	\$288,844	\$1,342	\$9,230
Selective Non-Catalytic Reduction (SNCR)	230.5	\$1,011,324	\$4,387	\$47,011
ULNB+SCR	626.3	\$4,467,000	\$7,133	\$8,732
Selective Catalytic Reduction (SCR)	626	\$4,580,349	\$7,314	---

Alternative	Control Efficiency (%)	Resultant Emissions		
		Unit 6		
		(tons/year)	Annual Average (lb/MMBtu)	30-day rolling (lb/MMBtu)
Baseline	---	1,413	0.42	0.48
Overfire air (OFA)	20	1,130	0.33	0.38
Selective Non-Catalytic Reduction (SNCR)	30	989	0.291	0.33
Ultra-low NOx burners (ULNBs)	32	961	0.282	0.32
Ultra-low NOx burners (ULNBs) + OFA	36	904	0.266	0.31
ULNB+SCR	83.2	237	0.070	0.080
Selective Catalytic Reduction (SCR)	83.2	237	0.070	0.080

Alternative	UNIT 6			
	Emissions Reduction (tpy)	Annualized Cost (\$)	Cost Effectiveness (\$/ton)	Incremental Cost (\$/ton)
Baseline	0	\$0	\$0	---
Overfire air (OFA)	283	\$104,951	\$371	\$371
Selective Non-Catalytic Reduction (SNCR)	423.8	\$1,208,302	\$2,851	\$7,810
Ultra-low NOx burners (ULNBs)	452	\$232,800	\$515	(\$34,525)
Ultra-low NOx burners (ULNBs) + OFA	509	\$337,751	\$664	\$1,857
ULNB/SCR layered approach	1,175.4	\$6,182,800	\$5,260	\$8,226
Selective Catalytic Reduction (SCR)	1,175	\$6,340,797	\$5,395	---

Alternative	Control Efficiency (%)	Resultant Emissions		
		Unit 7		
		(tons/year)	Annual Average (lb/MMBtu)	30-day rolling (lb/MMBtu)
Baseline	---	2,081	0.39	0.45
Overfire air (OFA)	20	1,665	0.31	0.36
Ultra-low NOx burners (ULNBs)	28	1,498	0.283	0.33
Selective Non-Catalytic Reduction (SNCR)	30	1,457	0.275	0.32
Ultra-low NOx burners (ULNBs) + OFA	36	1,332	0.251	0.29
ULNB+SCR	82.1	372	0.070	0.081
Selective Catalytic Reduction (SCR)	82.1	372	0.070	0.081

Alternative	UNIT 7			
	Emissions Reduction (tpy)	Annualized Cost (\$)	Cost Effectiveness (\$/ton)	Incremental Cost (\$/ton)
Baseline	0	\$0	\$0	---
Overfire air (OFA)	416	\$75,217	\$181	\$181
Ultra-low NOx burners (ULNBs)	583	\$386,000	\$662	\$1,867
Selective Non-Catalytic Reduction (SNCR)	624.3	\$2,018,575	\$3,233	\$39,226
Ultra-low NOx burners (ULNBs) + OFA	749.1	\$461,217	\$616	(\$12,473)
ULNB/SCR layered approach	1,708.5	\$8,196,000	\$4,797	\$5,698
Selective Catalytic Reduction (SCR)	1,708	\$8,510,067	\$4,981	---

**CSU COSTS - Overfire Air**

PROVIDED IN ORIGINAL BART SUBMITTAL (2006)

Capital Costs  
OFA - Unit 5      OFA - Unit 6      OFA - Unit 7      Notes

Basic Equipment - NOx Equipment				
NOx Equipment Installation				
NOx Control Modification				
Control Installation & Integration				
Lost Revenue - NOx Equip+Control Install				
TOTAL CAPITAL COST	\$1,106,842	\$770,531	\$553,384	
Retrofit Factor	1.30	1.40	1.40	
Adjusted Retrofit Capital Cost	\$1,438,895	\$1,078,743	\$774,738	
Capital Cost w/ Inflation Factor (2%)	\$1,467,672	\$1,100,318	\$790,232	
S/kW	\$ 29	\$ 13	\$ 6	

O&M Costs

Increased Carbon Loss (Loss on Ignition)				
Annual Electrical Costs (NOx equipment)	\$3,396	\$1,938	\$1,156	Variable O&M Costs
Operating Labor				
Supervisor				
Maintenance Labor				
Maintenance Materials				
Overhead				
Property Tax				
Insurance				
Administration	\$15,634	\$10,939	\$7,935	Fixed O&M Costs
Capital Recovery	\$122,814	\$92,074	\$66,126	5.5%, 20 years
TOTAL ANNUALIZED COST	\$141,844	\$104,951	\$75,217	
Annual/Total Capital Cost	9.9%	9.7%	9.7%	

**CSU Costs - Ultra low NOx burners**

PROVIDED ON 2/2/2009 - SO2 and NOx Emissions Control Cost & Feasibility Information for Drake and Nixon Plants

Capital Costs  
ULNBs - Unit 5      ULNBs - Unit 6      ULNBs - Unit 7      Notes

Basic Equipment - NOx Equipment	\$ 340,000	\$ 550,000	\$ 930,000	
NOx Equipment Installation	\$ 390,000	\$ 630,000	\$ 1,070,000	
Construction Management	\$ 50,000	\$ 80,000	\$ 140,000	
Craft Supervision	\$ 40,000	\$ 40,000	\$ 40,000	
Startup	\$ 30,000	\$ 30,000	\$ 30,000	
Contingency (@ 20%)	\$ 170,000	\$ 270,000	\$ 440,000	
Boiler modeling and pulverizer modifications	\$ 408,000	\$ 640,000	\$ 1,060,000	
TOTAL CAPITAL COST	\$ 1,428,000	\$ 2,240,000	\$ 3,710,000	
S/kW	\$ 28	\$ 26	\$ 26	

O&M Costs

Increased Carbon Loss (Loss on Ignition)	\$ 7,000	\$ 13,000	\$ 22,000	
Operating Labor				
Supervisor				
Maintenance Labor				
Maintenance Materials				
Overhead				
Property Tax				
Insurance				
Administration	\$ 12,207	\$ 8,360	\$ 13,802	
Capital Recovery	\$ 134,793	\$ 211,440	\$ 350,198	7%, 20 years
TOTAL ANNUALIZED COST	\$ 147,000	\$ 232,800	\$ 386,000	
Annual/Total Capital Cost	10.3%	10.4%	10.4%	

**CSU Costs - SCR/ULNB+SCR**

PROVIDED ON 2/2/2009 - SO2 and NOx Emissions Control Cost & Feasibility Information for Drake and Nixon Plants

Capital Costs  
SCR - Unit 5      SCR - Unit 6      SCR - Unit 7      Notes

SCR system including reactor & injection	\$ 2,230,000	\$ 2,950,000	\$ 4,680,000	
Ammonia Handling and Injection	\$ 1,318,800	\$ 1,160,000	\$ 1,760,000	x1.57 for retrofit difficulty (Unit 5 only)
Air Preheater Modifications	\$ 769,300	\$ 1,131,500	\$ 1,805,400	x1.571.55.1.53 for retrofit difficulty (Unit 5,6,7 respectively)
Miscellaneous equipment capital costs	\$ 361,100	\$ 480,500	\$ 780,300	x1.571.55.1.53 for retrofit difficulty (Unit 5,6,7 respectively)
ID fan modifications/replacement	\$ 1,148,100	\$ 1,478,400	\$ 1,976,000	x2.64.2.63.2.6 for retrofit difficulty (Unit 5,6,7 respectively)
Inlet Duct	\$ 1,540,000	\$ 2,000,200	\$ 3,070,200	x1.4,1.37.1.29 for retrofit difficulty (Unit 5,6,7 respectively)
Outlet Duct	\$ 1,554,000	\$ 2,027,600	\$ 3,096,000	x1.4,1.37.1.29 for retrofit difficulty (Unit 5,6,7 respectively)
Contractor Fees	\$ 890,000	\$ 1,190,000	\$ 1,810,000	approximately 10% of direct costs
<b>TOTAL INSTALLED COST W/ RETROFIT</b>	<b>\$ 17,660,340</b>	<b>\$ 22,352,760</b>	<b>\$ 26,569,060</b>	<b>x1.8.1.8.1.4 for retrofit difficulty (Unit 5,6,7 respectively)</b>
General Facilities	\$ 880,000	\$ 1,170,000	\$ 1,400,000	approximately 5% of total installed cost w/retrofit
Engineering & Project Management	\$ 1,770,000	\$ 2,350,000	\$ 2,790,000	approximately 10% of total installed cost w/retrofit
Contingencies	\$ 3,530,000	\$ 4,690,000	\$ 5,590,000	approximately 20% of total installed cost w/retrofit
Preproduction Costs	\$ 640,000	\$ 870,000	\$ 1,100,000	
Inventory Capital	\$ 70,000	\$ 110,000	\$ 170,000	
Initial Catalyst and Chemicals	\$ 970,000	\$ 1,480,000	\$ 2,430,000	
Prepaid Royalties (Owner's Cost)	\$ 349,660	\$ 1,567,240	\$ 1,870,940	
Market Demand Escalation	\$ 2,590,000	\$ 3,460,000	\$ 4,190,000	
<b>TOTAL CAPITAL COST (SCR)</b>	<b>\$ 28,460,000</b>	<b>\$ 38,050,000</b>	<b>\$ 46,110,000</b>	
<b>TOTAL CAPITAL COST (ULNB+SCR)</b>	<b>\$ 29,368,000</b>	<b>\$ 39,540,000</b>	<b>\$ 48,110,000</b>	
S/kW	\$ 558	\$ 448	\$ 325	

O&M Costs

SCR - Unit 5	SCR - Unit 6	SCR - Unit 7	
Catalyst replacement	\$ 320,000	\$ 490,000	\$ 810,000
Reagent (Aqueous Ammonia)	\$ 770,000	\$ 1,180,000	\$ 1,940,000
Operating Labor	\$ 90,000	\$ 100,000	\$ 110,000
Maintenance Labor	\$ 360,000	\$ 480,000	\$ 570,000
Maintenance Materials	\$ 40,000	\$ 60,000	\$ 100,000
Electricity	\$ 150,000	\$ 230,000	\$ 370,000
Capital Recovery	\$ 2,850,349	\$ 3,800,797	\$ 4,610,067
<b>TOTAL ANNUALIZED COST</b>	<b>\$ 4,580,349</b>	<b>\$ 6,340,797</b>	<b>\$ 8,510,067</b>
<b>ULNB+SCR ANNUALIZED COST</b>	<b>\$ 4,467,000</b>	<b>\$ 6,182,800</b>	<b>\$ 8,196,000</b>
SCR only adjusted to 15%	\$ 4,269,000	\$ 5,707,500	\$ 6,916,500
Annual/Total Capital Cost (SCR)	16.1%	16.7%	18.5%
Annual/Total Capital Cost (ULNB+SCR)	15.2%	15.6%	17.0%
COST DIFFERENCE to adjust to 15%	\$ 311,349	\$ 633,297	\$ 1,593,567

THE DIVISION DID NOT CONDUCT ADDITIONAL ULNB+SCR COST ANALYSIS SINCE THE SCR COSTS WERE DEEMED REASONABLE AND ULNB+SCR WERE CHEAPER THAN SCR

Adjust to \$300/kW	\$ 15,300,000	\$ 25,500,000	\$ 42,600,000
S/kW	\$ 300	\$ 300	\$ 300
Adjusted Capital Recovery	\$ 1,532,338	\$ 2,553,897	\$ 4,265,510
Adjust Annualized Cost (\$300/kW)	\$ 3,262,338	\$ 5,093,897	\$ 8,165,510
SCR \$/ton	\$ 5,209	\$ 4,334	\$ 4,780

NOTES:	CSU DID NOT INCLUDE OVERHEAD (typically 60% of O&M, labor, and maint. Mti costs OR taxes,insurance, and administration)
Predicted Overhead	\$ 294,000
Predicted Taxes, Insurance, and Administration	\$ 706,414
total	\$ 1,000,414
	\$ 1,278,110
	\$ 1,530,762

	Fuel Heating Value	2006			2007			2008			Average		
		% Sulfur	% Ash	Fuel Heating Value	% Sulfur	% Ash	Fuel Heating Value	% Sulfur	% Ash	Fuel Heating Value	% Sulfur	% Ash	
Unit 5	9935	0.368	8.685	9822	0.383	8.708	9636	0.324	7.041	9798	0.36	8.14	
Unit 6	10804	0.462	10.628	10515	0.47	10.525	10927	0.481	9.993	10749	0.47	10.38	
Unit 7	10858	0.479	11.179	11474	0.526	11.9	11018	0.48	10.351	11117	0.50	11.14	

Coal Mine/Region Coal Rank Classification		Southern PRB Sub-bituminous			
Year	Moisture %	Ash %	Sulfur %	Btu/Lb	Nitrogen %
2006	27.02	4.65	0.21	8,816.34	0.73
2007	27.06	4.66	0.22	8,808.64	0.66
2008	27.23	4.61	0.20	8,788.98	0.67
2009	27.38	4.63	0.22	8,753.77	0.69

Avg. 06 - 08      27.11      4.64      0.21      8,804.65      0.69

Coal Mine/Region Coal Rank Classification		20-Mile Foidel Creek Bituminous			
Year	% Moisture	% Ash	% Sulfur	Btu/Lb	% Nitrogen
2006	9.49	12.53	0.54	11,005.58	1.54
2007	9.56	12.52	0.53	10,999.92	1.60
2008	9.81	10.73	0.50	11,246.92	1.58
2009	10.12	10.48	0.49	11,217.42	1.62

Avg. 06 - 08      9.62      11.93      0.52      11,084.14      1.57

Coal Mine/Region Coal Rank Classification		Colowyo Sub-bituminous, Class A			
Year	% Moisture	% Ash	% Sulfur	Btu/Lb	% Nitrogen
2006	Non-Received				
2007	17.16	5.50	0.35	10,477.00	1.34
2008	17.68	5.92	0.39	10,307.00	1.35
2009	Non-Received				

Avg. 06 - 08      17.42      5.71      0.37      10,392.00      1.35

Coal Mine/Region Coal Rank Classification		West Elk Bituminous			
Year	% Moisture	% Ash	% Sulfur	Btu/Lb	% Nitrogen
2006	Non-Received				
2007	7.55	8.71	0.45	12,266.00	1.30
2008	Non-Received				
2009	11.13	5.15	0.43	11,849.00	1.65

Avg. 06 - 08      7.55      8.71      0.45      12,266.00      1.30

SO2 Control Scenario	Boiler(s)	SO2 Emission Rate (lb/MMBtu)	Output (@ 98 <sup>th</sup> Percentile Impact)	98 <sup>th</sup> Percentile Impact Improvement	98 <sup>th</sup> Percentile Improvement from Maximum	Cost Effectiveness
			(dv)	(Δ dv)	(%)	(\$/dv)
Max 24-hr SO <sub>2</sub> rates	5	0.943	1.84	---	---	---
	6	0.997				
	7	0.994				
DSI	5	0.251	1.72	0.12	6%	\$11,266,076
	6	0.328	1.65	0.18	10%	\$12,210,046
	7	0.333	1.55	0.29	16%	\$12,871,815
dry FGD (LSD)	5	0.120	n/a			
	6	0.120	1.59	0.24	13%	\$27,470,391
	7	0.120	1.45	0.39	21%	\$22,697,484
dry FGD (LSD)	6	0.100	1.59	0.25	14%	n/a
	7	0.100	1.44	0.40	22%	n/a
dry FGD (LSD)	6	0.070	1.58	0.26	14%	\$28,999,176
	7	0.070	1.42	0.41	22%	\$23,967,026
Combo	5	0.321	0.25	1.59	86%	n/a
	6	0.120				
	7	0.120				

SO <sub>2</sub> BART Control Limit	Unit(s)	SO2 Emission Rate (lb/MMBtu)	Class I Area Affected	3-year totals		Pre-Control Days >1.0 dv	Post-Control Days >1.0 dv	Δdays	3-year totals		Pre-Control Days >1.0 dv	Post-Control Days >1.0 dv	Δdays
				Pre-Control Days >0.5 dv	Post-Control Days >0.5 dv				Pre-Control Days >1.0 dv	Post-Control Days >1.0 dv			
Max 24-hr SO <sub>2</sub> rates	5	0.943	Rocky Mountain National Park	34	---	---	---	---	17	---	---	---	---
	6	0.997		34	32	2	17	14	3	14	3	11	3
	7	0.994		34	32	2	17	14	3	14	3	11	3
DSI	5	0.251		34	31	3	17	13	4	13	4	10	4
	6	0.328		34	31	3	17	14	3	14	3	10	3
	7	0.333		34	31	3	17	13	4	13	4	10	4
dry FGD (LSD)	5	0.120		34	34	2	17	17	0	17	0	17	0
	6	0.120		34	31	3	17	14	3	14	3	11	3
	7	0.120		34	28	6	17	12	5	12	5	11	5
dry FGD (LSD)	6	0.100		34	31	3	17	14	3	14	3	11	3
	7	0.100		34	28	6	17	12	5	12	5	11	5
dry FGD (LSD)	6	0.070		34	31	3	17	14	3	14	3	11	3
	7	0.070		34	28	6	17	12	5	12	5	11	5
Combo	5	0.321		34	1	33	17	0	17	0	17	0	17
	6	0.120		34	1	33	17	0	17	0	17	0	17
	7	0.120		34	1	33	17	0	17	0	17	0	17

NOx Control Scenario	Boiler(s)	NOx Emission Rate (lb/MMBtu)*	Output (@ 98 <sup>th</sup> Percentile Impact)	98 <sup>th</sup> Percentile Impact Improvement	98 <sup>th</sup> Percentile Improvement from Maximum	Cost Effectiveness
			(dv)	(Δ dv)	(%)	(\$/dv)
Max 24-hour NOx rates	5	0.619	1.84	---	---	---
	6	0.827				
	7	0.710				
NOx Control Scenario	5	0.390	1.79	0.05	3%	n/a
	6	0.390	1.68	0.16	9%	n/a
	7	0.390	1.66	0.18	10%	n/a
OFA	5	0.300*	1.76	0.07	4%	\$1,970,053
	6	0.330*	1.66	0.180	10%	\$583,061
	7	0.310*	1.61	0.22	12%	\$335,791
ULNB	5	0.280*	1.76	0.08	4%	\$1,934,212
	6	0.282*	1.64	0.197	11%	\$1,181,727
	7	0.283*	1.60	0.24	13%	\$1,615,062
SNCR	5	0.265*	1.76	0.08	4%	\$12,641,549
	6	0.291*	1.64	0.19	11%	\$6,260,633
	7	0.275*	1.59	0.24	13%	\$8,272,850
ULNBs+OFA	5	0.272*	1.76	0.08	4%	\$3,703,128
	6	0.266*	1.63	0.20	11%	\$1,663,798
	7	0.251*	1.58	0.26	14%	\$1,794,618
NOx Control Scenario	5	0.234	1.75	0.24	5%	n/a
	6	0.234	1.62	0.24	12%	n/a
	7	0.234	1.57	0.24	15%	n/a
SCR	5	0.070	1.71	0.12	7%	\$36,024,194
	6	0.070	1.56	0.27	15%	\$22,647,619
	7	0.070	1.47	0.37	20%	\$22,091,644
Combo	5	0.321	0.25	1.59	86%	n/a
	6	0.070				
	7	0.070				

NOx Control Scenario	Boiler(s)	NOx Emission Rate (lb/MMBtu)*	Class I Area Affected	3-year totals		Δdays	3-year totals		Δdays
				Pre-Control Days >0.5 dv	Post-Control Days >0.5 dv		Pre-Control Days >1.0 dv	Post-Control Days >1.0 dv	
Max 24-hour NOx rates	5	0.619		---	---	34	17	---	---
	6	0.827							
	7	0.710							
NOx Control Scenario	5	0.390		34	34	0	17	15	2
	6	0.390		34	31	3	17	14	3
	7	0.390		34	31	3	17	14	3
OFA	5	0.300*				n/a			
	6	0.330*				n/a			
	7	0.310*				n/a			
ULNB	5	0.280*				n/a			
	6	0.282*				n/a			
	7	0.283*				n/a			
SNCR	5	0.265*				n/a			
	6	0.291*				n/a			
	7	0.275*				n/a			
ULNBs+OFA	5	0.272*				n/a			
	6	0.266*				n/a			
	7	0.251*				n/a			
NOx Control Scenario	5	0.234		34	34	0	17	14	3
	6	0.234		34	31	3	17	14	3
	7	0.234		34	28	6	17	14	3
SCR	5	0.070		34	32	2	17	14	3
	6	0.070		34	27	7	17	14	3
	7	0.070		34	26	8	17	13	4
Combo	5	0.321		34	1	33	17	0	17
	6	0.070							
	7	0.070							