

KINGSTON FOSSIL PLANT
OPTION 8 - DRY ASH IN POND & GYPSUM IN POND
(WITH BUFFER OPTION)

KIF0509308R1/FYLY&BOT ASH

Project name

Engineer DAN SMITH

Estimator

C. L. Toney

Estimator

KIF 40 2004

Labor rate table

Equipment rate table

TVA Equipment

Ash

KIF

0509308R1

KIF530

Dan Smith

8

1

2

Preliminary

+/- 20%

01/21/2005

Capital

N

Project

Plant

Estimate #

PCN #

Requesting Engr

Option

Revision

Phase

Estimate Type

Estimate Accuracy

Est. Issue Date

Funding Type

Unit

Notes

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 diege call seepage retrofit. 3-phase power is assumed not to be required.

Report format

Sorted by Location/Activity/Outage Seq

Detail summary

Spreadsheet Report
KIF0500308R/FLY&BOT ASH

Estimate Company

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
07	Ph 2 Base Construct	O & M	Haul Distance (Round Trip) O & M Orig Call/P Opr Cost 06	0.50 mile		381,543.39 hrs 381,543.39 hrs 381,543.39 hrs	11,751,602 11,751,602 11,751,602			9,330,510 9,330,510 9,330,510		0.00	0 21,082,112 21,082,112 21,082,112
10	Ph 2 Initial Constr	O & M	QA/QC For Construction Of Disposal Facility O & M Ph 2 Base Construct 07	1.00 ls					746,424			746,423.80	746,424 746,424 746,424 746,424
11	Rim Ditches	O & M	Wet Sluice Sedimented Gypsum Quantities Initial Cons. Disposal Life Perforated Pipe ADS Drain Tube, 6" Diameter Geotextile For Underdrain #57 Stone For Outlet Pipe Bedding (135 pcf) Solid Outlet Pipe ADS Drain 6" Diameter #57 Stone For Outlet Pipe Bedding (135 pcf) O & M Ph 2 Initial Constr 10	451,295.00 cy 7,370.00 lf 6,142.00 sf 1,492.00 lf 1,656.00 lf 336.00 tn	0.200 0.021 0.150 0.200 0.150	1,474.00 mh 126.34 mh 223.80 mh 331.60 mh 58.40 mh 2,206.14 hrs 2,206.14 hrs 2,206.14 hrs	40,229 3,604 6,442 9,050 1,465 60,777 60,777 60,777	12,198 12,437 13,542 2,744 3,050 43,972 43,972 43,972				0.00 0.00 7.95 2.95 14.67 7.95 14.67 14.67	0 58,988 16,471 21,987 13,302 4,929 115,175 115,175 115,175
12	Ph 2 Operational Cost	O & M	Stage 1 (3 To 1 Side Slopes) Wet Sluice Gypsum Quantities Stage 1 Disposal Life (3 To 1 Side Slopes) Geotextile For Underdrain #57 Stone For Outlet Pipe Bedding (135 pcf) Solid Outlet Pipe ADS Drain 6" Diameter #57 Stone For Outlet Pipe Bedding (135 pcf) O & M Ph 2 Operational Cost 12	1.00 lot 255,189.00 cy 1,334,496.00 cy 4.90 yrs 11,495.00 lf 9,579.00 sf 2,328.00 tn 2,596.00 lf 524.00 tn	0.200 0.021 0.150 0.200 0.150	5,714.00 cd 4,571.20 hrs 4,571.20 hrs 4,571.20 hrs	167,816 167,816 167,816 167,816			399,260 399,260 399,260 399,260		4.22	567,076 567,076 567,076 567,076
13	Ph 2 Operational Cost	O & M	Stage 2 (3 To 1 Side Slopes) Wet Sluice Gypsum Quantities Stage 2 Disposal Life (Assumes Dike & Sluice Gypsum) Geotextile For Underdrain #57 Stone For Outlet Pipe Bedding (135 pcf) Solid Outlet Pipe ADS Drain 6" Diameter #57 Stone For Outlet Pipe Bedding (135 pcf) O & M Ph 2 Operational Cost 13	1.00 lot 263,403.00 cy 1,509,673.00 cy 5.40 yrs 11,865.00 lf 9,686.00 sf 2,403.00 tn 2,670.00 lf 541.00 tn	0.200 0.021 0.150 0.200 0.150	5,714.00 cd 4,571.20 hrs 4,571.20 hrs 4,571.20 hrs	167,816 167,816 167,816 167,816			399,260 399,260 399,260 399,260		4.22	567,076 567,076 567,076 567,076
14	Ph 3 Initial Constr	O & M	Dry Stack Ash Quantities Initial Construction Disposal Life (Assumes Dry Ash Stack) O & M Ph 3 Initial Constr 14	67,412.00 cy 1.40 yrs	1,100,000	615.63 cd	1,348,771			904,530		3.33	2,253,301
15												0.00	0 2,253,301 2,253,301 2,253,301

Spreadsheet Report
KFI0509308R1/FLY4BOT ASH

Estimate Company

Location	Activity	Usage Seq	Description	Takeoff Quantity	Labor Productivity	Labor Quantity	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount
	Ph 3 Operational Cost	O & M	Stage 1 (3 To 1 Side Slopes) Dry Stack Ash Quantities 2.80 yrs Haul Distance (Round Trip) 0.50 mile O & M Ph 3 Operational Cost 15	1.00 lot 1,949,180.00 cy 2.80 yrs 0.50 mile	1,100,000	1,226.53 cd	2,686,305			1,801,523		0.00 3.33 0.00	0 4,487,828 0
16	Ph 3 Operational Cost	O & M	Stage 2 (3 To 1 Side Slopes) Dry Stack Ash Quantities 3.20 yrs Haul Distance (Round Trip) 0.50 mile O & M Ph 3 Operational Cost 16	1.00 lot 1,504,825.00 cy 3.20 yrs 0.50 mile	1,100,000	1,386.02 cd	2,996,204			2,009,352		0.00 3.33 0.00	0 5,005,556 0
17	Ph 2 Operational Cost	O & M	Wet Cast Gypsum Dike Fill Wet Sluice Gypsum Quantities Stage 3 Disposal Life (Assume Dike & Sluice Gypsum) Perforated Pipe ADS Drain Tube, 6" Diameter Geotextile For Underdrain #57 Stone For Outlet pipe Bedding (135 pcf) Solid Outlet Pipe ADS Drain 6" Diameter #57 Stone For Outlet pipe Bedding (135 pcf) O & M Ph 2 Operational Cost 17	227,106.00 cy 1,344,916.00 cy 4.80 yrs 10,230.00 lf 8,525.00 lf 2,072.00 lf 2,302.00 lf 466.00 lf	285,000	983.41 cd	283,826	16,932 17,282 19,807 12,566 2,012 61,041 61,041	6,887 5,003 8,947 12,566 69,500 368,194 368,194 3,668,194	975,269		4.22 0.00 7.96 2.68 14.67 7.96 14.67	955,096 0 81,450 22,881 30,395 18,330 6,836 1,118,978 1,118,978
18	Ph 3 Operational Cost	O & M	Stage 3 (3 To 1 Side Slopes) Dry Stack Ash Quantities 2.80 yrs Haul Distance (Round Trip) 0.50 mile O & M Ph 3 Operational Cost 18	1.00 lot 1,334,889.00 cy 2.80 yrs 0.50 mile	1,100,000	1,212.80 cd	2,656,457			1,781,506		0.00 3.33 0.00	0 4,437,963 0
19	Ph 2 Operational Cost	O & M	Stage 4 Disposal Life (Assume Dike & Sluice Ash & Gypsum) Perforated Pipe ADS Drain Tube, 6" Diameter Geotextile For Underdrain #57 Stone For Outlet pipe Bedding (135 pcf) Solid Outlet Pipe ADS Drain 6" Diameter #57 Stone For Outlet pipe Bedding (135 pcf) O & M Ph 2 Operational Cost 19	1.00 lot 168,831.00 cy 702,654.00 cy 2.70 yrs 7,605.00 lf 6,338.00 lf 1,540.00 lf 1,711.00 lf 347.00 lf	235,000	718.43 cd	210,987	41,512 3,719 6,650 9,340 1,498	6,458 443 1,954 1,453 442	501,986		4.22 0.00 0.00	712,963 0 4,437,963 4,437,963
20	Ph 3 Operational Cost	O & M	Stage 4 Disposal Life (Assume Dike & Dry Stack Ash) Dry Stack Ash Quantities 1.20 yrs Haul Distance (Round Trip) 0.50 mile O & M Ph 3 Operational Cost 20	1.00 lot 577,619.00 cy 1.20 yrs	1,100,000	525.10 cd	1,150,085			771,271		0.00 3.33 0.00	0 1,921,336 0 1,921,336 1,921,336

