KINGSTON FOSSIL PLANT
OPTION 6 - DRY ASH IN POND & GYPSUM ON PENINSULA
(WITH BUFFER OPTION)

Project name	KIF/05093O6/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 #	05093O6
PCN #	KIF530
Requesting Engr	Dan Smith
Option	6
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) Bottom ash columns are subject to change with final design.

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

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

(5) 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
		Geotextile (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 @ 12ft 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	7,461	4,882	-	1,571	-	869.59	13,914
		Erosion Controls/S P			**4,201.35 hrs**	125,853	150,887		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	-	-	160,944	-	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*
12												
	Borrow Area Develop											
		Disc Future Borrow Area (Assumed For Compacted Clay Material)	20.00 ac	6.000	3.33 cd	1,958	-	-	884	-	142.10	2,842
		Seed / Fertilize / Lime Future Borrow Area	20.00 ac		-	-	-	47,719	-	-	2,385.93	47,719
		Borrow Area Develop			53.33 hrs	1,958		47,719	884			50,560
		12			*53.33 hrs*	*1,958*		*47,719*	*884*			*50,560*
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
		Compacted Clay Liner, 6" Lifts (339,000 bcy)	406,800.00 cy	1,200.000	339.00 cd	1,020,046	-	-	1,108,239	-	5.23	2,128,285
		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	-	1.67	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	-	7.98	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			66,392.74 hrs	2,191,934	1,772,388		1,961,331			5,925,652
		13			*66,392.74 hrs*	*2,191,934*	*1,772,388*		*1,961,331*			*5,925,652*
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
		6" 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	792,085	-	-	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	1,068,579	-	-	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

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											
		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	104,346
		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***
		1.0' Layer Of Bottom Ash	61,087.00 cy	1,300.000	46.99 cd	113,791	-	-	94,905	-	3.42	208,696
		Geosynthetic Clay Liner	183,260.00 sy	0.026	4,764.76 mh	135,928	440,312	-	12,150	-	3.21	588,391
		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
		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	-	-	38,281	-	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	28,998	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			61,445.61 hrs	2,009,405	602,078	817,784	1,416,313	31,500		4,877,080
		17			***61,445.61 hrs***	***2,009,405***	***602,078***	***817,784***	***1,416,313***	***31,500***		***4,877,080***
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			1,755.86 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	3,165,166	-	-	2,122,663	-	3.33	5,287,829
		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	3,165,166			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	1,773,076.00 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												

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 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											
		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, & Demobilize	1.00 ls	11,162.415	11,162.42 mh	345,700	-	-	186,200	0	531,900.00	531,900
		Construct Facilities			11,162.42 hrs	345,700			186,200			531,900
		xCONST FACILITY			*11,162.42 hrs*	*345,700*			*186,200*			*531,900*
zNON MANUAL												
	Non-Manual											
		Non Manual	1.00 ls	19,973.460	19,973.46 mh	*998,673*	-	-	-	-	998,673.00	998,673
		Non-Manual			19,973.46 hrs	998,673						998,673
		zNON MANUAL			*19,973.46 hrs*	*998,673*						*998,673*

Estimate Totals

Labor	29,984,640		955,826.001	hrs			
Material	2,941,113						
Subcontract	27,042,057						
Equipment	22,144,690		653,174.062	hrs			
Other	31,500						
	82,144,000	82,144,000					
Engineered Materials - Ph 2			100.000	%		C	
Adjustment - Engr Materials			(100.000)	%		C	
		82,144,000					
Environmental Costs			100.000	%		C	
Adjustment Environmental			(100.000)	%		C	
		82,144,000					
FPG Mech Engr - Phase 2	14,998		0.037	% @	42.00	A	357
FPG Elec Engr - Phase 2	14,998		0.037	% @	42.00	A	357
FPG Civil Engr - Phase 2	30,080		0.075	% @	42.00	A	716
Non-TVA Engr - Phase 2	534,039		0.776	% @	72.00	A	7,417
FPG Proj Cntrl Cost - Phase 2	988		0.002	% @	42.00	A	24
FPG Proj Cntrl Sched - Phase 2	2,939		0.007	% @	42.00	A	70
FPG Cost Estimating - Phase 2	980		0.002	% @	42.00	A	23
FPG Engr Records - Phase 2	980		0.002	% @	42.00	A	23
	600,002	82,744,002					
Rounding						L	
		82,744,002					
	Total	***82,744,002***					