KINGSTON FOSSIL PLANT
OPTION 2 - DRY ASH IN POND & GYPSUM ON PENINSULA
(WITHOUT BUFFER OPTION)

Project name	KIF/05093O2/FLY&BOTTM ASH
Engineer	DAN SMITH
Estimator	C. L. Toney
Labor rate table	KIF 40 2004
Equipment rate table	TVA Equipment
Project	Ash
Plant	KIF
Estimate #	05093O2
PCN #	KIF530
Requesting Engr	Dan Smith
Option	2
Revision	0
Phase	2
Estimate Type	Preliminary
Estimate Accuracy	+/- 20%
Est. Issue Date	12/20/2004
Funding Type	Capital
Unit	N

Notes

Dry ash in pond & gypsum on peninsula (Wet ash in dredge cell/Phase 1, and Phase2. Phase 3 not constructed. Gypsum on peninsula).

All cost are based in 2005 dollars. Additional notes are as follow;

(1) Closure costs not included.

(2) Liner is not required for this option.

(3) Bottom ash columns are subject to change with final design.

(4) Engineering (incl TVA oversight, subcontracts, and geotechnical investigation) - Assumes 10% of construction cost.

(5) Assuming a disposal rate of 475,600 cy annually (including bottom and fly ash) & gypsum/ash generating 327,360 cy annually.

(6) Single phase power is assumed for pump installed for dredge cell seepage retrofit. 3-phase power is assumed not to be required.

Report format	Sorted by 'Location/Activity' 'Detail' summary

Location	Activity	Description	Takeoff Quantity	Labor Productivity	Labor Quantity	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount
01												
	Erosion Controls/S P											
		Erect Silt Fence	1,000.00 lf	0.069	68.57 mh	1,994	502	-	317	-	2.81	2,813
		Geolextile (Nonwoven) Erosion Protection Channel	4,300.00 sy	0.016	68.80 mh	1,963	5,772	-	175	-	1.84	7,911
		D50 9" Riprap	5,215.00 tn	0.320	1,668.80 mh	49,667	53,037	-	26,865	-	24.85	129,568
		3" Stone, 1' Thick To Prevent Erosion (Assume 105 pcf)	2,004.00 tn	0.096	192.38 mh	6,056	18,190	-	3,066	-	13.63	27,312
		Stg 1-6 CMP Mtl Spillway (1/2 of 48" Dia Riser Stand Pipe @ 128 Ft/Ea)	4.00 ea	166.084	664.33 mh	20,450	20,198	-	2,795	-	10,860.64	43,443
		Cut (Excavation For Placement Of 48" Dia Half-Round Pipe) 43 bcy	52.00 cy	0.400	20.80 mh	599	-	-	177	-	14.91	776
		Fill With 1032 CompactedCrushed Stone	93.00 tn	0.400	37.20 mh	1,107	804	-	599	-	26.99	2,510
		30" Diameter CMP Culvert	1,000.00 lf	0.600	600.00 mh	17,487	26,442	-	3,682	-	47.61	47,611
		Bedding For 30" CMP, 6" Thick	135.00 tn	0.500	67.50 mh	1,943	1,284	-	230	-	25.61	3,457
		30" Diameter CMP Stand Pipe (4Pipes @ 6 Stages w/30' Per Stage)	720.00 lf	0.750	540.00 mh	16,623	19,038	-	2,279	-	52.70	37,940
		D50 9" Riprap Outlet For Metal Spillway	53.00 tn	0.320	16.96 mh	505	539	-	273	-	24.85	1,317
		Galvanized Corrugated Metal Anti-Seep Collar	16.00 ea	16.000	256.00 mh	7,481	4,882	-	1,571	-	869.59	13,914
		Erosion Controls/S P			**4,201.35 hrs**	**125,853**	**150,687**		**42,029**			**318,569**
		01			***4,201.35 hrs***	***125,853***	***150,687***		***42,029***			***318,569***
02												
	Seed/Mulch											
		Seed/Mulch Disturbed Areas	26.00 ac		-	-	-	64,619	-	-	2,485.34	64,619
		Seed/Mulch			**hrs**			**64,619**				**64,619**
		02			***hrs***			***64,619***				***64,619***
03												
	South Access Road											
		1032 Crushed Stone Base, 6" Depth	3,520.00 tn	0.120	422.40 mh	13,739	31,950	-	4,147	-	14.16	49,836
		South Access Road			**422.40 hrs**	**13,739**	**31,950**		**4,147**			**49,836**
		03			***422.40 hrs***	***13,739***	***31,950***		***4,147***			***49,836***
04												
	Perimeter Road											
		1032 Roller Compacted Crushed Stone Base, 6" Depth	6,885.00 tn	0.120	826.20 mh	26,872	62,493	-	8,112		14.16	97,478
		Perimeter Road			**826.20 hrs**	**26,872**	**62,493**		**8,112**			**97,478**
		04			***826.20 hrs***	***26,872***	***62,493***		***8,112***			***97,478***
06												
	Drg Cell/P1 Opr Cost											
		Elv. 810 To Elv. 866	***1.00 lot***		-	-	-	-	-	-	***0.00***	***0***
		Dry Ash Stack	5,476,070.00 cy	1,100.000	4,978.25 cd	10,903,210	-	-	7,312,047	-	3.33	18,215,257
		Wet Dip And Stack Bottom Ash Only	678,848.00 cy	375.000	1,810.26 cd	531,659	-	-	1,264,903	-	2.65	1,796,563
		Disposal Life (Assume Dike & Dredge Ash)	***12.90 yr***		-	-	-	-	-	-	***0.00***	***0***
		Haul Distance (Round Trip)	***0.50 mile***		-	-	-	-	-	-	***0.00***	***0***
		Drg Cell/P1 Opr Cost			**372,915.76 hrs**	**11,434,869**			**8,576,950**			**20,011,819**
		06			***372,915.76 hrs***	***11,434,869***			***8,576,950***			***20,011,819***
07												
	Gypsum Stk Peninsula											
		Clear And Grub	***1.00 lot***		-	-	-	-	-	-	***0.00***	***0***
		Clear And Grub	90.00 ac	72.000	6,480.00 mh	193,775	-	-	169,944	-	3,941.32	354,719
		Strip 1 ft Vegetation And Topsoil - Spoil At Stockpile	129,000.00 cy	0.020	2,580.00 mh	79,380	-	-	82,238	-	1.25	161,618
		Gypsum Stk Peninsula			**9,060.00 hrs**	**273,155**			**243,181**			**516,336**
		07			***9,060.00 hrs***	***273,155***			***243,181***			***516,336***
08												
	Erosion Controls											
		Erect Silt Fence (Trench Bottom OF Fence, 10% Hay Bales)	4,900.00 lf	0.069	335.99 mh	9,769	2,462	-	1,554	-	2.81	13,784
		Cut For Stormwater Runoff Pond (2,000 bcy)	2,400.00 cy	800.000	3.00 cd	3,199	-	-	2,525	-	2.39	5,724
		Cleanout Stormwater Runoff Pond (2,300 bcy)	2,760.00 cy	383.333	7.20 cd	3,839	-	-	2,350	-	2.24	6,189
		Fill For Stormwater Runoff Pond (12,000 bcy)	14,400.00 cy	1,904.000	7.56 cd	22,757	-	-	24,725	-	3.30	47,482
		Riprap For Stormwater Runoff Pond	4,300.00 tn	0.200	860.00 mh	25,595	43,731	-	18,441	-	20.41	87,767
		Pipe Bedding	20.00 tn	0.500	10.00 mh	288	199	-	34	-	26.03	521
		72 " Dia. CMP For Outlet Structure	6.00 lf	2.000	12.00 mh	337	1,851	-	70	-	376.24	2,257
		48 " Dia. CMP For Riser For Outlet Structure	7.00 lf	1.091	7.64 mh	214	936	-	45	-	170.64	1,195
		48 " Dia. CMP Outlet Pipe (Principle Spillway)	150.00 lf	0.620	93.00 mh	2,610	7,404	-	542	-	70.37	10,556
		Cut Holes In Riser	3.00 ea	1.000	3.00 mh	74	-	-	15	-	29.92	90
		Composite Concrete For Riser Base (Assume 7' x 7' x 2')	4.00 cy	10.000	40.00 mh	1,294	823	-	105	-	555.30	2,221
		Anti-Seep Collars (Assume Concrete)	7.00 ea	75.000	525.00 mh	16,984	5,076	-	1,373	-	3,347.60	23,433
		Erosion Controls			**2,763.38 hrs**	**86,962**	**62,480**		**51,777**			**201,219**
		08			***2,763.38 hrs***	***86,962***	***62,480***		***51,777***			***201,219***
09												
	Roads											
		Bottom Ash (South Access Road)	2,400.00 cy	1,904.000	1.26 cd	3,052	-	-	3,118	-	2.57	6,170
		Crushed Stone Base (South Access Road)	2,900.00 tn	0.120	348.00 mh	11,319	26,323	-	3,417	-	14.16	41,058
		Crushed Stone Base (Permanent Parking Lot Paved Stone)	340.00 tn	0.120	40.80 mh	1,327	3,086	-	401	-	14.16	4,814

Location	Activity	Description	Takeoff Quantity	Labor Productivity	Labor Quantity	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount
					479.56 hrs	15,698	29,409		6,935			52,042
		09			*479.56 hrs*	*15,698*	*29,409*		*6,935*			*52,042*
10												
	Fencing											
		New Fencing (Including Grounding)	200.00 lf		-	-	-	4,211	-	-	21.05	4,211
		Personnel Swinging Gate	1.00 ea		-	-	-	370	-	-	369.72	370
		Sliding Gate, 20 Ft Wide, With Motorized Operator	1.00 ea		-	-	-	17,459	-	-	17,459.00	17,459
		Fencing			hrs			**22,039**				**22,039**
		10			*hrs*			*22,039*				*22,039*
11												
	Seed/Mulch											
		Seed/Mulch Disturbed Areas	25.00 ac		-	-	-	62,134	-	-	2,485.34	62,134
		Seed/Mulch			hrs			**62,134**				**62,134**
		11			*hrs*			*62,134*				*62,134*
13												
	Gypsum Disp Facility											
		Disposal Facility Construction	***1.00 lot***		-	-	-	-	-	-	*0.00*	*0*
		Cut And Fill Balance (189,719 bcy)	227,663.00 cy	2,800.000	81.31 cd	244,655	-	-	265,808	-	2.24	510,463
		Cut & Spoil Select Cut For Future 1 Ft Clay Layer In Final Cover	145,001.00 cy	1,904.000	76.16 cd	166,178	-	-	196,528	-	2.50	362,707
		Riprap For Ditch	23,500.00 tn	0.200	4,700.00 mh	139,881	238,995	-	100,781	-	20.41	479,657
		Ditch For Riprap (24' wide x 2' deep)	7,300.00 lf	0.044	320.03 mh	10,911	-	-	12,904	-	3.26	23,816
		Geotextile (If Riprap Is Used)	19,500.00 sy	0.015	292.50 mh	8,420	26,029	-	995	-	1.82	35,443
		Perimeter Road Surfacing - Bottom Ash	2,400.00 cy	1,904.000	1.26 cd	3,052	-	-	3,118	-	2.57	6,170
		Perimeter Road Surfacing - Crushed Stone	2,900.00 tn	0.120	348.00 mh	11,319	26,323	-	3,417	-	14.16	41,058
		Drainage Layer (1 Ft Thick) For Liner (No. 57 Stone)	168,000.00 tn	0.096	16,128.00 mh	507,694	1,452,276	-	257,040	-	13.20	2,217,010
		Geotextile For Underdrain Pipe	5,700.00 sy	0.011	59.85 mh	1,723	7,608	-	203	-	1.87	9,535
		8" Dia. HDPE, SDR 17 Perforated Pipe	6,400.00 lf	0.200	1,280.00 mh	34,935	10,593	-	5,439	-	7.96	50,967
		8" Dia. HDPE Standard Fittings	50.00 ea	0.200	10.00 mh	248	407	-	-	-	13.10	655
		Concrete Anchors For Underdrain Piping	85.00 ea	12.500	1,062.50 mh	34,373	10,157	-	2,778	-	556.58	47,309
		Proofroll Subgrade	70.00 ac	7.000	10.00 cd	8,497	-	-	4,080	-	179.67	12,577
		Gypsum Disp Facility			36,560.74 hrs	1,171,887	1,772,388		853,092			3,797,367
		13			*36,560.74 hrs*	*1,171,887*	*1,772,388*		*853,092*			*3,797,367*
14												
	Gyp On Peninsula Cst											
		Allowance For Karst Geologic Features	1.00 ls		-	-	-	246,480	-	-	246,480.00	246,480
		Addition Geotechnical Investigation	1.00 ls		-	-	-	102,700	-	-	102,700.00	102,700
		Cut For Underdrain System	4,407.00 cy	0.200	881.40 mh	25,372	-	-	7,492	-	7.46	32,864
		6" Dia Perforated HDPE Perimeter Underdrains	59,491.00 lf	0.200	11,898.20 mh	324,733	98,468	-	50,517	-	7.96	473,718
		Fill For Underdrain System	3,525.00 cy	0.250	881.25 mh	25,368	-	-	10,571	-	10.20	35,939
		1081 Crushed Stone, 6" Depth (110 pcf)	3,272.00 tn	0.150	490.80 mh	14,128	29,699	-	4,172	-	14.67	47,999
		Cut For Lateral Outlet Pipes	551.00 cy	0.200	110.20 mh	3,172	-	-	937	-	7.46	4,109
		8" Dia Non- Perforated HDPE Lateral Outlet Pipes	7,436.00 lf	0.200	1,487.20 mh	40,590	12,308	-	6,314	-	7.96	59,212
		Fill For Lateral Outlet Pipes	441.00 cy	0.250	110.25 mh	3,174	-	-	1,322	-	10.20	4,496
		1081 Crushed Stone, 6" Depth (110 pcf)	409.00 tn	0.150	61.35 mh	1,766	3,712	-	521	-	14.67	6,000
		Gypsum Disposal Stack (Wet Sluice)	***5,535,853.00 cy***		-	-	-	-	-	-	*0.00*	*0*
		Wet Cast Gypsum Gypsum Dike	1,011,347.00 cy	375.000	2,696.93 cd	792,065	-	-	1,884,452	-	2.65	2,676,517
		Cut Rim Ditches	114,575.00 cy	375.000	305.53 cd	89,733	-	-	213,489	-	2.65	303,221
		Life Of Gypsum Disposal Stack	***20.00 yrs***		-	-	-	-	-	-	*0.00*	*0*
		Gyp On Peninsula Cst			39,940.32 hrs	1,320,101	144,187	349,180	2,179,787			3,993,255
		14			*39,940.32 hrs*	*1,320,101*	*144,187*	*349,180*	*2,179,787*			*3,993,255*
15												
	Construction Parking											
		Silt Fence	1,000.00 lf	0.020	20.00 mh	526	320	-	-	-	0.85	846
		Cut And Fill Balance (500 bcy)	600.00 cy	2,800.000	0.21 cd	645	-	-	701	-	2.24	1,345
		Cut & Spoil Additional Material	400.00 cy	1,904.000	0.21 cd	458	-	-	542	-	2.50	1,001
		Crushed Stone Base	1,400.00 tn	0.120	168.00 mh	5,464	12,707	-	1,650	-	14.16	19,821
		Construction Parking			220.30 hrs	7,093	13,028		2,892			23,013
		15			*220.30 hrs*	*7,093*	*13,028*		*2,892*			*23,013*
17												
	Ph 2 Base Construct											
		Base Layers	***1.00 lot***		-	-	-	-	-	-	*0.00*	*0*
		Compacted Fly Ash Base (Fill)	573,650.00 cy	1,300.000	441.27 cd	1,088,579	-	-	891,223	-	3.42	1,959,802
		Proofroll Subgrade	177,100.00 sy	28,111.100	6.30 cd	5,353	-	-	2,570	-	0.05	7,923
		2.5' Thick Bottom Ash Layer	152,717.00 cy	1,300.000	117.47 cd	284,477	-	-	237,261	-	3.42	521,738
		0.5' Thick Fly Ash Filter Layer	30,543.00 cy	1,300.000	23.49 cd	56,895	-	-	47,452	-	3.42	104,348
		18" Dia Coarse Bottom Ash Drain Columns (haul 2 miles, 1,100 bcy)	16,920.00 lf		-	-	-	347,537	-	-	20.54	347,537
		Roto Till Fly Ash Layer	177,100.00 sy	1,400.000	126.50 cd	74,304	-	-	20,645	-	0.54	94,949
		Bottom Ash Dike Fill	***0.00 cy***	***1,300.000***	***0.00 cd***	*0*	-	-	*0*	-	*0.00*	*0*
		4" Diameter Perforated PVC Pipe (Underdrains) SDR 17.5	26,082.00 lf	0.070	1,825.74 mh	49,829	40,942	-	7,762	-	3.78	98,533
		Trenching For The Drain System (4" Dia Underdrains), 966 bcy	1,160.00 cy	0.200	232.00 mh	6,678	-	-	1,972	-	7.46	8,650

Location	Activity	Description	Takeoff Quantity	Labor Productivity	Labor Quantity	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount
	Ph 2 Base Construct											
		Strip Existing 1' Soil Cover (Phase 1 Expansion), 19,133 bcy	22,960.00 cy	800.000	28.70 cd	14,128	-	-	14,930	-	1.27	29,058
		Anchor Trench Cut	1,306.00 cy	0.200	261.20 mh	7,519	-	-	3,330	-	8.31	10,849
		Anchor Trench Fill & Compact	1,242.00 cy	0.320	397.44 mh	11,441	-	-	9,835	-	17.13	21,275
		2.0' Thick Bottom Ash Blanket Drain	24,640.00 cy	1,300.000	18.95 cd	45,899	-	-	36,281	-	3.42	84,179
		1.0' Thick Filter Drain Ash Layer	12,320.00 cy	1,300.000	9.48 cd	22,949	-	-	19,140	-	3.42	42,090
		Geomembrane	36,960.00 sy	0.050	1,848.00 mh	52,720	82,694	-	4,712	-	3.79	140,126
		Perforated Pipe ADS Drain Tube, 6" Diameter	4,946.00 lf	0.200	989.20 mh	26,998	8,186	-	4,200	-	7.96	39,384
		Geotextile For Underdrain	4,121.00 sy	0.021	84.77 mh	2,418	8,344	-	288	-	2.68	11,051
		#57 Stone For Outlet pipe Bedding (135 pcf)	1,001.00 tn	0.150	150.15 mh	4,322	9,086	-	1,276	-	14.67	14,684
		Solid Outlet Pipe ADS Drain 6" Diameter	1,236.00 lf	0.200	247.20 mh	6,747	2,046	-	1,050	-	7.96	9,842
		#57 Stone For Outlet pipe Bedding (135 pcf)	250.00 tn	0.150	37.50 mh	1,079	2,269	-	319	-	14.67	3,667
		6" Dia Non-Perf HDPE Corrugated Tubing Lateral Outlet Pipes (EL. 760)	302.00 lf	0.200	60.40 mh	1,648	500	-	256	-	7.96	2,405
		1081Crushed Stone, Bedding 6" Depth	10.00 tn	0.500	5.00 mh	144	95	-	17	-	25.61	256
		6" Dia Perforated HDPE Drain (EL. 760)	1,512.00 lf	0.200	302.40 mh	8,253	2,503	-	1,284	-	7.96	12,040
		1081Crushed Stone	286.00 tn	0.500	143.00 mh	4,116	2,720	-	487	-	25.61	7,323
		Geotextile Woven Monofilament	1,176.00 sy	0.021	24.19 mh	660	2,381	-	82	-	2.68	3,154
		Cut For Underdrain System	224.00 cy	0.200	44.80 mh	1,290	-	-	381	-	7.46	1,670
		Backfill For Underdrain System	168.00 cy	0.250	42.00 mh	1,209	-	-	504	-	10.20	1,713
		Certification	1.00 ls		-	-	-	-	-	31,500	31,500.00	31,500
		QA/QC For Construction Of Diposal Facility	1.00 ls		-	-	-	470,247	-	-	470,246.87	470,247
		Ph 2 Base Construct			**53,297.57 hrs**	**1,759,686**	**161,766**	**817,784**	**1,309,258**	**31,500**		**4,079,993**
		17			***53,297.57 hrs***	***1,759,686***	***161,766***	***817,784***	***1,309,258***	***31,500***		***4,079,993***
18												
	Temp Slope Protect											
		Cut For Ditch (5,815 bcy)	6,978.00 cy	1.200.000	5.82 cd	10,981	-	-	12,041	-	3.30	23,022
		D50 9" Riprap	4,239.00 tn	0.320	1,356.48 mh	40,371	43,111	-	21,837	-	24.85	105,319
		Seed Ditch	6,978.00 sy		-	-	-	3,583	-	-	0.51	3,583
		Jute Matting	6,978.00 sy	0.012	83.74 mh	2,389	5,464	-	427	-	1.19	8,280
		Temp Slope Protect			**1,765.86 hrs**	**53,741**	**48,575**	**3,583**	**34,304**			**140,204**
		18			***1,765.86 hrs***	***53,741***	***48,575***	***3,583***	***34,304***			***140,204***
19												
	Riprap Stilling Basn											
		Riprap D50 Size 9"	2,344.00 tn	0.320	750.08 mh	22,324	23,838	-	12,075	-	24.85	58,237
		Cut For Basin (3,582 bcy)	4,300.00 cy	1.200.000	3.58 cd	6,767	-	-	7,420	-	3.30	14,186
		Riprap Stilling Basn			**950.75 hrs**	**29,091**	**23,838**		**19,495**			**72,424**
		19			***950.75 hrs***	***29,091***	***23,838***		***19,495***			***72,424***
20												
	Ph 2 Initial Constr											
		Dry Stack Ash Quantities	614,909.00 cy	1,100.000	559.01 cd	1,224,324	-	-	821,071	-	3.33	2,045,395
		Initial Construction Disposal Life (Assume Dry Ash Stack)	***1.30 yrs***		-	-	-	-	-	-	***0.00***	***0***
		Ph 2 Initial Constr			**40,248.59 hrs**	**1,224,324**			**821,071**			**2,045,395**
		20			***40,248.59 hrs***	***1,224,324***			***821,071***			***2,045,395***
22												
	Ph 2 Operationl Cost											
		Stage 1 (3 To 1 Side Slopes)	***1.00 lot***		-	-	-	-	-	-	***0.00***	***0***
		Dry Stack Ash Quantities	1,589,685.00 cy	1,100.000	1,445.17 cd	3,185,166	-	-	2,122,663	-	3.33	5,267,829
		Stage 1 Disposal Life (Assume Dry Stack Area)	***3.30 yrs***		-	-	-	-	-	-	***0.00***	***0***
		Haul Distance (Round Trip)	***0.50 mile***		-	-	-	-	-	-	***0.00***	***0***
		Ph 2 Operationl Cost			**104,052.11 hrs**	**3,185,166**			**2,122,663**			**5,287,829**
		22			***104,052.11 hrs***	***3,165,166***			***2,122,663***			***5,287,829***
23												
	Ph 2 Operationl Cost											
		Stage 2 (3 To 1 Side Slopes)	***1.00 lot***		-	-	-	-	-	-	***0.00***	***0***
		Dry Stack Ash Quantities	1,773,078.00 cy	1,100.000	1,611.89 cd	3,530,309	-	-	2,367,540	-	3.33	5,897,849
		Stage 2 Disposal Life (Assume Dry Stack Area)	***3.70 yrs***		-	-	-	-	-	-	***0.00***	***0***
		Ph 2 Operationl Cost			**116,055.88 hrs**	**3,530,309**			**2,367,540**			**5,897,849**
		23			***116,055.88 hrs***	***3,530,309***			***2,367,540***			***5,897,849***
24												
	Ph 2 Operationl Cost											
		Stage 3 (3 To 1 Side Slopes)	***1.00 lot***		-	-	-	-	-	-	***0.00***	***0***
		Dry Stack Ash Quantities	1,572,022.00 cy	1,100.000	1,429.11 cd	3,129,998	-	-	2,099,078	-	3.33	5,229,076
		Stage 2 Disposal Life (Assume Dry Stack Area)	***3.30 yrs***		-	-	-	-	-	-	***0.00***	***0***
		Ph 2 Operationl Cost			**102,895.99 hrs**	**3,129,998**			**2,099,078**			**5,229,076**
		24			***102,895.99 hrs***	***3,129,998***			***2,099,078***			***5,229,076***
25												
	Dry Fly Ash Conver											

Location	Activity	Description	Takeoff Quantity	Labor Productivity	Labor Quantity	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount
	Dry Fly Ash Conver											
		Dry Fly Ash Conversion Capital Cost	1.00 ls		-	-	-	25,675,000	-	-	25,675,000.00	25,675,000
		Dry Fly Ash Conver			hrs			25,675,000				25,675,000
		25			hrs			25,675,000				25,675,000
xCONST FACILITY												
	Construct Facilities											
		Mobilize, Drug Test, Misc Other, & Demoblize	1.00 ls	8,253.968	8,253.97 mh	254,800	-	-	137,200	0	392,000.00	392,000
		Construct Facilities			8,253.97 hrs	254,800			137,200			392,000
		xCONST FACILITY			8,253.97 hrs	254,800			137,200			392,000
zNON MANUAL												
	Non-Manual											
		Non Manual	1.00 ls	14,850.120	14,850.12 mh	742,506	-	-	-	-	742,506.00	742,506
		Non-Manual			14,850.12 hrs	742,506						742,506
		zNON MANUAL			14,850.12 hrs	742,506						742,506

Estimate Totals

Labor	28,365,849		909,760.841	hrs			
Material	2,500,802						
Subcontract	26,994,339						
Equipment	20,879,512		626,546.003	hrs			
Other	31,500						
	78,772,002	78,772,002					
Engineered Materials - Ph 2			100.000	%		C	
Adjustment - Engr Materials			(100.000)	%		C	
		78,772,002					
Environmental Costs			100.000	%		C	
Adjustment Environmental			(100.000)	%		C	
		78,772,002					
FPG Mech Engr - Phase 2	15,001		0.039	% @	42.00	A	357
FPG Elec Engr - Phase 2	15,001		0.039	% @	42.00	A	357
FPG Civil Engr - Phase 2	30,067		0.079	% @	42.00	A	716
Non-TVA Engr - Phase 2	534,057		0.815	% @	72.00	A	7,417
FPG Proj Cntrl Cost - Phase 2	978		0.003	% @	42.00	A	23
FPG Proj Cntrl Sched - Phase 2	2,938		0.008	% @	42.00	A	70
FPG Cost Estimating - Phase 2	978		0.003	% @	42.00	A	23
FPG Engr Records - Phase 2	978		0.003	% @	42.00	A	23
	599,998	79,372,000					
Rounding						L	
		79,372,000					
	Total	***79,372,000***					