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

Project name	KIF/05093O6R1/FLY&BOT ASH
Engineer	DAN SMITH
Estimator	C. L. Toney
Labor rate table	KIF 40 2004
Equipment rate table	TVA Equipment
Project	Ash
Plant	KIF
Estimate #	05093O6R1
PCN #	KIF530
Requesting Engr	Dan Smith
Option	6
Revision	1
Phase	2
Estimate Type	Preliminary
Estimate Accuracy	+/- 20%
Est. Issue Date	01/21/2005
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/Outage Seq'
'Detail' summary

Location	Activity	Outage Seq	Description	Takeoff Quantity		Labor Productivity	Labor Quantity		Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount
02															
	Ash In Pond														
		Capital													
			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
			Sig 1-6 CMP Mil 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	7,461	4,882	-	1,571	-	869.59	13,914
			Seed/Mulch Disturbed Areas	26.00	ac		-		-	-	64,619	-	-	2,485.34	64,619
			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
			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
			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
			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***	-	-	-	-	***0.00***	***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	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
			Geotexiile 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
			Contingency @ 10%	1.00	ls		-		-	-	-	-	493,734	493,734.00	493,734
			Capital				*66,895.56*	*hrs*	*2,175,869*	*847,209*	*412,156*	*1,470,601*	*525,234*		*5,431,069*
			Ash In Pond				**66,895.56**	**hrs**	**2,175,869**	**847,209**	**412,156**	**1,470,601**	**525,234**		**5,431,069**
			02				***66,895.56***	***hrs***	***2,175,869***	***847,209***	***412,156***	***1,470,601***	***525,234***		***5,431,069***
03															
	Gypsum On Peninsula														
		Capital													
			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
			Disc Future Borrow Area (Assumed For Compacted Clay Material)	20.00	ac	6.000	3.33	cd	1,958	-	-	884	-	142.10	2,842
			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
			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
			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
			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
			Seed/Mulch Disturbed Areas	25.00	ac		-		-	-	62,134	-	-	2,485.34	62,134
			Silt Fence	1,000.00	lf	0.020	20.00	mh	526	320	-	-	-	0.85	846
			Disposal Facility Construction	***1.00***	***lot***		-		-	-	-	-	-	***0.00***	***0***
			Allowance For Karst Geologic Features	1.00	ls		-		-	-	513,500	-	-	513,500.00	513,500
			Wetland Mitigation Costs	1.00	ls		-		-	-	260,000	-	-	260,000.00	260,000
			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
			Bottom Ash (South Access Road)	2,400.00	cy	1,904.000	1.26	cd	3,052	-	-	3,118	-	2.57	6,170
			Cut And Fill Balance (500 bcy)	500.00	cy	2,800.000	0.21	cd	645	-	-	701	-	2.24	1,345

Location	Activity	Outage Seq	Description	Takeoff Quantity	Labor Productivity	Labor Quantity	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount
		Capital											
			Cut & Spoil Additional Material	400.00 cy	1,904.000	0.21 cd	458	-	-	542	-	2.50	1,001
			Cut And Fill Balance (189,719 bcy)	227,663.00 cy	2,800.000	81.31 cd	244,855	-	-	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
			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
			Crushed Stone Base	1,400.00 tn	0.120	168.00 mh	5,464	12,707	-	1,650	-	14.16	19,821
			Riprap For Stormwater Runoff Pond	4,300.00 tn	0.200	860.00 mh	25,595	43,731	-	18,441	-	20.41	87,767
			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
			Geotexille (If Riprap Is Used)	19,500.00 sy	0.015	292.50 mh	8,420	26,029	-	995	-	1.82	35,443
			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
			Pipe Bedding	20.00 tn	0.500	10.00 mh	288	199	-	34	-	26.03	521
			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
			Geotexille 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	-	7.96	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
			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
			Seed / Fertilize / Lime Future Borrow Area	20.00 ac		-	-	-	47,719	-	-	2,385.93	47,719
			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
			Contingency @ 15%	1.00 ls		-	-	-	-	-	1,175,868	1,175,868.00	1,175,868
			Capital			*81,685.91 hrs*	*2,659,631*	*1,949,718*	*908,975*	*2,320,799*	*1,175,868*		*9,014,991*
			Gypsum On Peninsula			**81,685.91 hrs**	**2,659,631**	**1,949,718**	**908,975**	**2,320,799**	**1,175,868**		**9,014,991**
			03			***81,685.91 hrs***	***2,659,631***	***1,949,718***	***908,975***	***2,320,799***	***1,175,868***		***9,014,991***
05													
	Miscellaneous												
		Capital											
			Dry Fly Ash Conversion Capital Cost	1.00 ls		-	-	-	25,675,000	-	-	25,675,000.00	25,675,000
			Non Manual	1.00 ls	19,973.460	19,973.46 mh	*998,673*	-	-	-	-	998,673.00	998,673
			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
			Contingency @ 10%	1.00 ls		-	-	-	-	-	2,720,557	2,720,557.00	2,720,557
			Capital			*31,135.88 hrs*	*1,344,373*		*25,675,000*	*186,200*	*2,720,557*		*29,926,130*
			Miscellaneous			**31,135.88 hrs**	**1,344,373**		**25,675,000**	**186,200**	**2,720,557**		**29,926,130**
			05			***31,135.88 hrs***	***1,344,373***		***25,675,000***	***186,200***	***2,720,557***		***29,926,130***
06													
	Drg Cell/P1 Opr Cost												
		O & M											
			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***
			O & M			*372,915.76 hrs*	*11,434,869*			*8,576,950*			*20,011,819*
			Drg Cell/P1 Opr Cost			**372,915.76 hrs**	**11,434,869**			**8,576,950**			**20,011,819**
	Engr/Geotech												
		Capital											
			Addition Geotechnical Investigation	1.00 ls		-	-	-	102,700	-	-	102,700.00	102,700
			Contingency @ 15%	1.00 ls		-	-	-	-	-	15,405	15,405.00	15,405
			Capital			*hrs*			*102,700*		*15,405*		*118,105*
			Engr/Geotech			**hrs**			**102,700**		**15,405**		**118,105**
			06			***372,915.76 hrs***	***11,434,869***		***102,700***	***8,576,950***	***15,405***		***20,129,924***
14													
	Gyp On Peninsula Cst												
		O & M											
			Cut For Underdrain System	4,407.00 cy	0.200	881.40 mh	25,372	-	-	7,492	-	7.45	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	792,065	-	-	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

Location	Activity	Outage Seq	Description	Takeoff Quantity	Labor Productivity	Labor Quantity	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount
		O & M											
			Life Of Gypsum Disposal Stack	*20.00 yrs*		-	-	-	-	-	-	*0.00*	*0*
			O & M			*39,940.32 hrs*	*1,320,101*	*144,187*		*2,179,787*			*3,644,075*
			Gyp On Peninsula Cst			39,940.32 hrs	1,320,101	144,187		2,179,787			3,644,075
			14			*39,940.32 hrs*	*1,320,101*	*144,187*		*2,179,787*			*3,644,075*
17													
	Ph 2 Base Construct												
		O & M											
			QA/QC For Construction Of Diposal Facility	1.00 ls		-	-	-	470,247	-	-	470,246.87	470,247
			O & M			*hrs*			*470,247*				*470,247*
			Ph 2 Base Construct			0.00 hrs	0	0	470,247	0			470,247
			17			*0.00 hrs*	*0*	*0*	*470,247*	*0*			*470,247*
20													
	Ph 2 Initial Constr												
		O & M											
			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*
			O & M			*40,248.59 hrs*	*1,224,324*			*821,071*			*2,045,395*
			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												
		O & M											
			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*
			O & M			*104,052.11 hrs*	*3,165,166*			*2,122,663*			*5,287,829*
			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												
		O & M											
			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*
			O & M			*116,055.88 hrs*	*3,530,309*			*2,367,540*			*5,897,849*
			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												
		O & M											
			Stage 3 (3 To 1 Side Slopes)	*1.00 lot*		-	-	-	-	-	-	*0.00*	*0*
			Dry Stack Ash Quantities	1,572,922.00 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*
			O & M			*102,895.99 hrs*	*3,129,998*			*2,099,078*			*5,229,076*
			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*

Estimate Totals

Labor	29,984,640		955,826.001	hrs			
Material	2,941,113						
Subcontract	27,569,077						
Equipment	22,144,690		653,174.052	hrs			
Other	4,437,064						
	87,076,584	87,076,584					
Engineered Materials - Ph 2			100.000	%		C	
Adjustment - Engr Materials			(100.000)	%		C	
		87,076,584					
Environmental Costs			100.000	%		C	
Adjustment Environmental			(100.000)	%		C	
		87,076,584					
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
Engr Contgcy@15%-Phase 2	90,000		0.224	% @	42.00	A	2,143
	690,002	87,766,586					
Rounding	414					L	
	414	87,767,000					
	Total	***87,767,000***					