### Summary of Alternatives River System EE/CA TVA Kingston Ash Recovery Project

ITEM		Alternative 1	Alternative 2A	Alternative 2B	Alternative 3A	Alternative 3B
WBS	ITEM DESCRIPTION	MONITORED NATURAL RECOVERY	IN-SITU CAPPING	TARGETED CAPPING	DREDGING	TARGETED DREDGING
1.0	INFRASTRUCTURE/SITE PREPARATION	-	177,300	177,300	6,665,900	6,665,900
1.1	Staging/operating area	-	177,300	177,300	-	-
	Dewatering facility	-	-	-	4,929,800	4,929,800
1.3	Demolish dewatering facility	-	-	-	1,736,100	1,736,100
	OUD A OFOUR OAD BY A OFMENT		18,522,200	14,885,400		_
_	SUBAQEOUS CAP PLACEMENT					
	Mobilization/demobilization  Purchase capping material	-	338,400	338,400	-	-
	Place cap material	-	4,083,800 14,100,000	3,267,000 11,280,000	-	-
2.5	riace cap material		14,100,000	11,200,000		-
3.0	DREDGING	-	-	-	10,504,300	4,268,700
	Mobilization/Demobilization		_	_	705,500	705,500
	Hydraulic Dredging	_	_	_	9,798,800	3,563,200
	, , , , , , , , , , , , , , , , , , , ,				0,1 00,000	0,000,200
4.0	DEWATERING	-	-	-	6,787,300	2,468,100
4.1	Operate CSBs & pump to Stilling Pond	=	-	=	1,446,300	525,900
4.2	Remove material from ponds and windrow	-	-	=	4,204,300	1,528,900
4.3	Load dewatered materials for transport	-	-	-	1,136,700	413,300
5.0	TRANSPORTATION	-	-	-	6,483,400	2,194,200
5.1	Truck transport to Subtitle D Landfill	-	-		2,782,000	642,000
5.2	Truck transport to Bulk Survey For Release facility	-	-	-	3,701,400	1,552,200
6.0	DISPOSAL	-	-	-	101,292,100	41,615,100
	Disposal at Subtitle D Landfill	-	-	-	4,572,100	1,055,100
6.2	Bulk Survey For Release analysis & disposal	-	-	-	96,720,000	40,560,000
7.0	MONITORING OF ORERATIONS		1,538,800	1,259,000	1,782,000	648,000
	MONITORING OF OPERATIONS		1,330,000	1,233,000		,
	Routine air monitoring Routine surface water monitoring	-	1 519 000	1 242 000	264,000	96,000
	Routine surface water mornioning  Routine imported material sampling	<u> </u>	1,518,000	1,242,000	1,518,000	552,000
7.5	Troutine imported material sampling		20,800	17,000	-	-
8.0	SAMPLING/ANALYSIS	-	3,015,100	2,504,500	2,319,200	1,173,800
_	Vibracore sampling (to delineate area)	_	462,300	462,300	462,300	462,300
	As-built bathymetry	_	1,600,000	1,280,000	1,040,000	400,000
	Sampling (to confirm as-built cap/ash thickness)	-	952,800	762,200	619,300	238,200
8.4	Ash/sediment analysis precharacterization	-	-	-	68,300	26,300
8.5	Routine waste sampling for disposal	-	-	-	129,300	47,000
9.0	INSITUTIONAL CONTROLS	-	20,000	20,000	20,000	20,000
9.1	Legal Fees, Administration, Documentation	-	20,000	20,000	20,000	20,000
	PROJECT MANAGEMENT/SUPPORT	-	3,318,300	2,715,000	5,288,800	2,327,200
_	Project Manager	-	503,400	411,800	572,000	251,700
	Field Engineer	-	402,700	329,500	915,200	402,700
	Health & Safety	-	375,600	307,300	426,800	187,800
	Quality Engineer	-	371,700	304,100	422,400	185,900
	Project Controls Engineer	-	356,200	291,500	404,800	178,100
-	Procurement Construction Engineer	-	69,700	57,000	79,200	34,800
	Construction Engineer Transport Specialist	-	484,000	396,000	1,100,000	484,000
	Waste Packaging Specialist	-	-	-	112,200	49,400
	TVA oversight and management	-	755,000	617 900	112,200	49,400
10.10	1 VA OVERSIGHT and management	-	755,000	617,800	1,144,000	503,400
	Subtotal	_	26,591,700	21,561,200	141,143,000	61,381,000
	Contingency (20%)		5,318,300	4,312,200	28,228,600	12,276,200
	33.1.1.1g5.1.3y (2070)	-	1,063,700	862,400	5,645,700	2,455,200
	** CAPITAL COST TOTAL **		31,910,000	25,873,400	169,371,600	73,657,200

Summary of Alternatives River System EE/CA TVA Kingston Ash Recovery Project

ITEM		Alternative	1	Alternative 2A	Al	ternative 2B	Α	Iternative 3A	Α	Iternative 3B
WBS	ITEM DESCRIPTION	MONITORI NATURA RECOVER	L	IN-SITU CAPPING		ARGETED CAPPING		DREDGING		TARGETED DREDGING
11.0	SEDIMENT MONITORING	41	,900	41,900		41,900		41,900		41,900
11.1	Collect 3 samples@ each of 7 locations	22	,400	22,400		22,400		22,400		22,400
11.2	Analyze for % ash, arsenic/selenium	7	,000	7,000		7,000		7,000		7,000
11.3	Validate and archive data	12	,500	12,500		12,500		12,500		12,500
12.0	BIOTA MONITORING	159	700	159,700		159,700		159,700		159,700
	Collect 3 adult mayflies @ each of 7 locations	68	,300	68,300		68,300		68,300		68,300
12.2	Collect 3 larval mayflies @ each of 7 locations		,300	68,300		68,300		68,300		68,300
12.3	Analyze for arsenic/selenium		,200	10,200		10,200		10,200		10,200
12.4	Validate and archive data		,900	12,900		12,900		12,900		12,900
				,		,		•		,
13.0	EFFECTS MONITORING	116	,600	116,600		116,600		116,600		116,600
13.1	Benthic comm. survey sampling (7 transects)	58	,300	58,300		58,300		58,300		58,300
13.2	Species identification	58	,300	58,300		58,300		58,300		58,300
		40	000	19,600		19,600		19,600		19,600
14.0	SEDIMENT TRANSPORT MODELING		,600	·				•		
	Survey bathymetry @ each of 6 transects		,600	9,600		9,600		9,600		9,600
14.2	Update transport model	10	,000	10,000		10,000		10,000		10,000
15.0	REPAIRS		-	185,400		185,400		-		-
15.1	Maintain cap (repair scour)		-	185,400		185,400		-		-
10.0		20	,800	30,800		30,800		30,800		30,800
	REPORTING				+					
_	Annual data evaluation and reports		,000	16,000		16,000		16,000		16,000
16.2	5-yr review reports	14	,800	14,800		14,800		14,800		14,800
17.0	PROJECT MANAGEMENT/SUPPORT	124	,900	124,900		124,900		124,900		124,900
17.1	Project Manager	22	,900	22,900		22,900		22,900		22,900
17.2	Health & Safety	17	,100	17,100		17,100		17,100		17,100
17.3	Quality Engineer	16	,900	16,900		16,900		16,900		16,900
17.4	Project Controls Engineer	16	,200	16,200		16,200		16,200		16,200
17.5	Procurement	3	,200	3,200		3,200		3,200		3,200
17.6	TVA oversight and management	48	,600	48,600		48,600		48,600		48,600
	Cultitatal	¢ 402	F00	£ 670,000	•	670.000	•	402 F00	•	402 500
	Subtotal Contingency (10%)		<b>,500</b> ,400	<b>\$ 678,900</b> \$ 67,900	<b>\$</b>	<b>678,900</b> 67,900	<b>\$</b>	<b>493,500</b> 49,400	<b>\$</b>	<b>493,500</b> 49,400
	Contingency (1078)	Φ 49	,400	\$ 67,900	φ	67,900	φ	49,400	Φ	49,400
	** ANNUAL O&M COST TOTAL **	\$ 542	,900	\$ 746,800	\$	746,800	\$	542,900	\$	542,900
10.0	OTHER MONITORING	338	700	290,300		290,300	_	290,300		290,300
_	OTHER MONITORING Fish bioaccumulation evaluation			· ·	1					
	Fish community survey		,000	232,000	1	232,000		232,000		232,000
	Sediment toxicity testing			58,300	1	58,300		58,300		58,300
10.3	Countrie toxicity tooting	48	,400	-		-		-		-
	** ANNUAL MISC MONITORING COST TOTAL **	\$ 338	,700	\$ 290,300	\$	290,300	\$	290,300	\$	290,300
	Assumed O&M Period (Monitoring)	30 years		30 years		30 years		30 years		30 years
	Assumed O&M Period (Misc. Monitoring)	5 years		5 years		5 years		5 years		5 years
	Assumed O&M Period (Cap Maintenance)	3 , 5 % 10		30 years		30 years		. ,		- ,
	** PRESENT WORTH **	\$ 10,000	000	\$ 44,800,000	\$	38,700,000	\$	179,100,000	\$	83,400,000

### Alternative 1 - Monitored Natural Recovery River System EE/CA TVA Kingston Ash Recovery Project

ITEM					
WBS	ITEM DESCRIPTION	QTY	UNIT	UNIT COST	TOTAL (\$)
1.0	INFRASTRUCTURE/SITE PREPARATION				-
	Staging/operating area	-		-	-
	Dewatering facility	-		-	-
	Demolish dewatering facility	-		-	-
	, , , , , , , , , , , , , , , , , , ,				
2.0	SUBAQEOUS CAP PLACEMENT				-
	Mobilization/demobilization	-		-	-
	Purchase capping material	-		_	_
	Place cap material	-		_	-
3.0	DREDGING				_
	Mobilization/Demobilization	-		_	_
	Hydraulic Dredging	_		_	_
0.2	I Tydradiio Drodgiilg				
4.0	DEWATERING				-
	Operate CSBs & pump to Stilling Pond	_	+	<del> </del>	
	Remove material from ponds and windrow	-	+	-	-
	Load dewatered materials for transport	-	+		-
4.3	Load dowatered materials for transport	-	+	<del>-</del>	-
5.0	TRANSPORTATION		+		-
	Truck transport to Subtitle D Landfill	_	+	_	-
	Truck transport to Subtile D Landill  Truck transport to Bulk Survey For Release facility	-	+	-	-
5.2	Truck transport to Bulk Survey For Release facility	-		-	_
c 0	DIEDOCAL				
	DISPOSAL Disposal at Subtitle D Landfill				-
		-		-	-
6.2	Bulk Survey For Release analysis & disposal	-		-	-
	MANUTARINA AT ARTRIANA				
	MONITORING OF OPERATIONS				-
	Routine air monitoring	-		-	-
7.2	Routine surface water monitoring	-		-	-
7.3	Routine imported material sampling	-		-	-
8.0	SAMPLING/ANALYSIS				-
	Vibracore sampling (to delineate area)	-		-	-
	As-built bathymetry	-		-	-
	Sampling (to confirm as-built cap/ash thickness)	-		-	-
	Ash/sediment analysis precharacterization	-		-	-
8.5	Routine waste sampling for disposal	-		-	-
	NIGHT ITTION AS A STATE OF THE		+	ļ	
	INSITUTIONAL CONTROLS		+	ļ	-
9.1	Legal Fees, Administration, Documentation	-		-	-
10.5			+	ļ	
	PROJECT MANAGEMENT/SUPPORT	-	+	-	-
10.1	Project Manager	-		-	-
	Field Engineer	-	1	-	-
	Health & Safety	-		-	-
	Quality Engineer	-		-	-
	Project Controls Engineer	-		-	-
	Procurement	-		-	-
	Construction Engineer	-	1	-	-
	Transport Specialist	-		-	-
	Waste Packaging Specialist	-		-	-
10.10	TVA oversight and management	-		-	-
	Subtotal				-
	Contingency (20%)				-
	** CAPITAL COST TOTAL **				-

### Alternative 1 - Monitored Natural Recovery River System EE/CA TVA Kingston Ash Recovery Project

ITEM					
WBS	ITEM DESCRIPTION	QTY	UNIT	UNIT COST	TOTAL (\$)
11.0	SEDIMENT MONITORING				41,900
11.1	Collect 3 samples@ each of 7 locations	21	samples	1,066	22,400
	Analyze for % ash, arsenic/selenium	21	samples	334	7,000
11.3	Validate and archive data	21	samples	597	12,500
12.0	BIOTA MONITORING				159,700
12.1	Collect 3 adult mayflies @ each of 7 locations	21	samples	3,250	68,300
	Collect 3 larval mayflies @ each of 7 locations	21	samples	3,250	68,300
	Analyze for arsenic/selenium	42	samples	244	10,200
12.4	Validate and archive data	42	samples	306	12,900
13.0	EFFECTS MONITORING				116,600
	Benthic comm. survey sampling (7 transects)	7	transects	8,333	58,300
	Species identification	7	transects	8,333	58,300
14.0	SEDIMENT TRANSPORT MODELING				19,600
	Survey bathymetry @ each of 6 transects	6	transects	1,600	9,600
	Update transport model	1	each	10,000	10,000
15.0	REPAIRS				-
	Maintain cap (repair scour)	-	-	-	-
	REPORTING				30,800
	Annual data evaluation and reports	1	each	16,000	16,000
16.2	5-yr review reports	1	each	14,800	14,800
17.0	PROJECT MANAGEMENT/SUPPORT				124,900
17.1	Project Manager	1	months	22,880	22,900
17.2	Health & Safety	1	months	17,072	17,100
17.3	Quality Engineer	1	months	16,896	16,900
	Project Controls Engineer	1	months	16,192	16,200
	Procurement	1	months	3,168	3,200
17.6	TVA oversight and management	1	months	48,620	48,600
	Subtotal				\$ 493,500
	Contingency (10%)				\$ 49,400
	** ANNUAL O&M COST TOTAL **				\$ 542,900
40.6	OTUER MONITORING				***
	OTHER MONITORING	70	00000100	0.000	338,700
	Fish bioaccumulation evaluation	72	samples	3,222	232,000
	Fish community survey	7	transects	8,333 1,344	58,300
18.3	Sediment toxicity testing	36	months	1,344	48,400
	** ANNUAL MISC MONITORING COST TOTAL **	-			\$ 338,700
	Assumed O&M Period (Monitoring)				30 years
	Assumed O&M Period (Misc. Monitoring)				5 years
	Assumed O&M Period (Cap Maintenance)				
	** PRESENT WORTH **	•			\$ 10,000,000

### Alternative 2A - In-Situ Capping with MNR River System EE/CA TVA Kingston Ash Recovery Project

1.1   Staging/operating area   2   acres   88,650   177,300   1.2   Dewatering facility	ITEM					
In   In   In   In   In   In   In   In	WBS	ITEM DESCRIPTION	QTY	UNIT	UNIT COST	TOTAL (\$)
1.2   Dewatering facility   -   -   -   -     -	1.0	INFRASTRUCTURE/SITE PREPARATION				
1.3   Demolish dewatering facility   .   .   .   .   .   .   .   .   .	1.1	1 Staging/operating area	2	acres	88,650	177,300
2.0   SUBAGEOUS CAP PLACEMENT			-		-	-
2.0   SUBAGEOUS CAP PLACEMENT	1.3	Demolish dewatering facility	-		-	-
2.1   Mohitzation/demobilization   1   each   338,400   338,400   2.2   Purchase capping material   272,250   tons   15,000   4,083,800   2.3   Place cap material   200   acres   70,500   14,100,000   14,100,000   13,100   14,100,000   1						
2.2   Purchase capping material   272.250   tons   15.00   4,083,800   14,100,000   3.2   Place cap material   200   acres   70,500   14,100,000   3.3   Mobilization/Demobilization	2.0	SUBAQEOUS CAP PLACEMENT				18,522,200
2.3	2.1	1 Mobilization/demobilization	1	each	338,400	338,400
3.1   Mobilization/Demobilization	2.2	Purchase capping material	272,250	tons	15.00	4,083,800
3.1   Mobilization/Demobilization	2.3	Place cap material	200	acres	70,500	14,100,000
3.1   Mobilization/Demobilization						
1.0   DEWATERING	3.0					-
1.0   DEWATERING			-		-	-
4.1   Operate CSBs & pump to Stilling Pond   -   -   -   -   -   -   -       -	3.2	2 Hydraulic Dredging	-		-	-
4.1   Operate CSBs & pump to Stilling Pond   -   -   -   -   -   -   -       -						
4.2   Remove material from ponds and windrow   -   -   -   -   -   -   -   -   -	4.0	DEWATERING				-
1.3   Load dewatered materials for transport   -   -   -   -   -   -   -   -   -			-		-	-
TRANSPORTATION			-		-	-
5.1   Truck transport to Subtitle D Landfill   -     -     -       -	4.3	B Load dewatered materials for transport	-		-	-
5.1   Truck transport to Subtitle D Landfill   -     -     -       -						
5.2   Truck transport to Bulk Survey For Release facility   -   -   -   -   -   -   -   -   -						-
Solution   Sampling (to confirm as-built cap/ash thickness)   Samples   Samples   Sampling (to confirm as-built cap/ash thickness)   Samples   Sampling (to confirm as-built cap/ash thickness)   Samples   Sampling (to confirm as-built cap/ash thickness)   Samples   Sampling (to confirm samp						
6.1 Disposal at Subtitle D Landfill	5.2	2 Truck transport to Bulk Survey For Release facility	-		-	-
6.1 Disposal at Subtitle D Landfill	6.0	DISPOSAL				_
Contingency					_	
1,538,800					_	
7.1 Routine air monitoring         -         months         -         -           7.2 Routine surface water monitoring         22         months         69,000         1,518,000           7.3 Routine imported material sampling         22         months         944         20,800           3.0 SaMPLING/ANALYSIS         3,015,100         3,115,100         462,300           8.1 Vibracore sampling (to delineate area)         300         samples         1,541         462,300           8.2 As-built bathymetry         200         acres         8,000         1,600,000           8.3 Sampling (to confirm as-built cap/ash thickness)         800         samples         1,191         952,800           8.4 Ash/sediment analysis precharacterization         -         -         -         -         -           8.5 Routine waste sampling for disposal         -	0.2	Bulk Survey For Release analysis & disposal	<u> </u>		-	
7.1 Routine air monitoring         -         months         -         -           7.2 Routine surface water monitoring         22         months         69,000         1,518,000           7.3 Routine imported material sampling         22         months         944         20,800           3.0 SaMPLING/ANALYSIS         3,015,100         3,115,100         462,300           8.1 Vibracore sampling (to delineate area)         300         samples         1,541         462,300           8.2 As-built bathymetry         200         acres         8,000         1,600,000           8.3 Sampling (to confirm as-built cap/ash thickness)         800         samples         1,191         952,800           8.4 Ash/sediment analysis precharacterization         -         -         -         -         -           8.5 Routine waste sampling for disposal         -	7.0	MONITORING OF OPERATIONS				1.538.800
7.2 Routine surface water monitoring         22 months         69,000         1,518,000           7.3 Routine imported material sampling         22 months         944         20,800           8.0 SAMPLING/ANALYSIS         3,015,100         8.1 Vibracore sampling (to delineate area)         300 samples         1,541         462,300           8.2 As-built bathymetry         200 acres         8,000         1,600,000           8.3 Sampling (to confirm as-built cap/ash thickness)         800 samples         1,191         952,800           8.4 Ash/sediment analysis precharacterization         -         -         -         -           8.5 Routine waste sampling for disposal         -         -         -         -           9.0 INSITUTIONAL CONTROLS         20,000         20,000         20,000           9.1 Legal Fees, Administration, Documentation         1         each         20,000         20,000           10.0 PROJECT MANAGEMENT/SUPPORT         3,318,300         33,318,300         10.1 Project Manager         22 months         18,304         402,700           10.3 Health & Safety         22 months         18,304         402,700         10.3 Health & Safety         22 months         16,896         371,700         10.5 Project Controls Engineer         22 months         16,896         371,700			-	months	-	-
7.3 Routine imported material sampling 22 months 944 20,800  8.0 SAMPLING/ANALYSIS 3,015,100  8.1 Vibracore sampling (to delineate area) 300 samples 1,541 462,300  8.2 As-built bathymetry 200 acres 8,000 1,600,000  8.3 Sampling (to confirm as-built cap/ash thickness) 800 samples 1,191 952,800  8.4 Ash/sediment analysis precharacterization			22	months	69,000	1,518,000
SAMPLING/ANALYSIS   3,015,100			22	months	944	
8.1 Vibracore sampling (to delineate area)       300       samples       1,541       462,300         8.2 As-built bathymetry       200       acres       8,000       1,600,000         8.3 Sampling (to confirm as-built cap/ash thickness)       800       samples       1,191       952,800         8.4 Ash/sediment analysis precharacterization       -       -       -       -         8.5 Routine waste sampling for disposal       -       -       -       -         9.0 INSITUTIONAL CONTROLS       20,000       20,000       20,000         9.1 Legal Fees, Administration, Documentation       1       each       20,000       20,000         10.0 PROJECT MANAGEMENT/SUPPORT       3,318,300         10.1 Project Manager       22       months       18,304       402,700         10.2 Field Engineer       22       months       18,304       402,700         10.3 Health & Safety       22       months       17,072       375,600         10.4 Quality Engineer       22       months       16,896       371,700         10.5 Project Controls Engineer       22       months       16,192       356,200         10.6 Procurement       22       months       22,000       484,000         10.7 Construction Eng						·
8.2 As-built bathymetry       200       acres       8,000       1,600,000         8.3 Sampling (to confirm as-built cap/ash thickness)       800       samples       1,191       952,800         8.4 Ash/sediment analysis precharacterization       -       -       -       -         8.5 Routine waste sampling for disposal       -       -       -       -         9.0 INSITUTIONAL CONTROLS       20,000       20,000         9.1 Legal Fees, Administration, Documentation       1       each       20,000       20,000         10.0 PROJECT MANAGEMENT/SUPPORT       3,318,300         10.1 Project Manager       22       months       22,880       503,400         10.2 Field Engineer       22       months       18,304       402,700         10.3 Health & Safety       22       months       17,072       375,600         10.4 Quality Engineer       22       months       16,896       371,700         10.5 Project Controls Engineer       22       months       16,192       356,200         10.6 Procurement       22       months       22,000       484,000         10.7 Construction Engineer       22       months       -       -         10.9 Waste Packaging Specialist       -       months<	8.0	SAMPLING/ANALYSIS				3,015,100
8.3 Sampling (to confirm as-built cap/ash thickness)       800       samples       1,191       952,800         8.4 Ash/sediment analysis precharacterization       -       -       -       -         8.5 Routine waste sampling for disposal       -       -       -       -         9.0 INSITUTIONAL CONTROLS       20,000       20,000         9.1 Legal Fees, Administration, Documentation       1       each       20,000       20,000         10.0 PROJECT MANAGEMENT/SUPPORT       3,318,300       503,400       402,700         10.1 Project Manager       22       months       18,304       402,700         10.2 Field Engineer       22       months       17,072       375,600         10.3 Health & Safety       22       months       17,072       375,600         10.4 Quality Engineer       22       months       16,896       371,700         10.5 Project Controls Engineer       22       months       16,192       356,200         10.6 Procurement       22       months       3,168       69,700         10.7 Construction Engineer       22       months       -       -         10.7 Transport Specialist       -       months       -       -         10.10 TVA oversight and management <td>8.1</td> <td>1 Vibracore sampling (to delineate area)</td> <td>300</td> <td>samples</td> <td>1,541</td> <td>462,300</td>	8.1	1 Vibracore sampling (to delineate area)	300	samples	1,541	462,300
8.4 Ash/sediment analysis precharacterization   -   -   -   -   -   -   -       -	8.2	2 As-built bathymetry	200	acres	8,000	1,600,000
8.5   Routine waste sampling for disposal   -   -   -   -     -	8.3	Sampling (to confirm as-built cap/ash thickness)	800	samples	1,191	952,800
10.0   PROJECT MANAGEMENT/SUPPORT   22   months   18,304   402,700   10.1   Project Manager   22   months   18,304   402,700   10.3   Health & Safety   22   months   16,896   371,700   10.5   Project Controls Engineer   22   months   16,192   356,200   10.6   Procurement   22   months   3,168   69,700   10.7   Construction Engineer   22   months   3,168   69,700   10.8   Transport Specialist   - months     10.10   TVA oversight and management   22   months   34,320   755,000   Contingency (20%)   5,318,300   5,318,300	8.4	4 Ash/sediment analysis precharacterization	-		-	-
1   1   20,000   20	8.8	Routine waste sampling for disposal	-		-	-
1   1   20,000   20						
10.0   PROJECT MANAGEMENT/SUPPORT   22 months   22,880   503,400     10.1   Project Manager   22 months   18,304   402,700     10.3   Health & Safety   22 months   17,072   375,600     10.4   Quality Engineer   22 months   16,896   371,700     10.5   Project Controls Engineer   22 months   16,192   356,200     10.6   Procurement   22 months   3,168   69,700     10.7   Construction Engineer   22 months   22,000   484,000     10.8   Transport Specialist   - months   -     10.9   Waste Packaging Specialist   - months   -     10.9   Waste Packaging Specialist   - months   -     10.10   TVA oversight and management   22 months   34,320   755,000     Subtotal   Subtotal   26,591,700     Subtotal   Signature	9.0					,
10.1       Project Manager       22       months       22,880       503,400         10.2       Field Engineer       22       months       18,304       402,700         10.3       Health & Safety       22       months       17,072       375,600         10.4       Quality Engineer       22       months       16,896       371,700         10.5       Project Controls Engineer       22       months       16,192       356,200         10.6       Procurement       22       months       3,168       69,700         10.7       Construction Engineer       22       months       22,000       484,000         10.8       Transport Specialist       -       months       -       -         10.9       Waste Packaging Specialist       -       months       -       -         10.10       TVA oversight and management       22       months       34,320       755,000         Subtotal       26,591,700         Contingency (20%)       5,318,300	9.1	1 Legal Fees, Administration, Documentation	1	each	20,000	20,000
10.1       Project Manager       22       months       22,880       503,400         10.2       Field Engineer       22       months       18,304       402,700         10.3       Health & Safety       22       months       17,072       375,600         10.4       Quality Engineer       22       months       16,896       371,700         10.5       Project Controls Engineer       22       months       16,192       356,200         10.6       Procurement       22       months       3,168       69,700         10.7       Construction Engineer       22       months       22,000       484,000         10.8       Transport Specialist       -       months       -       -         10.9       Waste Packaging Specialist       -       months       -       -         10.10       TVA oversight and management       22       months       34,320       755,000         Subtotal       26,591,700         Contingency (20%)       5,318,300	40.0	DDO IFOT MANAGEMENT/CUDDODT				2 240 200
10.2 Field Engineer       22       months       18,304       402,700         10.3 Health & Safety       22       months       17,072       375,600         10.4 Quality Engineer       22       months       16,896       371,700         10.5 Project Controls Engineer       22       months       16,192       356,200         10.6 Procurement       22       months       3,168       69,700         10.7 Construction Engineer       22       months       22,000       484,000         10.8 Transport Specialist       -       months       -       -         10.9 Waste Packaging Specialist       -       months       -       -         10.10 TVA oversight and management       22       months       34,320       755,000         Subtotal       26,591,700         Contingency (20%)       5,318,300			22	months	22.000	
10.3 Health & Safety       22       months       17,072       375,600         10.4 Quality Engineer       22       months       16,896       371,700         10.5 Project Controls Engineer       22       months       16,192       356,200         10.6 Procurement       22       months       3,168       69,700         10.7 Construction Engineer       22       months       22,000       484,000         10.8 Transport Specialist       -       months       -       -         10.9 Waste Packaging Specialist       -       months       -       -         10.10 TVA oversight and management       22       months       34,320       755,000         Subtotal         Contingency (20%)       5,318,300		,				
10.4 Quality Engineer         22         months         16,896         371,700           10.5 Project Controls Engineer         22         months         16,192         356,200           10.6 Procurement         22         months         3,168         69,700           10.7 Construction Engineer         22         months         22,000         484,000           10.8 Transport Specialist         -         months         -         -           10.9 Waste Packaging Specialist         -         months         -         -           10.10 TVA oversight and management         22         months         34,320         755,000           Subtotal         26,591,700           Contingency (20%)         5,318,300					, , , , , , , , , , , , , , , , , , ,	
10.5         Project Controls Engineer         22         months         16,192         356,200           10.6         Procurement         22         months         3,168         69,700           10.7         Construction Engineer         22         months         22,000         484,000           10.8         Transport Specialist         -         months         -         -           10.9         Waste Packaging Specialist         -         months         -         -           10.10         TVA oversight and management         22         months         34,320         755,000           Subtotal         26,591,700           Contingency (20%)         5,318,300				_		
10.6 Procurement         22 months         3,168         69,700           10.7 Construction Engineer         22 months         22,000         484,000           10.8 Transport Specialist         - months         -         -           10.9 Waste Packaging Specialist         - months         -         -           10.10 TVA oversight and management         22 months         34,320         755,000           Subtotal         26,591,700           Contingency (20%)         5,318,300		, ů				
10.7 Construction Engineer         22 months         22,000         484,000           10.8 Transport Specialist         - months         -         -           10.9 Waste Packaging Specialist         - months         -         -           10.10 TVA oversight and management         22 months         34,320         755,000           Subtotal         26,591,700           Contingency (20%)         5,318,300						
10.8 Transport Specialist         -         months         -         -           10.9 Waste Packaging Specialist         -         months         -         -           10.10 TVA oversight and management         22         months         34,320         755,000           Subtotal         26,591,700           Contingency (20%)         5,318,300						,
10.9   Waste Packaging Specialist					· · · · · · · · · · · · · · · · · · ·	
10.10 TVA oversight and management 22 months 34,320 755,000    Subtotal   26,591,700   5,318,300   5,318,300			-		_	
Subtotal   26,591,700     5,318,300			22	_	34.320	755,000
Contingency (20%) 5,318,300	70.10		_ <u></u>		31,020	7.00,000
Contingency (20%) 5,318,300		Subtotal				26,591,700
** CAPITAL COST TOTAL ** 31,910,000		Contingency (20%)				
** CAPITAL COST TOTAL ** 31,910,000						
		** CAPITAL COST TOTAL **	<u> </u>			31,910,000

## Alternative 2A - In-Situ Capping with MNR River System EE/CA TVA Kingston Ash Recovery Project

ITEM					
WBS	ITEM DESCRIPTION	QTY	UNIT	UNIT COST	TOTAL (\$)
	SEDIMENT MONITORING				41,900
11.1	Collect 3 samples@ each of 7 locations	21	samples	1,066	22,400
11.2	Analyze for % ash, arsenic/selenium	21	samples	334	7,000
11.3	Validate and archive data	21	samples	597	12,500
12.0	BIOTA MONITORING				159,700
	Collect 3 adult mayflies @ each of 7 locations	21	samples	3,250	68,300
	Collect 3 larval mayflies @ each of 7 locations	21	samples	3,250	68,300
	Analyze for arsenic/selenium	42	samples	244	10,200
12.4	Validate and archive data	42	samples	306	12,900
13.0	EFFECTS MONITORING				116,600
	Benthic comm. survey sampling (7 transects)	7	transects	8,333	58,300
	Species identification	7	transects	8,333	58,300
				5,555	
14.0	SEDIMENT TRANSPORT MODELING				19,600
	Survey bathymetry @ each of 6 transects	6	transects	1,600	9,600
	Update transport model	1	EA	10,000	10,000
	REPAIRS				185,400
15.1	Maintain cap (repair scour)	2	acres	92,682	185,400
16.O	REPORTING				30,800
	Annual data evaluation and reports	1	EA	16,000	16,000
	5-yr review reports	1	EA	14,800	14,800
10.2	o-yr review reports		LA	14,000	14,000
17.0	PROJECT MANAGEMENT/SUPPORT				124,900
	Project Manager	1	months	22,880	22,900
17.2	Health & Safety	1	months	17,072	17,100
	Quality Engineer	1	months	16,896	16,900
	Project Controls Engineer	1	months	16,192	16,200
	Procurement	1	months	3,168	3,200
17.6	TVA oversight and management	1	months	48,620	48,600
	Subtotal				\$ 678,900
	Contingency (10%)				\$ 67,900
	Contingency (1070)				Ψ 01,300
	** ANNUAL O&M COST TOTAL **				\$ 746,800
18.0	OTHER MONITORING				290,300
	Fish bioaccumulation evaluation	72	samples	3,222	232,000
	Fish community survey	7	transects	8,333	58,300
18.3	Sediment toxicity testing	-	months	-	-
	** ANNUAL MISC MONITORING COST TOTAL **				\$ 290,300
	Assumed O&M Period (Monitoring)				30 years
	Assumed O&M Period (Misc. Monitoring)				5 years
	Assumed O&M Period (Cap Maintenance)				30 years
	** PRESENT WORTH **		1		\$ 44,800,000

## Alternative 2B - Targeted Capping with MNR Rivery System EE/CA TVA Kingston Ash Recovery Project

ITEM					
WBS	ITEM DESCRIPTION	QTY	UNIT	UNIT COST	TOTAL (\$)
1.0	INFRASTRUCTURE/SITE PREPARATION				177,300
	Staging/operating area	2	acres	88,650	177,300
	Dewatering facility	-		-	-
1.3	Demolish dewatering facility	-		-	-
2.0	SUBAQEOUS CAP PLACEMENT				14,885,400
2.1	Mobilization/demobilization	1	each	338,400	338,400
	Purchase capping material	217,800	tons	15.00	3,267,000
2.3	Place cap material	160	acres	70,500	11,280,000
3.0	DREDGING				-
	Mobilization/Demobilization	-		-	-
3.2	Hydraulic Dredging	-		-	-
4.0	DEWATERING				-
	Operate CSBs & pump to Stilling Pond	-		-	-
	Remove material from ponds and windrow	-		-	-
4.3	Load dewatered materials for transport	-		-	-
5.0	TRANSPORTATION				-
	Truck transport to Subtitle D Landfill	-		-	-
5.2	Truck transport to Bulk Survey For Release facility	-		-	-
2.2	DISPOSAL				
6.0					-
	Disposal at Subtitle D Landfill Bulk Survey For Release analysis & disposal	-		-	-
6.2	Bulk Survey For Release analysis & disposal	-		-	<u>-</u>
7.0	MONITORING OF OREDATIONS				1 250 000
	MONITORING OF OPERATIONS  Routine air monitoring	_	months	_	1,259,000
	Routine all monitoring  Routine surface water monitoring	18	months	69.000	1,242,000
	Routine imported material sampling	18	months	944	17,000
7.3	Routine imported material sampling	10	HIOHUIS	944	17,000
8.0	SAMPLING/ANALYSIS				2,504,500
	Vibracore sampling (to delineate area)	300	samples	1,541	462,300
	As-built bathymetry	160	acres	8,000	1,280,000
	Sampling (to confirm as-built cap/ash thickness)	640	samples	1,191	762,200
	Ash/sediment analysis precharacterization	-	Jampics	- 1,101	-
	Routine waste sampling for disposal	_		_	
0.5	Troutine waste sampling for disposal				
9.0	INSITUTIONAL CONTROLS				20,000
	Legal Fees, Administration, Documentation	1	each	20,000	20,000
	age and a second of the second			-,	-,
10.0	PROJECT MANAGEMENT/SUPPORT				2,715,000
	Project Manager	18	months	22,880	411,800
	Field Engineer	18	months	18,304	329,500
	Health & Safety	18	months	17,072	307,300
	Quality Engineer	18	months	16,896	304,100
	Project Controls Engineer	18	months	16,192	291,500
	Procurement	18	months	3,168	57,000
	Construction Engineer	18	months	22,000	396,000
	Transport Specialist	-	months	-	-
	Waste Packaging Specialist	-	months	-	-
	TVA oversight and management	18	months	34,320	617,800
	<u> </u>				·
	Subtotal				21,561,200
	Contingency (20%)				4,312,200
	** CAPITAL COST TOTAL **				25,873,400

# Alternative 2B - Targeted Capping with MNR Rivery System EE/CA TVA Kingston Ash Recovery Project

11.0	SEDIMENT MONITORING				41,900
11.1	Collect 3 samples@ each of 7 locations	21	samples	1,066	22,400
	Analyze for % ash, arsenic/selenium	21	samples	334	7,000
11.3	Validate and archive data	21	samples	597	12,500
12.0	BIOTA MONITORING				159,700
	Collect 3 adult mayflies @ each of 7 locations	21	samples	3,250	68,300
	Collect 3 larval mayflies @ each of 7 locations	21	samples	3,250	68,300
	B Analyze for arsenic/selenium	42	samples	244	10,200
	Validate and archive data	42	samples	306	12,900
13.0	EFFECTS MONITORING				116,600
	Benthic comm. survey sampling (7 transects)	7	transects	8,333	58,300
	2 Species identification	7	transects	8,333	58,300
14.0	SEDIMENT TRANSPORT MODELING				19,600
	Survey bathymetry @ each of 6 transects	6	transects	1,600	9,600
14.2	Update transport model	1	EA	10,000	10,000
15.0	REPAIRS				185,400
15.1	Maintain cap (repair scour)	2	acres	92,682	185,400
16.0	REPORTING				30,800
	Annual data evaluation and reports	1	EA	16,000	16,000
	2 5-yr review reports	1	EA	14,800	14,800
17.0	PROJECT MANAGEMENT/SUPPORT			00.000	124,900
	Project Manager	1	months	22,880	22,900
	Health & Safety	11	months	17,072	17,100
17.3	Quality Engineer	1	months	16,896	16,900
	Project Controls Engineer	1	months	16,192	16,200
	Procurement TVA oversight and management	<u>1</u> 1	months months	3,168 48,620	3,200 48,600
	TVV Overeight and management	'	mentile	10,020	10,000
	Subtotal				\$ 678,900
	Contingency (10%)				\$ 67,900
	** ANNUAL O&M COST TOTAL **				\$ 746,800
18.0	OTHER MONITORING				290,300
	Fish bioaccumulation evaluation	72	samples	3,222	232,000
	P Fish community survey	7	transects	8,333	58,300
	Sediment toxicity testing	-	months	- 0,333	- 30,300
	** ANNUAL MISC MONITORING COST TOTAL **				\$ 290,300
	Assumed O&M Period (Monitoring)				30 years
	Assumed O&M Period (Misc. Monitoring)				5 years
	Assumed O&M Period (Cap Maintenance)				30 years
	** PRESENT WORTH **				\$ 38,700,000

### Alternative 3A - Dredging with MNR River System EE/CA TVA Kingston Ash Recovery Project

ITEM					
WBS	ITEM DESCRIPTION	QTY	UNIT	UNIT COST	TOTAL (\$)
1.0	INFRASTRUCTURE/SITE PREPARATION				6,665,900
	Staging/operating area	-		-	-
	Dewatering facility	15	acres	328,651	4,929,800
1.3	Demolish dewatering facility	15	acres	115,741	1,736,100
2.0	SUBAQEOUS CAP PLACEMENT				
	Mobilization/demobilization	-	<del> </del> -	-	<u> </u>
	Purchase capping material		<del>                                     </del>	-	<u> </u>
	Place cap material	-	<del> </del>	-	
2.0	Tidoc dap material				
3.0	DREDGING				10,504,300
3.1	Mobilization/Demobilization	1	each	705,500	705,500
3.2	Hydraulic Dredging	440,000	су	22.27	9,798,800
4.0	DEWATERING				0.707.000
4.0	DEWATERING	00		05.700	6,787,300
	Operate CSBs & pump to Stilling Pond	22	months	65,739 191,107	1,446,300
	Remove material from ponds and windrow  Load dewatered materials for transport	22	months	51,666	4,204,300 1,136,700
4.3	Load dewatered materials for transport	22	months	51,000	1,130,700
5.0	TRANSPORTATION				6,483,400
5.1	Truck transport to Subtitle D Landfill	130,000	су	21.40	2,782,000
	Truck transport to Bulk Survey For Release facility	310,000	су	11.94	3,701,400
6.0	DISPOSAL				101,292,100
	Disposal at Subtitle D Landfill	130,000	су	35.17	4,572,100
6.2	Bulk Survey For Release analysis & disposal	310,000	су	312	96,720,000
7.0	MONITORING OF OPERATIONS		1		1,782,000
	Routine air monitoring	22	months	12,000	264,000
	Routine surface water monitoring	22	months	69,000	1,518,000
	Routine imported material sampling	-	months	-	-
8.0	SAMPLING/ANALYSIS				2,319,200
	Vibracore sampling (to delineate area)	300	samples	1,541	462,300
	As-built bathymetry	130	acres	8,000	1,040,000
	Sampling (to confirm as-built cap/ash thickness)	520	samples	1,191	619,300
	Ash/sediment analysis precharacterization	130	samples	525	68,300
8.5	Routine waste sampling for disposal	88	samples	1,469	129,300
9.0	INSITUTIONAL CONTROLS				20,000
	Legal Fees, Administration, Documentation	1	each	20,000	20,000
10.0	PROJECT MANAGEMENT/SUPPORT			00.000	5,288,800
	Project Manager	25	months	22,880	572,000
	Field Engineer	25	months	36,608	915,200
	Health & Safety	25 25	months months	17,072	426,800
	Quality Engineer Project Controls Engineer	25	months	16,896 16,192	422,400 404,800
	Project Controls Engineer Procurement	25	months		79,200
	Construction Engineer	25	months	3,168 44,000	1,100,000
	Transport Specialist	25	months	44,000	112,200
	Waste Packaging Specialist	25	months	4,488	112,200
	TVA oversight and management	25	months	45,760	1,144,000
30	3 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7			-,	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
	Subtotal				141,143,000
-	Contingency (20%)				28,228,600
	***************************************				,
	** CAPITAL COST TOTAL **				169,371,600

## Alternative 3A - Dredging with MNR River System EE/CA TVA Kingston Ash Recovery Project

ITEM					
WBS	ITEM DESCRIPTION	QTY	UNIT	UNIT COST	TOTAL (\$)
11.0	SEDIMENT MONITORING				41,900
11.1	Collect 3 samples@ each of 7 locations	21	samples	1,066	22,400
11.2	Analyze for % ash, arsenic/selenium	21	samples	334	7,000
11.3	Validate and archive data	21	samples	597	12,500
12.0	BIOTA MONITORING				159,700
	Collect 3 adult mayflies @ each of 7 locations	21	samples	3,250	68,300
	Collect 3 larval mayflies @ each of 7 locations	21	samples	3,250	68,300
	Analyze for arsenic/selenium	42	samples	244	10,200
12.4	Validate and archive data	42	samples	306	12,900
13.0	EFFECTS MONITORING				116,600
	Benthic comm. survey sampling (7 transects)	7	transects	8,333	58,300
	Species identification	7	transects	8,333	58,300
				•	
14.0	SEDIMENT TRANSPORT MODELING				19,600
14.1	Survey bathymetry @ each of 6 transects	6	transects	1,600	9,600
14.2	Update transport model	1	each	10,000	10,000
15.0	REPAIRS				-
15.1	Maintain cap (repair scour)	-		-	-
16.O	REPORTING				30,800
	Annual data evaluation and reports	1	each	16,000	16,000
16.2	5-yr review reports	1	each	14,800	14,800
17.0	PROJECT MANAGEMENT/SUPPORT				124,900
	Project Manager	1	months	22,880	22,900
	Health & Safety	1	months	17,072	17,100
	Quality Engineer	1	months	16,896	16,900
	Project Controls Engineer	1	months	16,192	16,200
	Procurement	1	months	3,168	3,200
17.6	TVA oversight and management	1	months	48,620	48,600
	Subtotal				\$ 493,500
	Contingency (10%)				\$ 49,400
	general (very)				, , , , , ,
	** ANNUAL O&M COST TOTAL **				\$ 542,900
10.0	OTHER MONITORING				***
18.0	OTHER MONITORING		<del> </del> .	2.25	290,300
	Fish bioaccumulation evaluation	72 7	samples	3,222	232,000
	Fish community survey		transects	8,333	58,300
18.3	Sediment toxicity testing	-	months	-	-
	** ANNUAL MISC MONITORING COST TOTAL **				\$ 290,300
	Assumed O&M Period (Monitoring)				30 years
	Assumed O&M Period (Misc. Monitoring)				5 years
	Assumed O&M Period (Cap Maintenance)				
	** PRESENT WORTH **				\$ 179,100,000

## Alternative 3B - Targeted Dredging with MNR River System EE/CA Kingston Ash Recovery Project

ITEM					
WBS	ITEM DESCRIPTION	QTY	UNIT	UNIT COST	TOTAL (\$)
1.0	INFRASTRUCTURE/SITE PREPARATION				6,665,900
	1 Staging/operating area	-		-	-
	2 Dewatering facility	15	acres	328,651	4,929,800
1.3	Demolish dewatering facility	15	acres	115,741	1,736,100
2.0	SUBAQEOUS CAP PLACEMENT				
	1 Mobilization/demobilization	-	_	-	<u> </u>
	2 Purchase capping material	-	<del>-</del>	-	<u> </u>
	3 Place cap material	-		-	
2.0	Triade dap material				
3.0	DREDGING				4,268,700
3.1	1 Mobilization/Demobilization	1	each	705,500	705,500
3.2	2 Hydraulic Dredging	160,000	су	22.27	3,563,200
4.0	DEWATERING				2,468,100
		0	montho	65 720	
	1 Operate CSBs & pump to Stilling Pond 2 Remove material from ponds and windrow	8	months months	65,739 191,107	525,900 1,528,900
	3 Load dewatered materials for transport	8	months	51,666	413,300
4.0	passa dematered materials for transport		months	31,000	413,300
5.0	TRANSPORTATION				2,194,200
	1 Truck transport to Subtitle D Landfill	30,000	су	21.40	642,000
5.2	2 Truck transport to Bulk Survey For Release facility	130,000	су	11.94	1,552,200
6.0	DISPOSAL	22.222		05.45	41,615,100
	1 Disposal at Subtitle D Landfill	30,000	су	35.17	1,055,100
6.2	2 Bulk Survey For Release analysis & disposal	130,000	су	312	40,560,000
7.0	MONITORING OF OPERATIONS				648,000
	1 Routine air monitoring	8	months	12,000	96,000
	2 Routine surface water monitoring	8	months	69,000	552,000
	Routine imported material sampling	-		-	-
8.0	SAMPLING/ANALYSIS				1,173,800
	1 Vibracore sampling (to delineate area)	300	samples	1,541	462,300
	2 As-built bathymetry	50	acres	8,000	400,000
	3 Sampling (to confirm as-built cap/ash thickness)	200	samples	1,191	238,200
	4 Ash/sediment analysis precharacterization  5 Routine waste sampling for disposal	50 32	samples	525 1,469	26,300 47,000
0.0	Routine waste sampling for disposal	32	samples	1,409	47,000
9.0	INSITUTIONAL CONTROLS				20,000
9.′	Legal Fees, Administration, Documentation	1	each	20,000	20,000
10.0	DDO IFCT MANAGEMENT/GUDDODT				0.007.000
10.0	PROJECT MANAGEMENT/SUPPORT  1 Project Manager	11	months	22,880	<b>2,327,200</b> 251,700
	2 Field Engineer	11	months	36,608	402,700
	3 Health & Safety	11	months	17,072	187,800
	4 Quality Engineer	11	months	16,896	185,900
	5 Project Controls Engineer	11	months	16,192	178,100
	6 Procurement	11	months	3,168	34,800
	7 Construction Engineer	11	months	44,000	484,000
	8 Transport Specialist	11	months	4,488	49,400
	9 Waste Packaging Specialist	11	months	4,488	49,400
	TVA oversight and management	11	months	45,760	503,400
	Subtotal				61,381,000
	Contingency (20%)				12,276,200
	** CAPITAL COST TOTAL **		1	<u> </u>	73,657,200
	ON TIME OUGH TOTAL	i			10,001,200

## Alternative 3B - Targeted Dredging with MNR River System EE/CA Kingston Ash Recovery Project

ITEM					
WBS	ITEM DESCRIPTION	QTY	UNIT	UNIT COST	TOTAL (\$)
11.0	SEDIMENT MONITORING				41,900
11.1	Collect 3 samples@ each of 7 locations	21	samples	1,066	22,400
11.2	Analyze for % ash, arsenic/selenium	21	samples	334	7,000
11.3	Validate and archive data	21	samples	597	12,500
12.0	BIOTA MONITORING				159,700
	Collect 3 adult mayflies @ each of 7 locations	21	samples	3,250	68,300
	Collect 3 larval mayflies @ each of 7 locations	21	samples	3,250	68,300
	Analyze for arsenic/selenium	42	samples	244	10,200
12.4	Validate and archive data	42	samples	306	12,900
13.0	EFFECTS MONITORING				116,600
	Benthic comm. survey sampling (7 transects)	7	transects	8,333	58,300
	Species identification	7	transects	8,333	58,300
				-,,,,,	
14.0	SEDIMENT TRANSPORT MODELING				19,600
	Survey bathymetry @ each of 6 transects	6	transects	1,600	9,600
	Update transport model	1	each	10,000	10,000
15.0	REPAIRS				-
15.1	Maintain cap (repair scour)	-		-	-
16.O	REPORTING				30,800
	Annual data evaluation and reports	1	each	16,000	16,000
	5-yr review reports	1	each	14,800	14,800
10.2	o-yr review reports		Cacii	14,000	14,000
17.0	PROJECT MANAGEMENT/SUPPORT				124,900
17.1	Project Manager	1	months	22,880	22,900
	Health & Safety	1	months	17,072	17,100
17.3	Quality Engineer	1	months	16,896	16,900
17.4	Project Controls Engineer	1	months	16,192	16,200
17.5	Procurement	1	months	3,168	3,200
17.6	TVA oversight and management	1	months	48,620	48,600
	Subtotal				\$ 493,500
	Contingency (10%)				<b>\$ 493,500</b> \$ 49,400
	Contingency (1076)				Ψ +3,+00
	** ANNUAL O&M COST TOTAL **				\$ 542,900
		_			·
18.0	OTHER MONITORING				290,300
	Fish bioaccumulation evaluation	72	samples	3,222	232,000
	Fish community survey	7	transects	8,333	58,300
18.3	Sediment toxicity testing	-	months	-	-
	** ANNUAL MISC MONITORING COST TOTAL **				\$ 290,300
	Assumed O&M Period (Monitoring)				30 years
-	Assumed O&M Period (Monitoring)  Assumed O&M Period (Misc. Monitoring)				30 years 5 years
	Assumed O&M Period (Misc. Monitoring)  Assumed O&M Period (Cap Maintenance)				o years
	** PRESENT WORTH **				\$ 83,400,000
	FINEDERI WONTH				Ψ 03,400,000