B&V PROJECT #: 168908
PROJECT ESTIMATOR: Ron Fields
PROJECT MANAGER: Tim Hillman
PURPOSE OF ESTIMATE: Budgetary
ESTIMATE DATE: April-11

LOCATION: Mercer County, KY
PLANT TYPE: PC Fired Boiler
CLIENT: LG&E - KU
PARTNER: N/A
CURRENCY: US Dollars

# PARTNER: CURRENCY: BLACK AND VEATCH CONFIDENTIAL AND PROPRIETARY INFORMATION

		PROJECT - TOTAL COSTS							
Contract		Engr Equip	Commodities	I ROSEOT > IV				% OF	\$ PER
Number	Description	Material \$	Material \$	Labor \$	Manhours	Other	TOTAL \$	TOTAL C.V.	KW 180
ESTIMATE	SUMMARY								
Purchase C									
	Civil / Structural	\$2,071,800	\$27,405	\$0	0	\$309,600	\$2,408,805	1.41%	\$13.38
	Ductwork and breeching	\$4,706,730	\$0	\$0	0	\$0	\$4,706,730	2.76%	\$26.15
62.0000	Mechanical - Balance of Plant (BOP)	\$1,136,950	\$0 \$4.707.420	\$0 \$0	0	\$50,000	\$1,186,950	0.69%	\$6.59
63.0000 63.3002	Electrical - BOP, Equipment, Raceway  ID & FD Fan Motors	\$317,500 \$430,000	\$4,707,439 \$0	\$0 \$0	0	\$0 \$0	\$5,024,939 \$430,000	2.94% 0.25%	\$27.92 \$2.39
63.3603	Switchgear and MCCs	\$1,158,300	\$0 \$0	\$0 \$0	0	\$5,400	\$1,163,700	0.68%	\$2.39 \$6.47
63.3802	SUS Transformers	\$294,376	\$0	\$0	0	\$0	\$294,376	0.17%	\$1.64
63.3803	Aux Transformer	\$278,500	\$0	\$0	0	\$0	\$278,500	0.16%	\$1.55
64.0000	Control - DCS, Instrumentation	\$996,000	\$205,525	\$0	0	\$0	\$1,201,525	0.70%	\$6.68
64.0407	On-line Performance Monitoring - Neural Network	\$0	\$0	\$0	0	\$570,000	\$570,000	0.33%	\$3.17
65.3120	Fabric filter	\$5,300,000	\$0	\$0	0	\$0	\$5,300,000	3.10%	\$29.44
65.3210	Sorbent Injection	\$750,000	\$0	\$0	0	\$0	\$750,000	0.44%	\$4.17
65.3310	Selective Catalytic Reduction System	\$17,111,140	\$0	\$0	0	\$0	\$17,111,140	10.02%	\$95.06
65.3500	H-PAC Mercury Control	\$500,000	\$0	\$0	0	\$0	\$500,000	0.29%	\$2.78
66.1000	Piping & Tubing	\$291,381	\$0 \$570.350	\$0 \$0	0	\$0 \$0	\$291,381	0.17%	\$1.62 \$3.22
66.2070 66.3000	Pipe Supports Valves and Accessories	\$0 \$0	\$579,250 \$523,200	\$0 \$0	0	\$0 \$0	\$579,250 \$523,200	0.34% 0.31%	\$3.22 \$2.91
67.0414	Fly Ash Handling System	\$0 \$0	\$323,200 \$0	\$0 \$0	0	\$4,700,000	\$4,700,000	2.75%	\$26.11
67.9300	Air Compressors, Dryers, & Air Receivers	\$250,000	\$0	\$0 \$0	0	\$0	\$250,000	0.15%	\$1.39
67.9531	FD Fans	\$250,000	\$0	\$0	0	\$0	\$250,000	0.15%	\$1.39
	ID Fans	\$1,000,000	\$0	\$0	0	\$0	\$1,000,000	0.59%	\$5.56
	Subtotal Purchase Contracts:	\$36,842,677	\$6,042,819	\$0	0	\$5,635,000	\$48,520,495	28.40%	\$269.56
71.0401 71.0402 71.0403	Civil / Structural Construction - Cast in -place Piling Civil / Structural Construction - Super Structures Civil / Structural Construction - Sub-Structures	\$0 \$0 \$0 \$0	\$25,000 \$0 \$90,000 \$527,236	\$207,135 \$0 \$2,897,166 \$1,419,478	4,500 0 46,986 28,535	\$320,000 \$1,946,000 \$1,221,250 \$128,422	\$552,135 \$1,946,000 \$4,208,416 \$2,075,135	1.14% 2.46% 1.21%	\$10.81 \$23.38 \$11.53
72.0000	Mechanical / Chemical Construction	\$0	\$0	\$14,517,401	292,518	\$4,641,250	\$19,158,651	11.22%	\$106.44
73.0000 78.0000	Electrical / Control Construction Service Contracts & Construction Indirects	\$0 \$0	\$641,988 \$4,198,004	\$9,747,893 \$6,124,968	184,027 134,201	\$10,800 \$13,590,291	\$10,400,681 \$23,913,264	6.09% 14.00%	\$57.78 \$132.85
	Subtotal Construction Contracts:	\$0	\$5,482,227	\$34,914,041	690,766	\$21,858,013	\$62,254,282	36.44%	\$345.86
	Total Direct Costs	\$36,842,677	\$11,525,046	\$34,914,041	690,766	\$27,493,013	\$110,774,777	64.85%	\$615.42
	Total Direct Costs	\$30,042,077	\$11,323,040	<b>\$34,314,041</b>	030,700	\$27, <del>49</del> 3,013	\$110,774,777	04.65 /6	<b>Ф</b> 013.42
Indirect Cos	sts:								
99.1100	Engineering Costs (Includes G&A )	\$0	\$0	\$6,346,800	154,800	\$9,431,345	\$15,778,145	9.24%	\$87.66
99.1200	EPC Construction Management (Includes G&A)	\$0	\$81,026	\$6,746,629	147,560	\$9,086,012	\$15,913,667	9.32%	\$88.41
	Project Insurance	\$0	\$0	\$0	0	\$1,826,192	\$1,826,192	1.07%	\$10.15
99.1600	Performance Bond	\$0	\$0	\$0	0	\$782,654	\$782,654	0.46%	\$4.35
	Sales Tax 6% on indirect materials and services	\$0	\$61,112	\$0	0	\$0	\$61,112	0.04%	\$0.34
	Project Contingency 10%	\$0 \$0	\$0 ***	\$0 \$0	0	\$14,513,655	\$14,513,655	8.50%	\$80.63
99.2600	EPC Profit	\$0	\$0	\$0	0	\$11,176,000	\$11,176,000	6.54%	\$62.09
	Total Indirect Costs	\$0	\$142,138	\$13,093,429	302,360	\$46,815,857	\$60,051,424	35.15%	\$333.62
	Total Overnight (April 2011) EPC Capital Costs:	\$36,842,677	\$11,667,183	\$48,007,471	993,126	\$74,308,870	\$170,826,201	100.00%	\$949.03
		\$0	\$0	\$0	0	\$0	\$0	0.00%	\$0.00

Total Overnight (April 2011) EPC Capital Costs:

B&V PROJECT #: 168908
PROJECT ESTIMATOR: Ron Fields
PROJECT MANAGER: Tim Hillman
PURPOSE OF ESTIMATE: Budgetary
ESTIMATE DATE: April 21, 2011

CLIENT:
partner:
2011

BLACK AND VEATCH CONFIDENTIAL AND PROPRIETARY INFORMATION

LOCATION: Mercer County, KY
PLANT TYPE: PC Fired Boiler
CLIENT: LG&E - KU
PARTNER: N/A
CURRENCY: US Dollars

#### PROJECT - TOTAL COSTS Engr Equip % OF \$ PER Contract Commodities TOTAL C.V. Number Description KW TOTAL S Material \$ Manhours Other Material \$ **ESTIMATE SUMMARY Purchase Contracts:** \$27,405 \$1,102,450 0 61.0000 Civil / Structural \$6,778,530 \$0 \$309,600 \$7,115,535 4.17% \$39.53 \$0 \$8,780,781 Mechanical \$4,750,000 5.14% \$48.78 62.0000 \$2.928.331 \$0 \$7.191.515 63.0000 Flectrical \$2,478,676 \$4,707,439 0 \$5,400 4.21% \$39.95 \$1,771,525 \$205,525 64.0000 \$0 \$570,000 1.04% Control \$996,000 0 \$9.84 65.0000 Chemical 23,661,140 \$23,661,140 13.85% \$131.45 \$0 \$0 **Subtotal Purchase Contracts:** \$36,842,677 \$6,042,819 \$0 0 \$5,635,000 \$48,520,495 28.40% \$269.56 **Construction Contracts:** 71.0000 Civil / Structural Construction \$642,236 \$4,523,778 \$3,615,672 \$8,781,686 5.14% \$0 80,021 \$48.79 72.0000 Mechanical / Chemical Construction \$14,517,401 292,518 \$4,641,250 \$19,158,651 11.22% \$106.44 \$0 \$0 184,027 73.0000 Electrical / Control Construction \$0 \$641,988 \$9,747,893 \$10,800 \$10,400,681 6.09% \$57.78 Service Contracts & Construction Indirects 14.00% 78.0000 \$4,198,004 \$6,124,968 134,201 \$13,590,291 \$23,913,264 \$132.85 \$0 **Subtotal Construction Contracts:** \$0 \$5,482,227 \$34,914,041 690,766 \$21,858,013 \$62,254,282 36.44% \$345.86 \$36,842,677 **Total Direct Costs** \$11,525,046 \$34,914,041 690,766 \$27,493,013 \$110,774,777 64.85% \$615.42 Indirect Costs: \$15,778,145 \$15,913,667 99.1100 Engineering Costs (With G&A) 99.1200 Construction Management (With G&A) \$0 \$0 \$0 \$0 \$6,346,800 154,800 \$9,431,345 9.24% \$87.66 \$0 \$6,746,629 \$81.026 \$9,086,012 9.32% 147,560 \$88.41 \$1.826.192 99 1500 \$1,826,192 1.07% \$10.15 Project Insurance \$0 \$0 0 99.1600 Performance Bond \$0 \$0 0 \$782,654 \$782,654 0.46% \$4.35 Sales Tax 6% on indirect materials and services \$0 \$61,112 \$0 \$61,112 0.04% \$0.34 99.1900 0 \$0 Project Contingency \$0 \$0 \$14,513,655 \$14,513,655 8.50% \$80.63 99.2500 0 \$0 99.2600 EPC Profit \$0 \$11,176,000 \$11,176,000 6.54% \$62.09 \$60,051,424 **Total Indirect Costs** \$0 \$142,138 \$13,093,429 302,360 \$46,815,857 35.15% \$333.62

\$11,667,183

\$48,007,471

993,126

\$74,308,870

\$170,826,201

\$949.03

\$36,842,677

B&V PROJECT #: 168908
PROJECT ESTIMATOR: Ron Fields
PROJECT MANAGER: Tim Hillman
PURPOSE OF ESTIMATE: Budgetary
ESTIMATE DATE: April 21, 2011

LOCATION:
PLANT TYPE:
CLIENT:
PARTNER:
CURRENCY:

Mercer County, KY PC Fired Boiler

LG&E - KU

# PARTNER: N/A CURRENCY: US Dollars BLACK AND VEATCH CONFIDENTIAL AND PROPRIETARY INFORMATION

г т	PROJECT - TOTAL COSTS									
Contract		Engr Equip Commodities Commodities						% OF	\$ PER	
Number	Description	gqp						TOTAL C.V.	KW	
		Material \$	Material \$	Labor \$	Manhours	Other	TOTAL \$		180	
Civil / Struc	tural Purchase Contracts:									
61.0200	Buildings - Insulated panels	\$0	\$0	\$0	0	\$309,600	\$309,600	0.18%	\$1.72	
61.0300	Grating	\$0	\$14,040	\$0	0	\$0	\$14,040	0.01%	\$0.08	
61.3801	Ductwork and Breeching	\$4,706,730	\$0	\$0	0	\$0	\$4,706,730	2.76%	\$26.15	
61.4001	Structural Steel	\$2,071,800	\$0	\$0	0	\$0	\$2,071,800	1.21%	\$11.51	
61.4015	Handrail and stairs	\$0	\$13,365	\$0	0	\$0	\$13,365	0.01%	\$0.07	
61.4052	Sheet Piling and Coffer Dam	\$0	\$0	\$0	0	\$0	\$0	0.00%	\$0.00	
	Subtotal - Civil / Structural Purchase Contracts:	\$6,778,530	\$27,405	\$0	0	\$309,600	\$7,115,535	4.17%	\$39.53	
Mechanical	Purchase Contracts:	\$0	\$0	\$0	0	\$0				
62.0205	Continuous Emissions Monitoring (CEM)	\$0	\$0	\$0	0	\$50,000	\$50,000	0.03%	\$0.28	
62.2201	Large Bore Pipe (Hot Systems)	\$426,950	\$0	\$0	0	\$0	\$426,950	0.25%	\$2.37	
62.2418	Primary Flow elements	\$400,000	\$0	\$0	0	\$0	\$400,000	0.23%	\$2.22	
66.1000	Piping & Tubing	\$291,381	\$0	\$0	0	\$0	\$291,381	0.17%	\$1.62	
66.2070	Pipe Supports	\$0	\$579,250	\$0	0	\$0	\$579,250	0.34%	\$3.22	
66.3000	Valves and Accessories	\$0	\$523,200	\$0	0	\$0	\$523,200	0.31%	\$2.91	
67.0414	Fly Ash Handling system	\$0	\$0	\$0	0	\$4,700,000	\$4,700,000	2.75%	\$26.11	
67.9300	Air Compressors, Dryers, & Air Receivers	\$250,000	\$0	\$0	0	\$0	\$250,000	0.15%	\$1.39	
67.9531	FD Fans	\$560,000	\$0	\$0	0	\$0	\$560,000	0.33%	\$3.11	
67.9532	ID Fans	\$1,000,000	\$0	\$0	0	\$0	\$1,000,000	0.59%	\$5.56	
	Subtotal - Mechanical Purchase Contracts:	\$2,928,331	\$1,102,450	\$0	\$0	\$4,750,000	\$8,780,781	5.14%	\$48.78	
Electrical P	urchase Contracts:	\$0	\$0	\$0	0	\$0				
63.0000	Electrical Equipment & Materials	\$0	\$2,800	\$0	0	\$0	\$2,800	0.00%	\$0.02	
63.0500	Lightning Protection Equipment and Materials	\$0	\$7,220	\$0	0	\$0	\$7,220	0.00%	\$0.04	
63.0601	Plant Communication System	\$0	\$90,496	\$0	0	\$0	\$90,496	0.05%	\$0.50	
63.0801	Cable - 8-15KV Power	\$0	\$214,605	\$0	0	\$0	\$214,605	0.13%	\$1.19	
63.0804	Cable - 300-600V Instrument & T/C	\$0	\$37,125	\$0	0	\$0	\$37,125	0.02%	\$0.21	
63.0802	Cable and Raceway	\$0	\$2,019,665	\$0	0	\$0	\$2,019,665	1.18%	\$11.22	
63.1201	Iso-Phase Bus Duct	\$257,500	\$0	\$0	0	\$0	\$257,500	0.15%	\$1.43	
63.1202	Cable Bus	\$0	\$1,263,960	\$0	0	\$0	\$1,263,960	0.74%	\$7.02	
63.2000	Metering & Relaying	\$60,000	\$0	\$0	0	\$0	\$60,000	0.04%	\$0.33	
63.2802	Batteries - DC Equipment	\$0	\$221,375	\$0	0	\$0	\$221,375	0.13%	\$1.23	
63.2805	PanelBoards	\$0	\$60,000	\$0	0	\$0	\$60,000	0.04%	\$0.33	
63.3002	ID & FD Fan Motors	\$430,000	\$0	\$0	0	\$0	\$430,000	0.25%	\$2.39	
63.3603	Switchgear & MCCs	\$1,158,300	\$0	\$0	0	\$5,400	\$1,163,700	0.68%	\$6.47	
63.3802	SUS Transformers	\$294,376	\$0	\$0	0	\$0	\$294,376	0.17%	\$1.64	
63.3803	Aux Transformer	\$278,500	\$0	\$0	0	\$0	\$278,500	0.16%	\$1.55	
63.5000	Junction Boxes	\$0	\$20,000	\$0	0	\$0	\$20,000	0.01%	\$0.11	
63.5010	Grounding Materials and Equipment	\$0	\$117,993	\$0	0	\$0	\$117,993	0.07%	\$0.66	
63.5021	Raceway - Cable Tray	\$0	\$375,000	\$0	0	\$0	\$375,000	0.22%	\$2.08	
63.5022	Raceway - General	\$0	\$277,200	\$0	0	\$0	\$277,200	0.16%	\$1.54	
	Subtotal - Electrical Purchase Contracts:	\$2,478,676	\$4,707,439	\$0	0	\$5,400	\$7,191,515	4.21%	\$39.95	
Control Pur	chase Contracts:	\$0	\$0	\$0	0	\$0				
64.0202	DCS / PLC mods	\$696,000	\$0	\$0	0	\$0	\$696,000	0.41%	\$3.87	
64.0407	On-line Performance Monitoring - Neural Network	\$0	\$0	\$0	0	\$570,000	\$570,000	0.33%	\$3.17	
64.1003	Instrumentation	\$300,000	\$100,000	\$0	0	\$0	\$400,000	0.23%	\$2.22	
64.1602	Instr. Racks and Enclosures	\$0	\$9,000	\$0	0	\$0	\$9,000	0.01%	\$0.05	
64.5010	Tubing	\$0	\$96,525	\$0	0	\$0	\$96,525	0.06%	\$0.54	
	Subtotal - Control Purchase Contracts:	\$996,000	\$205,525	\$0	0	\$570,000	\$1,771,525	1.04%	\$9.84	
Chamical D	urchase Contracts:	\$0	<b>¢</b> 0	\$0	0	¢o.				
65.3120	Fabric Filter	·	\$0 \$0	\$0 \$0	0	\$0 \$0	<b>¢</b> E 200 000	2 100/	¢20.44	
65.3210	Sorbent Injection	\$5,300,000 \$750,000	\$0 \$0	\$0 \$0	0	\$0 \$0	\$5,300,000	3.10%	\$29.44 \$4.17	
65.3210	Selective Catalytic Reduction system	\$750,000 \$17,111,140	\$0 \$0	\$0 \$0	0	\$0 \$0	\$750,000 \$17,111,140	0.44% 10.02%	\$4.17 \$95.06	
65.3500	H -PAC Mecury Control	\$500,000	\$0 \$0	\$0 \$0	0	\$0 \$0	\$500,000	0.29%	\$95.06 \$2.78	
55.5500	Modary Control	Ψουσ,σου	ΨΟ	ΨΟ	0	ΨΟ	ψοσο,σσο	J.23/6	Ψ2.10	
	Subtotal - Chemical Purchase Contracts:	\$23,661,140	\$0	\$0	0	\$0	\$23,661,140	13.85%	\$131.45	
	Subtotal Purchase Contracts:	\$36,842,677	\$6,042,819	\$0	0	\$5,635,000	\$48,520,495	28.40%	\$269.56	

B&V PROJECT #: 168908
PROJECT ESTIMATOR: Ron Fields
PROJECT MANAGER: Tim Hillman
PURPOSE OF ESTIMATE: Budgetary
ESTIMATE DATE: April 21, 2011

LOCATION:
PLANT TYPE:
CLIENT:
PARTNER:

Mercer County, KY PC Fired Boiler LG&E - KU N/A US Dollars

## CURRENCY: BLACK AND VEATCH CONFIDENTIAL AND PROPRIETARY INFORMATION

		PROJECT - TOTAL COSTS							
Contract Number	Description	Engr Equip	Commodities					% OF TOTAL C.V.	\$ PER KW
		Material \$	Material \$	Labor \$	Manhours	Other	TOTAL \$		180
Civil / Struc	ctural Construction Contracts:	\$0	\$0	\$0	0	\$0			
71.0100	Demolition Works	\$0	\$25,000	\$207,135	4,500	\$320,000	\$552,135	0.32%	\$3.07
71.0401	Cast In place Piling	\$0	\$0	\$0	0	\$1,946,000	\$1,946,000	1.14%	\$10.81
71.0402	General Construction - Substructures	\$0	\$527,236	\$1,419,478	28,535	\$128,422	\$2,075,135	1.21%	\$11.53
71.0403	General Construction - Superstructures	\$0	\$90,000	\$2,897,166	46,986	\$1,221,250	\$4,208,416	2.46%	\$23.38
	Subtotal - Civil / Structural Construction Contracts:	\$0	\$642,236	\$4,523,778	80,021	\$3,615,672	\$8,781,686	5.14%	\$48.79
/lechanica	I Construction Contracts:	\$0	\$0	\$0	0	\$0			
72.0401	Plant Piping Installation	\$0	\$0	\$3,951,399	73,941	\$0	\$3,951,399	2.31%	\$21.95
72.0403	Duct and Reactor Insulation	\$0	\$0	\$0	0	\$4,006,000	\$4,006,000	2.35%	\$22.26
72.0800	Fire Protection & Detection Systems	\$0	\$0	\$0	0	\$635,250	\$635,250	0.37%	\$3.53
77.0000	Mechanical Construction	\$0	\$0	\$10,566,003	218,577	\$0	\$10,566,003	6.19%	\$58.70
	Subtotal - Mechanical Construction Contracts:	\$0	\$0	\$14,517,401	\$292,518	\$4,641,250	\$19,158,651	11.22%	\$106.44
Electrical /	Control Construction Contracts:	\$0	\$0	\$0	0	\$0			
73.0201	Electrical Equipment Erection	\$0	\$641,988	\$8,790,342	165,949	\$10,800	\$9,443,129	5.53%	\$52.46
74.0201	Control & Instrumentation Installation	\$0	\$0	\$957,552	18,077	\$0	\$957,552	0.56%	\$5.32
	Subtotal - Electrical / Control Construction Contracts:	\$0	\$641,988	\$9,747,893	184,027	\$10,800	\$10,400,681	6.09%	\$57.78
Canaturati	on Indirects & Service Contracts:	\$0	\$0	\$0	0	\$0			
			•				<b>#00 540 004</b>	40.700/	<b>#</b> 400.04
78.0000 78.4000	Service Contracts & Construction Indirects Warranty	\$0 \$0	\$4,198,004 \$0	\$6,124,968 \$0	134,201 0	\$13,187,391 \$402,900	\$23,510,364 \$402,900	13.76% 0.24%	\$130.61 \$2.24
	•		·						
	Subtotal - Construction Indirects & Service Contracts:	\$0	\$4,198,004	\$6,124,968	134,201	\$13,590,291	\$23,913,264	14.00%	\$132.85
	Subtotal - Construction Costs:	\$0	\$5,482,227	\$34,914,041	690,766	\$21,858,013	\$62,254,282	36.44%	\$345.86
	Subtotal - Direct Costs:	\$36,842,677	\$11,525,046	\$34,914,041	690,766	\$27,493,013	\$110,774,777	64.85%	\$615.42
Indirect Costs:		\$0	\$0	\$0	0	\$0			
99.1100	Engineering Costs (Includes G&A)	\$0	\$0	\$6,346,800	154,800	\$9,431,345	\$15,778,145	9.24%	\$87.66
99.1200	EPC Construction Management (Includes G&A)	\$0	\$81,026	\$6,746,629	147,560	\$9,086,012	\$15,913,667	9.32%	\$88.41
99.1500	Project Insurance	\$0	\$0	\$0	0	\$1,826,192	\$1,826,192	1.07%	\$10.15
99.1600	Performance Bond	\$0	\$0	\$0	0	\$782,654	\$782,654	0.46%	\$4.35
99.1900	Sales Tax 6% on indirect materials and services	\$0	\$61,112	\$0	0	\$0	\$61,112	0.04%	\$0.34
99.2500	Project Contingency	\$0	\$0	\$0	0	\$14,513,655	\$14,513,655	8.50%	\$80.63
99.2600	EPC Profit	\$0	\$0	\$0	0	\$11,176,000	\$11,176,000	6.54%	\$62.09
	Subtotal - Indirect Costs:	\$0	\$142,138	\$13,093,429	302,360	\$46,815,857	\$60,051,424	35.15%	\$333.62
	Total Overnight (April 2011) EPC Capital Costs:	\$36,842,677	\$11,667,183	\$48,007,471	993,126	\$74,308,870	\$170,826,201	100.00%	\$949.03
	Total Offinight (April 2011) LFO Capital Costs.	Ψ50,042,077	ψ11,001,103	ψ <del>τ</del> υ,υυ <i>ι</i> ,+/ Ι	333,120	ψι <del>τ</del> ,300,010	ψ110,020,201	100.00%	φ <b>3</b> 48