LG&E - KU- Ghent Unit 3 PJFF (Without SCR) Rev. B

B&V PROJECT #:	168908	**LOCATION:**	Carroll County, KY
PROJECT ESTIMATOR:	Ron Fields	**PLANT TYPE:**	PC Fired Boiler
PROJECT MANAGER:	Tim Hillman	**CLIENT:**	LG&E - KU
PURPOSE OF ESTIMATE:	Budgetary	**PARTNER:**	N/A
ESTIMATE DATE:	April-11	**CURRENCY:**	US Dollars

BLACK AND VEATCH CONFIDENTIAL AND PROPRIETARY INFORMATION

Contract Number	Description	PROJECT - TOTAL COSTS Engr Equip Material $	Commodities Material $	Labor $	Manhours	Other	TOTAL $	% OF TOTAL C.V.	$ PER KW 523
ESTIMATE SUMMARY									
Purchase Contracts:									
61.0000	Civil / Structural	$2,431,204	$298,100	$1,096,286	15,840	$100,000	$3,925,590	2.73%	$7.51
61.3801	Ductwork and breeching	$3,102,400	$0	$0	0	$0	$3,102,400	2.16%	$5.93
62.0000	Mechanical - Balance of Plant - (BOP)	$0	$0	$0	0	$50,000	$50,000	0.03%	$0.10
63.0000	Electrical - (BOP) Equipment and raceway	$490,000	$1,062,495	$0	0	$0	$1,552,495	1.08%	$2.97
63.3002	VFDs, Motors and Couplings	$7,948,000	$0	$0	0	$0	$7,948,000	5.53%	$15.20
63.1202	Cable Bus	$0	$327,912	$0	0	$16,200	$344,112	0.24%	$0.66
63.3603	Switchgear and MCCs	$1,602,000	$0	$0	0	$0	$1,602,000	1.11%	$3.06
63.3802	SUS Transformers	$256,000	$0	$0	0	$0	$256,000	0.18%	$0.49
63.3803	Aux Transformers	$985,000	$0	$0	0	$0	$985,000	0.68%	$1.88
64.0000	Control - DCS, Instrumentation	$626,000	$0	$0	0	$0	$626,000	0.44%	$1.20
64.0407	On-line Performance Monitoring - Neural Network	$0	$0	$0	0	$570,000	$570,000	0.40%	$1.09
65.3210	Remote Sorbent Injection Equipment	$0	$0	$0	0	$50,000	$50,000	0.03%	$0.10
65.3120	Fabric Filter	$15,000,000	$0	$0	0	$0	$15,000,000	10.43%	$28.68
65.3500	H-PAC Mercury Control	$1,000,000	$0	$0	0	$0	$1,000,000	0.70%	$1.91
66.1000	Piping & Tubing	$315,018	$0	$0	0	$0	$315,018	0.22%	$0.60
66.2070	Pipe Supports	$0	$79,250	$0	0	$0	$79,250	0.06%	$0.15
67.0414	Fly Ash Transfer System	$0	$0	$0	0	$2,300,000	$2,300,000	1.60%	$4.40
66.3000	Valves and Accessories	$0	$232,000	$0	0	$0	$232,000	0.16%	$0.44
67.9300	Air Compressors, Dryers, & Air Receivers	$250,000	$0	$0	0	$0	$250,000	0.17%	$0.48
67.9532	ID Fans	$3,860,000	$0	$0	0	$0	$3,860,000	2.68%	$7.38
	Subtotal Purchase Contracts:	**$37,865,622**	**$1,999,757**	**$1,096,286**	**15,840**	**$3,086,200**	**$44,047,866**	**30.63%**	**$84.22**
Construction Contracts:									
71.0100	Demolition works	$0	$0	$0	$0	$400,000	$400,000	0.28%	$0.76
71.0401	Civil / Structural Construction - Cast In place Piling	$0	$0	$0	$0	$2,415,000	$2,415,000	1.68%	$4.62
71.0403	Civil / Structural Construction - Super Structures	$0	$879,896	$2,852,813	$49,551	$127,043	$3,859,752	2.68%	$7.38
71.0402	Civil / Structural Construction - Sub-Structures	$0	$15,000	$4,255,354	$61,485	$4,280,000	$8,550,354	5.94%	$16.35
72.0000	Mechanical / Chemical Construction	$0	$0	$14,283,571	232,519	$3,420,250	$17,703,821	12.31%	$33.85
73.0000	Electrical / Control Construction	$0	$182,000	$4,055,961	64,916	$10,800	$4,248,761	2.95%	$8.12
77.5450	Field Erected Frac Tank	$0	$0	$0	0	$417,555	$417,555	0.29%	$0.80
78.0000	Service Contracts & Construction Indirects	$0	$3,274,064	$3,771,554	80,924	$11,765,076	$18,810,693	13.08%	$35.97
	Subtotal Construction Contracts:	**$0**	**$4,350,959**	**$29,219,252**	**489,395**	**$22,835,724**	**$56,405,935**	**39.22%**	**$107.85**
	Total Direct Costs	**$37,865,622**	**$6,350,716**	**$30,315,539**	**505,235**	**$25,921,924**	**$100,453,801**	**69.84%**	**$192.07**
Indirect Costs:									
99.1100	Engineering Costs (Includes G&A)	$0	$0	$2,460,000	60,000	$3,655,560	$6,115,560	4.25%	$11.69
99.1200	EPC Construction Management (Includes G&A)	$0	$69,760	$5,445,664	119,425	$7,605,422	$13,120,846	9.12%	$25.09
99.1500	Project Insurance	$0	$0	$0	0	$1,714,505	$1,714,505	1.19%	$3.28
99.1600	Performance Bond	$0	$0	$0	0	$734,788	$734,788	0.51%	$1.40
99.1900	Sales Tax 6% of Indirect materials and services	$0	$59,997	$0	0	$0	$59,997	0.04%	$0.11
99.2500	Project Contingency 10 %	$0	$0	$0	0	$12,219,950	$12,219,950	8.50%	$23.37
99.2600	EPC Profit	$0	$0	$0	0	$9,409,000	$9,409,000	6.54%	$17.99
	Total Indirect Costs	**$0**	**$129,757**	**$7,905,664**	**179,425**	**$35,339,225**	**$43,374,645**	**28.63%**	**$82.93**
	Total Overnight (April 2011) EPC Capital Costs:	**$37,865,622**	**$6,480,473**	**$38,221,202**	**684,660**	**$61,261,149**	**$143,828,446**	**100.00%**	**$275.01**
		$0	$0	$0	0	$0	$0	0.00%	$0.00

LG&E - KU- Ghent Unit 3 PJFF (Without SCR) Rev. B

B&V PROJECT #:	168908	**LOCATION:**	Carroll County, KY
PROJECT ESTIMATOR:	Ron Fields	**PLANT TYPE:**	PC Fired Boiler
PROJECT MANAGER:	Tim Hillman	**CLIENT:**	LG&E - KU
PURPOSE OF ESTIMATE:	Budgetary	**PARTNER:**	N/A
ESTIMATE DATE:	April-11	**CURRENCY:**	US Dollars

BLACK AND VEATCH CONFIDENTIAL AND PROPRIETARY INFORMATION

Contract Number	Description	PROJECT - TOTAL COSTS Engr Equip Material $	Commodities Material $	Labor $	Manhours	Other	TOTAL $	% OF TOTAL C.V.	$ PER KW 523
ESTIMATE SUMMARY									
Purchase Contracts:									
61.0000	Civil / Structural	$5,533,604	$298,100	$1,096,286	15,840	$100,000	$7,027,990	4.89%	$13.44
62.0000	Mechanical	$4,425,018	$311,250	$0	0	$2,350,000	$7,086,268	4.93%	$13.55
63.0000	Electrical	$11,281,000	$1,390,407	$0	0	$16,200	$12,687,607	8.82%	$24.26
64.0000	Control	$626,000	$0	$0	0	$570,000	$1,196,000	0.83%	$2.29
65.0000	Chemical	$16,000,000	$0	$0	0	$50,000	$16,050,000	11.16%	$30.69
	Subtotal Purchase Contracts:	**$37,865,622**	**$1,999,757**	**$1,096,286**	**15,840**	**$3,086,200**	**$44,047,866**	**30.63%**	**$84.22**
Construction Contracts:									
71.0100	Demolition Works	$0	$0	$0	0	$400,000	$400,000	0.28%	$0.76
71.0203	Site Finishing	$0	$0	$0	0	$0	$0	0.00%	$0.00
71.0401	Cast In place Piling	$0	$0	$0	0	$2,415,000	$2,415,000	1.68%	$4.62
71.0402	Civil / Structural Construction -Substrucutres	$0	$879,896	$2,852,813	49,551	$127,043	$3,859,752	2.68%	$7.38
71.0403	Civil / Structural Construction- Superstructures	$0	$15,000	$4,255,354	61,485	$4,280,000	$8,550,354	5.94%	$16.35
72.0000	Mechanical / Chemical Construction	$0	$0	$14,283,571	232,519	$3,837,805	$18,121,376	12.60%	$34.65
73.0000	Electrical / Control Construction	$0	$182,000	$4,055,961	64,916	$10,800	$4,248,761	2.95%	$8.12
78.0000	Service Contracts & Construction Indirects	$0	$3,274,064	$3,771,554	80,924	$11,765,076	$18,810,693	13.08%	$35.97
	Subtotal Construction Contracts:	**$0**	**$4,350,959**	**$29,219,252**	**489,395**	**$22,835,724**	**$56,405,935**	**39.22%**	**$107.85**
	Total Direct Costs	**$37,865,622**	**$6,350,716**	**$30,315,539**	**505,235**	**$25,921,924**	**$100,453,801**	**69.84%**	**$192.07**
Indirect Costs:									
99.1100	Engineering Costs (With G&A)	$0	$0	$2,460,000	60,000	$3,655,560	$6,115,560	4.25%	$11.69
99.1200	Construction Management (With G&A)	$0	$69,760	$5,445,664	119,425	$7,605,422	$13,120,846	9.12%	$25.09
99.1500	Project Insurance	$0	$0	$0	0	$1,714,505	$1,714,505	1.19%	$3.28
99.1600	Performance Bond	$0	$0	$0	0	$734,788	$734,788	0.51%	$1.40
99.1900	Sale Tax 6% of Indirect materials and services	$0	$59,997	$0	0	$0	$59,997	0.04%	$0.11
99.2500	Project Contingency @ 10%	$0	$0	$0	0	$12,219,950	$12,219,950	8.50%	$23.37
99.2600	EPC profit	$0	$0	$0	0	$9,409,000	$9,409,000	6.54%	$17.99
	Total Indirect Costs	**$0**	**$129,757**	**$7,905,664**	**179,425**	**$35,339,225**	**$43,374,645**	**30.16%**	**$82.93**
	Total Overnight (April 2011) EPC Capital Costs:	**$37,865,622**	**$6,480,473**	**$38,221,202**	**684,660**	**$61,261,149**	**$143,828,446**	**100.00%**	**$275.01**

LG&E - KU- Ghent Unit 3 PJFF (Without SCR) Rev. B

B&V PROJECT #:	168908	**LOCATION:**	Carroll County, KY
PROJECT ESTIMATOR:	Ron Fields	**PLANT TYPE:**	PC Fired Boiler
PROJECT MANAGER:	Tim Hillman	**CLIENT:**	LG&E - KU
PURPOSE OF ESTIMATE:	Budgetary	**PARTNER:**	N/A
ESTIMATE DATE:	April-11	**CURRENCY:**	US Dollars

BLACK AND VEATCH CONFIDENTIAL AND PROPRIETARY INFORMATION

Contract Number	Description	PROJECT - TOTAL COSTS						% OF TOTAL C.V.	$ PER KW
		Engr Equip Material $	Commodities Material $	Labor $	Manhours	Other	TOTAL $		523
Civil / Structural Purchase Contracts:									
61.0300	Grating	$0	$3,520	$0	0	$0	$3,520	0.00%	$0.01
61.0810	Embeds and Anchor Bolts	$0	$54,390	$0	0	$0	$54,390	0.04%	$0.10
61.3601	Chain Link Fence	$0	$25,000	$0	0	$100,000	$125,000	0.09%	$0.24
61.3801	Ductwork and Breeching	$3,102,400	$0	$0	0	$0	$3,102,400	2.16%	$5.93
61.4001	Structural Steel	$2,431,204	$0	$0	0	$0	$2,431,204	1.69%	$4.65
61.4015	Handrail and stairs	$0	$36,990	$0	0	$0	$36,990	0.03%	$0.07
	Subtotal - Civil / Structural Purchase Contracts:	**$5,533,604**	**$298,100**	**$1,096,286**	**15,840**	**$100,000**	**$7,027,990**	**4.89%**	**$13.44**
Mechanical Purchase Contracts:		$0	$0	$0	0	$0			
62.0205	Continuous Emissions Monitoring (CEM)	$0	$0	$0	0	$50,000	$50,000	0.03%	$0.10
67.0414	Fly Ash Tranfer System	$0	$0	$0	0	$2,300,000	$2,300,000	1.60%	$4.40
67.9300	Compressors and Air Dryers	$250,000	$0	$0	0	$0	$250,000	0.17%	$0.48
67.9532	ID Booster Fans	$3,860,000	$0	$0	0	$0	$3,860,000	2.68%	$7.38
66.1000	Piping and Tubing	$315,018	$0	$0	0	$0	$315,018	0.22%	$0.60
66.3000	Valves	$0	$232,000	$0	0	$0	$232,000	0.16%	$0.44
66.2070	Piping supports	$0	$79,250	$0	0	$0	$79,250	0.06%	$0.15
	Subtotal - Mechanical Purchase Contracts:	**$4,425,018**	**$311,250**	**$0**	**$0**	**$2,350,000**	**$7,086,268**	**4.93%**	**$13.55**
Electrical Purchase Contracts:		$0	$0	$0	0	$0			
63.0000	Electrical Equipment & Materials	$0	$1,400	$0	0	$0	$1,400	0.00%	$0.00
63.0500	Lightning Protection Equipment and Materials	$0	$2,220	$0	0	$0	$2,220	0.00%	$0.00
63.0601	Plant Communication System	$0	$300,000	$0	0	$0	$300,000	0.21%	$0.57
63.0802	Cable and Raceway	$0	$500,000	$0	0	$0	$500,000	0.35%	$0.96
63.1001	Welding System	$0	$7,500	$0	0	$0	$7,500	0.01%	$0.01
63.1201	Iso-Phase Bus Duct	$430,000	$0	$0	0	$0	$430,000	0.30%	$0.82
63.1202	Cable Bus	$0	$327,912	$0	0	$16,200	$344,112	0.24%	$0.66
63.2000	Metering & Relaying	$60,000	$0	$0	0	$0	$60,000	0.04%	$0.11
63.2800	UPS System	$0	$221,375	$0	0	$0	$221,375	0.15%	$0.42
63.2805	PanelBoards	$0	$30,000	$0	0	$0	$30,000	0.02%	$0.06
63.3002	VFDs, Motors and couplings	$7,948,000	$0	$0	0	$0	$7,948,000	5.53%	$15.20
63.3603	Low Voltage Switchgear	$1,602,000	$0	$0	0	$0	$1,602,000	1.11%	$3.06
63.3802	SUS Transformers	$256,000	$0	$0	0	$0	$256,000	0.18%	$0.49
63.3803	Aux. - Misc. Transformers	$985,000	$0	$0	0	$0	$985,000	0.68%	$1.88
63.5010	Grounding Materials and Equipment	$0	$0	$0	0	$0	$0	0.00%	$0.00
	Subtotal - Electrical Purchase Contracts:	**$11,281,000**	**$1,390,407**	**$0**	**0**	**$16,200**	**$12,687,607**	**8.82%**	**$24.26**
Control Purchase Contracts:		$0	$0	$0	0	$0			
64.0202	DCS / PLC mods	$576,000	$0	$0	0	$0	$576,000	0.40%	$1.10
64.0407	On-line Performance Monitoring - Neural Network	$0	$0	$0	0	$570,000	$570,000	0.40%	$1.09
64.1003	Instrumentation	$50,000	$0	$0	0	$0	$50,000	0.03%	$0.10
	Subtotal - Control Purchase Contracts:	**$626,000**	**$0**	**$0**	**0**	**$570,000**	**$1,196,000**	**0.83%**	**$2.29**
Chemical Purchase Contracts:		$0	$0	$0	0	$0			
65.3210	Remote Sorbent Injection Equipment	$0	$0	$0	0	$50,000	$50,000	0.03%	$0.10
65.3120	Fabric Filter	$15,000,000	$0	$0	0	$0	$15,000,000	10.43%	$28.68
65.3500	H - PAC Injection system	$1,000,000	$0	$0	0	$0	$1,000,000	0.70%	$1.91
	Subtotal - Chemical Purchase Contracts:	**$16,000,000**	**$0**	**$0**	**0**	**$50,000**	**$16,050,000**	**11.16%**	**$30.69**
	Subtotal Purchase Contracts:	**$37,865,622**	**$1,999,757**	**$1,096,286**	**15,840**	**$3,086,200**	**$44,047,866**	**30.63%**	**$84.22**

LG&E - KU- Ghent Unit 3 PJFF (Without SCR) Rev. B

B&V PROJECT #:	168908	**LOCATION:**	Carroll County, KY
PROJECT ESTIMATOR:	Ron Fields	**PLANT TYPE:**	PC Fired Boiler
PROJECT MANAGER:	Tim Hillman	**CLIENT:**	LG&E - KU
PURPOSE OF ESTIMATE:	Budgetary	**PARTNER:**	N/A
ESTIMATE DATE:	April-11	**CURRENCY:**	US Dollars

BLACK AND VEATCH CONFIDENTIAL AND PROPRIETARY INFORMATION

Contract Number	Description	PROJECT - TOTAL COSTS: Engr Equip Material $	Commodities Material $	Labor $	Manhours	Other	TOTAL $	% OF TOTAL C.V.	$ PER KW 523
Civil / Structural Construction Contracts:		$0	$0	$0	0	$0			
71.0100	Demolition Works	$0	$0	$0	0	$400,000	$400,000	0.28%	$0.76
71.0401	Cast In place Piling	$0	$0	$0	0	$2,415,000	$2,415,000	1.68%	$4.62
71.0402	General Construction - Substructures	$0	$879,896	$2,852,813	49,551	$127,043	$3,859,752	2.68%	$7.38
71.0403	General Construction - Superstructures	$0	$15,000	$4,255,354	61,485	$4,280,000	$8,550,354	5.94%	$16.35
	Subtotal - Civil / Structural Construction Contracts:	**$0**	**$894,896**	**$7,108,167**	**111,035**	**$7,222,043**	**$15,225,106**	**10.59%**	**$29.11**
Mechanical Construction Contracts:		$0	$0	$0	0	$0			
72.0401	Plant Piping Installation	$0	$0	$2,179,588	34,580	$0	$2,179,588	1.52%	$4.17
72.0403	Piping & Equipment Insulation	$0	$0	$0	0	$2,006,000	$2,006,000	1.39%	$3.84
72.0800	Fire Protection & Detection Systems	$0	$0	$0	0	$1,414,250	$1,414,250	0.98%	$2.70
77.0000	Mechanical Construction	$0	$0	$12,103,982	197,939	$0	$12,103,982	8.42%	$23.14
77.5450	Field Erected Tanks	$0	$0	$0	0	$417,555	$417,555	0.29%	$0.80
	Subtotal - Mechanical Construction Contracts:	**$0**	**$0**	**$14,283,571**	**$232,519**	**$3,837,805**	**$18,121,376**	**12.60%**	**$34.65**
Electrical / Control Construction Contracts:		$0	$0	$0	0	$0			
73.0201	Electrical Equipment Erection	$0	$182,000	$3,813,038	61,028	$10,800	$4,005,838	2.79%	$7.66
74.0201	Control & Instrumentation Installation	$0	$0	$242,922	3,888	$0	$242,922	0.17%	$0.46
	Subtotal - Electrical / Control Construction Contracts:	**$0**	**$182,000**	**$4,055,961**	**64,916**	**$10,800**	**$4,248,761**	**2.95%**	**$8.12**
Construction Indirects & Service Contracts:		$0	$0	$0	0	$0			
78.0000	Service Contracts & Construction Indirects	$0	$3,274,064	$3,771,554	80,924	$11,519,776	$18,565,393	12.91%	$35.50
78.4000	Warranty	$0	$0	$0	0	$245,300	$245,300	0.17%	$0.47
	Subtotal - Construction Indirects & Service Contracts:	**$0**	**$3,274,064**	**$3,771,554**	**80,924**	**$11,765,076**	**$18,810,693**	**13.08%**	**$35.97**
	Subtotal - Construction Costs:	**$0**	**$4,350,959**	**$29,219,252**	**489,395**	**$22,835,724**	**$56,405,935**	**39.22%**	**$107.85**
	Subtotal - Direct Costs:	**$37,865,622**	**$6,350,716**	**$30,315,539**	**505,235**	**$25,921,924**	**$100,453,801**	**69.84%**	**$192.07**
Indirect Costs:		$0	$0	$0	0	$0			
99.1100	Engineering Costs (Includes G&A)	$0	$0	$2,460,000	60,000	$3,655,560	$6,115,560	4.25%	$11.69
99.1200	EPC Construction Management (Includes G&A)	$0	$69,760	$5,445,664	119,425	$7,605,422	$13,120,846	9.12%	$25.09
99.1500	Project Insurance	$0	$0	$0	0	$1,714,505	$1,714,505	1.19%	$3.28
99.1600	Performance Bond	$0	$0	$0	0	$734,788	$734,788	0.51%	$1.40
99.1900	Sales Tax 6% of Indirect materials and services	$0	$59,997	$0	0	$0	$59,997	0.04%	$0.11
99.2500	Project Contingency	$0	$0	$0	0	$12,219,950	$12,219,950	8.50%	$23.37
99.2600	EPC profit	$0	$0	$0	0	$9,409,000	$9,409,000	6.54%	$17.99
	Subtotal - Indirect Costs:	**$0**	**$129,757**	**$7,905,664**	**179,425**	**$35,339,225**	**$43,374,645**	**30.16%**	**$82.93**
	Total Overnight (April 2011) EPC Capital Costs:	**$37,865,622**	**$6,480,473**	**$38,221,202**	**684,660**	**$61,261,149**	**$143,828,446**	**100.00%**	**$275.01**