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INTEGRAL MONITORED RETRIEVABLE STORAGE (MRS) FACILITY

CONCEPTUAL DESIGN REPORT

VOLUME V BOOK V — COST ESTIMATE

Prepared for

UNITED STATES DEPARTMENT OF ENERGY
Richland Operations Office

Report No. MRS 11
Contract No. DE-AC06-84RL 10436
September 1985

THE RALPH M. PARSONS COMPANY OF DELAWARE
Westinghouse Electric Corporation
Golder Associates

MASTER

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PARSONS

ESTIMATE WORKSHEET

VINCH RIVER BASE CASE

M.T.O. BY ENGINEERING PRICED BY V. Hess DATE Aug 25 SHEET ____ OF ____

JOB NO.: 6440-11 CLIENT: DOE/ENG TYPE OF ESTIMATE CONC CHECKED BY T.S/LG

UNIT/AREA MRS FACILITY

DESCRIPTION R&H BLDG

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	SUMMARY AREA # 4											
	SUMMARY BY DIVISIONS						15 267 000			466 464	7 960 000	23 227 000
	LABOR PRODUCTIVITY (BASE HOURS)			85 %		17.10				82 141	1 405 000	1 405 000
	S/TOTAL						15 267 000			547 605	9 365 000	24 632 000
	SHIFT DIFFERENTIAL ($9 365 000 / 2 X 11 %) =										515 000	515 000
	S/TOTAL						15 267 000			547 605	9 880 000	25 147 000
	CONTRACTORS OHD/PROFIT	26.5 %										6 664 000
	TOTAL COST AREA # 4 W/OUT CONTINGENCY											31 811 000

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER - BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY ENGINEERING PRICED BY V. MESEC DATE AUG. 85 SHEET ____ OF ____

JOB NO.: 6440-11 CLIENT: DOE/PNC TYPE OF ESTIMATE ROM. CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION R&H BLDG

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	SUMMARY AREA(S) #4											
DIV 2	SITE WORK					16.08	39000			596	10000	49000
3	CONCRETE	22860	CY			15.37	3304000			171627	2638000	5982000
4	MASONARY					16.50	13000			1301	21000	34000
5	METALS	1553	TN			18.00	2264000			41840	772000	3636000
6	WOOD & PLASTICS					16.50	2000			397	7000	9000
7	THERMAL MOIST. PROTECTION					16.50	1161000			26144	431000	1592000
8	DOORS & WINDOWS					16.50	243000			2143	35000	278000
9	FINISHES					16.34	293000			19125	312000	605000
10	SPECIAC TIES					17.41	161000			1616	28000	189000
11	EQUIPMENT					18.74	972000			6119	115000	1087000
12	FURNISHINGS					16.50	239000			328	5000	244000
13	SPECIAL CONSTRUCTION					18.74	856000			9550	179000	1035000
14	CONVEYING SYSTEMS					18.74	657000			2695	51000	708000
15	MECHANICAL SYSTEMS					18.74	3197000			119990	2249000	5446000
16	ELECTRICAL					17.05	1826000			61993	1107000	2933000
17	INSTRUMENTATION					18.38	INCLUDED IN AREA #3			0	0	0
	TOTAL AREA #4						15267000			465464	7960000	23227000

ES-2000-0 (4/81)

CLINCH RIVER - BASE CASE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY ENGINEERING PRICED BY V. MESER DATE AUG. 85 SHEET ____ OF ____

JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY ____

UNIT/AREA MRS. FACILITY

DESCRIPTION

CAPACITY R & H - BLDG.

ACCNT DIV.		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
	AREA # 4											
2	SUMMARY SITE WORK						39(XX)			596		

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER - BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY RUF | PRICED BY RUF | DATE AUG. '85 | SHEET 1 OF 1

JOB NO.: 6440-11 | CLIENT: DOE/ANL | TYPE OF ESTIMATE ROM | CHECKED BY [illegible]

UNIT/AREA MRS FACILITY

DESCRIPTION R & H BUILDING

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV. 2	AREA #4											
	NON-CATEGORY I STRUCTURE											
2200	EARTHWORK											
2213	EXCAVATION (ROCK)	4400	CY	4.50	0.10		19800			440		
	SELECTED FILL											
2215	EMBANKMENT - COMPACTED FILL	6500	CY	1.00	0.008		6500			52		
2216	CRUSHING, SCREENING & HAULING	6500	CY	2.00	0.016		13000			104		
—	DISPOSE, HAUL SPOILS	4400	CY	-	INCL							
	TOTAL DIRECT COST						39000			596		

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CLINCH RIVER - EAST SIDE

ESTIMATE WORKSHEET

M.T.O. BY RUF | PRICED BY RUF | DATE AUG 85 | SHEET ____ OF ____

JOB NO.: 6440-11 | CLIENT: UCC (CVC) | TYPE OF ESTIMATE ROM | CHECKED BY ____

UNIT/AREA MRS FACILITY

DESCRIPTION R & U BUILDING

CAPACITY

ACCNT DIV			QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	AREA #4												
3	SUMMARY CONCRETE CATEGORY 2												
3312	CONTINOUS FOOTING	3000 PSI	170	CY	126	4.3		21 420			731		
3311	ISOLATED FOOTING	"	40	"	114	6.8		4 560			272		
3320	COLUMNS	"	20	"	210	21.2		4200			424		
3355	STAIRS AND LANDING	"	70	"	156	10.9		10 920			763		
3341	SLAB ON GRADE	"	4500	"	118	3.		531 000			13500		
3331	WALLS 1'-0" THRU 2'-0"	"	4690	"	16.3	6.8		764 470			31892		
3360	ROOF BEAMS	"	900	"	181	11.8		162 900			10620		
3352	ROOF SLAB	"	9020	"	156	10.9		1 407 120			98318		
3313	RR TRACK FOUNDATION	"	2700	"	126	4.3		340 200			11610		
3334	CONCRETE TUNNEL		750	"	129			96 750			3497		
	TOTAL DIRECT		22860	CY				3 343 540			171627		
					USE			3 344 000					

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER - BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY RUF | PRICED BY RUF | DATE AUG 85 | SHEET ____ OF ____

JOB NO.: 6440-11 | CLIENT: DOE/OIL | TYPE OF ESTIMATE ROM | CHECKED BY rom

UNIT/AREA MRS FACILITY

DESCRIPTION

CAPACITY R & H BUILDING

ACCNT	DESCRIPTION	QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV 3	CONCRETE AREA #4											
3334	CONCRETE TUNNEL											
	EXIT TUNNEL 14'x16'x352'											
	EXCAVATION (ROCK)	6336	CY	6.00	0.15		38020			950		
	BACKFILL (SELECTED FILL)	3051	CY	3.48	0.07		10620			214		
	REINF CONCRETE TUNNEL											
	SLAB ON GRADE	1150	CY	790	3.0		908500			3450		
	WALL (1'-0 to 2'-0)	350	"	778	6.8		272300			2380		
	TOTAL DIRECT COST	1500	CY				1229440			6994		
	FOR AREA #3	750	CY		USE		614700			3497		
	FOR AREA #4	750	CY		USE		614700			3497		

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER - BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY ENGINEERING PRICED BY V MESER DATE AUG. 85 SHEET ____ OF ____

JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY Para

UNIT/AREA MRS. FACILITY

DESCRIPTION

CAPACITY R&H. BLDG

ACCNT DIV.		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
	AREA # 4											
4	Summary MRS Only						13100			1301		
						USE	13000					

CES-2000-0 (4/81)

PARSONS

ESTIMATE WORKSHEET

CURRENT LOWER BOUND CASE

M.T.O. BY [illegible] PRICED BY KUF DATE AUG 1985 SHEET 1 OF 1

JOB NO.: 6490 - 11 CLIENT: PNL/DOE TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA AIRS FACILITY

DESCRIPTION RECEIVING & HANDLING BLDG.

CAPACITY AREA # 4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV.4	MASONRY											
4200	MASONRY-CMU											
4201.06	CMU-6" (UNREINFORCED)	0	SF									
4201.08	CMU-8" (UNREINFORCED)	0	SF									
4201.12	CMU-12" (UNREINFORCED)	0	SF									
4202.06	CMU-6" (REINFORCED)	0	SF									
4202.08	CMU-8" (REINFORCED)	7200	SF	1.40	.15		10080			1080		
4202.12	CMU-12" (REINFORCED)	0	SF									
4250	VENEER											
4251.04	VENEER 4"	0	SF									
4251.06	VENEER 6" SPLIT FACE	0	SF									
4251.08	VENEER 8" SPLIT FACE	1580	SF	1.92	.14		3030			221		
							13110			1301		

CES-2000-0 (4/81)

1116 13100

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PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY ENG'RG | PRICED BY RBJ | DATE AUG 1995 | SHEET ____ OF ____

JOB NO.: 6440 - 11 | CLIENT: TVA/DOE | TYPE OF ESTIMATE FOM | CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION RECEIVING & HANDLING BLDG.

CAPACITY AREA # 1

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
PH. 5	METALS											
	SUMMARY											
	MISCELLANEOUS STEEL						32 350			1360		
	STRUCTURAL STEEL						2 232 000			40471		
							2 264 350			41 840		
					LUMP		2 264 000					

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CLINCH RIVER ROCK CASE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY [illegible] PRICED BY RUF DATE AUG 1985 SHEET 1 OF 1

JOB NO.: 6440-11 CLIENT: PHL/DOE TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION RECEIVING & HANDLING BLDG.

CAPACITY AREA #4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV.5	METALS											
5500	METAL FABRICATIONS											
5510	METAL STAIRS & LADDERS											
5511	LADDERS W/O CAGES	156	LF	25.65	.38		4000			59		
5512	LADDERS W/ CAGES	166	LF	44.15	.64		7330			106		
5513	CEMENT FILLED MTL PAN STAIR TREADS & LANDINGS (4'-0" WIDTH)	260	R	15.	4		3900			1040		
	Landings	212	S.F	2.17	.33		1160			70		
5514	ALTERNATING TREAD TYPE STAIRS 20"W - 68° SLOPE	0	R									
5520	HANDRAILS & RAILINGS - DOUBLE ✓	380	LF	32.	.16		12160			61		
5521	SGL. PIPE HANDRAIL W/BRKTS.	180	LF	11.	.13		1980			23		
5522	PIPE RAILING (3 RAIL-3'-6" HT.) W/TOE PL	63	LF	40.	.16		2520			10		
							32350			1369		

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PARSONS

CLINCH RIVER - BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY RJE | PRICED BY RJE | DATE AUG 85 | SHEET ____ OF ____

JOB NO.: 6410-11 | CLIENT: DOE / PNL | TYPE OF ESTIMATE ROM | CHECKED BY RJM

UNIT/AREA MRS FACILITY
DESCRIPTION R & H BUILDING
CAPACITY

ACCNT DIV		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
5	AREA #4 SUMMARY METALS											
	NON-CATEGORY I											
5121	LIGHT STEEL	175	Tons	1410	30-		246 750			5250		
5122	MEDIUM "	275	"	1240	20-		341 000			5500		
5123	HEAVY "	1090	"	1080	15-		1 177 200			16 350		
5310	DECKING 1½" - 20GA.	112000	SF	2-	0.04		224 000			4480		
5512	LADDER W/ CAGE	138	LF	44.15	0.64		—			—		
5901	CRANE RAILS	276	TON	800-	30		220 800			8280		
3550	STACK (METAL)	18	TN				22 500			611		
5	TOTAL						2 232 250			46471		
					USE		2 232 000					

CES-2000-0 (4/81)

4-11

PARSONS

CLINCH RIVER - BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY RJ | PRICED BY RBJ | DATE AUG 95 | SHEET 1 OF 1

JOB NO.: 6440 - 11 | CLIENT: DOE / PNL | TYPE OF ESTIMATE FCM | CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION R & H BUILDING

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
Div. 5	AREA # 4											
5550	STACK											
	STACK & STIFFENERS	13	TN	1410.	36.		18330			155		
	LADDER W/ CAGE	50	LF	44.50	.64		2230			32		
	ANCHOR BOLTS	ALLOW					500			20		
	PAINTING (INSIDE & OUTSIDE)	5183	SF	.10	.02		520			104		
	ELECTRICAL - W/ R&H ELEC'L											
							21580			611		
	LA BASIN 2085 (21580 × 1.0442)					=	22500					

CES-2000-0 (4/81)

Clinch River - Dpt of F

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY	ENGINEERING	PRICED BY	V. Meser	DATE	Aug. 85	SHEET ____ OF ____	
JOB NO.:	6440-11	CLIENT:	DOE/PNL	TYPE OF ESTIMATE	ROM	CHECKED BY	Fern
UNIT/AREA	MRS. FACILITIES						
DESCRIPTION							
CAPACITY	F&H BLDG.						

ACCNT DIV.		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
	AREA # 4											
6	Summary Wood & Plastics						1500			397		
						USE	2000					

CES-2000-0 (4/81)

CLINCH RIVER BASE CASE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY MAHLAM/S.YOUR PRICED BY RUF DATE AUG 1985 SHEET 1 OF 1

JOB NO. 6440-11 CLIENT: PNL/DOE TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION RECEIVING & HANDLING BLDG.

CAPACITY ALBA #4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV. 6	WOOD & PLASTIC											
6100	ROUGH CARPENTRY											
6110	TREATED WOOD NAILERS (AT PARAPET)	3312	LF	0.444	.12		1460			397		
	ASSUMED 3"x8" = 6622 BF @ .22 .06											
							1460			397		

CES-2000-0 (4/81)

USE 1500

CLINCH RIVER - BASE CASE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY ENGRG PRICED BY RBJ DATE AUG. 1985 SHEET ____ OF ____

JOB NO.: 6440 - 11 CLIENT: [illegible] TYPE OF ESTIMATE FOM CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION RECEIVING & HANDLING BLDG.

CAPACITY AREA # 1

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE			SUBCONTRACT			LABOR			TOTAL DOLLARS		
				MATL	M/H	LAB $				M/HRS	DOLLARS		M/HRS	DOLLARS				
DIV 7	THERMAL / MOISTURE - PROTECTION																	
	SUMMARY																	
							$326,[illegible]						1917					
							319,10[illegible]						7217					
							4,[illegible]						80					
							1160,880						26144					
						LAB	1161											

CES-2000-0 (4/81)

CLINCH RIVER - BASE CASE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY P.S. RAMALANG PRICED BY RUF DATE AUG 1985 SHEET 1 OF 3

JOB NO.: 6440-11 CLIENT: PNL/DOE TYPE OF ESTIMATE ROM CHECKED BY Fm

UNIT/AREA MRS FACILITY

DESCRIPTION RECEIVING & HANDLING BLDG

CAPACITY AREA #4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV.7	THERMAL/MOISTURE PROTECTION											
7100	WATERPROOFING											
7110	MEMBRANE WATERPROOFING	11 x 38	SF	0.41	.03		4180			356		
7120	BITUMINOUS DAMPPROOFING	4680	SF	0.118	.03		2250			140		
7200	INSULATION											
7210	BLDG. INSUL (PERIMETER FDN.) 2"	46 x 50	SF	0.38	.01		1780			47		
7241	WALL FIBERGLASS INSULATION 3½"	1236	SF	0.25	.01		310			12		
7400	PREFORMED ROOFING/SIDING											
7410	PREFORMED METAL SIDING											
7411	FIELD ASSY. NO 1 ON STR. STL FRAMING INCL: 1½ x 22 GA. RIBBED EXT. PNLS. W/ 3" FIBERGLASS INSUL.	86,904	S.F.	4.45	.085		386900			7390		
	+ PLUS 1½" x 22 GA. INSUL. FILLED INTERIOR LINER PNLS.	109,308	S.F	3.60	.085		394950			9325		
7412	FIELD ASSY. NO 2 ON CONCRETE BLDG. INCL: 1½ x 22 GA. RIBBED EXT. PNLS. W/ 3" FIBERGLASS INSUL. PLUS STR STL SUBGIRT SYST.	10324	S.F	4.45	.085		45940			878		
							836980			18147		

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER - BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY [illegible] PRICED BY RJF DATE AUG 1985 SHEET 2 OF 2

JOB NO.: 6440-11 CLIENT: PNL/DOE TYPE OF ESTIMATE ROM CHECKED BY [illegible]

UNIT/AREA MFS FACILITY

DESCRIPTION RECEIVING & HANDLING BLDG.

CAPACITY AREA #4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV.7	THERMAL/MOISTURE PROTECTION											
7500	MEMBRANE ROOFING											
7510	ROOFING SYSTEM											
7511	SINGLE PLY ROOF SYSTEM ON LEVEL DECK INCL: TAPERED (6" AVG.) INSUL W/ 4" FIBER CANT STRIP SINGLE PLY EPDM MEMBRANE SINGLE PLY BASE FLASHING & STONE BALLAST (10# SF)	0	SF									
7512	SINGLE PLY ROOF SYSTEM ON SLOPED DECK INCL: COMPOSITE RIGID INSUL (4") TAPERED INSUL. CRICKETS (6") SINGLE PLY EPDM MEMBRANE SINGLE PLY BASE FLASHING & STONE BALLAST (10# SF)	126,222	SF	1.85	.04		233,510			5043		
7600	FLASHING/SHEET METAL											
7620	FLASHING/TRIM											
7621	FLASHING PARAPET COPING .032 ALUM	5,250	LF	1.50	.09		7,980			473		
7622	FLASHING (30" WIDE)	6,050	LF	2.50	.15		15,130			908		
7623	FLASHING REGLET & COUNTERFLASH	6,050	LF	1.45	.05		8,770			303		
7624	FASCIA & SOFFIT METAL PANEL (1½ x 22 GA. EMBOSSED PREFIN.)	5,504	SF	3.88	0.1		14,760			380		
7625	SCUPPER/LEADERS & DOWNSPOUT	40	EA	60	1.0		2,400			40		
	DOWNSPOUT	1527	L.F.	24	.5		36,650			764		
							319,100			7217		

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER - BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY [illegible] PRICED BY RJF DATE AUG 1985 SHEET 3 OF 3

JOB NO.: 6440-11 CLIENT: PNL/DOE TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION RECEIVING & HANDLING BLDG.

CAPACITY AREA #4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV.7	THERMAL/MOISTURE PROTECTION											
7800	ROOF ACCESSORIES											
7801	ROOF DRAINS	40	EA	60	1.0		2400			40		
7802	OVERFLOW DRAINS	40	EA	60	1.0		2400			40		
7900	CAULKING & SEALANTS	0										
							4800			80		

CES-2000-0 (4/81)

CLINCH RIVER - BASE CASE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY ENGINEERING PRICED BY V MESEC DATE AUG 85 SHEET ____ OF ____

JOB NO. 6440-11 CLIENT DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY ____

UNIT/AREA MRS. FACILITY

DESCRIPTION

CAPACITY K-H. BLDG

ACCNT DIV.		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
	AREA # 4											
8	SUMMARY DOORS & WINDOWS						700,000			2,115		
					11.5E		343,000					

CES-2000 0 (4/81)

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PARSONS

Clinch River - Base Case

ESTIMATE WORKSHEET

M.T.O. BY ENGRG | PRICED BY RBJ | DATE AUG. 1995 | SHEET ____ OF ____

JOB NO.: 6440 - 11 | CLIENT: TVA / DOE | TYPE OF ESTIMATE ROM | CHECKED BY [illegible]

UNIT/AREA MRS FACILITY

DESCRIPTION RECEIVING & HANDLING BLDG.

CAPACITY AREA # 4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
Div. 9	Doors & Windows											
	SUMMARY											
8100	Doors						3[illegible]20			21.1		
							12520			104		
							10[illegible]000			77		
							8800			70		
							140400			976		
							1000			14		
8300	Windows						37[illegible]00			592		
							242900			2143		

CES-2000-0 (4/81)

CLINCH RIVER - BASE CASE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY [illegible] PRICED BY [illegible] DATE AUG 1985 SHEET 1 OF 12

JOB NO.: 6440-11 CLIENT: PHL/DOE TYPE OF ESTIMATE ROM CHECKED BY [illegible]

UNIT/AREA MRS FACILITY

DESCRIPTION RECEIVING & HANDLING BLDG.

CAPACITY AREA #4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV. 8	DOORS & WINDOWS											
8110	DOOR #1 (TYPE A)	1	EA	1100	15		1100			15		
	PR 3'0" x 7'0" MED. BRONZE											
	ALUM. WITH TINTED TEMP. GLASS											
	PART OF 12'-0" x 9'-0"											
	STEEL FRONT - 1¾" THK											
8110	DOOR #2 (TYPE B)	1	EA	1100	15		1100			15		
	PR 3'-0" x 7'-0" MED. BRONZE											
	ALUM. WITH TINTED TEMP. GLASS											
	PART OF 6'-0" x 7'-0"											
	STEEL FRONT - 1¾ THK											
8120	DOOR #3 1¾ THK. (TYPE C)											
	3'0" x 7'-0" HOLLOW METAL	1	LOT				600			18		
	DOOR IN PRESSED METAL											
	FRAME, HEAVY DUTY HARDWARE											
8370	DOOR #4 (TYPE S)	0	EA				-					
	3'-0" x 7'-0" STL. PLATE,											
	STRUCT. STEEL FRAME,											
	SPECIAL DESIGN HARDWARE											
	TORNADO / SEISMIC RESISTANT											
8380	DOOR #5 (TYPE S)	1	EA	27000	80		27000			80		
	3'-0" x 7'-0" STL. PLATE											
	STRUCT. STEEL FRAME											
	SPECIAL DESIGN HARDWARE											
	TORNADO / MISSILE / SEISMIC											
	RESISTANT											
8120	DOOR #6 (TYPE D)	4	EA	720	6		2880			24		
	PR 3'6" x 7'-0" HOLLOW METAL											
	PRESSED METAL FRAME,											
	HEAVY DUTY HARDWARE											
							32480			314		

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER - BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY S.VOUK | PRICED BY RME | DATE AUG 1985 | SHEET 2 OF 12

JOB NO.: 6AAD-11 | CLIENT: PNL/DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION RECEIVING & HANDLING BLDG.

CAPACITY AKLA # 4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
8120	DOOR # 1 (TYPE D) PR 4'-0" x 7'-0" HOLLOW METAL PRESSED METAL FRAME, HEAVY DUTY HARDWARE 1¾" THK	0	EA				-			-		
8120	DOOR # 8 (TYPE E) PR 9'-0" x 7'-0" HOLLOW METAL PRESSED METAL FRAME, HEAVY DUTY HARDWARE 2'-9" HIGH TRANSOM 1¾" THK.	4	EA	950	8		3800			32		
8120	DOOR # 9 (TYPE E) PR 9'-0" x 7'-0" HOLLOW METAL PRESSED METAL FRAME HEAVY DUTY HARDWARE 2'-9" HIGH TRANSOM 1¾" THK	2	EA	950	8		1900			16		
8120	DOOR # 10 (TYPE E) PR 4'-0" x 7'-0" HOLLOW METAL PRESSED METAL FRAME HEAVY DUTY HARDWARE 2'-4" HIGH TRANSOM 1¾" THK.	0	EA				-			-		
8120	DOOR # 11 (TYPE F) 3'-0" x 7'-0" HOLLOW METAL W/TH CLEAR LAMIN. GLASS PANEL PRESSED METAL FRAME HEAVY DUTY HARDWARE 1¾" THK.	10	EA	600	5		6000			50		
8120	DOOR # 12 (TYPE G) PR. 3'-0" x 7'-0" HOLLOW METAL WITH CLEAR LAMIN. GLASS PANEL PRESSED METAL FRAME HEAVY DUTY HARDWARE - 1¾" THK.	1	EA	820	6		820			6		
							12520			104		

CES-2000-0 (4/81)

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PARSONS

CLINCH RIVER - BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY S. VOUK PRICED BY KMF DATE AUG 1985 SHEET 3 OF 12

JOB NO.: 6040-11 CLIENT: PNL/DOE TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION RECEIVING & HANDLING BLDG.

CAPACITY AREA #4

ACCNT DNS		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
8120	DOOR #13 (TYPE H) PR. 3'-0" x 7'-0" HOLLOW METAL WITH CLEAR LAM. GLASS PANEL, PRESSED METAL FRAME, 2'-4" HIGH TRANSOM, HEAVY DUTY HARDWARE-1¾" THK	0	EA									
8120	DOOR #14 (TYPE I) 3'-0" x 7'-0" HOLLOW METAL, VISION PANEL LAM. GLASS PRESSED METAL FRAME HEAVY DUTY HARDWARE-1¾" THK	13	EA	650	5		9450			65		
8120	DOOR #15 (TYPE J) PR 3'-0" x 7'-0" HOLLOW METAL VISION PANELS LAM. GLASS, PRESSED METAL FRAME HEAVY DUTY HARDWARE-1¾" THK	2	EA	840	6		1680			12		
8120	DOOR #16 (TYPE K) PR. 3'-0" x 7'-0" HOLLOW METAL, VISION PANELS LAM. GLASS, PRESSED METAL FRAME HEAVY DUTY HARDWARE-1¾" THK	0	EA				-			-		
8120	DOOR #17 (TYPE K) PR 4'-0" x 7'-0" HOLLOW METAL, VISION PANELS LAM. GLASS, PRESSED METAL FRAME, HEAVY DUTY HARDWARE-1¾" THK	0	EA				-			-		
3140	DOOR #18 (TYPE L) 3'-0" x 7'-0" STAINL. STEEL CLADDING ON STL. FRAME, AIRTIGHT, VISION PANEL, AIRTIGHT, STL FRAME WITH STAINL. STL. CLADDING-1¾" THK	0	EA				-			-		
							10890			77		

CES-2000-0 (4/81) SPECIAL HARDWARE, AIRTIGHT

PARSONS

CLINCH RIVER - BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY C.VOUK PRICED BY [illegible] DATE AUG 1985 SHEET 4 OF 12

JOB NO.: 6440-11 CLIENT: [illegible] TYPE OF ESTIMATE ROM CHECKED BY [illegible]

UNIT/AREA MRS FACILITY

DESCRIPTION RECEIVING & HANDLING BLDG.

CAPACITY AREA # 4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
4.8												
8140	DOOR # 19 (TYPE M) PR 3'-0" x 7'-0" STAINL. STEEL CLADDING ON STL. FRAME, -1¾ THK. VISION PANELS, STRUCT. STL. FRAME WITH STAINL. STL. CLADDING, SPECIAL HARDWARE, AIR TIGHT	0	EA				–		–			
8120	DOOR # 20 (TYPE N) PR 3'-0" x 8'-0" HOLLOW METAL VISION PANELS LAM. GLASS, STRUCT STL. FRAME, -1¾" THK. SPECIAL HARDWARE, STAINL. STL. KICK PLATES, AIR / MOTOR OPERATED	7	EA	1270	10		8890			70		
* 11880	DOOR #21 (TYPE T) 6'-0" x 13'-0", STL. PL. STRUCT. STL. FRAME, SPECIAL HARDWARE AIR OPERATED, RADIATION RESIST.	0	EA				–			–		
—	DOOR #22 NOT USED	0					–			–		
8130	DOOR #23 (TYPE L) PR 6'-6" x 20'-0", 4" THICK HOLLOW METAL, STRUCT. STL. FRAME, SPECIAL HARDWARE, RELOCATABLE MOUNT WEATHER STRIPPING	0	EA				–			–		
							8890			70		

CES-2000-0 (4/81)

* MODIFICATION OF MECH SPEC. 11880 SPECIAL DOORS (SHIELDED)

CLINCH RIVER - BASE CASE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY S. VOUK PRICED BY KUF DATE AUG. 1985 SHEET 9 OF 12

JOB NO. GA40-11 CLIENT: PNL/DOE TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION RECEIVING & HANDLING BLDG.

CAPACITY AREA # 4

ACCNT Dw. #		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
* 11880	DOOR # 44 (TYPE V) PK. 7'-0" X 23'-0" X 3'-3" THICK STL. PLATE FILLED W/ CONC. HORIZ. SLIDING, MOTOR OPER. STRUCT. STL. FRAME. SPECIAL HARDWARE RADIATION SHIELDED	0	EA				—					
8360	DOOR # 45 (TYPE W) 16'-0" X 25'-0" ROLL-UP - 18 GA. GALV. STEEL, MOTOR OPERATED, STRUCT. STL. FRAME, MFG HARDW.	16	EA	8000	50		128,000			800		
8360	DOOR # 46 (TYPE W) 10'-0" X 18'-0" ROLL-UP, 22 GA. GALV. STL, MOTOR OPERATED STRUCT. STL. FRAME, MFG HARDW	4	EA	3100	43		12,400			172		
8360	DOOR # 47 (TYPE W) 10'-0" X 140'-0" ROLL-UP, 22 GA. GALV. STL. MOTOR OPERATED, STRUCT. STL FRAME, MFG HARDW.	0	EA				—					
8360	DOOR # 48 (TYPE W) 10'-0" X 12'-0" ROLL-UP, 22 GA. GALV. STL., MOTOR OPERATED, STRUCT. STL. FRAME, MFG HARDW.	0	EA				—					
8360	DOOR # 49 (TYPE W) 13'-0" X 25'-0" ROLL-UP, 20 GA. GALV. STL, MOTOR OPERATED, STRUCT STL. FRAME, MFG HARDW	0	EA				—					
							140,400			972		

CES-2000-0 (4/81)

* CONTINUATION OF M/H SHEET. 11880 SPECIAL DOORS (SHIELDED)

PARSONS

CLINCH RIVER - BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY [illegible] PRICED BY RMF DATE AUG 1985 SHEET 12 OF 12

JOB NO.: 6400-11 CLIENT: DOE/M&O TYPE OF ESTIMATE ROM CHECKED BY [illegible]

UNIT/AREA MRS FACILITY

DESCRIPTION RECEIVING & HANDLING BLDG

CAPACITY AREA #4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
8160	DOOR #60 (TYPE CC) 2-3'-0"x7'-0" HORIZ. SLIDING CLOSET TYPE HOLLOW MTL., STD. MFG HARDWARE,	2	EA.	500.	7		1000			14		
—	DOOR #61 NOT USED											
* 11880	DOOR #62 (TYPE DD) 8-0"x9'-0" HORIZ. SLIDING STL PLATE, STRUCT. STL. FRAME, MOTOR OPERATED, SPECIAL HARDWARE, RADIATION SHIELD.	0					—			—		
* 11880	DOOR #63 (TYPE S) 6'-0"x7'-0", STL. PLATE, STRUCT. STL FRAME, SPECIAL HARDWARE, RADIATION SHIELDING, AIR TIGHT	0					—			—		
8130	DOOR #64 (TYPE P) PR 7'-0"x14'-0"x4" THICK HOLLOW METAL STRUCT. STL. FRAME MFG HARDWARE	0					—			—		
							1000			14		

CES-2000 0 (4/81) [illegible] OF MECH COST. 11880 SPECIAL DOORS (SHIELDED)

PARSONS

CLINCH RIVER - BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY R.S. MANALANG | PRICED BY RUF | DATE AUG 85 | SHEET 1 OF 1

JOB NO.: 6440-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA MRS FACILITY
DESCRIPTION RECEIVING & HANDLING BLDG
CAPACITY AREA # 4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV. 8	DOORS & WINDOWS											
8500	METAL WINDOWS											
8500	WINDOW W-1 4'x6' x 2'1/4" FIXED COMM. ALUM W/MED. FR. FIN #1" TINTED TEMP. INSUL. GL	32	EA	1000	16		32000			512		
8500	WINDOW W-2 8'x4'x6" FIXED GLAZ. IN PR. MTL FR. W/CLR. LAM. SAFETY GLASS	1	EA	3200	52		3200			52		
8500	WINDOW W-10 4'x4'x6" FIXED COMM ALUM. W/MED. BR. FIN. #1" TINTED TEMP. INSUL. GL	1	EA	1600	26		1600			26		
8500	WINDOW W-11 HORIZ. SLIDING SERV. CNTR. TYPE W/CLR. LAM SAFETY GLASS	1	EA	500	2		500			2		
							37300			592		

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER - BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY ENGRG | PRICED BY RBJ | DATE AUG 1995 | SHEET ____ OF ____

JOB NO.: 6440 - 11 | CLIENT: PNL / DOE | TYPE OF ESTIMATE ROM | CHECKED BY JMP

UNIT/AREA MRS FACILITY

DESCRIPTION RECEIVING & HANDLING BLDG.

CAPACITY AREA # 4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV. 9	FINISHES											
	SUMMARY											
							80 660			~~1933~~		
							212 320			14292		
							292 980			19125		
						USE	293 000					

CES-2000-0 (4/81)

CLINCH RIVER - BASE CASE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY R.S. MANALANG | PRICED BY RUF | DATE AUG 1985 | SHEET 1 OF 2

JOB NO.: 6440-11 | CLIENT: PNL/DOE | TYPE OF ESTIMATE ROM | CHECKED BY Pam

UNIT/AREA MRS FACILITY

DESCRIPTION RECEIVING & HANDLING BLDG.

CAPACITY AREA #4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV. 9	FINISHES											
9100	LATH & PLASTER											
9101	L&P, WALL (INCL. FRMG.)	7,030	SF	1.17	.18		8230			1265		
9102	L&P, CEILING (INCL. SUSP.)	3,426	SF	1.34	.23		4590			788		
9250	GYPSUM WALLBOARD											
9260	GYPSUM WALLBOARD SYSTEM											
9261	GWB ON MTL STUDS (1 FACE)	1,950	SF	0.79	.05		1540			98		
9262	GWB ON MTL STUDS (2 FACE)	12,520	SF	1.23	.08		16400			1002		
9263	GWB CEILING (INCL. SUSP.)	435	SF	0.73	.042		320			18		
9300	TILE											
9310	CERAMIC TILE											
9311	CER. TILE FLOOR (UNGLAZED)	4060	SF	3.25	.09		13200			365		
9312	CER. TILE WALL/WAINS (GLAZED)	7,030	SF	1.40	.08		9840			562		
9500	ACOUSTIC TREATMENT											
9510	ACOUSTIC CEILING (INCL. SUSP.)	8364	SF	2.26	.011		18900			594		
9650	RESILIENT FLOORING											
9660	RESILIENT TILE FLOORING											
9661	VINYL TILE	2,680	SF	0.90	.01		7810			87		
9662	BASE, 4" VINYL COVE	1,800	SF	0.46	.03		830			54		
							80660			4833		

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER - BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY P.S. MANALANG PRICED BY RUF DATE AUG 1985 SHEET 2 OF 2

JOB NO. 6440-11 CLIENT: PNL/DOE TYPE OF ESTIMATE ROM CHECKED BY MG

UNIT/AREA MRS FACILITY

DESCRIPTION RECEIVING & HANDLING BLDG.

CAPACITY AREA # 4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV.9	FINISHES											
9663	SEAMLESS VINYL SHEET FLOORING	0	SF									
9680	CARPETING											
9682	CARPETING (COMPLETE)	0	SF									
9900	PAINTING											
9901	PAINTING MASONRY/CONCRETE	128,580	SF	0.25	.02		32,150			2572		
	PAINTING STRUCT STL & MISC. STL.	89,696	LT	0.02	.01		1,790			897		
	PAINTING DOORS/WINDOWS	3690	SF	0.04	.015		150			55		
	PAINTING GYPSUM WALLBOARD	7125	SF	0.08	.025		570			178		
	PAINTING METAL DECKING	118,069	SF	0.04	.015		4,720			1771		
	PAINTING CONCRETE FLOORS	0	SF									
9910	SEALERS											
9911	CLEAR SEALER FLRS/BASE/WALLS	24451	SF	0.06	.03		1,470			734		
9920	SPECIAL COATINGS											
9921	SPECIAL COATING FLOORS	83,076	SF	1.16	.05		96,370			4154		
9922	SPECIAL COATING WALLS/MAINS/CLG	65516	SF	1.16	.06		75,180			3931		
9923	SPECIAL COATINGS STEEL SURFACES	0	SF									
							212,320			14292		

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER - BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY ENGRG PRICED BY RBJ DATE AUG. 1985 SHEET ____ OF ____

JOB NO.: 6440 - 11 CLIENT: PNL / DOE TYPE OF ESTIMATE ROM CHECKED BY JWG

UNIT/AREA MRS FACILITY

DESCRIPTION RECEIVING & HANDLING BLDG.

CAPACITY AREA # 4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
Div. 10	SPECIALTIES											
	SUMMARY											
							230,060			184		
							76,510			917		
							56,550			479		
							4,560			36		
							160,680			1616		
						USB	16,000					

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER - BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY [illegible] PRICED BY RUF DATE AUG 1985 SHEET 1 OF 2

JOB NO.: 6440-11 CLIENT: PHL/DOE TYPE OF ESTIMATE ROM CHECKED BY [illegible]

UNIT/AREA 11P-5 FACILITY

DESCRIPTION RECEIVING & HANDLING BLDG.

CAPACITY AREA #4

ACCNT DIV.IC		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	SPECIALTIES											
10100	CHALKBOARDS/TACKBOARDS											
10110	CHALKBOARDS 4'-0"W x 8'-0"	4	EA	50	1		200			4		
10120	TACKBOARDS 4'-0"W x 6'-0"L	4	LF	5	.5		20			2		
10150	COMPARTMENTS/CUBICLES											
10160	TOILET PARTITIONS/URINAL SCREENS											
10161	TOILET PARTITIONS (STALLS)	12	EA	260	4		3120			48		
10162	URINAL SCREENS (DIVIDERS)	2	EA	110	2		220			4		
10163	SHOWER CMPT. W/TERRAZZO RECEPTOR	12	EA	165	1		1980			12		
10164	DRESSING COMPARTMENT W/SEAT	12	EA	1000	5		12000			60		
10165	WOOD LOCKER ROOM BENCHES	60	LF	12	.1		720			6		
10200	LOUVERS & VENTS											
	6'-0"W x 2'-0"H 22 GA. MTL. LOUVER	16	SET	300	3		4800			48		
10270	ACCESS FLOORING	0	SF									
							23060			184		

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER - BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY R.S. MANSLARK PRICED BY KUF DATE AUG 1985 SHEET 2 OF —

JOB NO.: 6440-11 CLIENT: PNL/DOE TYPE OF ESTIMATE ROM CHECKED BY MG

UNIT/AREA MCS FACILITY

DESCRIPTION RECEIVING & HANDLING BLDG.

CAPACITY AGGR. # 4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV. 10	SPECIALTIES (CONTD.)											
10400	IDENTIFYING DEVICES											
10440	ROOM ID DIRECTORY	4	EA	900	16		3600			64		
10450	ROOM ID PLAQUES	88	EA	10	1.5		880			132		
10460	PIPING & NUCLEAR HAZARD IDENTIFICATION	37	LOT	100	1		3700			37		
10500	LOCKERS											
10501	DOUBLE TIER 12x18x36 MTL. LKRS.	440	EA	89	1		39160			440		
10530	SUN CONTROL DEVICES											
10531	VERTICAL METAL SUNSHADE (3'x7'x2")	42	EA	350	4	.	14700			168		
10670	STORAGE SHELVING											
	16" DEEP ADJ. METAL SHELVING	185	LF	5	.05		930			9		
10800	TOILET ROOM ACCESSORIES											
	18x24 MIRRORS & SOAP DISP.	17	EA	105	.8		1790			14		
	PAPER TOWEL DISP. & WASTE RECEPT.	9	LOT	17	.30		150			3		
10850	DOCK FACILITIES											
	DOCK LEVELERS	4	EA	2800	12.6		11600			50		
							76510			917		

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER - BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY S.VOUK | PRICED BY RBJ | DATE AUG 85 | SHEET 4 OF ____

JOB NO.: 6440-11 | CLIENT: PNL/DOE | TYPE OF ESTIMATE ROM | CHECKED BY MG

UNIT/AREA AREA 4

DESCRIPTION R & H FACILITY

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
Av 10	SPECIALTIES											
	SPECIALTIES:											
	30. WC, FLUSH VALVE, FLOOR MOUNTED	8		360.	2.19		2880			18		
	URINALS	4		350.	4.-		1400			16		
	LAVATORIES 14"x 18"	18		280.	1.72		5040			31		
	SEMI-RECESSED EL. WATER COOLER	2		470.	4.69		940			9		
	3'-0" x 5'-0" x 6'-0" HI FLOOR MOUNTED TOILET COMPARTMENTS	12		190.	2.7		2280			32		
	3'-0" x 6'-0" x 6'-0" SHOWER COMPARTMENTS WITH SHOWER PAN, BENCH AND 2 CURTAINS	12		700.	10.7		8400			128		
	10" WIDE x 6'-0" LONG BOUCHES	12		600.	2.3		7200			28		
	14" x 22" MIRRORS	18		60.	.40		1080			7		
	SOAP DISPENSERS	18		47.	.40		846			7		
	TOILET PAPER DISPENSERS	12		17.	.30		204			4		
	HANDICAPPED GRAB BARS	8		50.	.30		400			2		
	WC FOR HANDICCAPED	4		320.	2.19		1280			9		
	SIGNS	1	LT	200.	(ALLOWANCE)		200			1		
	STORAGE SHELVING	1	LT		(ALLOWANCE)		900			9		
	DOUBLE/TIER LOCKERS	440		50.	.40		22000			176		
	6'-0" x 3'-0" TACKBOARDS	6		250.	.3		1500			2		
							56550			479		

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER - BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY S. VOUK | PRICED BY RBJ | DATE AUG 85 | SHEET 5 OF ____

JOB NO.: 6440-11 | CLIENT: VOB / PNL | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA AREA 4

DESCRIPTION R & H FACILITY

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
Rv.10	SPECIALTIES											
	SPECIALTIES											
	PAPER TOWEL DISPENSER/DISPOSAL	8		280	30		2240			6		
	SERVICE SINKS	4		400	6.3		1600			25		
	TOILET SEAT DISPENSER	12		60	40		720			5		
							4560			36		

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER - BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY ENGINEERING PRICED BY V. MESER DATE AUG. 85 SHEET ____ OF ____

JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA MRS. FACILITY

DESCRIPTION

CAPACITY R&H. BLDG

ACCNT DIV.		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	AREA # 4											
11	SUMMARY EQUIPMENT											
11550	INDUSTRIAL EQUIPMENT						750800			5365		
11860	WASTE HANDLING EQUIPMENT						121800			450		
11870	RADIATION SHIELD WINDOW						112000			304		
							984600			6119		
						USE	985000					
	Δ MTG HDWRE & FREIGHT (FROM 15% TO 10%)						<13000>					
							972000					

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER - BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY SCHLOSSER / BASA PRICED BY AL DATE AUG 85 SHEET 1 OF 1

JOB NO.: 6440-11 CLIENT: DOE / PNL TYPE OF ESTIMATE ROM CHECKED BY JWK

UNIT/AREA MRS FACILITY AREA 4

DESCRIPTION

CAPACITY R & H BUILDING

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DV. 11	EQUIPMENT											
11550	SUMMARY INDUSTRIAL EQUIPMENT											
11550	DECON STATION						14 700			250		
	DRUM STO. RACKS						250 700			3380		
	DRUM VIBRATOR/SCISSOR LIFT						59 800			300		
	DRUM TUMBLER						2 880			20		
	WIRE ROPE TYPE CAR PULLER						51 750			200		
	CARRIAGE TYPE PULLER						195 500			700		
	CEMENT STO. BIN						16 680			100		
	SAND STO BIN						15 030			100		
	DRUM DAMPER, STATIONARY						3 450			30		
	BAG HEAT SEALER						26 450			120		
	FORK LIFT, ELECTRIC						63 250			15		
	DRUM STACKING TRUCK						23 000			15		
	WELDING MACHINE (OVERPACK STA.)						2 650			20		
	SAND DAY TANK						11 700			55		
	CEMENT DAY TANK						13 200			60		
11550	TOTAL						750 840			5365		
					USE		750 800					

CES-2000-0 (4/81)

CLINCH RIVER - BASE CASE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY SCH LOSSER | PRICED BY AL | DATE AUG 85 | SHEET 1 OF 1

JOB NO.: 6440-11 | CLIENT: DOE/PHL | TYPE OF ESTIMATE ROM | CHECKED BY JMG

UNIT/AREA MRS FAC / AREA 4

DESCRIPTION R & H BUILDING

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV. 11	EQUIPMENT											
	SUMMARY											
11550	DECON STATION											
RM1	TURNTABLE UNIT PP. 1 OF 2	1	EA				13400			100		
1070	& ACCESS. PP. 2 OF 2	1	LT				1300			150		
11550	DECON STA. TOTAL	1	LT				14700			250		

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER – BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY SCHLOSSER PRICED BY AL DATE 8/1/85 SHEET 1 OF 2

JOB NO. 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY JWG

UNIT/AREA MRS FACILITY

DESCRIPTION R & H BUILDING

CAPACITY AREA 4

ACCNT DIV II	EQUIPMENT	QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LABS	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
11550	DECON STATION COMPLETELY EQUIPPED	1	EA									
	WITH THE FOLLOWING COMPONENTS:											
RM No	S.S TURNTABLE UNIT 48"O.D x 16 13/16" OA	1	EA		50	10,000	10000			50		
1078	.627 RPM CONSTANT SPEED											
	REVERSABLE 1/2 HP ELECTRIC											
	BRAKEMOTOR 12,000 lb CAPACITY.											
	PANJIRIS WELDMENT CO. ST. LOUIS,											
	MO. MODEL MTT-120-4-5-CS OR											
	APP'D EQUAL											
	TURNTABLE ADAPTOR ASSEMBLY	100	LBS	10	.08		1000			10		
	FABRICATED STAINLESS STEEL											
	SPRAY PIPING 1"Φ STAINLESS											
	STEEL SCH 40 PIPE 30 LG	30	FT	3.41	.23		100			10		
	STAINLESS 1"Φ PIPE FITTINGS	3	EA	17.50								
	3-90° ELBOWS, 1-45° TURN	1	EA	30								
	1-1"Φ TEE, 3, 1"Φ CAPS	1	EA	30			100			10		
		~~3~~	EA									
	STAINLESS STAINLESS SPRAY											
	NOZZELS:											
	#3008 UNIJET FLAT SPRAY TIP	4	EA	55			200					
	SPRAY ANGLE 50°@ 40 PSI @											
	.80 GPM											
	#8008 UNIJET FLAT SPRAY TIP	1	EA				100			10		
	SPRAY ANGLE 80°@ 40 PSI											
	@ .80 GPM											
	1/4 x 1/4 ADJUSTABLE BALL FITTING	4	EA	50			200			10		
	ANGLE OF SPRAY 50° @ 40 PSI											
	@ .80 GPM MTG. HDWE. & FRT (15%)	1	EA				1760					
	SPRAY SYSTEMS CO. WHEATON ILL OR											
	APP'D EQUAL. S/TOTAL	1	EA				13400			100		

CES 2000.0 (4/81)

PARSONS

CLINCH RIVER - BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY SCHLOSSER	PRICED BY AL	DATE 8/1/85	SHEET 2 OF 2		
JOB NO. 6440-11	CLIENT: DOE/PNL	TYPE OF ESTIMATE ROM	CHECKED BY		

UNIT/AREA MRS FACILITY
DESCRIPTION R & D BUILDING
CAPACITY AREA 4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LABS	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	STAINLESS STEEL 1" FLANGED 3 WAY, 3 PORT STEEL, TRANS FLO VALVE, NO 27115 ROCKWELL/ NORTHSTRAM OR APP'D EQUAL.	1	EA	700	10		700			10		
	TURNTABLE MOUNTING STAND AND SPRAY ENCLOSURE, STAINLESS STEEL CONSTRUCTION OF 2"x2" STRUCTURAL TUBING AND 1/4" PL. TOTAL WT. 3280lbs	3280	LBS	10	.04		300			130		
	ACCESSORIES, 6-SS. 3x3 HINGES	6	EA				100			10		
	3. FLEXIBLE DRAW LATCHES # 97-10-101-20 WITH T-HANDLE SOUTHCO CO. CONCORDVILLE PA OR APP'D EQUAL.	3	EA				-					
	1/8"x1" NEOPRENE SEAL MAT'L 25 FT REQ'D	25	FT									
	Q.A. LEVEL II											
	MTG. HWDE. & ERT (15%)	1	LOT				200					
	S/TOTAL	1	LOT				1300			150		

CES-2000-0 (4/81)

CLINCH RIVER - BASE CASE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY M. BASA | PRICED BY MBEC | DATE AUG 85 | SHEET 1 OF 1

JOB NO.: 6440-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA NWS PACIC.F

DESCRIPTION R & H BUILDING AREA 4

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DWH	EQUIPMENT											
11350	DRUM STORAGE RACKS											
Room 1071	S/TOTALS FORWARD SHT. 1 of 3						80600			1020		
1070	2 of 3						132800			1780		
	3 of 3						37300			580		
							250700			3380		
11550	TOTAL											

CES-2000-0 (4/81)

CLINCH RIVER – BASE CASE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY M. BAJA	PRICED BY AL	DATE 8/1/85	SHEET 1 OF 3
JOB NO.: 6490-11	CLIENT: DOE/PNL	TYPE OF ESTIMATE ROM	CHECKED BY

UNIT/AREA MRS FACILITY
DESCRIPTION R & D BUILDING
CAPACITY AREA #4

ACCNT DIV 11		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	EQUIPMENT											
11550	DRUM STORAGE RACKS FOR:											
	1) DRUM CURING ROOM –											
R1010	A)-(11) UPRIGHT FRAME ASSY:											
1071	(2) TS 4X4X.1875X19'@9.31#/FT	3892	#									
1070	ASTM A501 STEEL											
	(4) TS 4X3X.1875X2'@8.14#/FT	716	#									
	ASTM A501 STEEL											
	(2) TS 4X3X.1875X6"@8.14#/FT	88	#									
	ASTM A501 STEEL											
	(2) PL 3/8X4"X7" @5.10#/UNIT	65	#									
	ASTM A36 STEEL											
	(2) PL 3/8X4"X8" @5.10#/UNIT	75	#									
	ASTM A36 STEEL											
	B)-(32) PR LOAD BEAMS & BRACE			SEE BELOW								
	(2) TS 4X3X.1875X5.8'@8.14 #/FT ASTM A501 STEEL	3022	#									
	(1) TS 4X3X.1875X2'@8.14 #/FT ASTM A501 STEEL	521	#									
	C)-(32) SHELVING											
	(1) PL 1/4X2.5'X6.0'@10.2 #/SQ FT. ASTM A36 STEEL	4.896	#									
	D)-FIELD WELDING OF ALL RACK COMPONENTS AT ASSEMBLY PLUS PAINTING											
	A36 CARBON STL	5036	LBS	4.-	.07		20 100			350		
	A501 HOT FORMED TUBING	8329	LBS	6.-	.08		50 000			670		
	MTG. HWDE & FRT (15%)						10 500					
	TOTAL						80 600			1020		

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER - BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY N. BASA PRICED BY AV DATE 8/1/85 SHEET 2 OF 3

JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION R & H BUILDING

CAPACITY AREA 4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV II	EQUIPMENT											
HWD	DRUM STORAGE RACKS FOR (CONT'D):											
	2) FILLED DRUM/BOX STORAGE —											
	A) - (19) UPRIGHT FRAME ASSY:											
	(2) TS 4X4X.1875X19'@9.31#/FT ASTM A501 STEEL	6,722	#									
	(4) TS 4X3X.1875X2'@8.14#/FT ASTM A501 STEEL	1,237	#									
	(2) TS 4X3X.1875X6"@8.14#/FT ASTM A501 STEEL	155	#									
	(2) PL 3/8"X4"X7"@5.10#/FT ASTM A36 STEEL	(113)	#									
	(2) PL 3/8"X4"X8"@5.10#/FT ASTM A36 STEEL	(129)	#	SEE BELOW								
	B) - (60) PR LOAD BEAMS & BRACE (2) TS 4X3X.1875X5.8'@8.14 #/FT ASTM A501 STEEL	5665	#									
	(1) TS 4X3X.1875X2'@8.14 #/FT ASTM A501 STEEL	977	#									
	C) - (60) SHELVING (1) PL 1/4X2.5'X6.0'@10.2 #/SQ FT. ASTM A36 STEEL	(9,180)	#									
	D) - FIELD WELDING OF ALL RACK COMPONENTS AT ASSEMBLY PLUS PAINTING											
	A36	14756	LB	4	.07		59000			1030		
	A501	9422	LB	6	.08		56500			750		
	MTG. HWDE & PRT. (15%)						17300					
	TOTAL						132800			1780		

CES-2000-0 (4/81)

CLINCH RIVER - BASE CASE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY M. BASA | PRICED BY AL | DATE 8/1/85 | SHEET 3 OF 3

JOB NO.: 6440-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION R & H BUILDING

CAPACITY AREA 4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV. 11	EQUIPMENT											
	DRUM STORAGE RACKS FOR (CONT'D):											
11550	3) CLEAN DRUM STORAGE —											
	A)-(3) UPRIGHT FRAME ASSY:											
	(2) TS 4X4X.1875 X 19' @ 9.31 #/FT ASTM A501 STEEL	1062	#									
	(4) TS 5X3 X.1875 X 3.33' @ 9.31 #/FT ASTM A501 STEEL	372	#									
	(2) TS 5X3 X.1875 X 10" @ 9.31 #/FT ASTM A501	47	#		SEE BELOW							
	(2) PL 3/8" X 4" X 7" @ 5.10 #/LIN. FT ASTM A36 STEEL	18	#									
	(2) PL 3/8" X 4" X 8" @ 5.10 #/LIN. FT ASTM A36 STEEL	21	#									
	A 36	59	LB	4	.07		200			-		
	A 501	1481	LB	6	.08		8900			120		
	B)-(2) FR LOAD BEAMS & BRACE											
	(2) TS 5X3X.1875 X 10' @ 9.31 #/FT ASTM A501 STEEL	1490	#		SEE BELOW							
	(1) TS 5X3 X.1875 X 3.5' @ 9.31 #/FT ASTM A501 STEEL	261	#									
	A501	1751	#	6	.08		10500			140		
	C)-FIELD WELDING OF ALL RACK COMPONENTS AT ASSEMBLY PLUS PAINTING						(INCL)			—		
	D)- STEEL PALLETS 54" X 54" X 6", TS 1"X1"X16GA FRAMING WITH 14 GA NOT ROLLED @ 400 # EA	16	EA	800	20		12800			320		
	MTG HDWE & FLT @ (15%)						4900					
	TOTAL						37300			580		

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER - BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY D. L. SCHLOSSER PRICED BY RBP DATE 8/1/85 SHEET ____ OF ____

JOB NO. 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION D & D BUILDING

CAPACITY AREA 4

ACCNT DIV II		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LABS	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	EQUIPMENT											
11550	DRUM VIBRATOR/SCISSOR LIFT INCLUDING:	1	EA	52K			52000			300		
RM No.												
B-101	GRID TOP VIBRATORY PACKER SIMILAR TO CLEVELAND VIBRATOR Co. MODEL GT 3550-73 OR EQ. 2000 lb. CAPACITY, DUAL COUNTER, ROTATING ELECTRIC POWERED VIBRATORS, 1800 RPM, GRAVITY ROLLER DECK 30" WIDE BY 66" LONG WITH LOAD CELL WEIGH SCALE UNIT MOUNTED ON SCISSOR LIFT TABLE. MANUAL CONTROLS INCLUDE AIR MOUNTED CIRCUITRY TO A COMMON INTAKE, COMPLETE WITH CONTROL COMPONENTS FOR INDEPENDENT OPERATION OF TABLE LIFT AND VIBRATION SEQUENCES.											
	SCISSOR LIFT TABLE 3000 lbs. (MIN) CAPACITY 72" VERTICAL TRAVEL 32" x 66" PLATFORM COMPLETE WITH HYDRAULIC POWER UNIT AND MOTOR 3 HP, 460 VOLT 3PHASE, 60 Hz PUSH BUTTON UP/DOWN/STOP CONTROLS											
	MTG. HWDE. & ERT. (15%)	1	EA				7800					
	S/TOTAL	1	EA				59800			300		

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER - BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY M. BASA ii PRICED BY M. BASA DATE 8/1/85 SHEET 1 OF 1

JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA MRS FACILITY
DESCRIPTION R&H BUILDING
CAPACITY AREA #4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV 11	EQUIPMENT											
11550 RMNO 1064	DRUM TUMBLER (FOR MIXING CONTAMINATED SLUDGE AND CEMENT), MORSE MFG. CO. MODEL 1-300 ENDOVER ROTATOR OR EQUAL 55 GAL DRUM SIZE, 800 LB GROSS LOAD, 13 RPM DRUM SPEED, 1-HP MOTOR 460-VOLT, 3-PHASE, 60 HZ	1	EA	2.5K			2500 —			20		
	MTG. HLWDE. & FRT. (15%)	1	EA				380					
	S/TOTAL	1	EA				2880			20		

CES-2000-0 (4/81)

CLINCH RIVER - BASE CASE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY R. Elorriaga PRICED BY PRH DATE 8/1/85 SHEET 1 OF 1

JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY JWS

UNIT/AREA MRS FACILITY

DESCRIPTION L & H BUILDING

CAPACITY AREA #4

ACCNT DIV 11		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE			SUBCONTRACT				LABOR				TOTAL DOLLARS			
				MATL	M/H	LAB $				M/HRS	DOLLARS			M/HRS	DOLLARS						
	EQUIPMENT																				
11550	WIRE ROPE TYPE CAR PULLER TO WORK 2 PARALLEL TRACKS	1	EA	45,000	00			45	000					200							
PM No. 1079 1179	CAR PULLER RATED FOR 10,000 LBS RUNNING PULL 20,000 LBS STARTING PULL AT 44 FPM WITH 15 HP NEMA "C" BRAKE MOTOR, 24" P.D. DRUMS GROOVED FOR 3/4" DIA. WIRE ROPE	1	EA																		
	24" P.D. BEND SHEAVES	5	EA																		
	MASTER LINK ASSEMBLIES	2	EA																		
	CHAIN HITCHES	2 PAIRS	EA																		
	OVERTRAVEL LIMIT SWITCHES	2	EA																		
	HITCH ROPES	1 PAIR	EA																		
	MTG. HWDE. & FRT. (15%)	1	EA					6	750												
	S/TOTAL	1	EA					51	750					200							

CES-2000-0 (4/81)

CLINCH RIVER - BASE CASE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY R. Elazegui PRICED BY RBP DATE 8/1/85 SHEET 1 OF 1

JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA MRS FACILITY
DESCRIPTION R & H BUILDING
CAPACITY AREA #4

ACCNT DIV II		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	EQUIPMENT											
11550	CARRIAGE TYPE PULLER ASSY.	2	EA	85,000.00			170000			700		
	QUANTITY FOR ONE CARRIAGE TYPE PULLER ASSY											
RM No 1080 1180	CAR PULLER RATED FOR 10,000 lbs RUNNING PULL 20,000 Lbs STARTING PULL TRAVEL UP TO 1500 Ft 250 Ft. COMPLETE WITH DRUMS, GEARING, GUARDS, AND TAKE-UP TOWER ALL ON STRUCTURAL STEEL FRAME	1	EA									
	3/4" DIA. 6x19 IMPROVED PLOW STEEL WIRE ROPE WITH I.W.R.C.	856	FT									
	CARRIAGE ASSEMBLY WITH PUSHER DOG, MANUALLY RELEASED LATCHING ASSEMBLY											
	FABRICATED STEEL GUIDEWAY EQUIPPED WITH END TRAVEL AND TRAVEL LIMIT SWITCHES.	370	FT									
	24" P.D. BEND SHEAVE ASSEMBLIES	4	EA									
	MECHANICAL WIRE ROPE FITTINGS TO MAKE ATTACHMENT TO CARRIAGE	2	EA									
	MTG. HWDE. & FRT (15%)	2	EA				25500					
	S/TOTAL	2	EA				195500			700		

CES-2000-0 (4/81)

CLINCH RIVER - BASE CASE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY M. BASA II. PRICED BY RBP DATE 8/1/85 SHEET 1 OF 1

JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION R & H BUILDING

CAPACITY AREA "4

ACCNT DIV II		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	EQUIPMENT											
11550	CEMENT STORAGE BIN	1	EA		14	500	14 500			100		
	350 CU FT CAPACITY											
RM No	1/4" THICK WALL, CARBON STEEL											
1064	CONSTRUCTION, WITH 60°											
	HOPPER, SUPPORT LEGS,											
	HIGH & LOW LEVEL INDICATORS,											
	HOPPER VIBRATOR, BIN VENT											
	FILTER, 4" AND 3" DIA											
	FILL PIPES, SLIDE GATE,											
	ROTARY VALVE FEEDER											
11550	CEMENT ROTARY FEEDER	1			(INCLUDED)							
RM No.	(INCLUDED WITH ABOVE CEMENT											
1064	STORAGE BIN AS BOTTOM											
	DISCHARGE VALVE) BLOW-THRU											
	TYPE FOR CONNECTION WITH											
	2½" DIA. PNEUMATIC											
	CONVEYING LINE											
	COMPLETE WITH 3/4 HP, T.E.											
	GEAR MOTOR, ROLLER CHAIN											
	DRIVE AND SAFETY GUARD,											
	INCLUDING AIR INTAKE FILTER											
	ASSEMBLY											
11550	CEMENT STORAGE BIN VIBRATOR	1			(INCLUDED)							
RM No.	(INCLUDED WITH ABOVE CEMENT											
1064	STORAGE BIN) 1/2 HP, 480-VOLT											
	3 PHASE, 60 HERTZ											
	MTG. HWDE. & FRT. (15%)	3	EA				2 180					
	S/TOTAL	3	EA				16 680			100		

CSS 2000.0 (4/81)

PARSONS

CLINCH RIVER - BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY	M. BASA		PRICED BY	RBP				DATE	8/1/85											SHEET	1	OF	1	
JOB NO.:	6440-11		CLIENT:	DOE/PNL				TYPE OF ESTIMATE	ROM											CHECKED BY				
UNIT/AREA	MRS FACILITY																							
DESCRIPTION	R & H BUILDING				QUAN-TITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE			SUBCONTRACT			LABOR			TOTAL DOLLARS					
CAPACITY	AREA = 4						MATL	M/H	LAB $				M/HRS	DOLLARS			M/HRS	DOLLARS						
ACCNT DIVII	EQUIPMENT																							
11550	SAND STORAGE BIN				1	EA		13	500		13	500					100							
RM.NO.	200 CU FT CAPACITY																							
1064	1/4" THICK WALL, CARBON																							
	STEEL CONSTRUCTION, WITH																							
	60° HOPPER, SUPPORT																							
	LEGS, HIGH AND LOW LEVEL																							
	INDICATORS, HOPPER VIBRATOR																							
	BIN VENT FILTER, 4"																							
	AND 3" DIA FILL PIPES,																							
	SLIDE GATE, ROTARY																							
	VALVE FEEDER																							
11550	SAND ROTARY FEEDER				1	EA		(INCLUDED)																
	(INCLUDED WITH ABOVE SAND																							
RM.No.	STORAGE BIN AS BOTTOM																							
1064	DISCHARGE VALVE) BLOW																							
	THRU TYPE FOR CONNECTION																							
	WITH 2½" DIA. PNEUMATIC																							
	CONVEYING LINE																							
	COMPLETE WITH 3/4 HP T.E																							
	GEAR MOTOR, ROLLER CHAIN																							
	DRIVE AND SAFETY GUARD																							
	INCLUDING																							
11550	SAND STORAGE BIN VIBRATOR				1	EA		(INCLUDED)																
RM NO	(INCLUDED WITH ABOVE SAND																							
1064	STORAGE BIN) 1/2 HP, 480-																							
	VOLT, 3 PHASE, 60 HERTZ																							
	MTG. HWDE. & FRT (15%)				3	EA					2	030												
	S/TOTAL				3	EA					15	030					100							

CEB-2000-0 (4/81)

CLINCH RIVER - BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY	M. BASA	PRICED BY	RLP	DATE	8/1/85	SHEET 1 OF 1
JOB NO.	6440-11	CLIENT:	DOE/PNL	TYPE OF ESTIMATE	ROM	CHECKED BY
UNIT/AREA	MRS. FACILITY					
DESCRIPTION	R & H BUILDING					
CAPACITY	AREA 4					

ACCNT DIV II		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LABS	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	EQUIPMENT											
11550	DRUM DUMPER, STATIONARY	1	EA		3	000	3200			30		
	TYPE, HERCULES INDUSTRIES											
RM No	MODEL HI-640 OR EQ.											
1064	FOR HANDLING 55-GAL STEEL											
	DRUMS, 1500 LB CAPACITY											
	60" DUMPING HEIGHT											
	33° DUMPING ANGLE											
	3/16" STAINLESS STEEL DUMPING CHUTE											
	COMPLETE WITH HYDRAULIC											
	PUMP UNIT AND 1-HP											
	ELECTRIC MOTOR, 460 VOLT											
	3 PHASE, 60 HERTZ, AND											
	PUSH BUTTON CONTROLS											
	NTG. HNDE. & FRT. (15%)	1	EA				450					
	S/TOTAL	1	EA				3450			30		

PARSONS

CLINCH RIVER - BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY M. BASA PRICED BY RBP DATE 8/1/85 SHEET 1 OF 1

JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION R & H BUILDING

CAPACITY AREA 4

ACCNT DIV II		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LABS	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	EQUIPMENT											
11550	BAG HEAT SEALER FOR DRUM PLASTIC LINER	2	EA		11	500	23000			120		
RM No B-101	VERTROD CORP. MODEL NO. 48BCS/CAN-1/2-SP OR EQ. WITH MODIFICATIONS FOR UNDERHUNG TROLLEY MOUNTING AND CANTILEVER JAWS POSITIONED TO OPEN AND CLOSE HORIZONTALLY. SEALER JAWS. 48" LENGTH X 1/2 WIDTH WITH A CUTTING WIRE IN THE MIDDLE TO PRODUCE 1/4" SEALED ENDS DOUBLE THICKNESSES OF 20 MIL POLYETHYLENE SHEETS. 4 KW HEATER POWER 460-VOLT, 3-PHASE, 60 HZ. COMPLETE WITH IMPULSE CONTROL SYSTEM. SEALER MOUNTED ON 1-TON CAPACITY PLAIN TROLLEY.											
	MTG. HWDE. & ERT. (15%)	2	EA				3450					
	S/TOTAL	2	EA				26450			120		

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER - BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY M. BASA PRICED BY RBP DATE 8/1/85 SHEET 1 OF 1

JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA MRS FACILITY
DESCRIPTION R & H BUILDING
CAPACITY AREA 4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
11550	ELECTRIC FORK LIFT TRUCK	1	EA		52	000	52 000			5		
RM No.	HYSTER CO, MODEL E100B											
1071	OR EQ. 10,000 LB CAPACITY											
	AT 24" LOAD CENTER, 206"											
	MAX. FORK HEIGHT, 60"											
	FORKS, 42" CARRIAGE											
	COMPLETE WITH 36-VOLT											
	BATTERY, 1600 AH EXIDE											
	MODEL 18E100 OR EQ											
11550	BATTERY CHARGER (FOR ABOVE	1	EA		3	000	3 000			10		
1064	ELECTRIC FORK LIFT BATTERY)											
	EXIDE MODEL ES-3-1600											
	OR EQ, 480 VOLT, 3 PHASE,											
	60 HERTZ POWER SUPPLY											
	MTG. HDWE. & FRT (15 %)	2	EA				8 250					
	S/TOTAL	2	EA				63 250			15		

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER - BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY M. BASA PRICED BY RBP DATE 8/1/85 SHEET 1 OF 1

JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION R & H BUILDING

CAPACITY AREA 4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV II	EQUIPMENT											
11550	DRUM STACKING TRUCK, YALE INDUSTRIAL TRUCK MODEL ME OR EQ, EXTEND STACKER TYPE MOTORIZED HAND TRUCK, 3000 LB CAPACITY AT 24" LOAD CENTER, 192" MAX. FORK HEIGHT, 36" FORK LENGTH COMPLETE WITH 24-VOLT BATTERY 450 AMP-HR AND REMOVABLE FORK MOUNTED DRUM GRABBER ATTACHMENT FOR 55-GAL DRUM, 1500 LB CAPACITY.	1	EA		19	000	19000			5		
RM No. 1070												
11550 RM NO 1064	BATTERY CHARGER (FOR ABOVE DRUM STACKING TRUCK BATTERY)	1	EA		1	000	1000			10		
	NTG. HNDG. & FRT. (15%)	2	EA				3000					
	S/TOTAL	2	EA				23000			15		

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER - BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY M. BASA PRICED BY RAP DATE 8/1/85 SHEET 1 OF 1

JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA MRS FACILITY
DESCRIPTION R & H BUILDING
CAPACITY AREA #4

ACCNT DIV II		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	EQUIPMENT											
11550	WELDING MACHINE (OVERPACK STATION) LINCOLN ELECTRIC CO. MODEL IDEALARC R3S-325 DC POWER SOURCE WITH LN-7 SEMIAUTOMATIC CONSTANT SPEED WIRE FEEDER OR EQUAL.	1	EA		2	300	2300			20		
RM No. 1065												
	1) ARC WELDER POWER SOURCE R3S-325 TYPE K-1281 WITH OUTPUT RATING OF 350 AMPS, 33 VOLTS, 70% DUTY CYCLE, 480-VOLT 3-PHASE, 60 HERTZ POWER SUPPLY. CURRENT RANGE: 40-350 AMP VOLTAGE RANGE: 12-35 VOLT DIMENSIONS: 30 1/4" x 22 1/2" x 26"				(INCLUDED)							
	2) SEMIAUTOMATIC CONSTANT SPEED WIRE FEEDER LN-7 WITH 3/32" WIRE CAPACITY, K-377 MOUNTING STAND FOR 30 POUND SPOOLS, DRIVE ROLL AND GUIDE TUBE KIT				(INCLUDED)							
	3) INNERSHIELD GUN, 10 FT CABLE REGULATOR, AND UNDER-CARRIAGE				(INCLUDED)							
	MTG. HWDE. & FRT. (1520)	1	EA				350					
	S/TOTAL	1	EA				2650			20		

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER - BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY M. BASA | PRICED BY AL | DATE 8/1/85 | SHEET 1 OF 1

JOB NO. 6446-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY JPS

UNIT/AREA MRS FACILITY

DESCRIPTION R & H BUILDING

CAPACITY AREA #4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LABS		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV 11	EQUIPMENT											
11550	SAND DAY TANK, 15 CU FT	600	LB	11.00	.04		6600			25		
	30" DIA x 24" STRAIGHT											
RM NO	SIDE WITH ECCENTRIC											
1064	CONE BOTTOM, 6" PIPE											
	FLANGE BOTTOM DISCHARGE,											
	TOP COVER WITH 16" DIA x											
	6" HEIGHT INLET NOZZLE											
	1/4" WALL THICKNESS											
	304 STAINLESS STEEL											
11550	SAND ROTARY FEEDER	1		3000	20		3000			20		
RM NO	6" DIA PIPE SIZE INLET AND											
1064	OUTLET FLANGES 8" DIA x											
	6" LENGTH ROTOR COMPLETE											
	WITH DRIVE & MOTOR 1/2 HP,											
	480 VOLT 3-PHASE 60 HERTZ											
11550	SAND TANK VIBRATOR	1		600	10		600			10		
RM NO	ELECTROMECHANICAL TYPE											
1064	3600 VIB/MIN 1/4 HP MAX											
	FMC MODEL RV-236 OR											
	EQUAL											
	MTG. HWDE. & FRT. (15%)	3	EA				1500					
	S/TOTAL	3	EA				11700			55		

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER - BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY M. BASA PRICED BY AL DATE 8/1/85 SHEET 1 OF 1

JOB NO. 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA MRS FACILITY
DESCRIPTION R & H BUILDING
CAPACITY AREA # 4

ACCNT DIV 11		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LABS	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	EQUIPMENT											
11550	CEMENT DAY TANK, 27 CU FT	800	LB	10	.04		8000			30		
	36" DIA X 34" STRAIGHT SIDE											
RM NO	60° CONICAL BOTTOM, 6"											
1064	PIPE FLANGE BOTTOM DISCHARGE,											
	TOP COVER WITH 16" DIA X 6"											
	HEIGHT INLET NOZZLE											
	1/4" WALL THICKNESS											
	304 STAINLESS STEEL											
11550	CEMENT ROTARY FEEDER	1					3000			20		
RM NO	6" DIA PIPE SIZE, INLET											
1064	AND OUTLET FLANGES											
	8" DIA X 6" LENGTH ROTOR											
	COMPLETE WITH DRIVE &											
	MOTOR 1/2 HP, 480 VOLT											
	3-PHASE 60 HERTZ											
11550	CEMENT TANK VIBRATOR	1					600			10		
RM NO.	ELECTROMECHANICAL TYPE											
1064	3600 VIB/MIN 1/4 HP MAX											
	FMC MODEL RV-236 OR											
	EQ.											
	MTG. HWDE. & FRT. (15%)	3	EA				1700					
	S/TOTAL	3	EA				13300			60		

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER - BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY M BASA | PRICED BY AV | DATE 7-23-85 | SHEET 1 OF 1

JOB NO.: 6440-11 | CLIENT: DOE/PHL | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION AREA 4

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV. 11	EQUIPMENT											
11860	SUMMARY WASTE HANDLING EQ.											
11860	GROUT MIXER 1/2 CY						57500			150		
	LOW LEVEL HEPA FILTER						63250			300		
11860	TOTAL						120750			450		
						1.62	121800					

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER - BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY M. BASA | PRICED BY RBP | DATE 8/1/85 | SHEET 1 OF 1

JOB NO. 6140-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION R & H BUILDING

CAPACITY AREA #4

ACCNT DIV II	DESCRIPTION	QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LABS	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	EQUIPMENT											
11860	GROUT MIXER ½ CU YD OUTPUT	1	LOT		.50	000	50000			150		
	CAPACITY, LOW PROFILE VERTICAL											
PM No	ANNULAR TANK. STANDARD CONS-											
1064	TRUCTION MATERIALS EXCEPT S.S. FOR											
	ALL WETTED PARTS, SEGMENTED											
	COVERS WITH (4) INLET NOZZLES											
	CONSISTING OF (2) 6-INCH, (1)											
	3-INCH, AND (1) 1½-INCH SIZES,											
	SWING-UP INSPECTION COVERS,											
	AIR ACTUATED BOTTOM DISCHARGE											
	WITH LEAK RESISTANT DOOR AND											
	FULL OPEN/FULL CLOSE											
	DISCHARGE DOOR CONTROL											
	VALVE, INCLUDING 4-LEG, 2FT											
	MOUNTING STAND, DISCHARGE CHUTE,											
	SPINNER ASSEMBLY WITH											
	MIXING ARMS, TORQUE BARS,											
	JOURNALS, PADDLES, INNER AND											
	OUTER WALL SCRAPERS											
	COMPLETE WITH 25HP											
	MOTOR, 480 VOLT, 3 PHASE											
	60 HERTZ											
	Q.A. LEVEL II											
	MTG. HNDE. & FRT. (15%)	1	EA				7500					
	S/TOTAL	1	EA				57500			150		

CES-2000-0 (4/81)

CLINCH RIVER BASE PLATE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY R. ELAZEGUI PRICED BY R/B/P DATE 8/1/85 SHEET 1 OF 1

JOB NO.: 6440 • 11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY MG

UNIT/AREA MRS FACILITY

DESCRIPTION R & H BUILDING

CAPACITY AREA 4

ACCNT DIV II		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	EQUIPMENT											
11860	LOW LEVEL HEPA FILTER	1	EA		55,000		55000			300		
	COMPACTOR/BALER ASSY.											
RM NO	TO COMPACT/BALE 4-24"X24"X11½"											
1065	HEPA FILTERS TO 12½"X25"X14"											
	SIZE BALE.											
	CONSOLIDATED BALING MACHINE											
	CO. OR EQUAL											
	COMPLETE WITH											
	HYDRAULIC CYL. WITH A TOTAL											
	FORCE OF 70,000 LBS											
	TWO HYDRAULIC EJECTOR CYL.											
	20 HP HYDRAULIC PUMP FOR RAM											
	1HP HYDRAULIC PUMP FOR											
	EJECTOR CYL.											
	35 GAL HYDRAULIC RESERVOIR											
	3HP VENTILATION SYSTEM											
	INCL. PREFILTER AND HEPA											
	FILTER											
	ELECTRIC CONTROL PANEL											
	INTERLOCKED SWITCHES											
	BETWEEN RAM HYDRAULIC											
	CYL AND DISCH. DOOR/FEED											
	DOORS											
	PNEUMATIC OPERATED SLIDING											
	FEED AND DISCHARGE DOORS											
	MTG. HWDE. & FRT (15%)	1	EA				8250					
	S/TOTAL	1	EA				63250			300		

CES-2000-0 (4/81)

CLINCH RIVER - BASE CASE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY R.S. MANAHAN PRICED BY RBJ DATE AUG 85 SHEET 1 OF 1

JOB NO.: 6440-11 CLIENT: PNL / DOE TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION RECEIVING & HANDLING BLDG

CAPACITY AREA 4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
PN 11	SPECIAL WINDOW (VIEWING)											
11870	WINDOW W-9											
	4'-2" X 4'-2" X 1'-0"	2	EA	56K	152.		112000			304		
							112000			304		

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CLINCH RIVER - BASE CASE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY ENGINEERING PRICED BY V MESER DATE AUG. 85 SHEET ____ OF ____

JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA MRS. FACILITY

DESCRIPTION

CAPACITY 28 H. BCDG

ACCNT DIV.		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE			SUBCONTRACT			LABOR			TOTAL DOLLARS		
				MATL	M/H	LAB $				M/HRS	DOLLARS		M/HRS	DOLLARS				
	AREA #																	
12	SUMMARY FURNISHINGS						238	500					328					
					USE		239	000										

CES-2000-0 (4/81)

CLINCH RIVER - BASE CASE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY R.L. JARVIS | PRICED BY RUF | DATE AUG. 1985 | SHEET 1 OF 1

JOB NO.: 6440-11 | CLIENT: PNL/DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION RECEIVING & HANDLING BLDG.

CAPACITY AREA #4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV. 12	FURNISHINGS											
12600	FURNITURE											
	ADMINISTRATION AREA ONLY.											
	INCREASE ALL FURNITURE											
	LISTED IN TASK 2A - 6440-30											
	M3 MERGE-IN LISTED TO UPDATE FOR											
	TASK 2B FURNITURE IN MTO											
	(ALL ITEMS NOT LISTED ARE SAME)											
	FOOD SERVICE											
	ITEM No 39 BASE CABINETS	30	LF	40	.4		1200			12		
	ITEM No 40 WALL CABINETS	24	LF	40	.4		960			10		
	ITEM No 41 COFFEE BREWING URN	2	EA	500	1		1000			2		
	OFFICE MACHINES											
	ITEM No 63 ELECTRIC TYPEWRITERS	7	EA	1000	1		7000			7		
	ITEM No 64 ELECTRONIC "	15	EA	5000	5		75000			75		
	ITEM No 65 COMPUTER TERMINAL	8	EA.	Incl. in		INSTR.						
	ITEM No 66 XEROX COPIERS	2	EA.	55000	60		110000			100		
	DESKS											
	ITEM No 2 "L" CLERK/TYPIST DESK	4	EA	700	2		2800			8		
	ITEM No 3 "PED" CLERK/TYPIST DESK	7	EA.	700	2		4900			14		
	TABLES											
	ITEM No 6 DINING TABLES	30	EA.	310	1		9300			30		
	ITEM No 7 CONFERENCE TABLE	8	EA	400	1		3200			8		
	FILES & CABINETS											
	ITEM No 15 BOOK CASE	10	EA	410	1		4100			10		
	ITEM No 16 4 DR. LETTER FILES	6	EA	500	1		3000			6		
	ITEM No 17 4 DR. LEGAL FILES	8	EA	500	1		4000			8		
	CHAIRS & SEATING											
	ITEM No 29 POSTURE SECY CHAIR	6	EA	400	1		2400			6		
	ITEM No 30 CONFERENCE CHAIRS	32	EA	300	1		9600			32		

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328 EA

32B

CLINCH RIVER - BASE CASE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY ENGINEERING PRICED BY V. MESER DATE AUG. 85 SHEET ____ OF ____

JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY JWK

UNIT/AREA MRS. FACILITY

DESCRIPTION

CAPACITY N.A.

ACCNT DIV.		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE			SUBCONTRACT				LABOR				TOTAL DOLLARS		
				MATL	M/H	LAB $				M/HRS	DOLLARS			M/HRS	DOLLARS					
	AREA # 4																			
13	SUMMARY SPECIAL CONSTRUCTION							856	000					9550						

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER - BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY M. BASA | PRICED BY AL | DATE AUG 85 | SHEET ____ OF ____

JOB NO.: 6440-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY JMG

UNIT/AREA MRS FACILITY
DESCRIPTION AREA 4
CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DV.13	SPECIAL CONSTR.											
	SUMMARY DR											
13601	INSPECTION ENCL. 1						36 100			340		
	HEPA FILTER STO. RM. 2						203 400			2100		
	CEMENT ADDN ENCL. 3						24 200			250		
	COMB. MATL. HAND. ENCL. 4						86 300			835		
	DAY TANK ENCL. 5						52 900			520		
	GROUT MIXER ENCL. 6						70 700			755		
	HEPA FILTER COMP. ENCL. 7						23 100			230		
	CEMENT ADDITION ENCLOSURE 9						20 600			250		
	COMB. MATL. HANDLING ENCL. 10						61 500			980		
	GROUT MIXER ENCLOSURE 11						69 000			810		
	HEPA FILTER COMPACTOR ENCL. 12						21 700			240		
	INSPECTION ENCLOSURE 13						22 100			380		
	HEPA FILTER STORAGE ROOM 14						RA 200			1860		
13601	TOTAL						885800			9550		
	Δ MTG. HOURS (FROM 15% TO 10%)						(29 800)					
							856000					

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER - BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY M. BASA | PRICED BY AL | DATE 8/1/85 | SHEET 1 OF 1

JOB NO.: 6440-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY MF

UNIT/AREA MRS FACILITY
DESCRIPTION R & H BUILDING
CAPACITY AREA 4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV 13	SPECIAL CONSTRUCTION											
13601	INSPECTION ENCLOSURE											
	1) 4-FT WIDTH X 10-FT LENGTH	1800	LB	10	.07		18,000			130		
RM. NO	X 5½ FT INSIDE HEIGHT											
1065	3/16-INCH 304 STAINLESS ST. WALLS											
	MOUNTED ON 6-INCH HEIGHT LEGS											
	2) ZIPPERED WINDOW ASSY	2	EA	200	5		400			10		
	3'-0" X 2'-0" X ½"											
	3) GLOVE PORT (2 LH & 2 RH)	4	EA	500	10		2,000			40		
	8"											
	4) SWING DOOR	2	EA	200	10		400			20		
	4'-6" X 2'-0											
	5) POWER SWING DOOR	2	EA	3K	15		6,000			30		
	3'-0 X 1'-6"											
	6) STRUCTURAL FRAME,	800	LB	2	.04		1,600			30		
	STIFFENERS & LEGS											
	7) POWERED ROLLER CONVEYOR	2	EA		1	300	2,600			60		
	3'-0" WIDTH X 4'-0" LENGTH											
	WITH ¾ HP GEARMOTOR & DRIVE											
	8) DOOR ACTUATOR AIR CYLINDER	2	EA	200	10		400			20		
	1½" DIA X 10" STROKE											
	MTG. HWDE & FRT (15%)						4,700					
13601	TOTAL						36,100			340		

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER - BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY R. Elazegui | PRICED BY AL | DATE 8/1/85 | SHEET 1 OF 1

JOB NO. 6440-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA MRS FACILITY
DESCRIPTION R F H BUILDING
CAPACITY AREA # 1

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LABS		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV 13	SPECIAL CONSTRUCTION											
13601	HEPA FILTER STORAGE ROOM											
RMNS 1071	3/16" THICK STAINLESS STEEL PLATE	11.29	TN	14K	160		158000			1800		
	STAINLESS STEEL FRAME L 2x2x3/16	1342	LBS	7	.07		9400			90		
	CARBON STEEL SUPPORT 4" SCH TUBING	2.38	TN	4K	90		9500			210		
	MTG HWDE & FRT @ 15%						26500					
	TOTAL						203400			2100		

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PARSONS

CLINCH RIVER - BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY D.L. SCHLOSSER PRICED BY AL DATE 8/1/85 SHEET 1 OF 1

JOB NO. C440-11 CLIENT: DOE / PNL TYPE OF ESTIMATE ROM CHECKED BY MJG

UNIT/AREA MRS FACILITY

DESCRIPTION R & H BUILDING

CAPACITY AREA #4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE		SUBCONTRACT			LABOR			TOTAL DOLLARS
				MATL	M/H	LABS			M/HRS	DOLLARS		M/HRS	DOLLARS		
DIV 13	SPECIAL CONSTRUCTION														
13601	CEMENT ADDITION ENCLOSURE	1	EA												
	CONSTRUCTED OF FOLLOWING MATL														
RM NO	304 S.ST x 3/16 THICK	2070	LB	7	.07			14 500				150			
1064	ANGLE 4"x2"x1/4" STL ASTM A36	348	LB	2	.04			700				10			
	TUBING, RECT. 4"x3"x3/16"	630	LB	8	.08			5 000				50			
	CARBON S.ST x 3/16 THICK.														
	CARBON PL (ASTM-A36)	203	LB	2	.04			400				10			
	SWING DOOR 3'x7'	2	EA	200	15			400				30			
	S.S.T. TUBING 12" OD x 10" x 1/4"	1	EA	50	-			50				-			
	Q.A. LEVEL II														
	MTG HWDE & FRT @ (15%)							3 150							
								24 200				250			

CES-2000-0 (4/81)

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CLINCH RIVER - BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY D. L. SCHLOSSER PRICED BY AL DATE 8/1/85 SHEET 1 OF 1

JOB NO. 6440-11 CLIENT: DOE / PNL TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA MRS FACILITY
DESCRIPTION R & H BUILDING
CAPACITY AREA # 4

ACCNT DIV 13		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LABS	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	SPECIAL CONSTRUCTION											
13601	COMB. MATERIAL HANDLING ENCLOSURE	1	EA									
RM 106	CONSTRUCTED OF FOLLOWING MATL											
	304 SST x 3/16 THK	5988	LB	7	.07		42 000			420		
	ANGLE 4"x3"x1/4" STL ASTM A-36	882	LB	2	.04							
	TUBING 4"x3"x3/16" " " "	1162	LB	2	.04		4 100			80		
	SWING DOOR 2'-3"x3'-0"	1	EA	200	15		200			15		
	" " 3'-0"x3'-6"	1	EA	300	15		300			15		
	POWER SWING DOOR 3'-0"x3'-6"	1	EA	10K	20		10 000			20		
	-PNEUMATIC CYLINDER	1	EA	100	10		100			10		
	POWER SWING DOOR 2'-3"x3'-0"	1	EA	6K	20		6 000			20		
	-PNEUMATIC CYLINDER	1	EA	200	10		200			10		
	ZIPPERED WINDOW ASSY											
	1'-½" x 2'-6"	12	EA	200	5		2 400			60		
	10" x 2'-1"	4	EA	200	5		800			20		
	5" x 1'-3"	3	EA	400	15		1 200			50		
	4" x 1'-0"	3	EA	400	15		1 200			50		
	GLOVE PORT (8 R.H. & 5 L.H.)	13	EA	500	5		6 500			65		
	Q.A. LEVEL II											
	MTG. HWDE & FRT (15%)						11 300					
							86 300			835		

CES-2000-0 (4/81)

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PARSONS

CLINCH RIVER - BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY D. L. SCHLOSSER PRICED BY AL DATE 8/1/85 SHEET 1 OF 1

JOB NO. C440-11 CLIENT: DOE / PNL TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION R F H BUILDING

CAPACITY AREA #4

ACCNT DIV 13		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE		SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LABS			M/HRS	DOLLARS	M/HRS	DOLLARS	
	SPECIAL CONSTRUCTION												
13601	DAY TANK ENCLOSURE	1	EA										
	CONSTRUCTED OF FOLLOWING MATL												
RM	304 SST x 3/16 THK	5877	LB	7	.07		41	100			410		
1064	ANGLE 4"x3"x1/4" STL ASTM A36	592	LB	2	.04	}	4	300			90		
	TUBING 4"x3"x3/16" " "	1577	"	.2	.04	}							
	SWING DOOR 4'-0"x8'-0"	1	EA	600	20			600			20		
	Q.A. LEVEL II												
	MTG HWDE & FRT. @ 15%						6	900					
13601	TOTAL						52	900			520		

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CLINCH RIVER - BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY D.L SCHLOSSER PRICED BY AL DATE 8/1/85 SHEET 1 OF 1

JOB NO. 6440-11 CLIENT: DOE / PNL TYPE OF ESTIMATE ROM CHECKED BY Jeff

UNIT/AREA MRS FACILITY

DESCRIPTION R & H BUILDING

CAPACITY AREA # 4

ACCNT DIV. 13		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LABS	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	SPECIAL CONSTRUCTION											
18601	GROUT MIXER ENCLOSURE	1	EA									
	CONSTRUCTED OF FOLLOWING MATL											
	304 S.ST x 3/16 THK	7103	LBS	7	.07		49 700			500		
RM	ZIPPERED WINDOW ASSY 16"x12"	7	EA	200	5		1 400			35		
1064	GLOVE PORT (2 RH & 2 LH)	4	EA	500	10		2 000			40		
	SWING DOOR 3'-0" x 7'-0"	2	EA	200	10		400			20		
	ANGLE 4"x3"x 1/4" STL ASTM A36	783	LBS	2	.04							
	TUBING RECT. 4"x3"x 3/16" " A-36	1984	LBS	2	.04		8 000			160		
	CARBON PLATE 3/16 THK	1224	LBS	2	.04							
	Q.A. LEVEL II											
	MTG. HWDE & FRT (15%)						9 200					
							70 700			755		

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PARSONS

CLINCH RIVER - BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY R Elagequi | PRICED BY AL | DATE 8/1/85 | SHEET 1 OF 1

JOB NO.: 6440-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION R & H BUILDING

CAPACITY AREA = 4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV 13	SPECIAL CONSTRUCTION											
13601	HEPA FILTER COMPACTOR ENCLOSURE	1	EA									
RM 1064	3/16" STAINLESS STEEL PL	218	LBS	7	.07		14800			150		
	STAINLESS STEEL FRAMING ∠ 2½ x 2½ x 3/16	272	LBS	8	.08		2200			20		
	¼" STAINLESS STEEL PL	122	LBS	7	.07		900			10		
	PNEUMATIC CYL 32" STROKE 2" D/A MODEL 61B MILLER FLUID POWER OR EQUAL	1	EA	200	10		200			10		
	8" GLOVE PORTS	4	EA	500	10		2000			40		
	MTG HWDE & FRT. (15%)						3000					
	TOTAL						23100			230		

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PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY | PRICED BY | DATE AUG 85 | SHEET ____ OF ____

JOB NO.: 6440-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA MRS Facility

DESCRIPTION

CAPACITY Area #4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE			SUBCONTRACT				LABOR				TOTAL DOLLARS		
				MATL	M/H	LAB $				M/HRS	DOLLARS			M/HRS	DOLLARS					
	This sheet not used.																			

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PARSONS

CLINCH RIVER - BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY D.L. SCHLOSSER PRICED BY AL DATE 8/1/85 SHEET 1 OF 1

JOB NO. C440-11 CLIENT: DOE / PNL TYPE OF ESTIMATE ROM. CHECKED BY

UNIT/AREA MRS FACILITY
DESCRIPTION R & H BUILDING
CAPACITY AREA #4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LABS		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV 13	SPECIAL CONSTRUCTION											
13601	CEMENT ADDITION ENCLOSURE	1	EA									
	CONSTRUCTED OF FOLLOWING MATL											
RM NO	304 S.S.T x 3/16 THICK	2070	LB	7.0	.07		14500			150		
1064	ANGLE 4"x3"x1/4" STL ASTM A36	348	LB	2.0	.04		700			10		
	TUBING, RECT. 4"x3"x 3/16"	630	LB	2.0	.04		1300			30		
	CARBON SST x 3/16 THICK.											
	CARBON PL (ASTM-A36)	203	LB	2.0	0.04		400			10		
	SWING DOOR 2'x7'	2	EA	300	20		600			40		
	50# S.S.T. TUBING 12"OD x 10" 1/4	1	EA	400	10		400			10		
	Q.A. LEVEL II											
	MTG. HWDE & FRT @ 15%						2700					
							20600			250		

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CLINCH RIVER – BASE CASE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY D. L. SCHLOSSER PRICED BY AV DATE 8/1/85 SHEET 1 OF 1

JOB NO. 6440-11 CLIENT: DOE / PNL TYPE OF ESTIMATE ROM CHECKED BY RJ

UNIT/AREA MRS FACILITY
DESCRIPTION R & H BUILDING
CAPACITY AREA = 4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LABS		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV 13	SPECIAL CONSTRUCTION											
13601	COMB. MATERIAL HANDLING ENCLOSURE	1	EA									
RM 1064	CONSTRUCTED OF FOLLOWING MATL											
	304 SST x 3/16 THK	5988	LB	7.0	.07		42 000			420		
	ANGLE 4"x3"x1/4" STL ASTM A-36	882	LB	2.0	.04		1 800			40		
	TUBING 4"x3"x3/16" " " "	1162	LB	2.0	.04		2 300			50		
	SWING DOOR 2'-3"x3'-0"	1	EA	200	10		200			10		
	" " 3'-0"x3'-6"	1	EA	200	10		200			10		
	POWER SWING DOOR 3'-0"x3'-6"	1	EA	200	20		200			20		
	-PNEUMATIC CYLINDER	1	EA	100	-		100			-		
	POWER SWING DOOR 2'-3"x3'-0"	1	EA	200	20		200			20		
	-PNEUMATIC CYLINDER	1	EA	500	20		500			20		
	ZIPPERED WINDOW ASSY											
	1'-½" x 2'-6"	12	EA	100	10		1 200			120		
	10" x 2'-1"	4	EA	100	10		400			40		
	5" x 1'-3"	3	EA	300	15		900			50		
	4" x 1'-0"	3	EA	300	15		900			50		
	GLOVE PORT (8 RH & 5 LH)	13	EA	200	10		2 600			130		
	Q.A. LEVEL II											
	MT6 HWDE & FRT. @ 15%						8000					
							61 500			980		

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER - BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY D.L SCHLOSSER PRICED BY AL DATE 3/1/85 SHEET 1 OF 1

JOB NO. 6440-111 CLIENT: DOE / PNL TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA MRS FACILITY
DESCRIPTION R & H BUILDING
CAPACITY AREA # 4

ACCNT DIV. 13	DESCRIPTION	QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LABS	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	SPECIAL CONSTRUCTION											
13601	GROUT MIXER ENCLOSURE	1	EA									
	CONSTRUCTED OF FOLLOWING MATL											
	304 S.S.T x 3/16 THK	7103	LBS	7.0	.07		49700			500		
RM	ZIPPERED WINDOW ASSY 1'6"x2'6"	7	EA	100	10		700			70		
1064	GLOVE PORT (2 RH & 2 LH)	4	EA	200	10		800			40		
	SWING DOOR 3'-0" x 7'-0"	2	EA	400	20		800			40		
	ANGLE 4"x3"x 1/4" STL ASTM A36	783	LBS	2.00	.04		1600			30		
	TUBING RECT. 4"x3"x 3/16" " A-36	1984	LBS	2.00	.04		4000			80		
	CARBON PLATE 3/16 THK	1224	LBS	2.0	.04		2400			50		
	Q.A. LEVEL II											
	MTG. HWDE & FRT. @ 15%						9000					
							69000			810		

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CLINCH RIVER - BASE CASE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY R Elagequi jr. PRICED BY AL DATE 8/1/85 SHEET 1 OF 1

JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY [illegible]

UNIT/AREA MRS FACILITY

DESCRIPTION R & H BUILDING

CAPACITY AREA 4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LABS		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV 13	SPECIAL CONSTRUCTION											
13601	HEPA FILTER COMPACTOR ENCLOSURE	1	EA									
RM 1064	3/16" STAINLESS STEEL PL	2118	LBS	7.0	.07		14,800			150		
	STAINLESS STEEL FRAMING L 2½ x 2½ x 3/16	272	LBS	7.0	.07		1,900			20		
	¼" STAINLESS STEEL PL	122	LBS	7.0	0.07		900			10		
	PNEUMATIC CYL 32" STROKE 2" D/A MODEL 61B MILLER FLUID POWER OR EQUAL	1	EA	500	20		500			20		
	8" GLOVE PORTS	4	EA	200	10		800			40		
	MISC. MTG HWDE. & FRT. 15%						2,800					
							21,700			240		

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PARSONS

CLINCH RIVER - BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY M. BASA PRICED BY AL DATE 8/1/85 SHEET 1 OF 1

JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY JMP

UNIT/AREA MRS FACILITY

DESCRIPTION R & H BUILDING

CAPACITY AREA #4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LABS		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV13	SPECIAL CONSTRUCTION											
13601	INSPECTION ENCLOSURE											
	1) 4-FT WIDTH X 10-FT LENGTH	1800	LB	7	.07		12,600			130		
RM. No	X 5½ FT INSIDE HEIGHT											
1065	3/16-INCH 304 STAINLESS ST. WALLS											
	MOUNTED ON 6-INCH HEIGHT LEGS											
	2) ZIPPERED WINDOW ASSY	2	EA	300	15		600			30		
	3'-0" X 2'-0" X ½"											
	3) GLOVE PORT (2 LH & 2 RH)	4	EA	200	10		800			40		
	8"											
	4) SWING DOOR	2	EA	200	15		400			30		
	4'-6" X 2'-0											
	5) POWER SWING DOOR	2	EA	200	10		400			20		
	3'-0 X 1'-6"											
	6) STRUCTURAL FRAME,	800	LB	2.0	.04		1,600			30		
	STIFFENERS & LEGS											
	7) POWERED ROLLER CONVEYOR	2	EA		40	1,300	2,600			80		
	3'-0" WIDTH X 4'-0" LENGTH											
	WITH ¾ HP GEARMOTOR & DRIVE											
	8) DOOR ACTUATOR AIR CYLINDER	2	EA	100	10		200			20		
	1½" DIA X 10" STROKE											
	(MISC. HARDWARE & FRT @ 15%)						2,900					
							22,100			380		

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER - BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY R. Elagequi PRICED BY AL DATE 8/1/85 SHEET 1 OF 1

JOB NO. 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION R & H BUILDING

CAPACITY AREA # 4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LABS		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV 13	SPECIAL CONSTRUCTION											
13601	HEPA FILTER STORAGE ROOM											
RMNG 1071	3/16" THICK STAINLESS STEEL PLATE	11.29	TN	13.3K	140		150,000			1580		
	STAINLESS STEEL FRAME L 2x2x3/16	1342	LBS	7	.07		9,400			90		
	CARBON STEEL SUPPORT 4" SCH TUBING	2.39	TN	4K	80		9,500			190		
	MTG. HWDE. & FRT. (15%)						25,300					
							194,200			1860		

CES-2000-0 (4/81)

4-79

CLINCH RIVER – BASE CASE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY ENGINEERING PRICED BY V. MESER DATE AUG 85 SHEET ____ OF ____

JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY JMG

UNIT/AREA MRS. FACILITY

DESCRIPTION

CAPACITY R&R. BLDG

ACCNT DIV.		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	AREA # 4											
14	SUMMARY CONVEYING SYSTEMS						651000			2695		

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER – BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY DLS | PRICED BY AL | DATE Aug. 85 | SHEET ____ OF ____

JOB NO.: 6444D-11 | CLIENT: DOE / ENL | TYPE OF ESTIMATE ROM | CHECKED BY Jeff

UNIT/AREA MRS FACILITY

DESCRIPTION R & H BUILDING

CAPACITY AREA #4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
Div. 14	CONVEYING SYSTEMS											
	SUMMARY											
14300	MONORAIL HOIST						7 000			60		
							16 500			160		
							2 900			30		
							2 900			30		
							15 500			50		
14560												
	NO POWER CONVEYOR						3 500			20		
	HANDLING EQPT.						12 000			80		
	POWER ROLLER CONVEYOR						3 500			20		
	DRUM LIFT						6 700			40		
	CONVEYORS						2 900			55		
							1 200			20		
	DRUM HANDLING TRUCK						2 300			40		
	TRANSPORTER						36 800			200		
	MANIPULATORS						44 200			300		
	METAL CASK TRANSFER TRAILER						115 000			245		
	DOLLY						149 500			25		
	PNEUMATIC TRANSFER SYSTEM						44 900			200		
							21 900			10		
	VIEWING PLATFORM						7 600			150		
14866	OVERHEAD WORK PLATFORM						176 000			960		
	TOTAL =						672 800			2695		
							USC 673 000					
	△ IS MTG. DRWKG & FREIGHT (REDUCED TO 10% - FROM 15%)						(16 000)					
							657 000					

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER - BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY D.L. SCHLOSSER PRICED BY AL DATE 8/1/85 SHEET 1 OF 1

JOB NO. 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY JMJ

UNIT/AREA MRS FACILITY

DESCRIPTION

CAPACITY AREA # 4

ACCNT	DESCRIPTION	QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LABS	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV 4	CONVEYING SYSTEMS											
14300 RMMO 1064	MONORAIL HOIST UNIT WITH 1/2 TON STANDARD TROLLEY. HOISTING UNIT IS POWER BY A 1/2 HP MOTOR, 10 FT MAX LIFT. HOIST IS PENDANT CONTROLLED. AVAILABLE POWER, 460 VOLTS, 3 PH, 60 HZ, CONTROL POWER, 120 VOLTS, 1 PH, 60HZ.	1	EA				6000			60		
	MTG. HW DE. & FRT. (15%)	1	EA				1000					
	S/TOTAL	1	EA				7000			60		

CES-2000-0 (4/81)

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PARSONS

CLINCH RIVER - BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY M. BASA PRICED BY AL DATE 8/1/85 SHEET 1 OF 1

JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY JWJ

UNIT/AREA MRS FACILITY

DESCRIPTION R & H BUILDING

CAPACITY AREA # 4

ACCNT DIV/14		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	CONVEYING SYSTEMS											
14300	MONORAIL HOIST (HATCH COVER)	1	EA		11	000	11 000			100		
	5-TON CAPACITY, ELECTRIC											
RM No	WIRE ROPE, 36-FT TRUE											
1064	VERTICAL LIFT AND MOTORIZED											
	TROLLEY, 25-FT TRAVEL,											
	COMPLETE WITH 5 HP (HOIST)											
	& ½ HP (TROLLEY) MOTORS											
	PUSH BUTTON PENDANT											
	CONTROLS, FESTOON TAGLINE											
	ELECTRIFICATION FOR 480-											
	VOLT, 3-PHASE, 60-HERTZ											
	POWER SUPPLY. MANUFACTURER											
	STANDARD MATERIALS OF											
	CONSTRUCTION FOR CLASS A2											
	SERVICE WITH NEMA TYPE 4											
	ELECTRICAL ENCLOSURES.											
	MONORAIL BEAM S10X 25.4	850	LB	.4	.07		3 400			60		
	30 FT LONG WITH TROLLEY											
	WHEEL STOPS, SUSPENSION											
	FITTINGS, ASTM A36											
	MTG. HWDE. & FRT. (15%)						2 100					
	S/TOTAL	1	EA				16 500			160		

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PARSONS

CLINCH RIVER - BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY M. BASA. PRICED BY ICBP DATE 8/1/85 SHEET 1 OF 1

JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY JWO

UNIT/AREA MRS FACILITY

DESCRIPTION R & H BUILDING

CAPACITY AREA 4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV 19	CONVEYING SYSTEMS											
14300	COMBUSTIBLE MATERIAL HANDLING	1	EA		2	500	2500			30		
	MONORAIL, 1/2 TON CAPACITY											
RMNO	ELECTRIC CHAIN HOIST,											
1064	14-FT LIFT, MOTORIZED											
	TROLLEY, 16-FT TRAVEL.											
	COMPLETE WITH 1/2 HP (HOIST)											
	& 1/4 HP (TROLLEY) MOTORS											
	CABLE REEL ELECTRIFICATION											
	460 VOLT 3-PHASE 60-HERTZ											
	POWER SUPPLY, MONORAIL											
	SYSTEM WILL BE INSTALLED											
	WITHIN A GLOVEBOX AND											
	PUSH BUTTON CONTROLS WILL											
	BE LOCATED OUTSIDE THE											
	GLOVEBOX FOR WIRED REMOTE											
	OPERATION, 25 FT MAX DISTANCE.											
	MANUFACTURER'S STANDARD											
	FOR CLASS G MODERATE											
	SERVICE WITH NEMA TYPE 11											
	ELECTRICAL ENCLOSURES.											
	MTG. HWDE. & FRT. (15%)	1	EA				380					
	S/TOTAL	1	EA				2880			30		
	USE						2900					

CES-2000-0 (4/81)

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CLINCH RIVER - BASE CASE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY M. BADA | PRICED BY RBP | DATE 8/1/85 | SHEET 1 OF 1

JOB NO.: 6440-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION R & H BUILDING

CAPACITY AREA 4

ACCNT DIV/14	DESCRIPTION	QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	CONVEYING SYSTEMS											
14300 RM No 1065	JIB CRANE (OVERPACK STATION) 2-TON CAPACITY, ELECTRIC CHAIN HOIST, 8 FT LIFT WITH CHAIN CONTAINER, MOTORIZED TROLLEY WALL BRACKET (TENSION RAD) TYPE JIB CRANE, 10-FT REACH, 180° BOOM SWING, COMPLETE WITH 3 HP HOIST MOTOR, 1/4 HP TROLLEY MOTOR, PENDANT PUSH BUTTON CONTROLS ELECTRIFICATION FOR 460-VOLT 3-PHASE, 60 HERTZ POWER SUPPLY MANUFACTURER STANDARD MATERIAL OF CONSTRUCTION FOR CLASS C MODERATE SERVICE WITH NEMA TYPE 4 ELECTRICAL ENCLOSURES.	1	EA		2	500	2500			20		
	MTG. HWDE. & FRT. (15%)	1	EA				380					
	S/TOTAL	1	EA				2880			20		
							USE 2900					

CES-2000-0 (4/81)

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CLINCH RIVER - BASE CASE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY M. BASAR PRICED BY RBP DATE 8/1/85 SHEET 1 OF 1

JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION R & H BUILDING

CAPACITY AREA 4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE			SUBCONTRACT			LABOR			TOTAL DOLLARS
				MATL	M/H	LAB $				M/HRS	DOLLARS		M/HRS	DOLLARS		
DIV 14	CONVEYING SYSTEMS															
19300	JIB CRANE (MAINTENANCE ROOM) 5-TON CAPACITY, ELECTRIC WIRE ROPE HOIST, 10-FT LIFT (TRUE VERTICAL), MOTORIZED TROLLEY, 15-FT BOOM LENGTH, FLOOR MOUNTED 12-FT CLEAR HEIGHT TO BOTTOM OF JIB BOOM, 100° BOOM SWING, COMPLETE WITH 7½ HP (HOIST) AND ½ HP (TROLLEY) MOTORS AND PUSH BUTTON PENDANT CONTROLS, AND ELECTRIFICATION FOR 480-VOLT 3-PHASE 60-HERTZ POWER SUPPLY WITH NEMA TYPE 4 ENCLOSURE, MANUFACTURER STANDARD CONSTRUCTION FOR CLASS C MODERATE SERVICE.	1	EA		13	500		13	500				50			
RM. No. 1066																
	MTG. HWDE. & FRT. (15%)	1	EA					2030								
	S/TOTAL	1	EA					15530					50			
						118		15 900								

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PARSONS

CLINCH RIVER - BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY D. L. SCHLOSSER PRICED BY AV DATE AUG 85 SHEET ____ OF ____

JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY JMO

UNIT/AREA MRS FAC.

DESCRIPTION R & D BUILDING

CAPACITY AREA 3.

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DN.14	CONVEYING											
14550	CONVEYOR (NO POWERED)	1	EA	3K	20		3000			20		
RM 3020	ROLLER STYLE CONVEYOR 30" WIDE X 30'-0" LG. W/ 3" ϕ ROLLERS 1000# CAP.											
	MTG. HWDE & PLT (@ 15%)						500					
	FOTO	1	EA				3,500			20		

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PARSONS

CLINCH RIVER - BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY: M. BASA | PRICED BY: AL | DATE: 8/1/85 | SHEET 1 OF 1
JOB NO.: 6440-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE: ROM | CHECKED BY:
UNIT/AREA: MRS FACILITY
DESCRIPTION: R & H Building
CAPACITY: AREA 4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LABS		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV 14	CONVEYING SYSTEMS											
14550	SCISSOR LIFT TABLE	1			7	500	7500			40		
RM No	2 000 LB (MIN) CAPACITY											
B-101	72" VERTICAL TRAVEL											
	32" WIDTH X 66" LENGTH											
	COMPLETE WITH HYDRAULIC											
	POWER UNIT AND MOTOR											
	1HP, 460-VOLT, 3-PHASE, 60HZ											
	PUSH BUTTON UP/DOWN/STOP											
	CONTROLS.											
	TOP OF TABLE EQUIPPED WITH	1	EA		1	000	1000			20		
	GRAVITY ROLLER CONVEYOR											
	AND POSITIONING/LOCKING											
	MECHANISMS FOR 55-GAL											
	STEEL DRUM.											
	MTG. HWDE & FRT. @ 15%						1500					
14551	DRUM HANDLING TRUCK, MANUAL	1	EA		2	000	2000			20		
RM No	PUSH TYPE WITH TOP											
B-101	GRAVITY ROLLERS FOR SIDE											
	ENTRY/DISCHARGE OF STEEL											
	DRUMS/BOXES (24" DIA/31"											
	SQUARE BOTTOM SIZES)											
	WITH LOCKING MECHANISM											
	FOR HOLDING DRUM/BOX											
	DURING TRAVEL. FOUR WHEELS											
	INCLUDING (2) REAR SWIVEL											
	CASTERS WITH BRAKE TO BE											
	8" DIA (MIN), 2,000 LB											
	CAPACITY, 36" TRUCK WIDTH											
	36" (MIN) LENGTH PLATFORM											
	36" HEIGHT TO TOP OF ROLLERS											
	CARBON STEEL & STANDARD											
	CONSTRUCTION MATERIALS.						12 000			80		

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER - BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY M. BASA II PRICED BY AV DATE 8/1/85 SHEET 1 OF 1

JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY JMG

UNIT/AREA MRS FACILITY

DESCRIPTION R & H BUILDING

CAPACITY AREA #4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV14	CONVEYING SYSTEMS											
14550	POWER ROLLER CONVEYOR	1	EA	3K			3000			20		
RM No	30 INCHES WIDE, 4 FT LONG											
1064	1.9" DIA ROLLERS, ROLLER TO											
	ROLLER CHAIN DRIVEN											
	3/4 HP SCOOP MOTOR/REDUCER											
	WITH 58 RPM OUTPUT SHAFT											
	SPEED											
	MTG. HWDE. & FRT. (15%)	1	EA				500					
	S/TOTAL	1	EA				3500			20		

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PARSONS

CLINCH RIVER - BASE CASE

ESTIMATE WORKSHEET

| | | |

CLINCH RIVER - BASE CASE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY M. BASA PRICED BY RBP DATE 8/1/85 SHEET 1 OF 1

JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION R & H BUILDING

CAPACITY AREA #4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV 14	CONVEYING SYSTEMS											
14550	RETRACTABLE ROLLER CONVEYOR	1	EA			700	700			25		
	LITTON UHS MODEL RG 2511											
RM No	OR EQUAL, 26-INCH WIDTH											
1064	BACK-TO-BACK X 5 FT LENGTH											
	2.5 INCH DIA X 11 GA. STEEL											
	ROLLER, 650 LB ROLLER											
	CAPACITY, 3-INCH CENTERS											
	4-INCH X 5.4 LB STRUCTURAL											
	STEEL FRAMING AND DUST											
	TIGHT BALL BEARINGS											
	PROVIDED WITH (4) PNEURIDE											
	AIR-BELLOWS LORD KINEMATICS											
	P/N ASA-06C1-1-1 OR EQUAL											
	6" DIA X 1 CONVOLUTE BELLOW											
	X 2" (MAX) STROKE.											
14550	RETRACTABLE & POWERED ROLLER	1	EA		1	800	1800			30		
	CONVEYOR, LITTON UHS											
RM No.	MODEL CD-2511-RR-60 CHAIN											
1064	CONVEYOR OR EQUAL, 26-INCH											
	WIDTH BACK-TO-BACK X 6 FT											
	LENGTH, 2.5" DIA. ROLLERS											
	ON 6-INCH CENTERS,											
	ROLLER-TO-ROLLER RC-60											
	CHAIN, COMPLETE WITH HIGH-											
	SIDE MOUNTED GEAR MOTOR											
	3/4 HP, 480-VOLT, 3-PHASE, 60HZ											
	AND (4) PNEURIDE AIR-											
	BELLOWS LORD KINEMATICS											
	P/N ASA-06C1-1-1 OR EQ.											
	6" DIA X 1 CONVOLUTE BELLOW											
	X 2" (MAX) STROKE.											
	MTG HWDE. & FRT. (15%)	2	EA				380					
	S/TOTAL	2	EA				2880			55		

CES-2000-0 (4/81)

11 ea 2900

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PARSONS

CLINCH RIVER - BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY M. BASA PRICED BY RBP DATE 8/1/85 SHEET 1 OF 1

JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION R & D BUILDING

CAPACITY AREA 4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV 14	CONVEYING SYSTEMS											
14550	POWERED ROLLER CONVEYOR	1	EA		1	000	1000			20		
	LITTON UHS MODEL CD-2511-											
RM No	RR-60 OR EQUAL, 26-INCH											
1064	BACK-TO-BACK X 3-FT LENGTH,											
	2.5" DIA. ROLLERS ON 6-INCH											
	CENTERS, ROLLER TO ROLLER											
	CHAIN, COMPLETE WITH HIGH-											
	SIDE MOUNTED GEAR MOTOR											
	3/4 HP, 480-VOLT, 3-PHASE,											
	60 HERTZ											
	MTG. HWDE. & FRT (1520)	1	EA				150					
	S/TOTAL	1	EA				1150			20		
						Wt	1200					

CES-2000.0 (4/81)

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PARSONS

CLINCH RIVER - BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY M BASA PRICED BY AL DATE 8-1-85 SHEET 1 OF 1

JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION R & H BUILDING AREA 4

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV 14	CONVEYING SYSTEM											
1455	DRUM HANDLING TRUCK MANUAL - PUSH TYPE	1	EA	2K			2000			40		
RM. D-101	W/ TOP GRAVITY ROLLERS FOR SIDE ENTRY/DISCHARGE OF STEEL DRUMS/BOXES (24" DIA/31" □ BOTT.)											
	MTG. HWDE & FRT (15%)						300					
1455	TOTAL	1	EA				2300			40		

CES-2000-0 (4/81)

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PARSONS

CLINCH RIVER - BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY S.Y. MAYET | PRICED BY RAP | DATE 8-1-85 | SHEET 1 OF 1

JOB NO.: 6440-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION R & H BUILDING

CAPACITY AREA #4

ACCNT	DESCRIPTION	QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV 14	CONVEYING SYSTEMS											
14551	SHIELDING WINDOW INSTALLATION/TRANSPORTER SYSTEM. 6'-0" W x 8'-0" LONG. SUPPORT PLATFORM HEIGHT ADJUSTABLE FROM 3'-0" TO 7'-3". SUPPORT CAPACITY OF 26,000 LBS. AIR FILM LOAD-CARRYING BEARINGS TRANSPORT SYSTEM (AERO-CASTERS) COMPLETE WITH STEERABLE, AUTOMATIC FORWARD/REVERSE DRIVE UNITS AND CONTROLS. OPERATES ON 25 PSI LINE PRESSURE	1	EA	32.0K			32000			200		
	MTG. HWDE. & FRT. (15%)	1	EA				4800					
	S/TOTAL	1	EA				36800			200		

CES-2000-0 (4/81)

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PARSONS

CLINCH RIVER - BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY D.L. SCHLAGGER PRICED BY DLS DATE 8/1/85 SHEET 1 OF 1

JOB NO. 6440-11 CLIENT: DOE/PWL TYPE OF ESTIMATE ROM 2 CHECKED BY JWS

UNIT/AREA MRS FACILITY
DESCRIPTION R & H BUILDING
CAPACITY AREA = 4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LABS	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV 14	CONVEYING SYSTEMS											
14551	MASTER/SLAVE MANIPULATOR INSTALLATION & REMOVAL TRANSFER & LIFT TABLE	2	EA	19.2K	150		38400			300		
	(NON CATAGORY I, QA LEVEL II)											
	2000 lb CAPACITY 18 3/4" VERTICAL & 57" HORIZONTAL ADJUSTMENT ON CART, 49" VERTICAL TRAVEL ON LIFT TABLE EQUIPPED WITH MANUALLY OPERATED HYDRAULIC JACKS FOR VERTICAL MOVEMENTS. 85" OVERALL LENGTH 46" OVERALL WIDTH 126" MAXIMUM HEIGHT CARBON STEEL CONSTRUCTION											
	MTG. HWDE. & FRT. (15%)	2	EA				5760					
	S/TOTAL	2	EA				44160			300		
						USE	44200					

CES-2000-0 (4/81)

PARSONS

ESTIMATE WORKSHEET

CLINCH RIVER - BASE CASE

M.T.O. BY D.L. SCHLOSSER | PRICED BY RBP | DATE AUG 85 | SHEET ____ OF ____

JOB NO.: 6440-11 | CLIENT: DOE / PNL | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA MRS FACILITY
DESCRIPTION R & H BUILDING
CAPACITY AREA #4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV 14	CONVEYING SYSTEMS											
14551	METAL CASK TRANSFER TRAILER	1		95K			95000			5		
RM No. 1081	10 FT WIDE, 20 FT LONG, 42" HIGH EMPTY WT. 40,000 LBS. MODEL No. 16 TFLSN - 5000 LOAD CAP. 300,000 LBS 16 WHEELS, 32 TIRES											
	CASK SUPPORT SADDLES AND TIE DOWN BRACKETS	1		5K		4.5K	5000			240		
	MTG. HWDE. & FRT (15%)	2	EA				15000					
	S/TOTAL	2	EA				115000			245		

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER - BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY SCHLOSSER PRICED BY RAP DATE 8/1/85 SHEET 1 OF 1

JOB NO. 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION R & H BUILDING

CAPACITY AREA #4

ACCNT DIV/14		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LABS	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	CONVEYING SYSTEMS											
1455/ RM.No.	FIFTH WHEEL SUPPORT DOLLY	5	EA	26K	5		130000			25		
	EIGHT WHEEL TRAILER, PHILLIPS											
1079	MAT'L HANDLING EQUIP. MODEL											
1179	TFUS 600 OR EQUAL WITH											
	ATTACHMENT: FIFTH WHEEL											
	MODEL SMS-10 "FONTAINE"											
	EQUIP CO. OR APP'D EQUAL											
	MTG. HWDE. & FRT. (15%)	5	EA				19500					
	5/TOTAL	5	EA				149500			25		

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PARSONS

CLINCH RIVER – BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY M. BASA PRICED BY RBP DATE 8/1/85 SHEET 1 OF 1

JOB NO. 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION R & H BUILDING

CAPACITY AREA #4

ACCNT DIV/14		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LABS	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	CONVEYING SYSTEMS											
14702	PNEUMATIC TRANSFER SYSTEM:	1	EA		39	000	39 000			200		
	1) VAC-U-MAX 12" TUBE HOPPER	2	Ea		(INCLUDED)							
RM&NO	FEEDER MODEL 105003 WITH											
1064	COVER MODEL 106003 OR EQ											
	COMPLETE WITH AIR OPERATED											
	DUMP VALVE, ROTARY PADDLE											
	TYPE LEVEL CONTROL,											
	MULTI-FILTER ASSEMBLY,											
	PULSE JET CLEANING,											
	SUSPENSION FRAME MOUNTED,											
	304 S.S. HOPPER & FILTER											
	HOUSING, FLEXIBLE DOST											
	SLEEVES, HOSES & CLAMPS,											
	CONTROL VALVES											
	2) POSITIVE DISPLACEMENT PUMP	1	EA		(INCLUDED)							
	PACKAGE VAC-U-MAX MODEL											
	VPU-S-10 OR EQ. COMPLETE											
	WITH MOTOR 10 HP, 460 VOLT											
	3 PHASE, 60 HERTZ, BELT											
	DRIVE WITH OSHA GUARDS,											
	SILENCER, VACUUM GAUGE,											
	VACUUM BREAKER.											
	3) TIMER CONTROL PANEL WITH	2	EA		(INCLUDED)							
	SOLID STATE ADJUSTABLE											
	TIMERS, ON/OFF SWITCH											
	PILOT LIGHT IN NEMA 1											
	ENCLOSURE, 120 VOLT, 60 HZ											
	MOUNTED REMOTELY WITHIN											
	20 FT.											
	NTG. HWDE. & FRT. (15%)	1	EA				5850					
	4) CONVEYING LINES 2½" DIA x 120'	1	LOT		(INCLUDED)							
	SCH. 40 PIPE W/ 8 90°-TURNS											
	& VACUUM LINES 4" I.D. X 50'											
	VINYLOY HOSES. S/TOTAL	1	EA				44850			200		

CES-2000-0 (4/81)

LINE 44900

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CLINCH RIVER - BASE CASE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY M. BASA | PRICED BY RAP | DATE 8/1/85 | SHEET 1 OF 1

JOB NO.: 6440-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY JMG

UNIT/AREA MRS FACILITY

DESCRIPTION R & H BUILDING

CAPACITY AREA 4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV 14	CONVEYING SYSTEMS											
14702	PORTABLE PNEUMATIC CONVEYOR	1	EA		19	000	19000			10		
	CYCLONAIRE CORP. MODEL											
RMND	C1/3 OR EQ. FOR SAND											
1064	AND CEMENT TRANSFER.											
	6000 LB/HR AT 100 PCF											
	BULK DENSITY. COMPLETE											
	WITH 3 CU FT TANK. BLOWER											
	UNIT WITH 30 HP MOTOR											
	460 VOLT. 3 PHASE. 60 HERTZ,											
	VACUUM LOAD ADAPTOR											
	5 FT OF 2" ABRASION RESISTANT											
	FLEXIBLE SUCTION HOSE.											
	3" MPT DISCHARGE OUTLET.											
	UNIT MOUNTED ON 4-WHEEL											
	YARD TRAILER											
	MTG. HWDE. & FRT (16%)	1	EA				2850					
	S/TOTAL	1	EA				21850			10		
						116	21900					

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PARSONS

CLINCH RIVER - BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY D.L SCHOSSER PRICED BY AV DATE 8/1/85 SHEET 1 OF 1

JOB NO.: 6440-11 CLIENT: DOE/PHL TYPE OF ESTIMATE ROM. CHECKED BY JWO

UNIT/AREA MRS FACILITY
DESCRIPTION AREA 4
CAPACITY R & H BUILDING

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV. 14	CONVEYING SYSTEM.											
14802	VIEWING PLATFORM.	1	EA									
RM. # 3032	MILD STRUCTL STL. SHAPES	1000	LB	3	.07		3000			70		
	HANDRAILS - 2" ϕ PIPE	95	LF	10	.3		1000			30		
	FL PL 5' x 12' x 1/4"	60	SF	43	.9		2600			50		
	MTG. HWDE & FRT. @ 15%						1000					
		1	Eo				7600			150		

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PARSONS

CLINCH RIVER - BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY WESTINGHOUSE | PRICED BY WESTINGHOUSE | DATE AUG 95 | SHEET 8 OF ____

JOB NO.: 6440 -11 | CLIENT: DOE/FNL | TYPE OF ESTIMATE ROM | CHECKED BY [illegible]

UNIT/AREA MRS FACILITY

DESCRIPTION PRIMARY STO. (CONC. CASK) CONCEPT

CAPACITY AREA 4

ACCNT			QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
					MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV. 11	NOTE: THIS AREA IS OUTSIDE THE R & H BUILDING.	AREA			#K								
14800	OVERHEAD WORK												
14802	PLATFORM.	4	2	EA	20	160		40000			320		
11866	STO. CASK SEAL WELDING MACHINE (INCL. PWR SUPPLY ETC.)	4	4	EA	31.25	160		125000			640		
	FREIGHT	5%						11000					
	THIS SHOULD HAVE BEEN IN DIV. 11												
					VIC								
	PAGE TOTAL	1	6					176000			960		

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PARSONS

CLINCH RIVER - BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY ENGINEERING PRICED BY V. MESER DATE AUG. 85 SHEET ____ OF ____

JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY [illegible]

UNIT/AREA MRS. FACILITY

DESCRIPTION

CAPACITY R & H. BLDG.

ACCNT DIV.		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
	AREA # 4											
15	SUMMARY MECHANICAL						3,197,000			119990		

PARSONS

CLINCH RIVER - BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY ENGINEERING PRICED BY NIESC DATE AUG. 85 SHEET ____ OF ____

JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM. CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION

CAPACITY R&H. BLDG.

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV 15	MECHANICAL AREA #4											
	Summary											
15060	PIPE, VALVES, FTG'S ETC						694600			58850		
15070	INSULATION						15700			717		
15140/15170	Pumps, Tanks etc						500300			1230		
15500	FIRE PROTECTION						339100			1237		
15800	AIR DISTRIBUTION HVAC						1780900			66784		
15	S/TOTAL						3330600			128818		
					USE		3331000					
	PIPE, VALVES, FTGS, ETC LESS 15%						(104200)			(8828)		
	PUMPS, TKS, ETC (MTG. HDWRE & FRT - 10%)						(29800)					
							3197000			119990		

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PARSONS

CLINCH RIVER - BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY ENGINEERING PRICED BY V. MESER DATE AUG. 85 SHEET ____ OF ____

JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY MF

UNIT/AREA MRS. FACILITY

DESCRIPTION

CAPACITY R&H. BUILDING

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV. 15	MECHANICAL AREA # 4											
15060	SUMMARY PIPE VALVES ETC											
15061	PIPE VALVES ETC. COND TRANSFER ROOM	1	LOT				6100			720		
15061	" " " SOLID RAD WASTE	1	LOT				6400			1140		
15063	" " " " " "	1	LOT				3400			220		
15061	" " " ARGON STORAGE ROOM	1	LOT				2600			440		
15061	" " " FUEL OIL	1	LOT				8700			1680		
15061	" " " LOW LEVEL LIQ RADWST	1	LOT				8900			1370		
15063	" " " " " " "	1	LOT				177700			8130		
15067	" " " " " " "	1	LOT				15700			280		
15068	" " " " " " "	1	LOT				6600			150		
15061	" " " DISTRIBUTION PIPING	1	LOT				128600			21010		
15063	" " " " " "	1	LOT				276000			20750		
15068	" " " " " "	1	LOT				34400			980		
15061	" " " OILY SEWER	1	LOT				3300			450		
15061	" " " PROCESS SEWER	1	LOT				16500			1530		
15060	TOTAL						694600			58850		

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THE RALPH M. PARSONS COMPANY

CLINCH RIVER - BASE CASE

ESTIMATE SUMMARY

M.T.O. BY P. GOMEZ | PRICED BY RCM | DATE AUG 1985 | SHEET 1 OF 1

JOB NO.: 6440-11 | CLIENT: DOE / PNL | TYPE OF ESTIMATE: ROM | CKD BY: [illegible]

UNIT/AREA MRS FACILITY

DESCRIPTION COND TRANSFER ROOM

CAPACITY AREA # 4 ROOM # 1022

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV 15 MECHANICAL												
~~4200~~	Pipe, Valves and Fittings-Aboveground											
15061	CARBON STEEL											
~~4201~~	Pipe - Carbon Steel	400	LF				1100					
~~4202~~	Pipe - Alloy and Special		LF									
~~4211~~	Valves - Carbon Steel	26	EA				3100					
~~4212~~	Valves - Alloy and Special		EA									
~~4231~~	Fittings - Carbon Steel	102	EA				800					
~~4232~~	Fittings - Alloy and Special		EA									
~~4225~~	Hangers, Shoes, etc.	1	LOT				400					
~~4231~~	Outside Shop - Carbon Steel		LF									
~~4232~~	Outside Shop - Alloy and Specialty		LF									
~~4241~~	Field Shop Fabr.		LF									
~~4251~~	Install Screwed Piping		LF+									
~~4252~~	Install Socket Weld Piping	400	LF+							550		
~~4253~~	Install Weld or Flanged Piping		LF+									
~~4257~~	Scaffolding	1	LOT							90		
~~4258~~	Firelines		LF+									
~~4261~~	Install Steam Tracing		LF									
~~4264~~	X-Ray and Stress Relieve	1 LOT	EA				400			10		
~~4265~~	Testing and Cleaning	400	LF				100			70		
~~4266~~	Pickling and Chem. Cleaning		LF									
~~4267~~	Freight		TONS				200					
	2.2"ϕ SUBTOTAL	400	LF+				6100			720		
	Productivity at PCT.		MH									
	TOTAL		LF+									

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PARSONS

CLINCH RIVER - BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY P. GOMEZ | PRICED BY RCM | DATE AUG 1985 | SHEET 1 OF 7

JOB NO.: 6440-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA MRS. FACILITY

DESCRIPTION COND TRANSFER ROOM

CAPACITY AREA # 4 ROOM # 1022

ACCNT			QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV.15	CS-PIPING-SCRD												
15060	MECHANICAL PIPING												
15061													
4201	PIPE-ERW STL ASTM A120												
	T&C GALV												
	XS	3/4	5	LF	.90	.25							
		1	15		1.30	.25							
		1 1/2	45		2.10	.3							
	Total	1.3"ϕ	~~65~~ 80	LF	1.82	.28		100			20		
	VALVES-												
4211													
	GATE VALVE-200# WOG, SCRD												
	BRONZE BODY & TRIM												
	CRANE # 430UB	1	1	EA	17	1.2							
		1 1/2	2		28	1.8							
	Total		3	EA	24.30	1.6		100			10		
4221	FLANGES-STL GALV FF ASTM		4										
	A105												
	150# SCRD	3/4	1	EA	8	.5							
		1	1		8	.6							
		1 1/2	2		9	.9							
	FITTINGS-GALV. 300# M.I. ASTM												
	A197												
	90° ELBOW	1	6	EA	4	.6							
		1 1/2	6		7	.9							
	UNION	3/4	1	EA	2	.5							
	CAP	3/4	4	EA	2	.5							
	Total		~~21~~ 26	EA	5.20	.7		100			20		
—	INSTRUMENT												
	PRESS SAFETY VALVE	3/4 X 1	1	EA	—	1.5							
	Total		1	EA	—	1.5		—			—		

PARSONS

CLINCH RIVER - BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY P. GOMEZ | PRICED BY RCM | DATE AUG 1985 | SHEET 2 OF 7

JOB NO.: 6440-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA MRS. FACILITY

DESCRIPTION COND TRANSFER ROOM

CAPACITY AREA # 4 ROOM # 102

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV. 15	CS - PIPING - SOCKETWELD											
15060	MECHANICAL PIPING											
15061												
4201	PIPE - SMLS STL ASTM A53											
	GR B XS 3/4	35	LF	1.30	.25							
	1 1/2	5		2.40	.3							
	2	40		2.40	.35							
	Total 1.1" ϕ	~~80~~ 100	LF	1.92	.30		200			30		
	VALVES.											
4211	GATE VALVE - 800# SW STL 1/2 CR TRIM SMITH # 800											
	1/2	1	EA	22	1.6							
	3/4	5		24	1.7							
	1 1/2	1		54	2.5							
	2	1		68	3.4							
	GLOBE VALVE - 800# SW STL 1/2 CR TRIM SMITH # GBO											
	2"	1	EA	94	3.4							
	CHECK VALVE - 800# SW STL 1/2 CR TRIM, PISTON, SMITH CBO											
	3/4	1	EA	26	1.7							
	Total	~~14~~ 14	EA	36.90	2.1		500			30		

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PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY P. GOMEZ | PRICED BY RCM | DATE AUG 1985 | SHEET 3 OF 7

JOB NO.: 6440-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA MRS. FACILITY

DESCRIPTION COND TRANSFER ROOM

CAPACITY AREA # 4 ROOM # 1022

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV. 15	CS-PIPING-SOCKETWELD											
15060	MECHANICAL PIPING											
15061												
	FLANGES-STL RF ASTM A105											
4221												
	150# SW XS 3/4	1	EA	7	1.3							
	2	1		7	2.3							
	300# SW XS 2	2	EA	10	2.3							
	FITTINGS-3000# SW STL A105											
	90° ELBOW 3/4	5	EA	3	1.3							
	1 1/2	3		7	2.0							
	2	4		11	2.3							
	TEE 2 x 1/2	2	EA	22	2.3							
	2 x 3/4	1		22	2.3							
	Total	19	EA	9.50	1.9		200			50		
		24										

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PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

4

M.T.O. BY P. GOMEZ PRICED BY RCM DATE AUG 1985 SHEET 2 OF 7

JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA MRS. FACILITY

DESCRIPTION COND TRANSFER ROOM

CAPACITY AREA # 4 ROOM # 1022

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV. 15	CS - PIPING - FIELD											
15060	MECHANICAL PIPING											
15061												
	VALVES-											
4211	GATE VALVE-150# RF STL											
	I2 CR TRIM PACIFIC 150-1											
	3	4	EA	323	4.5							
	4	1	EA	377	6.7							
	SWING CHECK VALVE-150# RF											
	STL I2 CR TRIM PACIFIC 150-1											
	3	2	EA	266	4.5							
	Total	~~7~~ 8	EA	314 40	4.8		2500			40		
	BOLT-UPS.											
4221												
	ASB GSKT / B7 STUDS											
	150# 3/4	2	EA	2	.8							
	1	1		2	.8							
	1 1/2	2		2	.9							
	2	5		2	1.2							
	3	10		3	1.5							
	4	2		5	2.0							
	300# 2	4	EA	5	1.3							
	4	4	EA	7	2.3							
	Total	~~30~~ NI 35	EA	3.60	1.5		100			50		

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

5.

M.T.O. BY P. GOMEZ | PRICED BY RCM | DATE AUG 1985 | SHEET 3 OF 7

JOB NO.: 6440-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA MRS. FACILITY

DESCRIPTION COND TRANSFER ROOM

CAPACITY AREA # 4 ROOM # 101 R

ACCNT DIV.		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
15060	MECHANICAL PIPING											
15061												
—	INSTRUMENTS - (Labor Only)											
	CONTROL VALVE - 2	2	EA	-	5							
	Total	2	EA	-	5.0		—			10		

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY P. GOMEZ | PRICED BY RCM | DATE AUG 1985 | SHEET 6 OF 7

JOB NO.: 6440-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA MRS. FACILITY

DESCRIPTION COND TRANSFER ROOM

CAPACITY AREA # 4 ROOM # 1022

ACCNT DIV.			QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
15060	MECHANICAL PIPING												
15061													
4201	PIPE-SMLS STL ASTM A53												
	GR B STD WT	3	175	LF	3.60	.35							
		4	15		4.90	.55							
	TOTAL 3.1" Ø		~~190~~ 220	LF	3.70	.37		800			80		
4221	FLANGES-STL RF ASTM A105												
	150# WN STD WT	3"	10	EA	10	–							
		4"	4		13	–							
	150# SLIP-ON	4	1	EA	11	–							
	150# SW XS	2	4	EA	7	–							
	300# SW XS	2	2	EA	10	–							
	FITTINGS-STL BW ASTM A234 GR WPB												
	90° LR ELL												
	STD WT	3	10	EA	4	–							
		4	6		7	–							
	TEE STD WT	3	1	EA	12	–							
		3 x 2	2		15	–							
	CONC REDUCER												
	STD WT	3 x 2	2	EA	5	–							
	ECC REDUCER												
	STD WT	4 x 3	2	EA	9	–							

CES-2000-0 (4/81)

CLINCH RIVER BASE CASE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY P. GOMEZ | PRICED BY ROM | DATE AUG 1985 | SHEET 1 OF 7

JOB NO.: 6440-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA MRS. FACILITY

DESCRIPTION COND TRANSFER ROOM

CAPACITY AREA # 4 ROOM # 102

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE			SUBCONTRACT				LABOR				TOTAL DOLLARS		
				MATL	M/H	LAB $				M/HRS	DOLLARS			M/HRS	DOLLARS					
DIV. 15	CS - PIPING - SHOP																			
15060	MECHANICAL PIPING																			
15061																				
4221	3000# SOL ASTM A105 3/4	1	EA	3	–															
	TOTAL WELDS.	~~45~~ 52	EA	8.10	–				400					–						
–	CS BUTTWELD STD WT 3	37	EA	–	2.0															
	4	13	"	–	2.9															
	CS 3000# OLET WELDS 3/4	1	EA	–	2.1															
	Total 3.2" ϕ	~~54~~ 59	EA	–	2.2				–					130						

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PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY P. GOMEZ PRICED BY RCM DATE AUG 1985 SHEET 8 OF 8

JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION COND TRANSFER ROOM

CAPACITY AREA # 4 ROOM # 1022

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV 15 MECHANICAL												
15060	MECHANICAL PIPING											
15061	CS ADDS											
4225	HANGERS/SUPPORTS	1	LOT				400			80		
4264	FIELD X-RAY 12/35	1	LOT				400			10		
4265	TEST/CLEAN	400	LF				100			70		
-	SCAFFOLDING	1	LOT				-			90		
15063	SS ADDS											
4225	HANGERS/SUPPORTS	1	LOT				-			-		
4264	FIELD X-RAY 1	1	LOT				-			-		
4265	TEST/CLEAN		LF				-			-		
-	SCAFFOLDING	1	LOT				-			-		
15067	HASTELLOY ADDS											
4225	HANGERS/SUPPORTS	1	LOT				-			-		
4264	FIELD X-RAY 1	1	LOT				-			-		
4265	TEST/CLEAN		LF				-			-		
-	SCAFFOLDING	1	LOT				-			-		
15068	PPL LINED CS ADDS											
4225	HANGERS/SUPPORTS	1	LOT				-			-		
4265	TEST/CLEAN		LF				-			-		
-	SCAFFOLDING	1	LOT				-			-		

CES-2000-0 (4/81)

THE RALPH M. PARSONS COMPANY

CLINCH RIVER BASE CASE — ESTIMATE SUMMARY

M.T.O. BY P. GOMEZ | PRICED BY RCM | DATE AUG 1985 | SHEET 1 OF 1

JOB NO.: 6440-11 | CLIENT: DOE / PNL | TYPE OF ESTIMATE: ROM | CKD BY: RO

UNIT/AREA MRS FACILITY

DESCRIPTION SOLID RADWASTE

CAPACITY AREA # 4 ROOM # 1064

DIV 15 MECHANICAL

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
~~4200~~	Pipe, Valves and Fittings-Aboveground											
16061	CARBON STEEL											
~~4201~~	Pipe - Carbon Steel	790	LF				2100					
~~4202~~	Pipe - Alloy and Special		LF									
~~4211~~	Valves - Carbon Steel	25	EA				800					
~~4212~~	Valves - Alloy and Special		EA									
~~4221~~	Fittings - Carbon Steel	137	EA				1600					
~~4222~~	Fittings - Alloy and Special		EA									
~~4225~~	Hangers, Shoes, etc.	1	LOT				800					
~~4231~~	Outside Shop - Carbon Steel		LF									
~~4232~~	Outside Shop - Alloy and Specialty		LF									
~~4241~~	Field Shop Fabr.		LF									
~~4251~~	Install Screwed Piping		LF+									
~~4252~~	Install Socket Weld Piping	790	LF+							840		
~~4253~~	Install Weld or Flanged Piping		LF+									
~~4257~~	Scaffolding	1	LOT							170		
~~4258~~	Firelines		LF+									
~~4261~~	Install Steam Tracing		LF									
~~4264~~	X-Ray and Stress Relieve	1 LOT	~~EA~~				500			10		
~~4265~~	Testing and Cleaning	790	LF				100			120		
~~4266~~	Pickling and Chem. Cleaning		LF									
~~4267~~	Freight		TONS				200					
	2.0" ϕ SUBTOTAL	790	LF+				6100			1140		
	Productivity at PCT.		MH									
	TOTAL		LF+									

THE RALPH M. PARSONS COMPANY

CLINCH RIVER BASE CASE — ESTIMATE SUMMARY

M.T.O. BY P. GOMEZ | PRICED BY RCM | DATE AUG 1985 | SHEET 1 OF 1

JOB NO.: 6440-11 | CLIENT: DOE / PNL | TYPE OF ESTIMATE: ROM | CKD BY: RS

UNIT/AREA MRS FACILITY
DESCRIPTION SOLID RADWASTE
CAPACITY AREA # 4 ROOM # 1064

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV. 15												
~~4200~~	Pipe, Valves and Fittings-Aboveground											
15063	STAINLESS STEEL											
~~4201~~	Pipe - Carbon Steel		LF									
~~4202~~	Pipe - Alloy and Special	30	LF				1600					
~~4211~~	Valves - Carbon Steel		EA									
~~4212~~	Valves - Alloy and Special		EA									
~~4221~~	Fittings - Carbon Steel	–	EA				100					
~~4222~~	Fittings - Alloy and Special	9	EA				1300					
~~4225~~	Hangers, Shoes, etc.	1	LOT				100					
~~4231~~	Outside Shop - Carbon Steel		LF									
~~4232~~	Outside Shop - Alloy and Specialty		LF									
~~4241~~	Field Shop Fabr.		LF									
~~4251~~	Install Screwed Piping		LF+									
~~4252~~	Install Socket Weld Piping	30	LF+							170		
~~4253~~	Install Weld or Flanged Piping		LF+									
~~4257~~	Scaffolding	1	LOT							30		
~~4258~~	Firelines		LF+									
~~4261~~	Install Steam Tracing		LF									
~~4264~~	X-Ray and Stress Relieve	1 LOT	~~EA~~				200			–		
~~4265~~	Testing and Cleaning	30	LF				–			20		
~~4266~~	Pickling and Chem. Cleaning		LF									
~~4267~~	Freight		TONS				100					
	6.0"ϕ SUBTOTAL	30	LF+				3400			220		
	Productivity at PCT.		MH									
	TOTAL		LF+									

PARSONS

ESTIMATE WORKSHEET

CLINCH RIVER BASE CASE

M.T.O. BY P. GOMEZ PRICED BY RCM DATE AUG 1985 SHEET 1 OF 5

JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA MRS. FACILITY

DESCRIPTION SOLID RADWASTE

CAPACITY AREA # 4 ROOM # 1064

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV 15	CS-PIPING-FIELD											
15060	MECHANICAL PIPING											
15061												
4211	VALVES-											
	GATE VALVE- 150# RF STL											
	IC CK TRIM PACIFIC # 150-1											
	4"	1	EA	377	6.7							
	TOTAL	1	EA	377.00	6.7		400			10		
	FIELD LABOR-											
16063												
4221	BOLT-UPS FOR 304SS FLGS-											
	150# 6	10	EA	8	2.5							
	TOTAL	NIT 12	EA	8.00	2.5		100			30		
15061 4221	ASB GSKT/BT STUDS											
	150# 3/4	7	EA	2	.8							
	1	1		2	.8							
	1 1/2	2		2	.9							
	4	2		6	2.0							
	8	2		7	3.2							
	300# 3/4	1	EA	2	.9							
	TOTAL	NIT 17	EA	3.10	1.3		100			20		
—	CS BUTTWELDS STD WT 4"	5	EA	—	2.9							
	8"	4		—	4.7							
	TOTAL 5.8 #	10	EA	—	3.7		—			40		
—	CONTROL VALVE - 6	2	EA	—	15.0							
	3-WAY VALVE - 3/4	1	EA	—	3.9							
	PSV 3/4 x 1	1	EA	—	3.9							
	TOTAL	5	EA	—	9.5		—			50		

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PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY P. GOMEZ | PRICED BY RCM | DATE AUG 1985 | SHEET 2 OF 5

JOB NO.: 6440-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA MRS. FACILITY

DESCRIPTION SOLID RADWASTE

CAPACITY AREA # 4 ROOM # 1064

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV 15	CS-PIPING-SCREWED											
15060	MECHANICAL PIPING											
15061												
4201	PIPE-ERW STL GALV ASTM A120 T&C											
	XS 3/4	355	LF	.90	.25							
	1	25		1.30	.25							
	1 1/2	100		2.10	.3							
	2	10		2.80	.35							
	TOTAL .9"ϕ	~~490~~ 500	LF	1.20	.26		700			160		
4211	VALVES-	610										
	GATE VALVE-200# WOG BRONZE BODY & TRIM CRANE # 430UB 3/4	17	EA	13	1.0							
	1 1/2	1		28	1.8							
	GLOBE VALVE-300# WOG, BRONZE BODY & TRIM CRANE # 14-1/2P 1 1/2	1	EA	62	1.8							
	TOTAL	~~19~~ 24	EA	16.40	1.1		400			30		
4221	SPECIALS-											
	HOSE FOR DECON SOLUTION 5' LONG QUICK CONNECTORS 3/4" X 5'	5	EA	100	2.0							
	FLANGE-STL R.F. GALV. ASTM A105											
	150# SCREWED 3/4	7	EA	8	.5							
	1	1		8	.6							
	1 1/2	2		9	.9							
	300# SCREWED 3/4	1	EA	10	.5							

CES-2000-0 (4/81)

PARSONS

ESTIMATE WORKSHEET

CLINCH RIVER BASE CASE

M.T.O. BY P. GOMEZ | PRICED BY KCM | DATE AUG 1985 | SHEET 3 OF 5

JOB NO.: 6440-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA MRS. FACILITY

DESCRIPTION SOLID RADWASTE

CAPACITY AREA # 4 ROOM # 1064

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV. 15	CS-PIPING-SCREWED											
15060	MECHANICAL PIPING											
15061												
4221	FITTINGS-300# GALV. M.I.											
	ASTM A197											
	90° ELBOW 3/4	43	EA	3	.5							
	1	3		4	.6							
	1 1/2	7		7	.9							
	2	3		9	1.0							
	TEE 3/4	15	EA	4	.5							
	1 1/2 x 3/4	2		9	.9							
	UNION 3/4	4	EA	2	.5							
	TOTAL	~~83~~ 116	EA	9.60	.7		1100			80		
-	INSTRUMENTS-											
	CONTROL VALVE 3/4	2	EA	-	1.5							
	PSV-1 3/4 x 1	2	EA	-	1.5							
	TOTAL	5 ~~4~~	EA	-	1.5		-			10		

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PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY P. GOMEZ | PRICED BY RCM | DATE AUG 1985 | SHEET 4 OF 3

JOB NO.: 6440-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA MRS. FACILITY

DESCRIPTION SOLID RADWASTE

CAPACITY AREA # 4 ROOM # 1064

ACCNT			QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV.15	CS-PIPING-SHOP												
15060	MECHANICAL PIPING												
15061													
4201	PIPE-ERW STL ASTM A53												
	GR B BE												
	STD WT	4	100	LF	4.90	.55							
		8	60		12.43	1.0							
	TOTAL 5.5"ϕ		~~160~~ 180	LF	7.72	.72		1400.			130		
4221	FLANGES-STL RF ASTM A105												
	150# SLIP-ON	4	2	EA	11	-							
		8	2		26	-							
	FITTING-BW SMLS ASTM A234												
	GR WPB												
	90° LR ELL												
	STD WT	4"	6	EA	7	-							
		8	8		32	-							
	TOTAL		~~18~~ 21	EA	20.70	-		400.			-		
-	WELDS:												
	CS BW STD WT	4	13	EA	-	2.9							
		8	16		-	4.7							
	150# SLIP-ON WELD	4	2	EA	-	2.9							
		8	2		-	4.7							
	TOTAL 6.2"ϕ		~~33~~ 38	EA	-	3.9		-			150		

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CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY P. GOMEZ | PRICED BY RCM | DATE AUG 1985 | SHEET 5 OF 5

JOB NO.: 6440-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA MRS. FACILITY

DESCRIPTION SOLID RADWASTE

CAPACITY AREA # 4 ROOM # 1064

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV. 15	STNLS STL - PIPING - SHOP											
15060	MECHANICAL PIPING											
15063												
A202	PIPE - SMLS STNLS STL, ASTM A312 GR TP304 BE S/40S 6	28	LF	53.20	.7							
	TOTAL 6" ϕ	~~28~~ 30	LF	53.20	.7		1600			20		
A222	FLANGES - STNLS STL R.F. ASTM A182 GR F304											
	150# WN S/40S 6	4	EA	149	-							
	FITTINGS - SMLS STLNS STL BW ASTM A403 GR F304											
	90° LR ELL S/40S 6"	4	EA	144	-							
	TOTAL	9	EA	146.50	-		1300			-		
-	WELDS:											
	F304SS BUTTWELD S/40S 6	14	EA	-	7.7							
	TOTAL 6" ϕ	14	EA	-	7.7		-			110		

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CLINCH RIVER BASE CASE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY P. GOMEZ | PRICED BY ROM | DATE AUG 1985 | SHEET 6 OF 6

JOB NO.: 6440-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION SOLID RADWASTE

CAPACITY AREA #4 ROOM # 1064

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV 15	MECHANICAL											
15060	MECHANICAL PIPING											
15061	CS ADDS											
4225	HANGERS/SUPPORTS	1	LOT				800			160		
4264	FIELD X-RAY 10/48	1	LOT				500			10		
4265	TEST/CLEAN	790	LF				100			120		
-	SCAFFOLDING	1	LOT				-			170		
15063	SS ADDS											
4225	HANGERS/SUPPORTS	1	LOT				100			10		
4264	FIELD X-RAY 4/55	1	LOT				200			-		
4265	TEST/CLEAN	30	LF				-			20		
-	SCAFFOLDING	1	LOT				-			30		
15067	HASTELLOY ADDS											
4225	HANGERS/SUPPORTS	1	LOT				-			-		
4264	FIELD X-RAY /	1	LOT				-			-		
4265	TEST/CLEAN		LF				-			-		
-	SCAFFOLDING	1	LOT				-			-		
15068	PPL LINED CS ADDS											
4225	HANGERS/SUPPORTS	1	LOT				-			-		
4265	TEST/CLEAN		LF				-			-		
-	SCAFFOLDING	1	LOT				-			-		

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THE RALPH M. PARSONS COMPANY

CLINCH RIVER BASE CASE — ESTIMATE SUMMARY

M.T.O. BY P. GOMEZ | PRICED BY RCM | DATE AUG 1985 | SHEET 1 OF 1

JOB NO.: 6440-11 | CLIENT: DOE / PNL | TYPE OF ESTIMATE: ROM | CKD BY: MS

UNIT/AREA MRS FACILITY

DESCRIPTION ARGON STORAGE ROOM

CAPACITY AREA # 4 ROOM # 1176

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV 15 MECHANICAL												
~~4000~~	Pipe, Valves and Fittings-Aboveground											
15061	CARBON STEEL											
~~4201~~	Pipe - Carbon Steel	160	LF				800					
~~4202~~	Pipe - Alloy and Special		LF									
~~4211~~	Valves - Carbon Steel	23	EA				600					
~~4212~~	Valves - Alloy and Special		EA									
~~4221~~	Fittings - Carbon Steel	91	EA				800					
~~4222~~	Fittings - Alloy and Special		EA									
~~4225~~	Hangers, Shoes, etc.	1	LOT				200					
~~4231~~	Outside Shop - Carbon Steel		LF									
~~4232~~	Outside Shop - Alloy and Specialty		LF									
~~4241~~	Field Shop Fabr.		LF									
~~4251~~	Install Screwed Piping		LF+									
~~4252~~	Install Socket Weld Piping	160	LF+							340		
~~4253~~	Install Weld or Flanged Piping		LF+									
~~4257~~	Scaffolding	1	LOT							60		
~~4258~~	Firelines		LF+									
~~4261~~	Install Steam Tracing		LF									
~~4264~~	X-Ray and Stress Relieve	1 LOT	~~EA~~				100			-		
~~4265~~	Testing and Cleaning	160	LF				-			40		
~~4266~~	Pickling and Chem. Cleaning		LF									
4267	Freight		TONS				100					
	3.1"ϕ SUBTOTAL	160	LF+				2600			440		
	Productivity at PCT.		MH									
	TOTAL		LF+									

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

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M.T.O. BY P. GOMEZ | PRICED BY RCM | DATE AUG 1985 | SHEET 1 OF 5

JOB NO.: 6440-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA MRS. FACILITY

DESCRIPTION ARGON STORAGE ROOM

CAPACITY AREA # 4 ROOM # 1176

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE			SUBCONTRACT				LABOR				TOTAL DOLLARS		
				MATL	M/H	LAB $				M/HRS	DOLLARS			M/HRS	DOLLARS					
DIV. 15	CS-PIPING-SCRD																			
15060	MECHANICAL PIPING																			
15061																				
~~4221~~	PLUG-ROUND SOLID STL																			
↓	SCRD TO B16.5 3/4	2	EA	1	.5															
	Total	& 3	EA	1.00	.5				–					–						

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY P. GOMEZ PRICED BY ROM DATE AUG 1985 SHEET 2 OF 5

JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA MRS. FACILITY
DESCRIPTION ARGON STORAGE ROOM
CAPACITY AREA # 4 ROOM # 1176

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV.15	C.S. PIPING SOCKETWELD											
15060	MECHANICAL PIPING											
15061												
420	PIPE - SMLS STL ASTM A53											
	GR B PE XS 3/4	20	LF	1.30	.25							
	1	10		1.60	.25							
	2	30		2.40	.35							
	Total 1.3"ϕ	90	LF	1.79	.29		200			30		
	VALVES	100										
421	GATE VALVE - 800# STL SW											
	13 CR TRIM SMITH 800											
	3/4	4	EA	24	1.7							
	1	4		29	1.9							
	DITTO EXCEPT SW/SCRD											
	3/4	2	EA	24	1.7							
	GLOBE VALVE - 800# STL SW											
	13 CR TRIM SMITH # GBC											
	3/4	5	EA	28	1.7							
	1	3		35	1.9							
	Total	~~10~~ 23		28.10	1.8		600			40		
	FLANGES - STL RF ASTM A105											
422	150# SW											
	XS 3/4	1	EA	7	1.3							
	2	2		7	2.3							
	300# SW											
	XS 2	2	EA	10	2.3							
	300# ORIFICE FLG SET W/ 1/2"											
	SCRD TAPS WN 2"	2	EA	103	-							

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PARSONS

CLINCH RIVER BASE GAOG

ESTIMATE WORKSHEET

M.T.O. BY P. GOMEZ | PRICED BY RCM | DATE AUG 1985 | SHEET 3 OF 5

JOB NO.: 6440-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA MRS. FACILITY

DESCRIPTION ARGON STORAGE ROOM

CAPACITY AREA # 4 ROOM # 1176

ACCNT DIVIS			QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	CS-PIPING-SOCKETWIELD												
15060	MECHANICAL PIPING												
15061													
4EET	FITTINGS-STL SW 3000#												
	90° ELBOW	3/4	20	EA	3	1.3							
		1	5		3	1.4							
		2	3		11	2.3							
	TEE	3/4	8	EA	4	1.3							
		1	4		5	1.4							
		2	3		15	2.3							
	REDUCER	1 × 3/4	2	EA	3	1.4							
		2 × 3/4	2		9	2.3							
	UNION	3/4	8	EA	5	1.3							
		1	2		6	1.4							
	Total		~~64~~	EA	8.30	1.5		700			120		
-	INSTRUMENTS-(Labor Only)		80										
	CONTROL VALVE-	3/4	3	EA	-	2.5							
		1	1		-	3							
	Total		~~4~~ 5	EA	-	2.6		-			10		

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PARSONS

CLINCH RIVER BASE CASE — **ESTIMATE WORKSHEET**

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M.T.O. BY P. GOMEZ | PRICED BY KM | DATE AUG 1985 | SHEET 1 OF 5

JOB NO.: 6440-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA MRS. FACILITY

DESCRIPTION ARGON STORAGE ROOM

CAPACITY AREA # 4 ROOM # 1176

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE			SUBCONTRACT			LABOR			TOTAL DOLLARS
				MATL	M/H	LAB $				M/HRS	DOLLARS		M/HRS	DOLLARS		
DIV 15	CS-PIPING-FIELD															
15060	MECHANICAL PIPING															
15061																
4224	FLANGES-ETL RF ASTM A105															
	150# BLIND FLANGE C	1	EA	6	1.2											
	Total	1	EA	6.00	1.2				—				—			
4227	BOLT-UPS.															
	B7 STUDS/ASB GSKT															
	150# 3/4	1	EA	2	.8											
	" 2	2		2	1.2											
	6	1		7	2.5											
	300# 1/2	2	EA	2	.9											
	" 2	2		5	1.3											
	Total	8 9	EA	3.40	1.3				—				10			
—	INSTRUMENTS (Labor Only)	NIT														
	CONTROL VALVE (FLD) C	1	EA	—	5											
	Total	1	EA	—	5.0				—				10			

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PARSONS

CLINCH RIVER EASE CASE

ESTIMATE WORKSHEET

M.T.O. BY P. GOMEZ | PRICED BY RCM | DATE AUG 1985 | SHEET 5 OF 5

JOB NO.: 6440-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA MRS. FACILITY

DESCRIPTION ARGON STORAGE RM

CAPACITY AREA # 4 ROOM # 1176

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV.	CS- PIPING- SHOP											
15060	MECHANICAL PIPING											
15061												
4201	PIPE- SMLS STL ASTM A53 GR B STD WT 6	60	LF	9.20	.7							
	TOTAL 6" ϕ	~~50~~ 60	LF	9.20	.7		600			40		
4221	FLANGES- 150# SLIP-ON STL RF ASTM A105 6	1	EA	17	-							
	FITTINGS- STL BW ASTM A234 GR WPB											
	90° LR ELL STD WT 6	5	EA	20	-							
	TOTAL	~~5~~ 7	EA	19.50	-		100			-		
-	CS BW - STD WT 6	10	EA	-	3.8							
	Total 6" ϕ	~~10~~ 12	EA	-	3.8		-			50		

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY P. GOMEZ | PRICED BY RCM | DATE AUG 1985 | SHEET 6 OF 6

JOB NO.: 6440-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION ARGON STORAGE ROOM

CAPACITY AREA # 4 ROOM # 1176

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV 15	MECHANICAL											
15060	MECHANICAL PIPING											
15061	CS ADDS											
4225	HANGERS/SUPPORTS	1	LOT				200			30		
4264	FIELD X-RAY 2/48	1	LOT				100			-		
4265	TEST/CLEAN	160	LF				-			40		
-	SCAFFOLDING	1	LOT				-			60		
15063	SS ADDS											
4225	HANGERS/SUPPORTS	1	LOT				-			-		
4264	FIELD X-RAY /	1	LOT				-			-		
4265	TEST/CLEAN		LF				-			-		
-	SCAFFOLDING	1	LOT				-			-		
15067	HASTELLOY ADDS											
4225	HANGERS/SUPPORTS	1	LOT				-			-		
4264	FIELD X-RAY /	1	LOT				-			-		
4265	TEST/CLEAN		LF				-			-		
-	SCAFFOLDING	1	LOT				-			-		
15068	PPL LINED CS ADDS											
4225	HANGERS/SUPPORTS	1	LOT				-			-		
4265	TEST/CLEAN		LF				-			-		
-	SCAFFOLDING	1	LOT				-			-		

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THE RALPH M. PARSONS COMPANY

CLINCH RIVER BASE CASE — ESTIMATE SUMMARY

M.T.O. BY P. GOMEZ | PRICED BY RCM | DATE AUG 1985 | SHEET 1 OF 1

JOB NO.: 6440-11 | CLIENT: DOE / PNL | TYPE OF ESTIMATE: ROM | CKD BY:

UNIT/AREA MRS FACILITY

DESCRIPTION FUEL OIL

CAPACITY AREA # 4 ROOM # ROOF

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
~~4200~~ 210 15	Pipe, Valves and Fittings-Aboveground											
15061	CARBON STEEL											
~~4201~~	Pipe - Carbon Steel	3080	LF				5500					
~~4202~~	Pipe - Alloy and Special		LF									
~~4211~~	Valves - Carbon Steel	15	EA				400					
~~4212~~	Valves - Alloy and Special		EA									
~~4221~~	Fittings - Carbon Steel	151	EA				900					
~~4223~~	Fittings - Alloy and Special		EA									
~~4225~~	Hangers, Shoes, etc.	1	LOT				1500					
~~4251~~	Outside Shop - Carbon Steel		LF									
~~4252~~	Outside Shop - Alloy and Specialty		LF									
~~4241~~	Field Shop Fabr.		LF									
~~4251~~	Install Screwed Piping		LF+									
~~4252~~	Install Socket Weld Piping	3080	LF+							1460		
~~4253~~	Install Weld or Flanged Piping		LF+									
~~4257~~	Scaffolding	1	LOT							40		
~~4258~~	Firelines		LF+									
~~4261~~	Install Steam Tracing		LF									
4264	X-Ray and Stress Relieve		EA									
~~4263~~	Testing and Cleaning	3080	LF				100			180		
~~4266~~	Pickling and Chem. Cleaning		LF									
~~4267~~	Freight		TONS				300					
	1.1"ϕ SUBTOTAL	3080	LF+				8700			1680		
	Productivity at PCT.		MH									
	TOTAL		LF+									

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY P. GOMEZ PRICED BY RCM DATE AUG 1985 SHEET 1 OF 8

JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA MRS. FACILITY

DESCRIPTION FUEL OIL

CAPACITY AREA # 4 ROOM # ROOF

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV. 6	FIELD LABOR											
15060	MECHANICAL PIPING											
15061												
AZII	BOLT-UPS.											
	ASB GSKT / B7 STUDS											
	150# 3/4	32	EA	2	.8							
	1	4		2	.8							
	1 1/2	4		2	.9							
	TOTAL	~~40~~ 46	EA	2.00	.81		100			40		
—	INSTRUMENTS.											
	CONTROL VALVE 3/4	4	EA	—	3.9							
	TOTAL	~~4~~ 5	EA	—	3.9		—			20		

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY P. GOMEZ | PRICED BY RCM | DATE AUG 1985 | SHEET 2 OF 2

JOB NO.: 6440-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA MRS. FACILITY

DESCRIPTION FUEL OIL

CAPACITY AREA # 4 ROOM # 800

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV.15	CS- PIPING- SOCKETWELD											
15060	MECHANICAL PIPING											
15061												
~~4207~~	PIPE- SMLS STL ASTM A53 GR B											
	XS 3/4	1275	LF	1.30	.25							
	1	80		1.60	.25							
	1 1/2	1105		2.40	.3							
	TOTAL 1.1 #	~~2460~~ 3080	LF	1.80	.27		5500			830		
~~4211~~	VALVE-											
	GATE VALVE- 800 # STL SW											
	12 CR TRIM SMITH # 800											
	3/4	12	EA	24	1.7							
	TOTAL	~~12~~	EA	24.00	1.7		400			30		
~~4221~~	FLANGE- STL RF ASTM A105	15										
	150 # SOCKETWELD											
	XS 3/4	32	EA	7	1.3							
	1	4		7	1.4							
	1 1/2	4		7	2.0							
	FITTINGS- 3000 # STL SW ASTM A105											
	90° ELBOW 3/4	39	EA	3	1.3							
	1	16		3	1.4							
	1 1/2	15		7	2.0							
	TEE 3/4	4	EA	4	1.3							
	1 1/2	2		11	2.0							
	1 1/2 x 3/4	5		15	2.0							
	TOTAL	~~121~~ 151	EA	5.50	1.5		800			230		

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PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY P. GOMEZ | PRICED BY RCM | DATE AUG 1985 | SHEET 3 OF 3

JOB NO.: 6440-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION FUEL OIL

CAPACITY AREA # 4 ROOM # ROOF

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV 15	MECHANICAL											
15060	MECHANICAL PIPING											
15061	CS ADDS											
4225	HANGERS/SUPPORTS	1	LOT				1500			310		
4264	FIELD X-RAY /	1	LOT				-			-		
4265	TEST/CLEAN	3080	LF				100			180		
-	SCAFFOLDING	1	LOT				-			40		
15063	SS ADDS											
4225	HANGERS/SUPPORTS	1	LOT				-			-		
4264	FIELD X-RAY /	1	LOT				-			-		
4265	TEST/CLEAN		LF				-			-		
-	SCAFFOLDING	1	LOT				-			-		
15067	HASTELLOY ADDS											
4225	HANGERS/SUPPORTS	1	LOT				-			-		
4264	FIELD X-RAY /	1	LOT				-			-		
4265	TEST/CLEAN		LF				-			-		
-	SCAFFOLDING	1	LOT				-			-		
15068	PPL LINED CS ADDS											
4225	HANGERS/SUPPORTS	1	LOT				-			-		
4265	TEST/CLEAN		LF				-			-		
-	SCAFFOLDING	1	LOT				-			-		

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THE RALPH M. PARSONS COMPANY

CLINCH RIVER BASE CASE ESTIMATE SUMMARY

M.T.O. BY P. GOMEZ | PRICED BY RCM | DATE AUG 1985 | SHEET 1 OF 1

JOB NO.: 6440-11 | CLIENT: DOE / PNL | TYPE OF ESTIMATE: ROM | CKD BY: ~~RAS~~

UNIT/AREA MRS FACILITY

DESCRIPTION LOW LEVEL LIQUID RADWASTE

CAPACITY AREA # 4 ROOM # 1063

ACCT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
	DIV 15 MECHANICAL											
~~4200~~	Pipe, Valves and Fittings-Aboveground											
15061	CARBON STEEL											
~~4201~~	Pipe - Carbon Steel	930	LF				1700					
~~4202~~	Pipe - Alloy and Special		LF									
~~4211~~	Valves - Carbon Steel	65	EA				2400					
~~4212~~	Valves - Alloy and Special		EA									
~~4221~~	Fittings - Carbon Steel	265	EA				3100					
~~4222~~	Fittings - Alloy and Special		EA									
~~4225~~	Hangers, Shoes, etc.	1	LOT				900					
~~4231~~	Outside Shop - Carbon Steel		LF									
~~4232~~	Outside Shop - Alloy and Specialty		LF									
~~4241~~	Field Shop Fabr.		LF									
~~4251~~	Install Screwed Piping		LF+									
~~4252~~	Install Socket Weld Piping	930	LF+							1050		
~~4253~~	Install Weld or Flanged Piping		LF+									
~~4257~~	Scaffolding	1	LOT							180		
~~4258~~	Firelines		LF+									
~~4261~~	Install Steam Tracing		LF									
~~4264~~	X-Ray and Stress Relieve	1 LOT	~~EA~~				400			10		
~~4265~~	Testing and Cleaning	930	LF				100			130		
~~4266~~	Pickling and Chem. Cleaning		LF									
~~4267~~	Freight		TONS				300					
	1.2" ϕ SUBTOTAL	930	LF+				8900			1370		
	Productivity at PCT.		MH									
	TOTAL		LF+									

THE RALPH M. PARSONS COMPANY

CLINCH RIVER BASE CASE — ESTIMATE SUMMARY

M.T.O. BY P. GOMEZ | PRICED BY RCM | DATE AUG 1985 | SHEET 1 OF 1

JOB NO.: 6440-11 | CLIENT: DOE / PNL | TYPE OF ESTIMATE: ROM | CKD BY: JS

UNIT/AREA MRS FACILITY
DESCRIPTION LOW LEVEL LIQUID RADWASTE
CAPACITY AREA # 4 ROOM # 1063

		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV. 15 MECHANICAL												
~~4200~~	Pipe, Valves and Fittings-Aboveground											
15063	STAINLESS STEEL											
~~4201~~	Pipe - Carbon Steel		LF									
~~4202~~	Pipe - Alloy and Special	2760	LF				43 800					
~~4211~~	Valves - Carbon Steel		EA									
~~4212~~	Valves - Alloy and Special	169	EA				84 100					
~~4221~~	Fittings - Carbon Steel	-	EA				600					
~~4222~~	Fittings - Alloy and Special	775	EA				23 300					
~~4225~~	Hangers, Shoes, etc.	1	LOT				5 500					
~~4231~~	Outside Shop - Carbon Steel		LF									
~~4232~~	Outside Shop - Alloy and Specialty		LF									
~~4241~~	Field Shop Fabr.		LF									
~~4251~~	Install Screwed Piping		LF+									
~~4252~~	Install Socket Weld Piping	2760	LF+							5940		
~~4253~~	Install Weld or Flanged Piping		LF+									
~~4257~~	Scaffolding	1	LOT							1060		
~~4258~~	Firelines		LF+									
~~4261~~	Install Steam Tracing		LF									
~~4264~~	X-Ray and Stress Relieve	1 LOT	~~EA~~				14 900			370		
~~4265~~	Testing and Cleaning	2760	LF				300			760		
~~4266~~	Pickling and Chem. Cleaning		LF									
4267	Freight		TONS				5 200					
	1.8"ϕ SUBTOTAL	2760	LF+				177 700			8130		
	Productivity at PCT.		MH									
	TOTAL		LF+									

THE RALPH M. PARSONS COMPANY

CLINCH RIVER BASE CASE — ESTIMATE SUMMARY

M.T.O. BY P. GOMEZ | PRICED BY RCM | DATE AUG 1985 | SHEET 1 OF 1

JOB NO.: 6440-11 | CLIENT: DOE / PNL | TYPE OF ESTIMATE: ROM | CKD BY:

UNIT/AREA MRS FACILITY
DESCRIPTION LOW LEVEL LIQUID RADWASTE
CAPACITY AREA # 4 ROOM # 1063

ACCT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV 15 MECHANICAL												
~~4200~~	Pipe, Valves and Fittings-Aboveground											
15067	HASTELLOY											
~~4201~~	Pipe - Carbon Steel		LF									
~~4202~~	Pipe - Alloy and Special	140	LF				9500					
~~4211~~	Valves - Carbon Steel		EA									
~~4212~~	Valves - Alloy and Special	5	EA				4100					
~~4221~~	Fittings - Carbon Steel	-	EA				100					
~~4222~~	Fittings - Alloy and Special	13	EA				900					
~~4225~~	Hangers, Shoes, etc.	1	LOT				300					
~~4251~~	Outside Shop - Carbon Steel		LF									
~~4232~~	Outside Shop - Alloy and Specialty		LF									
~~4241~~	Field Shop Fabr.		LF									
~~4251~~	Install Screwed Piping		LF+									
~~4252~~	Install Socket Weld Piping	140	LF+							190		
~~4253~~	Install Weld or Flanged Piping		LF+									
~~4257~~	Scaffolding	1	LOT							60		
~~4258~~	Firelines		LF+									
~~4261~~	Install Steam Tracing		LF									
~~4264~~	X-Ray and Stress Relieve	1 LOT	~~EA~~				300			10		
~~4265~~	Testing and Cleaning	140	LF				-			20		
~~4266~~	Pickling and Chem. Cleaning		LF									
~~4267~~	Freight		TONS				500					
	1.5"ϕ SUBTOTAL	140	LF+				15700			280		
	Productivity at PCT.		MH									
	TOTAL		LF+									

THE RALPH M. PARSONS COMPANY

CLINCH RIVER BASE CASE — ESTIMATE SUMMARY

M.T.O. BY P. GOMEZ | PRICED BY RCM | DATE AUG 1985 | SHEET 1 OF 1

JOB NO.: 6440-11 | CLIENT: DOE / PNL | TYPE OF ESTIMATE: ROM | CKD BY: RD

UNIT/AREA MRS FACILITY

DESCRIPTION LOW LEVEL LIQUID RADWASTE

CAPACITY AREA # 4 ROOM # 1063

ACCT. NO.	DIV. 15 MECHANICAL	QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
4200	Pipe, Valves and Fittings-Aboveground											
15068	PPL LINED CARBON STEEL											
~~4201~~	Pipe - Carbon Steel		LF									
~~4202~~	Pipe - Alloy and Special	100	LF				1900					
~~4211~~	Valves - Carbon Steel		EA									
~~4212~~	Valves - Alloy and Special	7	EA				1500					
~~4221~~	Fittings - Carbon Steel	-	EA				100					
~~4222~~	Fittings - Alloy and Special	22	EA				2700					
~~4225~~	Hangers, Shoes, etc.	1	LOT				200					
~~4231~~	Outside Shop - Carbon Steel		LF									
~~4232~~	Outside Shop - Alloy and Specialty		LF									
~~4241~~	Field Shop Fabr.		LF									
~~4251~~	Install Screwed Piping		LF+									
~~4252~~	Install Socket Weld Piping	100	LF+							120		
~~4253~~	Install Weld or Flanged Piping		LF+									
~~4257~~	Scaffolding	1	LOT							20		
~~4258~~	Firelines		LF+									
~~4261~~	Install Steam Tracing		LF									
~~4264~~	X-Ray and Stress Relieve		EA									
~~4265~~	Testing and Cleaning	100	LF				-			10		
~~4266~~	Pickling and Chem. Cleaning		LF									
~~4267~~	Freight		TONS				200					
	1.0" ø SUBTOTAL	100	LF+				6600			150		
	Productivity at PCT.		MH									
	TOTAL		LF+									

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

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M.T.O. BY P. GOMEZ | PRICED BY RCM | DATE AUG. 85 | SHEET 1 OF 2

JOB NO.: 6440-11 | CLIENT: PNL/DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA ROOM: 1063

DESCRIPTION LOW LEVEL LIQUID RADWASTE

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT: MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT: M/HRS	SUBCONTRACT: DOLLARS	LABOR: M/HRS	LABOR: DOLLARS	TOTAL DOLLARS
DIV. 15	MECHANICAL AREA 4											
1500	MECHANICAL PIPING											
15061												
	C.S. SCR'D PIPING FIELD FAB.											
	PIPE:											
~~400~~	ERW CARBON STEEL, GALV., ASTM A120, X-STRONG, THREADED AND COUPLED ENDS											
	3/4"	170	LF	.90	.25							
	Total 3/4"ϕ	~~170~~ 210	LF	.90	.25		200			.50		
	VALVES:											
~~420~~	GATE VALVES, 200 LB WOG, SCRD, BRONZE BODY AND TRIM, RISING STEM, UNION BONNET, DOUBLE DISC, MANUFACTURER'S STANDARD PACKING, CRANE #430U3 OR EQUAL											
	1/2"	2	EA	10	.8							
	3/4"	3	EA	13	1.0							
	Total	~~5~~ 6	EA	11.80	.9		100			10		
	FLANGES:											
~~422~~	150 LB ANSI, FLAT FACE SCRD TYPE, C.S., ASTM A105											
	3/4"	1	EA	6	.5							
	1"	2	EA	6	.6							
	150 LB ANSI, FLAT FACE, SCR'D, GALV. STEEL, ASTM A105											
	3/4	1	EA	8	.5							

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PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY P. GOMEZ PRICED BY RCM DATE AUG. 85 SHEET 2 OF 2

JOB NO.: 6440-11 CLIENT: PNL/DOE TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA ROOM: 1063

DESCRIPTION LOW LEVEL LIQUID RADWASTE

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV. 15	MECHANICAL AREA 4											
1500	MECHANICAL PIPING											
15061												
	C.S. SCR'D PIPING											
~~4211~~	FITTINGS:											
	90° ELL, 300 LB, GALV. MALLEABLE IRON, SCRD, ASTM A197											
	3/4"	25	EA	3	.5							
	TEE 1 1/2 x 3/4	2	✓	9	.9							
	UNION, 300 LB, GALV. MALLEABLE IRON, SCRD, ASTM A197											
	3/4"	2	EA	6	.5							
	PLUG, SOLID HEX HEAD, C.S. NPT ASTM A105											
	3/4"	14	EA	1	.5							
	Total	~~47~~ 59	EA	3.10	.5				200	30		
	INSTRUMENTS: (Labor Only)											
—	PRESSURE SAFETY VALVE											
	3/4"	1	EA	—	1.5							
	PRESSURE CONTROL VALVE											
	3/4"	1	EA	—	1.5							
	Total	2	EA	—	1.5				—	—		
	SPECIALS:	3										
4211	STEAM TRAPS, 3/4", 600LB, SCRD ENDS, THERMODYNAMIC TYPE, 1¼CR-½ MOLY BODY, S.S. BONNET, SEAT AND DISC, INTEGRAL STRAINER AND BLOWOFF VALVE YARWAY 720A											
	3/4"	4	EA	136	1.5							
	Total	5	EA	136.00	1.5				700	10		

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PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY P. GOMEZ | PRICED BY RCM | DATE AUG. 85 | SHEET 3 OF 4

JOB NO.: 6440-11 | CLIENT: PNL/DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA ROOM: 1063

DESCRIPTION LOW LEVEL LIQUID RADWASTE

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV 15	MECHANICAL AREA											
1500	MECHANICAL PIPING											
15061	C.S. S.W. PIPING											
4201	PIPE:											
	SEAMLESS CARBON STEEL, ASTM A53 GRADE B, X-STRONG, PLAIN ENDS											
	3/4"	180	LF	1.30	.25							
	1"	170	LF	1.60	.25							
	1 1/2"	115	LF	2.40	.3							
	Total 1.0" ϕ	~~465~~ 580	LF	1.68	.26		1000			150		
	VALVES:											
4211	GATE VALVE, 800 LB, SW ENDS, OS&Y, BOLTED BONNET, CARBON STEEL BODY, 12 CR TRIM, CONVENTIONAL PORT, JC 187-I PACKING SMITH# 800 OR EQUAL											
	1/2"	4	EA	22	1.6							
	3/4"	12	EA	24	1.7							
	1"	7	EA	29	1.9							
	1 1/2"	6	EA	54	2.5							
	GATE VALVE, 800LB, SW/SCRD ENDS, OS&Y, BOLTED BONNET, CARBON STEEL BODY, 12 CR TRIM, CONVENTIONAL PORT, PLAIN SOLID WEDGE, JC 187-I PACKING, SMITH# 800 OR EQUAL											
	1/2"	2	EA	22	1.6							
	3/4"	12	EA	24	1.7							

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PARSONS

ESTIMATE WORKSHEET

CLINCH RIVER BASE CASE

M.T.O. BY P. GOMEZ | PRICED BY RCM | DATE AUG. 85 | SHEET 4 OF 4

JOB NO.: 6440-11 | CLIENT: PNL/DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA ROOM: 1063

DESCRIPTION LOW LEVEL LIQUID RADWASTE

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV 15	MECHANICAL AREA#											
1500	MECHANICAL PIPING											
15061												
	C.S. S.W. PIPING											
~~421~~	VALVES:											
	GLOBE VALVE, 800LB, SW ENDS, O.S.&Y., BOLTED BONNET, CARBON STEEL BODY, 12 CR TRIM, JC 187-I PACKING, SMITH # G80 OR EQUAL											
	1½"	2	EA	73	2.5							
	CHECK VALVE, 800 LB, SW ENDS, PISTON CHECK, BOLTED CAP, CARBON STEEL BODY, 12 CR TRIM, SMITH # 80 OR EQUAL											
	1"	2	EA	30	1.9							
	Total	~~42~~ 53	EA	30.90	1.9		1600			100		
~~421~~	STEAM TRAP, 600# 3000 ENDS, THERMODINAMIC TYPE, 1¼ CR. ½ IMO. BODY, S.S. TRIM, YARWAY FIG. 720A											
	3/4	4	EA	136	1.5							
	WYE STRAINER, 800 LB, CARBON STEEL BODY, ASTM A216 GR WCB, SW ENDS, 304 SS SCREEN WITH 0.045 IN PERFORATIONS, ARMSTRONG 915W											
	3/4"	4	EA	63	1.7							

CES-2000-0 (4/81)

4-140

PARSONS

CLINCH RIVER BASE CASE — ESTIMATE WORKSHEET — 5

M.T.O. BY P. GOMEZ | PRICED BY RCM | DATE AUG. 85 | SHEET 5 OF 6

JOB NO.: 6440-11 | CLIENT: PNL/DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA ROOM: 1063

DESCRIPTION LOW LEVEL LIQUID RADWASTE

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV 15	MECHANICK AREA 4											
1500	MECHANICAL PIPING											
15061												
	C.S. S.W. PIPING											
	FLANGES:											
	150 LB ANSI, R.F., SW ENDS, CARBON STEEL, ASTM A105, X-STRONG BORE											
	3/4"	4	EA	7	1.3							
	FITTINGS:											
	90° ELL, 3000 LB, CARBON STEEL, SW ENDS, ASTM A105											
	3/4"	34	EA	3	1.3							
	1"	23	EA	3	1.4							
	1½"	10	EA	7	2.0							
	45° ELL, 3000 LB, CARBON STEEL, SW ENDS, ASTM A105											
	3/4"	4	EA	3	1.3							
	1½"	4	EA	7	2.0							
	TEE, 3000 LB, CARBON STEEL, SW ENDS, ASTM A105											
	3/4"	6	EA	4	1.3							
	1"	1	EA	5	1.4							
	1½"	2	EA	11	2.0							
	1½ x 3/4"	8	EA	15	2.0							
	1½" x 1"	4	EA	15	2.0							

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY P. GOMEZ | PRICED BY RCM | DATE AUG. 85 | SHEET 4 OF 4

JOB NO.: 6440-11 | CLIENT: PNL/DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA ROOM: 1063

DESCRIPTION LOW LEVEL LIQUID RADWASTE

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
D16.15	MECHANICAL AREA #4											
1500	MECHANICAL PIPING											
15061												
	C.S. S.W. PIPING											
	FITTINGS:											
	CAP, 3000 LB, CARBON STEEL, SW ENDS, ASTM A105											
	1½"	6	EA	5	2.0							
	REDUCER, 3000 LB, CARBON STEEL, SW ENDS, ASTM A105											
	1½"x ¾"	2	EA	6	2.0							
	UNION, 3000 LB, CARBON STEEL, SW ENDS, ASTM A105											
	¾"	8	EA	5	1.3							
	1½"	4	EA	11	2.0							
	Total	~~128~~ 160	EA	11.40	1.6		1800.			260		

CES-2000-0 (4/81)

CLINCH RIVER BASE CASE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY P. GOMEZ | PRICED BY RCM | DATE AUG. 85 | SHEET 1 OF 1

JOB NO.: 6440-11 | CLIENT: PNL/DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA ROOM: 1063

DESCRIPTION LOW LEVEL LIQUID RADWASTE

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV 15	MECHANICAL AREA #4											
1500	MECHANICAL PIPING											
15061												
	C.S. FIELD PIPING (FLG'D)											
	VALVES:											
~~411~~	GATE VALVE, 125 LB ANSI, FLAT FACE FLANGED, OS&Y, BOLTED BONNET, CAST IRON BODY, BRONZE TRIM, STANDARD PACKING. CRANE 465-½ OR EQUAL											
	3"	4	EA	97	4.5							
	GLOBE VALVE, 125 LB ANSI, FLAT FACE FLANGED, OS&Y, BOLTED BONNET, CAST IRON BODY, BRONZE TRIM, COMP. DISC TYPE, STANDARD PACKING, CRANE #351 OR EQUAL											
	3"	1	EA	168	4.5							
	Total	65	EA	111.20	4.5		700			30		
—	INSTRUMENT: (Labor Only) CONTROL VALVE (TV-4)											
	300# FLGD. 2"	1	EA	—	5.9							
	3/4"	5	✓	—	3.9							
	(1½")	2	✓	—	4.5							
	TOTAL	98	EA	—	4.3		—			40		

CES-2000-0 (4/81)

CLINCH RIVER BASE CASE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY P. Gomez | PRICED BY RCM | DATE AUG. 85 | SHEET 1 OF 2

JOB NO.: 6440-11 | CLIENT: PNL/DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA ROOM: 1063

DESCRIPTION LOW LEVEL LIQUID RADWASTE

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
010	15 MECHANICAL AREA 4											
1500	MECHANICAL PIPING											
15061												
	C.S. SHOP FAB. PIPING.											
~~4201~~	PIPE:											
	ERW CARBON STEEL, ASTM A53 GR B, STD WT, BEVELED ENDS											
	3"	125	LF	3.60	.35							
	TOTAL 3"ϕ	~~125~~ 140	LF	3.60	.35		500			50		
~~4221~~	FLANGES:											
	150 LB ANSI, FLAT FACE, SLIP-ON TYPE, CARBON STEEL, ASTM A105											
	2"	2	EA	6	-							
	3"	11	EA	8	-							
	300 LB ANSI, FLAT FACE SLIP-ON TYPE, CARBON STEEL, ASTM A105											
	2"	2	EA	9	-							
	FITTINGS:											
	90°ELL SEAMLESS CARBON STEEL, BUTTWELDING ENDS, STD WT, ASTM A234 GR WPB											
	3"	12	EA	4	-							
	45°ELL SEAMLESS CARBON STEEL, BUTTWELDING ENDS, STD WT, ASTM A234 GR WPB											
	3"	1	EA	3	-							

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY P. GOMEZ | PRICED BY RCM | DATE AUG. 85 | SHEET 2 OF 2

JOB NO.: 6440-11 | CLIENT: PNL/DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA ROOM: 1063

DESCRIPTION LOW LEVEL LIQUID RADWASTE

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV 15	MECHANICAL PIPING											
1500	MECHANICAL PIPING											
15061	C.S. SHOP FAB. PIPING											
~~4221~~	FITTINGS:											
	TEE, SEAMLESS CARBON STEEL, BUTTWELDING ENDS, STD WT, ASTM A234 GR WPB											
	3"X2"	2	EA	15	–							
	REDUCER, SEAMLESS CARBON STEEL, BUTTWELDING END, CONCENTRIC, STD WT, ASTM A234 GR WPB											
	3"X2"	2	EA	5	–							
	O'LETS											
	THREDOLET, 3000 LB, CARBON STEEL, ASTM A105											
	3"X ½"	2	EA	2	–							
	3" X ¾"	2	EA	3	–							
	TOTAL	~~96~~ 41	EA	6.10	–		300			–		
–	WELDS											
	BUTTWELD C.S. STD. WT. 2"	4	EA	–	1.6							
	3"	36	✓	–	2.0							
	3000# CS OLET WELD ½"	2	EA	–	1.7							
	¾"	2	✓	–	2.1							
	TOTAL 2.7"ϕ	~~44~~ 51	EA	–	2.0		–			100		

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE — ESTIMATE WORKSHEET

M.T.O. BY P. GOMEZ | PRICED BY RCM | DATE AUG. 85 | SHEET 10 OF 10

JOB NO.: 6440-11 | CLIENT: PNL/DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA ROOM: 1063

DESCRIPTION LOW LEVEL LIQUID RADWASTE

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV 15	MECHANICAL AREA 4											
1500	MECHANICAL PIPING											
15063												
	S.S. FIELD PIPING											
~~4111~~	VALVES:											
	GATE VALVE, ISO LB ANSI R.F. FLANGED ENDS, OS&Y, BOLTED BONNET, 316 S.S. BODY AND TRIM, PLAIN SOLID WEDGE, JC 187-I PACKING, PACIFIC FIG S-150-12H OR EQUAL											
	3"	2	EA	528	4.5							
	Total	2	EA	528.00	4.5		1100			10		
4227	SPECIALTIES:											
	SAMPLE CONNECTION, FOR LLW.											
	3/4"	4	EA	150	1.0							
	HOSE FOR CORROSION INHIBITOR SOLUTION 3/4"x5'	3	EA	100	2							
	HOSE, FOR LLW DEFOAMER PUMP 3/4 x C' 1 1/2"x5'	1	EA	150	3							
	3/4" X5'	1	EA	100	2.0							
	HOSE FOR ACID (PPL LINED) 1"x5'	1	~	150	3							
	HOSE CONNECTION, FOR LLW. CONTAMINATED CONDENSATE											
	3/4	9	EA.	20	1.2							
	1 1/2	1	~	30	2							
	TOTAL	20	EA	75.50	1.5		1700			30		
		23										
—	STNLS STL: BW											
	304L SS SCH40S 3/4	4	EA	—	1.7							
	1 1/2	9	~	—	2.6							
	4	1	~	—	6.0							
	TOTAL 1.5"ϕ	16-14	EA	—	2.6		—			40		

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY P. GOMEZ | PRICED BY RCM | DATE AUG. 85 | SHEET 2 OF 8

JOB NO.: 6440-11 | CLIENT: PNL/DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA ROOM: 1063

DESCRIPTION LOW LEVEL LIQUID RADWASTE

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV 15	MECHANICAL AREA 4											
1500	MECHANICAL PIPING											
15063												
	S.S. SHOP PIPING											
	PIPE:											
	SEAMLESS STAINLESS STEEL, ASTM A312 GR TP304L, SCH. 40S, BEVELED ENDS											
	½"	2	LF	4.70	.12							
	¾"	1197	LF	6.10	.12							
	1"	169	LF	7.90	.12							
	2"	225	LF	14.50	.25							
	3"	42	LF	25.20	.35							
	4"	350	LF	35.90	.55							
	6"	126	LF	63.10	.7							
	1½	165	LF	11.90	.18							
	SEAMLESS STAINLESS STEEL, ASTM A312 GR TP304, SCH. 40S, BEVELED ENDS											
	3"	120	LF	21.20	.35							
	Total 1.8"ϕ	~~3396~~ 2760	LF	15.80	.25		43800			690		
	VALVES:											
	GLOBE VALVE, 600 LB, BW ENDS, 316 STAINLESS STEEL "Y" PATTERN BODY, 316 SS TRIM, METAL TO METAL SEATS, PACKLESS TYPE, SCH 40S BORE KEROTEST # 9900R OR EQUAL											
	½"	10	EA	364	3.0							
	¾"	74	EA	406	3.0							
	1"	11	EA	488	3.0							
	2"	14	EA	951	4.0							
	1½	1	✓	793	3.5							

CES-2000-0 (4/81)

CLINCH RIVER BASE CASE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY P. GOMEZ | PRICED BY RCM | DATE AUG. 85 | SHEET 12 OF 18

JOB NO.: 6440-11 | CLIENT: PNL/DOE | TYPE OF ESTIMATE ROM ± | CHECKED BY

UNIT/AREA ROOM: 1063

DESCRIPTION LOW LEVEL LIQUID RADWASTE

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV 15	MECHANICAL AREA 4											
1500	MECHANICAL PIPING											
15063												
	S.S. SHOP PIPING											
4010	VALVES:											
	GATE VALVE, 150 LB ANSI, BW ENDS, OS&Y, BOLTED BONNET, 316L STAINLESS STEEL BODY, 316 S.S. TRIM, DOUBLE DISC WEDGE, INTEGRAL SEATS, GRAFOIL GASKET, SCH. 40S BORE, ALOYCO #116 OR EQUAL											
	4"	2	EA	758	6.7							
	6"	2	EA	1352	9.0							
	CHECK VALVE, 600LB, BW ENDS, LIFT TYPE 316L STAINLESS STEEL "Y" PATTERN BODY, 316 S.S. TRIM, METAL TO METAL SEATS, PACKLESS TYPE, SCH. 40S BORE KEROTEST FIG. 3,000 SERIES OR EQUAL											
	3/4"	7	EA	431	3.0							

CES-2000-0 (4/81)

PARSONS

ESTIMATE WORKSHEET

CLINCH RIVER BASE CASE

M.T.O. BY P. GOMEZ PRICED BY RCM DATE AUG. 85 SHEET 13 OF 18

JOB NO.: 6440-11 CLIENT: PNL/DOE TYPE OF ESTIMATE ROM ± CHECKED BY

UNIT/AREA ROOM: 1063

DESCRIPTION LOW LEVEL LIQUID RADWASTE

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV 15	MECHANICAL AREA 4											
1500	MECHANICAL PIPING											
15063	S.S. SHOP PIPING											
~~#212~~	VALVES:											
	BALL VALVE, 150 LB ANSI, BW ENDS, TOP ENTRY, 316L STAINLESS STEEL BODY, 316 S.S. TRIM, TFE SEATS AND GASKET, SCH. 40S BORE, ITT GRINNEL FIGURE CAMTITE #3113-1-1 OR EQUAL											
	½"	2	EA	138	3.0							
	¾"	6	EA	166	3.0							
	1"	3	EA	203	3.0							
	2"	3	EA	410	4.0							
	3"	3	EA	634	4.5							
	4"	7	EA	956	6.7							
	Total	~~145~~ 167	EA	497.30	3.5		83000			580		
—	INSTRUMENTS (Labor Only)											
	HAND OPERATED CONTROL VALVE 300# SW. 304SS. 3/4	4	EA.	—	5							
	PRESSURE SAFETY VALVE FLGD.											
	300# 304SS. 1 x 2	3	✓	—	3.9							
	2 x 3	3	✓	—	5.9							
	Total	~~10~~ 12	EA	—	4.9		—			60		

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CLINCH RIVER BASE CASE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY P. GOMEZ | PRICED BY RCM | DATE AUG. 85 | SHEET 14 OF 18

JOB NO.: 6440-11 | CLIENT: PNL/DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA ROOM: 1063

DESCRIPTION LOW LEVEL LIQUID RADWASTE

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV 15	MECHANICAL AREA 4											
1500	MECHANICAL PIPING											
15063												
	S.S. SHOP PIPING											
~~1501~~	FLANGES:											
	150 LB ANSI, R.F. WELD NECK, 304L STAINLESS STEEL, ASTM A182 GR F304L, SCH 40S BORE											
	3/4"	57	EA	22	-							
	1"	20	EA	22	-							
	1 1/4"	2	EA	34	-							
	2"	35	EA	37	-							
	3"	1	EA	55	-							
	4"	6	EA	84	-							
	6"	2	EA	156	-							
	10"	4	EA	356	-							
	1 1/2	6	-	32	-							
	150 LB ANSI, R.F. WELD NECK, STAINLESS STEEL ASTM A182 GR F304, SCH 40S BORE											
	3"	6	EA	53	-							
	300 LB ANSI, ORIFICE FLANGE SET, W/ 1/2" SCRD TAPS, 304L STAINLESS STEEL, ASTM A182 GR F304L, SCH. 40S BORE											
	3/4"	3	ST	850	-							
	4"	1	ST	1020	-							

PARSONS

CLINCH RIVER ~~BASE CASE~~

ESTIMATE WORKSHEET

M.T.O. BY P. GOMEZ | PRICED BY RCM | DATE AUG. 85 | SHEET 15 OF 15

JOB NO.: 6440-11 | CLIENT: PNL/DOE | TYPE OF ESTIMATE ROM ± 30% | CHECKED BY

UNIT/AREA ROOM: 1063

DESCRIPTION LOW LEVEL LIQUID RADWASTE

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV. 15	MECHANICAL AREA 4											
1500	MECHANICAL PIPING											
15063												
	S.S. SHOP PIPING											
~~4225~~	FITTINGS:											
	90° ELL, SEAMLESS STAINLESS STEEL, ASTM A182 GR F304, BW ENDS, SCH. 40S BORE											
	3"	7	EA	25	-							
	90° ELL, SEAMLESS STAINLESS STEEL, ASTM A182 GR F304L, BW ENDS, SCH. 40S BORE											
	½"	1	EA	4	-							
	¾"	244	EA	4	-							
	1"	39	EA	4	-							
	2"	30	EA	12	-							
	3"	9	EA	25	-							
	4"	20	EA	50	-							
	6"	3	EA	144	-							
	1½	16	"	7	-							
	45° ELL, SEAMLESS STAINLESS STEEL, ASTM A182 GR F304L BW ENDS, SCH. 40S BORE											
	¾"	32	EA	6	-							
	2"	4	EA	11	-							
	4"	4	EA	39	-							

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PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY P. GOMEZ | PRICED BY RCM | DATE AUG. 85 | SHEET 16 OF 18

JOB NO.: 6440-11 | CLIENT: PNL/DOE | TYPE OF ESTIMATE ROM ± 20% | CHECKED BY

UNIT/AREA ROOM: 1063

DESCRIPTION LOW LEVEL LIQUID RADWASTE

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV. 15	MECHANICAL AREA 4											
1500	MECHANICAL PIPING											
15063												
	S. S. SHOP PIPING											
	FITTINGS:											
	TEE, SEAMLESS STAINLESS STEEL, ASTM A182 GR F304, BW ENDS, SCH. 40S BORE											
	3"	1	EA	68	-							
	4"	1	EA	101	-							
	TEE, SEAMLESS STAINLESS STEEL, ASTM A182 GR F304L, BW ENDS, SCH. 40S BORE											
	3/4"	44	EA	12	-							
	3/4" X 1/2"	6	EA	18	-							
	1"	5	EA	16	-							
	1" X 3/4"	5	EA	23	-							
	2"	3	EA	33	-							
	2" X 3/4"	2	EA	113	-							
	2" X 1"	2	EA	59	-							
	3"	1	EA	68	-							
	4"	7	EA	101	-							
	6"	2	EA	259	-							
	6" X 2"	2	EA	371	-							
	6" X 3"	2	EA	371	-							
	1 1/2	3	"	32	-							

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PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

17

M.T.O. BY P. GOMEZ | PRICED BY RCM | DATE AUG. 85 | SHEET 2 OF 8

JOB NO.: 6440-11 | CLIENT: PNL/DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA ROOM: 1063

DESCRIPTION LOW LEVEL LIQUID RADWASTE

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV 15	MECHANICAL AREA 4											
1500	MECHANICAL PIPING											
15063												
	S.S. SHOP PIPING											
	FITTINGS:											
	REDUCER, SEAMLESS STAINLESS STEEL, CONCENTRIC, ASTM A182 GR F304L, BW ENDS, SCH. 40S BORE											
	1¼" X ¾"	2	EA	23	-							
	2" X 1"	1	EA	11	-							
	3" X 2"	1	EA	15	-							
	4" X 2"	2	EA	27	-							
	10" X 4"	2	EA	436	-							
	REDUCER, SEAMLESS STAINLESS STEEL, ECCENTRIC, ASTM A182, GR F304L, BW ENDS, SCH. 40S BORE											
	2" X 1"	2	EA	32	-							
	CAP, SEAMLESS STAINLESS STEEL, ASTM A182 GR F304L											
	3"	1	EA	14	-							
	6"	1	EA	54	-							

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY P. GOMEZ	PRICED BY RCM	DATE AUG. 85	SHEET 18 OF 18
JOB NO.: 6440-11	CLIENT: PNL/DOE	TYPE OF ESTIMATE ROM	CHECKED BY
UNIT/AREA ROOM: 1063			
DESCRIPTION LOW LEVEL LIQUID RADWASTE			
CAPACITY			

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV 15	MECHANICAL AREA 4											
1500	MECHANICAL PIPING											
15063												
	S.S. SHOP PIPING											
	~~1000~~ FITTING:											
	WELDOLET, SEAMLESS STAINLESS STEEL, ASTM A182											
	GR F304L, SCH. 40S 4x3/4	1	EA	20	—							
	3"x1"	1	EA	23	—							
	3"x 3/4"	1	EA	20	—							
	6"x 3/4"	1	EA	20	—							
	TOTAL	~~654~~ 752	EA	28.70	—		21 600			—		
—	WELDS.											
	BUTT WELD, 304 SS SCH. 40S											
	3"	22	EA.	—	4.3							
	DITTO (304L) 1/2"	17	✓	—	1.7							
	3/4"	773	✓	—	1.7							
	1"	142	✓	—	1.7							
	2"	133	✓	—	3.4							
	3"	21	✓	—	4.3							
	4"	97	✓	—	6.0							
	6"	27	✓	—	5.1							
	10"	2	✓	—	11.9							
	1 1/2"	45	✓	—	2.6							
	TOTAL 1.4"ϕ	~~1279~~ 1471	EA	—	2.4		—			3530		

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE — **ESTIMATE WORKSHEET**

M.T.O. BY P. GOMEZ | PRICED BY KCM | DATE AUG. 85 | SHEET 1 OF 2

JOB NO.: 6440-11 | CLIENT: PNL/DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA ROOM: 1063

DESCRIPTION LOW LEVEL LIQUID RADWASTE

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV 15	MECHANICAL AREA 4											
1500	MECHANICAL PIPING											
15067												
	HASTELLOY PIPING (SHOP)											
4202	PIPING:											
	SEAMLESS HASTELLOY B-2, SOLUTION HEAT TREATED, BEVELED ENDS, SCH 40S											
	1½"	120	LF	68.00	.18							
	Total 1½"ϕ	~~120~~ 140	LF	68.00	.18		9500			30		
	VALVES:											
4212	GATE VALVE, 150 LB ANSI, BW ENDS, OS&Y, BOLTED BONNET, HASTELLOY B-2 BODY AND TRIM, DOUBLE DISC, INTEGRAL SEAL, GRAFOIL PACKING AND GASKET, SCH. 40S BORE ALOYCO FIG. # 116 OR EQUAL											
	1½"	4	EA	820	3.0							
	Total	~~4~~ 5	EA	820.00	3.0		4100			20		
4222	FLANGES:											
	150LB ANSI, R.F, WELD NECK, FORGED HASTELLOY B-2, SCH. 40S											
	1½"	2	EA	130	-							

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

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M.T.O. BY P. Gomez | PRICED BY RCM | DATE AUG. 85 | SHEET 2 OF 2

JOB NO.: 6440-11 | CLIENT: PNL/DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA ROOM: 1063

DESCRIPTION LOW LEVEL LIQUID RADWASTE

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV. 15	MECHANICAL AREA 4											
1500	MECHANICAL PIPING											
15067												
	HASTELLOY PIPING (SHOP)											
~~1201~~	FLANGES:											
	300 LB ANSI, RF. WELD NECK, ORIFICE FLANGE SET, W/½" SCRD TAPS, FORGED HASTELLOY B-2, SCH. 40S											
	1½"	1	EA	180	–							
	FITTINGS:											
	90° ELL, SEAMLESS HASTELLOY B-2, SOLUTION HEAT TREATED BW ENDS, SCH. 40S											
	1½"	7	EA	30	–							
	TEE, SEAMLESS HASTELLOY B-2, SOLUTION HEAT TREATED BW ENDS, SCH. 40S											
	1½"	1	EA	130	–							
	Total	~~14~~ 13	EA	70.90	–		900			–		
–	WELDS.											
	BUTTWELD HASTELLOY B-2 SCH. 40S 1½	22	–	–	3.4							
	Total 1½"Φ	~~22~~ 25	EA	–	3.4		–			90		

PARSONS

CLINCH RIVER BASE CASE — **ESTIMATE WORKSHEET**

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M.T.O. BY P. GOMEZ | PRICED BY RCM | DATE AUG. 85 | SHEET 1 OF 1

JOB NO.: 6440-11 | CLIENT: PNL/DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA ROOM: 1063

DESCRIPTION LOW LEVEL LIQUID RADWASTE

CAPACITY

ACCNT			QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV 15	MECHANICAL AREA 4												
1500	MECHANICAL PIPING												
15061													
	BOLT-UPS FIELD FAB.												
ALL	BOLT-UPS FOR:												
	C.S. FLG'S 150#	3/4"	6	EA	2	.8							
	A36/A7	2"	2	EA	2	1.2							
		3"	11	EA	3	1.5							
	✓ ✓ 300#	1"	2	EA	2	.9							
		2"	2	EA	5	1.3							
	Total		NIT 23 26	EA	2.70	1.2		100			30		
15063	B/u: S.S. FLG'S GR 304 150#	3"	6	EA	4	1.5							
ALL	Flex/A7	1½	6	✓	3	.9							
	B/u: S.S. FLGS GR 304L 150#	3/4"	58	EA	3	.8							
	Flex/A7	1"	16	EA	3	.8							
		1¼"	2	EA	3	.9							
		2	35	EA	4	1.2							
		3"	1	EA	4	1.5							
		4"	7	EA	7	2.0							
		6"	2	EA	8	2.5							
		10"	4	EA	21	4.0							
	TOTAL		NIT 150 137	EA	4.10	1.1		600			170		
15067	B/u: HASTELOY FLGS 150#	1½"	2	EA	10	.9							
ALL													
	✓ ✓ 300#	1½"	2	EA	15	1.0							
	Total		NIT #5	EA	12.50	1.0		100			10		
15068	B/u: POLYPROPYLENE FLGS 150#	1"	21	EA	3	.8							
ALL													
	300#	1½"	4	EA	5	1.0							
		1"	2	EA	4	.9							
	Total		NIT 27 31	EA	3.40	.8		100			20		

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PARSONS

CLINCH RIVER BASE CASE — ESTIMATE WORKSHEET

M.T.O. BY P. GOMEZ | PRICED BY RCM | DATE AUG 1985 | SHEET 25 OF 25

JOB NO.: 6440-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION LOW LEVEL LIQUID RADWASTE

CAPACITY AREA # ROOM # 1063

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV	15 MECHANICAL AREA 4											
15060	MECHANICAL PIPING											
15061	CS ADDS											
4225	HANGERS/SUPPORTS	1	LOT				900			190		
4264	FIELD X-RAY 10/35	1	LOT				400			10		
4265	TEST/CLEAN	930	LF				100			130		
-	SCAFFOLDING	1	LOT				-			180		
15063	SS ADDS											
4225	HANGERS/SUPPORTS	1	LOT				5500			830		
4264	FIELD X-RAY 372/40	1	LOT				14900			370		
4265	TEST/CLEAN	2760	LF				300			760		
-	SCAFFOLDING	1	LOT				-			1060		
15067	HASTELLOY ADDS											
4225	HANGERS/SUPPORTS	1	LOT				300			40		
4264	FIELD X-RAY 6/44	1	LOT				300			10		
4265	TEST/CLEAN	140	LF				-			20		
-	SCAFFOLDING	1	LOT				-			60		
15068	PPL LINED CS ADDS											
4225	HANGERS/SUPPORTS	1	LOT				200			30		
4265	TEST/CLEAN	100	LF				-			10		
-	SCAFFOLDING	1	LOT				-			20		

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE — **ESTIMATE WORKSHEET**

M.T.O. BY P. GOMEZ | PRICED BY RCM | DATE AUG. 85 | SHEET 1 OF 3

JOB NO.: 6440-11 | CLIENT: PNL/DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA ROOM: 1063

DESCRIPTION LOW LEVEL LIQUID RADWASTE

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV 15	MECHANICAL AREA 4											
1500	MECHANICAL PIPING											
15068												
	SPECIAL (POLYPROPYLENE) FIELD FAB.											
~~4102~~	PIPE:											
	ERW CARBON STEEL, ASTM A53 GR B, STD WT, THREADED ENDS AND FLANGES. POLYPROPYLENE LINED PIPE SPOOLS FABRICATED IN ACCORDANCE WITH ASTM F492											
	(7 pieces) 1"X2'	14	LF	43.40	.15							
	(1 ~) 1"X5'	5	~	20.10	.15							
	(2 ~) 1"X7'	14	~	15.70	.15							
	(1 ~) 1"X9'	9	~	13.10	.15							
	(1 ~) 1"X17'	17	~	13.80	.15							
	(1 ~) 1"X20'	20	~	12.40	.15							
	(1 ~) 1"X10'	10	~	12.40	.15							
~~4211~~	FLANGES: L TOTAL 1"ϕ	~~89~~ 100	LF	18.50	.15		1900			20		
	ORIFICE FLANGE SET, 300LB, CS ASTM A105, POLYPROPYLENE LINED PER ASTM F492, WITH ½" SCRD TAPS											
	1"	2	SJ	500	1.3							
	FITTINGS:											
	90° ELL, CARBON STEEL ASTM A216 GR WCB, STD WT WITH 150 LB ANSI INTEGRAL FLANGES, POLYPROPYLENE LINED PER ASTM F492											
	1"	16	EA	75	1.3							

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE **ESTIMATE WORKSHEET**

M.T.O. BY P. GOMEZ PRICED BY RCM DATE AUG. 85 SHEET 2 OF 3

JOB NO.: 6440-11 CLIENT: PNL/DOE TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA ROOM: 1063

DESCRIPTION LOW LEVEL LIQUID RADWASTE

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV 15	MECHANICAL AREA 4											
1500	MECHANICAL PIPING											
15068												
	SPECIAL (POLYPROPYLENE)											
	FITTINGS:											
	TEE, CARBON STEEL ASTM A216 GR WCB, STD WT WITH 150 LB ANSI INTEGRAL FLANGES, POLYPROPYLENE LINED PER ASTM F492 1"	1	EA	115	1.3							
	Total	~~19~~ 22	EA	121.80	1.3		2700			30		

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PARSONS

CLINCH RIVER BASE CASE **ESTIMATE WORKSHEET**

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M.T.O. BY P. GOMEZ PRICED BY RCM DATE AUG. 85 SHEET 2 OF 3

JOB NO.: 6440-11 CLIENT: PNL/DOE TYPE OF ESTIMATE ROM ± CHECKED BY

UNIT/AREA ROOM: 1063

DESCRIPTION LOW LEVEL LIQUID RADWASTE

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV. 15	MECHANICAL AREA 4											
1500	MECHANICAL PIPING											
15068												
	SPECIAL (POLYPROPYLENE) FIELD											
424E	VALVES:											
	PLUG VALVE, ISO LR FLANGED, BOLTED BONNET, C.S. BODY, POLYPROPYLENE-LINED BODY AND PLUG WITH MOLDED POLYPROPYLENE RF ON FLANGES, TEFLON BEARING RINGS, DOW FIG. 350-P-W-SP OR EQUAL											
	½"	2	EA	44	2.3							
	1"	2	EA	239	2.3							
	CHECK VALVE, ISO LR HORIZONTAL POPPET TYPE, FLANGED ENDS, BOLTED COVER, POLYPROPYLENE-LINED BODY AND POPPET WITH RF ON FLANGES. DOW FIG. 355-P-X-SH OR EQUAL											
	1"	2	EA	363	2.3							
	Total	6 & 7	EA	215.30	2.3		1500			20		
	PPL NOTE: ≤ 1" IS SOLID PPL											
	VALVES FLGD											
	FTGS SOC JT											

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE **ESTIMATE WORKSHEET**

M.T.O. BY P. GOMEZ | PRICED BY RCM | DATE AUG 1985 | SHEET 1 OF 1

JOB NO.: 6440-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY RS

UNIT/AREA MRS FACILITY

DESCRIPTION GENERAL (DISTRIBUTION LOOPS)

CAPACITY # 4 NON CAT

ACCT.		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV 4200	15 MECHANICAL PIPING AREA 4											
	AVG Ø											
15061	CARBON STEEL 1.5"	21920	LF				128600			21010		
15063	STAINLESS STEEL 1.6"	14800	LF				276000			20750		
15068	PPL LINED CARBON STEEL 1.3"	1460	LF				34400			980		
	SEE AREA #1 FOR BACKUP INFORMATION.											
4200	TOTAL 1.5"	38180	LF				439000			42740		

CES-2000-0 (4/81)

CES 421-C
7-76

THE RALPH M. PARSONS COMPANY

SCALED DUCT KAGE CASE

ESTIMATE SUMMARY

M.T.O. BY P. GOMEZ | PRICED BY RCM | DATE Aug 1985 | SHEET 1 OF 1

JOB NO.: 6440-11 | CLIENT: DOE / PNL | TYPE OF ESTIMATE: ROM | CKD BY: [illegible]

UNIT/AREA MRS FACILITY
DESCRIPTION GENERAL (DISTRIBUTION LOOPS)
CAPACITY AREA # 4 ROOM # —

ACCT.		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV. 15 MECHANICAL												
~~4200~~	Pipe, Valves and Fittings-Aboveground											
15061	CARBON STEEL											
~~4201~~	Pipe - Carbon Steel	105780	LF				227600					
~~4202~~	Pipe - Alloy and Special		LF									
~~4211~~	Valves - Carbon Steel	3224	EA				76400					
~~4212~~	Valves - Alloy and Special		EA									
~~4221~~	Fittings - Carbon Steel	13281	EA				173600					
~~4222~~	Fittings - Alloy and Special		EA									
~~4225~~	Hangers, Shoes, etc.	1	LOT				105800					
~~4231~~	Outside Shop - Carbon Steel		LF									
~~4232~~	Outside Shop - Alloy and Specialty		LF									
~~4241~~	Field Shop Fabr.		LF									
~~4251~~	Install Screwed Piping		LF+									
~~4252~~	Install Socket Weld Piping	105780	LF+							78310		
~~4253~~	Install Weld or Flanged Piping		LF+									
~~4257~~	Scaffolding	1	LOT							13230		
~~4258~~	Firelines		LF+									
~~4261~~	Install Steam Tracing		LF									
~~4264~~	X-Ray and Stress Relieve	1 LOT	~~EA~~				16000			410		
~~4265~~	Testing and Cleaning	105780	LF				3400			9450		
~~4266~~	Pickling and Chem. Cleaning		LF									
~~4267~~	Freight		TONS				18100					
	1.5"ϕ SUBTOTAL	105780	LF+				620900			101400		
	Productivity at PCT.		MH									
	TOTAL		LF+									
	#1 FUEL HANDLING	10110	LF				59400			9690		
	#2 LAG STORAGE	4910	LF				23900			4710		
	#3 OTHER CAT I	68840	LF				404100			65990		
	#4 NON CAT	21920	LF				128600			21010		4163

CES 421-(
7-76

THE RALPH M. PARSONS COMPANY

CLINCH RIVER BASE CASE ESTIMATE SUMMARY

M.T.O. BY P. GOMEZ | PRICED BY RCM | DATE Aug 1986 | SHEET 1 OF 1

JOB NO.: 6440-11 | CLIENT: DOE / PNL | TYPE OF ESTIMATE: ROM | CKD BY:

UNIT/AREA MRS FACILITY
DESCRIPTION GENERAL (DISTRIBUTION LOOPS)
CAPACITY AREA # -4 Room # -

ACCT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LABS	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	DIV. 5 MECHANICAL											
~~4200~~	Pipe, Valves and Fittings-Aboveground											
15063	STAINLESS STEEL											
~~4201~~	Pipe - Carbon Steel		LF									
~~4202~~	Pipe - Alloy and Special	71430	LF				865 000					
~~4211~~	Valves - Carbon Steel		EA									
~~4212~~	Valves - Alloy and Special	491	EA				143 500					
~~4221~~	Fittings - Carbon Steel	-	EA				2 100					
~~4222~~	Fittings - Alloy and Special	4954	EA				155 400					
~~4225~~	Hangers, Shoes, etc.	1	LOT				71 400					
~~4231~~	Outside Shop - Carbon Steel		LF									
~~4232~~	Outside Shop - Alloy and Specialty		LF									
~~4241~~	Field Shop Fabr.		LF									
~~4251~~	Install Screwed Piping		LF+									
~~4252~~	Install Socket Weld Piping	71430	LF+							76420		
~~4253~~	Install Weld or Flanged Piping		LF+									
~~4257~~	Scaffolding	1	LOT							13060		
~~4258~~	Firelines		LF+									
~~4261~~	Install Steam Tracing		LF									
~~4264~~	X-Ray and Stress Relieve	1 LOT	EA				52 700			1320		
~~4265~~	Testing and Cleaning	71430	LF				3 100			9330		
~~4266~~	Pickling and Chem. Cleaning		LF									
~~4267~~	Freight		TONS				38 800					
	1.6"ϕ SUBTOTAL	71430	LF+				1 332 000			100130		
	Productivity at PCT.		MH									
	TOTAL		LF+									
	#1 FUEL HANDLING	6830	LF				127 300			9570		
	#2 LAG STORAGE	3310	LF				61 800			4650		
	#3 OTHER CAT I	46490	LF				866 900			65160		
	#4 NON CAT	14800	LF				276 000			20750		

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OSS 421·
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THE RALPH M. PARSONS COMPANY

CLINCH RIVER CASE CASE ESTIMATE SUMMARY

M.T.O. BY P. GOMEZ | PRICED BY RCM | DATE Aug 1986 | SHEET 1 OF 1

JOB NO.: 6440-11 | CLIENT: DOE / PNL | TYPE OF ESTIMATE: ROM | CKD BY: [illegible]

UNIT/AREA MRS FACILITY

DESCRIPTION GENERAL (DISTRIBUTION LOOPS)

CAPACITY AREA # 4 Room # -

ACCT.		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LABS		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV. 15 MECHANICAL												
~~4200~~	Pipe, Valves and Fittings-Aboveground											
15068	PPL LINED CARBON STEEL											
~~4201~~	Pipe - Carbon Steel		LF									
~~4202~~	Pipe - Alloy and Special	7040	LF				128 600					
~~4211~~	Valves - Carbon Steel		EA									
~~4212~~	Valves - Alloy and Special	24	EA				5 700					
~~4221~~	Fittings - Carbon Steel	-	EA				1 500					
~~4222~~	Fittings - Alloy and Special	184	EA				18 000					
~~4225~~	Hangers, Shoes, etc.	1	LOT				7 000					
~~4231~~	Outside Shop - Carbon Steel		LF									
~~4232~~	Outside Shop - Alloy and Specialty		LF									
~~4241~~	Field Shop Fabr.		LF									
~~4251~~	Install Screwed Piping		LF+									
~~4252~~	Install Socket Weld Piping	7040	LF+							3680		
~~4253~~	Install Weld or Flanged Piping		LF+									
~~4257~~	Scaffolding	1	LOT							620		
~~4258~~	Firelines		LF+									
~~4261~~	Install Steam Tracing		LF									
~~4264~~	X-Ray and Stress Relieve		EA									
~~4263~~	Testing and Cleaning	7040	LF				200			440		
4266	Pickling and Chem. Cleaning		LF									
~~4267~~	Freight		TONS				4 800					
	1.3"ø SUBTOTAL	7040	LF+				165 800			4740		
	Productivity at PCT.		MH									
	TOTAL		LF+									
	#1 FUEL HANDLING	670	LF				15 800			450		
	#2 LAG STORAGE	330	LF				7 700			220		
	#3 OTHER CAT I	4580	LF				107 900			3090		
	#4 NON CAT	1460	LF				34 400			980		4-165

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY YC | PRICED BY RO | DATE 7/25/95 | SHEET 1 OF 1

JOB NO.: 6440-11 | CLIENT: PNL/DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA R & H Facility

DESCRIPTION Process Sewer

CAPACITY Area 4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
15061 (CS)	Piping - Area 4											
	Process Sewer Piping - Area 4 (50% of T3&4 MTO)	1400	LF				$ 16 500			1530	MH	
*	See Back-up SAT AT AREA #3											

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY YC | PRICED BY RD | DATE 7/25/85 | SHEET 1 OF 1

JOB NO.: 6440-11 | CLIENT: PNL / DOE | TYPE OF ESTIMATE ROM | CHECKED BY RC

UNIT/AREA R & H

DESCRIPTION Oily Sewer

CAPACITY Area 4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT: MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT: M/HRS	DOLLARS	LABOR: M/HRS	DOLLARS	TOTAL DOLLARS
1506	Piping - Area 4											
(CS)												
	Oily Sewer Piping - Area 4 (50% of Total MTO)	480	LF				$ 3300			450	MH	
*	BACK-UP SHEET AT AREA #3											

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY ENGINEERING PRICED BY MESC DATE AUG. 85 SHEET 1 OF 3

JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM. CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION

CAPACITY R & H. BLDG. 1

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV 15	MECHANICAL AREA 4											
15070	SUMMARY INSULATION											
15071	INSULATION PIPE						1700			80		
15071	" "						3100			150		
15071	" "						10400			482		
15072	" Equipt						500			5		
15070	TOTAL						15700			717		

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY P GOMEZ | PRICED BY RD | DATE AUG 1985 | SHEET 2 OF 3

JOB NO.: 6440-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION COND TRANSFER ROOM

CAPACITY AREA #4 ROOM # 1022

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV 15	MECHANICAL											
15070	INSULATION, PIPE											
15071	INSULATION - HOT W/ ALUMINUM COVER											
	INS THKNS IPS											
	1" 3/4"	10	LF	6	.28							
	1 1/2"	5	✓	6	.29							
	2"	10	✓	6	.30							
	3"	175	✓	7	.34							
	4"	10	✓	7	.34							
	TOTAL 2.9" ϕ	~~210~~ 250	LF	6.88	.33		1700			80		

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY P. GOMEZ | PRICED BY KCM | DATE AUG. 85 | SHEET 3 OF 3

JOB NO.: 6440-11 | CLIENT: PNL/DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA ROOM: 1063

DESCRIPTION LOW LEVEL LIQUID RADWASTE

CAPACITY AREA # 4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV. 15	MECHANICAL											
~~1500~~	~~MECHANICAL PIPING~~											
1507	INSULATION											
1507 1	HOT INSULATION 1" THK											
	3/4"	120	LF	6	.28							
	(Alum. Jacket) 1"	60	LF	6	.28							
	1½"	115	LF	6	.29							
	3"	120	LF	7	.34							
	TOTAL 6"ϕ	~~115~~ 500	LF	6.29	.30		3 100			150		

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE — ESTIMATE WORKSHEET

M.T.O. BY	YC/PG	PRICED BY	RD	DATE	7/24/85
JOB NO.:	6440-11	CLIENT:	DOE/PNL	TYPE OF ESTIMATE	ROM
UNIT/AREA	MRS Facility				
DESCRIPTION	General - Distribution Lines				
CAPACITY	Area # 4 Non Cat.				

SHEET 1 OF 1 — CHECKED BY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
~~5000~~	~~Insulation~~											
D10.15	MECHANICAL SUMMARY											
15070	INSULATION											
16071	Hot Insulation 3" Lead Insulation (split by SF to Areas 1, 2, 3 & 4)											
	Area # 4 Non Cat.	7200	LF				$ 10400			482	MH	
	Back up in AREA											

CES-2000-0 (4/81)

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PARSONS

ESTIMATE WORKSHEET

CLINCH RIVER - BASE CASE

M.T.O. BY P GOMEZ | PRICED BY RD / Rm | DATE AUG 85 | SHEET ____ OF ____

JOB NO.: 6440-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION GENERAL (DISTRIBUTION LOOPS)

CAPACITY

ACCNT			QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV 15	AREA 4												
15070	MECHANICAL PIPING												
15071	INSULATION - HOT W/ ALUMINUM COVER												
	INS THKNS	IPS											
	1"	3/4	5320	LF	6	.28							
		1 1/2	2115	✓	6	.29		52 000			2410		
		1	1095	✓	6	.28							
	TOTAL							52 000			2410		
	SPLIT BY SF OF AREAS INTO:												
	#1 FUEL HANDLING	(10%)						5200			241	MH	
	#2 LAG STORAGE	(5%)						2600			121		
	#3 OTHER CAT I	(65%)						33800			1566		
	#4 NON CAT	(20%)						10400			482		
	FOR REFERENCE ONLY												

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY JK JONES | PRICED BY RUF | DATE AUG. '85 | SHEET ____ OF ____

JOB NO.: 6411D-11 | CLIENT: DOE / PNL | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION R & H BUILDING

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV 15	EQUIPMENT AREA 4											
15010	INSULATION											
15012	PROCESS EQUIPMENT INSULATION											
	LLRW - 106	34	SF	10	.1	US$	500			5		

CES-2000-0 (4/81)

CLINCH RIVER BASE CASE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY ENGINEERING PRICED BY MESEC DATE AUG-85 SHEET ____ OF ____

JOB NO.: 6490-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM $'s CHECKED BY JWS

UNIT/AREA MRS R&H BLDG

DESCRIPTION

CAPACITY AREA # 4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV 15	MECHANICAL											
15140	SUMMARY PUMPS TANKS ETC											
15141	PUMPS	21	EA				80100			360		
15142	AGITATORS	4	EA				7500			108		
15143	BLOWERS											
15144	BOILERS											
15145	COMPRESSORS											
15146	COOLING TOWERS											
15147	DRYERS											
15148	EJECTORS	3	EA				11400			102		
15149	EVAPORATORS	2	EA				133000			200		
15150	HEPA FILTERS											
15151	FILTERS	2	EA				500			20		
15152	CLEANING PACKAGE											
15153	HEAT EXCHANGERS	1	EA				9000			20		
15154	HEATERS											
15155	ION EXCHANGE COLUMNS	2	EA				8000			30		
15156	SPECIAL MECHANICAL EQ.	1	EA				28000			50		
15157	MIXERS											
15158	BREATHING AIR STATION											
15159	SEPERATORS											
15160	SUMPS											
15161	TANKS	8	EA				72700			165		
15162	VACUUM PUMPS	2	EA				2000			20		
15163	VESSELS / DRUMS	6	EA				148100			155		
15164	WASHERS											
15165												
15166												
15167												
15168												
15169												
15170												
15141/15170	S/TOTAL						500300			1230		

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PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY ENGINEERING PRICED BY VM DATE 6.6.85 SHEET ____ OF ____

JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE R.O.M. CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION

CAPACITY R&H. BLDG.

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV. 15 MECHANICAL AREA 4												
15144	Pumps P 300 A B	2	EA				4400			30		
	" P 301 A B	2	EA				1400			30		
	P 601 A B P617	3	EA				22000			150		
	P 658 A B	2	EA				8700			32		
	P-100 A B	2	EA				16600			40		
	P-102 A B P103 A B	4	EA				14800			40		
	P 104 P105	2	EA				7000			20		
	P 106 A B	2	EA				6000			20		
15141	S/TOTAL	21	EA				80100			360		

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY SADI DIANAT X-2773 PRICED BY RAP DATE AUG. 1985 SHEET 4 OF 6

JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA MRS FACILITY
DESCRIPTION SOLID RADWASTE SYSTEM
CAPACITY AREA # 4

ACCNT		ROOM #	QUANT	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV. 15	MECHANICAL												
15141	PUMPS												
	P-300 A/B *	1064											
	LLW EVAPORATOR BOTTOMS SLURRY FEED PUMP AND SPARE		2	EA	2,100	15		4200			30		
	Air-driven double-diaphragm pump constructed of 316L stainless steel Diaphragms and flap valves are Buna N. SP.GR. = 1.33 10 gpm at 30 ft TDH Warren Rupp pump model SA2-A Type DB-3-SS or equivalent												
	MTG. HDWE & FRT 15%		2	EA				200					
	S/TOTAL		2	EA				4400			30		
15141	P-301 A/B **	1064											
	Grout Mixer washdown pump and spare		2	EA	463	15		1000			30		
	Vertical centrifugal submergible pumps 316 S.S. 22.5 gpm at 25 ft TDH, SP.GR. = 1.24 40 wt% solids Temp 100 °F Bronze impeller and pump chamber. 460V, 60 Hz 3 phase KENCO model 1000IN4 or equivalent.												
	MTG HDWE & FRT 15%							100					
	S/TOTAL		2	EA				1100			30		
	** SEE Quote by Frederick Pump (attached)												
	* RTC-293												

CES-2000-0 (4/81)

CLINCH RIVER BASE CASE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY SADI DIANAT X-2773 PRICED BY VM DATE AUG. 1985 SHEET 1 OF 1

JOB NO.: 6440- CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY JWG

UNIT/AREA MRS FACILITY RAH BLDG

DESCRIPTION Vehicle Washdown System

CAPACITY AREA #4

ACCNT DIV. 15		Room #	QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
15141	Pumps												
	P-610A/Brand P-611A/B	1180	4	EA	3,900/EA			15600					
	Washdown Sumps Pumps					26.					104		
	and Spares,												
	Centrifugal, self priming single												
	stage pump, 316 stainless												
	steel wetted parts, 70 gpm,	S/S	30%			8					32		
	80 ft TDH, 5 HP												
	460V, 60 HZ, 3 phase.												
	DURCO 1½ x 1-6 or eq.												
	3600 RPM												
15141	P-612	1180	1	EA	3760/EA			3800					
	Portable Sump Pump					15.2					15		
	Portable Vertical Sump												
	Pump 316 Stainless Steel	S/S	30%			5.2					5		
	wetted Parts, 10 gpm, 10 ft.												
	TDH 1.0 HP												
	DURCO 1½ x 1-6 or eq.												
15141	S/TOTAL		5	EA	3880	31.2		19400			156		
	MTG HDWE & FREIGHT		15%					2600					
								22000					

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY P.F. BLNSA | PRICED BY VM | DATE 6/21/85 | SHEET 1 OF 12

JOB NO.: 6440-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION STEAM GENERATION

CAPACITY AREA # 4

ACCNT		ROOM #	QUANTITY	UNIT	COST OR M/HRS PER UNIT: MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT: M/HRS	SUBCONTRACT: DOLLARS	LABOR: M/HRS	LABOR: DOLLARS	TOTAL DOLLARS
DIV. 15	MECHANICAL												
15141	PUMPS												
	P-658 A/B	1022	2	EA									
	CONDENSATE PUMP & SPARE				3400	16		7200			32		
	SINGLE STAGE, HORIZONTAL												
	80 GPM @ 100 FT HEAD												
	DI MATL												
	5HP, 460V, 3PH, 60HZ												
	TOTAL FOR 2												4200
	F.O.B. DAYTON, OHIO												
	MTG HDWE & FRT 15%		2	EA	1200 500			1000					
	S/TOTAL		2	EA	2400			8200			32		
	P-504 A/B/C/D												
	FUEL OIL SUPPLY PUMPS							(PART OF BOILER PACKAGE)					
	330 GPH @ 75 PSIG												
	SINGLE STAGE GEAR TYPE												
	1 HP, 460V, 3PH, 60 Hz												

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PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY Jay Hellinger X8787 PRICED BY RBP DATE AUG 1985 SHEET 1 OF 13

JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA MRS Facility

DESCRIPTION Low Level Liquid Radwaste System

CAPACITY Area #4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV. 15	MECHANICAL	Room #										
15141	PUMPS											
	P-100A/B LLW COLLECTION VESSEL PUMP AND SPARE	1063										
	Diaphragm pump. 304L stainless steel. Rated capacity 1gpm @ 50 ft TDH. 1/4 hp, totally enclosed motor, 3phase, 460V, 60Hz Vendor: Milton Roy Company * Model: Milroyal A with 1½" plunger diameter	2	EA	#	3,600/EA		7200			20		
	P-101A/B LLW EVAPORATOR FEED PUMP AND SPARE	1063										
	Diaphragm pump. 304L stainless steel. Rated capacity 1gpm @ 100 ft TDH. 1/4 hp, totally enclosed motor, 3phase, 460V, 60Hz Vendor: Milton Roy Company * Model: Milroyal A with 1½" plunger diameter.	2	EA	#	3,600/EA		7200			20		
	MTD HDWE & FREIGHT	15%					2160					
	3/TOTAL	4	EA				16560			40		
				USE			16600					
	* - or equivalent											

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CLINCH RIVER BASE CASE

PARSONS
ESTIMATE WORKSHEET

M.T.O. BY Jay Hellinger X8787 PRICED BY RAP DATE AUG 1985 SHEET 2 OF 13
JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY
UNIT/AREA MRS Facility
DESCRIPTION Low Level Liquid Radwaste System
CAPACITY Area #4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV. 15	MECHANICAL	Room #										
15141	PUMPS											
	P-102 A/B LLW EVAPORATOR BOTTOMS PUMP AND SPARE	1063										
	Diaphragm pump. 304L stainless steel. Rated capacity 2.0 gph @ 50 ft. TDH. 1/4 hp, totally enclosed motor, 3 phase, 460V, 60Hz. Vendor: Milton Roy Company * Model: Milroyal D with 5/8" plunger diameter.	2	EA	$2,800/EA			5600			20		
	P-103 A/B LLW ION EXCHANGER FEED PUMP AND SPARE	1063										
	Diaphragm pump. 304L stainless steel. Rated capacity 1 gpm @ 100 ft TDH. 1/4 hp, totally enclosed motor, 3 phase, 460V, 60Hz. Vendor: Milton Roy Company * Model: Milroyal A with 1/2" plunger diameter	2	EA	$3,600/EA			7200			20		
	MTG. HDWE & FREIGHT	15 %					2000					
	S/TOTAL	4	EA				14800			40		
	* - or equivalent											

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE — **ESTIMATE WORKSHEET**

M.T.O. BY Jay Hellinger X8787 PRICED BY RBP DATE AUG 1985 SHEET 3 OF 13

JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA MRS Facility

DESCRIPTION Low Level Liquid Radwaste System

CAPACITY Area #4

ACCNT DIV.15		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	MECHANICAL	Room #										
15141	PUMPS											
	P-104	1063										
	LLW ION EXCHANGER RESIN MIXING PUMP											
	Diaphragm pump, 304L stainless steel. Rated capacity 20 gph @ 50 ft TDH. 1/4 hp, totally enclosed motor, 3 phase, 460V, 60Hz. Vendor: Milton Roy Company * Model: Milroyal A with 7/8" plunger diameter.	1	EA	#	8,600		3600			10		
	P-105	1063										
	HAW DEFOAMER PUMP											
	Diaphragm pump, 304L stainless steel with Teflon® diaphragm. Rated capacity 0.5 gph @ 50 ft TDH. 1/4 hp, totally enclosed motor, 3 phase, 460V, 60Hz. Vendor: Milton Roy Company * Model: Milroyal D with 1/4" plunger diameter.	1	EA	#	2,600		2600			10		
	MTG. HDWE & FREIGHT	15	%				800					
	S/TOTAL	2	SA				7000			20		
	+ - or equivalent											

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE — **ESTIMATE WORKSHEET**

M.T.O. BY Jay Hellinger X8787 PRICED BY RBP DATE AUG 1985 SHEET 7 OF 13

JOB NO.: 6440-11 CLIENT: DOE/ENL TYPE OF ESTIMATE PDM CHECKED BY Jug

UNIT/AREA MRS Facility

DESCRIPTION Low Level Liquid Radwaste System

CAPACITY Area #4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
01V.15	MECHANICAL	Room #1										
15141	PUMPS											
	P-106 A/B LLW STEAM CONDENSATE PUMP AND SPARE	1063										
	Horizontal, centrifugal pump. For 50 psig steam condensate service. 316L stainless steel 5 gpm @ 50 ft TDH. 1/2 hp, totally enclosed motor 3phase, 460V, 60Hz Vendor: Duriron Company, Inc.* Model: Durco Mark II 1½ x 1-6/73	2	EA	*	2,558/EA		5000			20		
	MTG HDWE & Fnd	15	%				800					
	S/TOTAL	2	EA				6000			20		

* - or equivalent

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY ENGINEERING PRICED BY VTN DATE AUG 85 SHEET ____ OF ____

JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION R&H. BLDG.

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV 15	MECHANICAL AREA 4											
15412	SUMMARY AGITATORS											
	AGITATORS AG 100A,B AG 101	3	EA				7000			93		
	AG 104	1	EA				500			15		
15412	3/TOTAL	4	EA				7500			108		

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE — **ESTIMATE WORKSHEET**

M.T.O. BY Jay Hellinger X8787 PRICED BY RBP DATE AUG 1995 SHEET 5 OF 13

JOB NO.: 6140-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY JHO

UNIT/AREA MRS Facility

DESCRIPTION Low Level Liquid Radwaste System

CAPACITY Area # 4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV. 15	MECHANICAL	Room #										
15142	AGITATORS											
	AG-100A/B	1063										
	LLW COLLECTION VESSEL AGITATORS											
	Motor-driven flange mounted agitator with a shaft and 2 propellers. 304L stainless steel. 5 hp. Totally enclosed motor, single phase, 115V, 60Hz. Vendor: Mix Mor, Inc. * Model FG-5	2	EA		*2,405/EA		4800				78	
	AG-101	1063										
	LLW EVAPORATOR FEED TANK AGITATOR											
	Motor-driven flange mounted agitator with a shaft and 2 propellers. 304L stainless steel. 3/4 hp, Totally enclosed motor, single phase, 115V, 60 HZ Vendor: MixMor, Inc. * Model: FG-34	1	EA		*1,643		1600				15	
	MTG HDWE & Fnd	2	EA				600					
	SI TOTAL	3	EA				7000				93	

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PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY JAY HELLINGER PRICED BY RBP DATE AUG 85 SHEET ____ OF ____

JOB NO.: 6460-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION LOW LEVEL LIQ. WASTE SYST.

CAPACITY AREA # 4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV 15	MECHANICAL											
15412	AGITATORS											
	AG-104											
	LLW ION EXCHANGE RESIN											
	MIXING AGITATOR Room 1063											
	MOTOR DRIVEN AGITATOR WITH A SHAFT & PROPELLOR. 304L SS. SS. & HARD TEFZ. MOTOR SINGLE PHASE 120V. 60Z VENDOR MIXTON MFG CO. OR =	1	EA	400			400			15		
	MTO HOUSE & FAT	15%	1	EA			100					
	S/TOTAL	1	EA				500			15		

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY BARTOK | PRICED BY BARTOK | DATE AUG 85 | SHEET ___ OF ___

JOB NO.: 6440-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION LOW LEVEL LIQUID WASTE SYSTEM

CAPACITY AREA 4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV. 15	MECHANICAL											
	Summary											
15148	EJECTORS											
	RadWaste Drain System											
	Jets: 450 A-F 1" S/S	6	EA	285	2.5		1700			15		
	451 A-J 1½" S/S	9	EA	397	3		3600			27		
	452 A-D 1" S/S	4	EA	285	2.5		1100			10		
	453, 454, 459 A-M 1½" S/S	10	EA	397	3		4000			30		
	Low Level L.Q. RadWaste 100 A, B	2					1000			20		
	SEE AREA #1 for Backup											
	S/TOTAL	31	EA				11400			102		

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE ESTIMATE WORKSHEET

M.T.O. BY P. BARTOK PRICED BY CM DATE AUG 1985 SHEET 13 OF 14

JOB NO.: 6440-11 CLIENT: DOE / PNL TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION Radwaste Drain System

CAPACITY AREA # 4

ACCNT		ROOM #	QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
					MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV 15	MECHANICAL												
15148	EJECTORS												
	JET - 450 A	1063	1	EA	285	2.5							
	450 B		1		285	2.5							
	450 C		1		285	2.5							
	450 D		1		285	2.5	⑥	1700			15		
	450 E		1		285	2.5							
	450 F	1059	1		285	2.5							
	RADWASTE DRAIN EJECTORS 1 IN. STAINLESS STL. JET. POWERED BY 50 PSIG STEAM. HEAD = 40 FT., LIFT = 1 FT., FLOW = 6.9 GPM												
	JET- 451 A	1063	1	EA	397	3							
	451 B		1		397	3							
	451 C		1		397	3							
	451 D		1		397	3							
	451 E		1		397	3	⑨	3600			27		
	451 F		1		397	3							
	451 G		1		397	3							
	451 H		1		397	3							
	451 J		1		397	3							
	RADWASTE DRAIN EJECTORS 1½ IN. STAINLESS STL. JET. POWERED BY 50 PSIG STEAM. HEAD = 40 FT., LIFT = 1 FT., FLOW = 20 GPM												

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE **ESTIMATE WORKSHEET**

M.T.O. BY P. BARTOK | PRICED BY CM | DATE AUG 1985 | SHEET 14 OF 14

JOB NO.: 6440-11 | CLIENT: DOE / PNL | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION Radwaste Drain System

CAPACITY AREA # 4

ACCNT		ROOM #	QUANTITY	UNIT	COST OR M/HRS PER UNIT: MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT: M/HRS	SUBCONTRACT: DOLLARS	LABOR: M/HRS	LABOR: DOLLARS	TOTAL DOLLARS
DIV 15	MECHANICAL												
15148	EJECTORS												
	JET- 452 A	1064	1	EA	285	2.5							
	452 B	1064	1		285	2.5	④						
	452 C	1066	1		285	2.5		1100			10		
	452 D	1064	1		285	2.5							
	RADWASTE DRAIN EJECTORS 1 IN. STAINLESS STL. JET, POWERED BY 50 PSIG STEAM. HEAD = 40 FT., LIFT = 1 FT., FLOW = 6.9 GPM												
	JET- 453	1065	1	EA	397	3		4000			30		
	454	1041	1		397	3							
	459 A	1080	1		397	3							
	459 B	1080	1		397	3							
	459 C	1080	1		397	3	⑩						
	459 F	1180	1		397	3							
	459 G	1180	1		397	3							
	459 H	1180	1		397	3							
	459 J	1180	1		397	3							
	459 M	1080	1		397	3							
	RADWASTE DRAIN EJECTORS 1½ IN. STAINLESS STL. JET, POWERED BY 50 PSIG STEAM. HEAD = 40 FT., LIFT = 1 FT., FLOW = 20 GPM												

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY Jay Hellinger X8787 PRICED BY RBP DATE AUG 1985 SHEET 6 OF 13

JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY JHJ

UNIT/AREA MRS Facility

DESCRIPTION Low Level Liquid Radwaste System

CAPACITY Area #4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV. 15	MECHANICAL	Room #										
15148	EJECTORS											
	JET-100 A/B LLW IONEXCHANGER EJECTORS	1063			•							
	Steam-jet syphon. 304L stainless steel. 1" SCH 130 lb/hr steam consumption using 50 psig steam. Vendor: Schutle & Koerting * Fig. 217 Model with Type 60 Nozzle.	2	EA		#300/EA		600			20		
	MTO HOUSE & FREIGHT	2	EA				400					
	S/TOTAL	2	EA				1000			20		

* - or equivalent

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY Jay Hellinger X8787 PRICED BY RBP DATE AUG 1985 SHEET 7 OF 13

JOB NO.: 6440-11 CLIENT: DOE/PPL TYPE OF ESTIMATE ROM CHECKED BY JWG

UNIT/AREA MRS Facility

DESCRIPTION Low Level Liquid Radwaste System

CAPACITY Area #4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV. 15	MECHANICAL	Room #										
15149	EVAPORATORS											
	EVP-102 A/B	1063										
	LLW LIQUID EVAPORATOR											
	AND SHARE											
	Horizontal thin-film evaporator	2	EA	@ $58,000/EA			116000			200		
	304L stainless steel. Normal											
	Feed rate: 0.74 gpm @ 110°F											
	Rotor drive motor - 7.5 hp											
	Heating Duty 388,800 BTU/HR											
	vendor: Luwa Corporation *											
	Model: LN-0200											
	MTO HOUSE & FREIGHT	2	EA				17000					
	S/TOTAL	2	EA				133000			200		

* - or equivalent

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY Jay Hellinger PRICED BY RBP DATE AUG 1985 SHEET 8 OF 13

JOB NO.: 6140-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA MRS Facility

DESCRIPTION Low Level Liquid Radwaste System

CAPACITY Area #4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV. 15	MECHANICAL	Room #										
15151	FILTERS											
	F-100A/B	1063										
	LLW ION EXCHANGER FILTERS											
	In line cartridge type filter with a replaceable cartridge. Removes resin fines with a diameter greater than 1 micron. Filter material - 304L stainless steel. DP: 150 psig, DT: 450 °F Vendor: HR Textron, Inc * Model: Universal 431® 10" cartridge length 1" pipe connections.	2	EA		$200/EA		400			20		
	MTO HOOEE FREIGHT	2	EA				100					
	S/TOTAL	2	EA				500			20		

* - or equivalent

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY Jay Hellinger X8787 PRICED BY RBP DATE AUG 1985 SHEET 7 OF 13

JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA MRS Facility

DESCRIPTION Low Level Liquid Radwaste System

CAPACITY Area #4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV.15	MECHANICAL	Room #										
15153	HEAT EXCHANGERS											
	HEX-100	1063										
	LLW EVAPORATOR OVERHEAD CONDENSER											
	Horizontal condenser. Tube side 304L stainless steel. Shell side 304L stainless steel. Tube side DP: 150 psig, DT: 450°F. Shell side DP: 25 psig, DT: 450°F. Heat Duty: 390,000 BTU/HR Cooling Water required: 53 gpm from 85°F to 100°F. Vendor: American Standard * Model: 08036 Surface Area - 62 Ft² Tube Size - 3/8" O.D.	1	EA		#7,900		7900				20	
	MTG-HDWE & FREIGHT	1	EA				1100					
	S/TOTAL	1	EA				9000				20	

* - Or equivalent

CES-2000-0 (4/81)

4-87

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY Jay Hellinger PRICED BY RJP DATE AUG 1985 SHEET 1 OF 2

JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA MRS Facility

DESCRIPTION Welding Station System

CAPACITY Area #4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV.15	MECHANICAL	Room #										
15153	HEAT EXCHANGERS											
	HEX-421	1176										
	ARGON VAPORIZER											
	Heat exchanger consisting of a series of pipe loops exposed to the atmosphere. 316L stainless steel. Maximum Feed rate = 2,000 scfh. Max. heating duty = 20,000 BTU/HR.	1	EA		See Argon Storage Tank TK-421							
	(price is included with the Argon Storage Tank TK-421)											
	S/TOTAL	1	EA	W/TK-421			—			—		

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY Jay Hellinger X8787 PRICED BY RBP DATE AUG 1985 SHEET 10 OF 13

JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA MRS Facility

DESCRIPTION Low Level Liquid Radwaste System

CAPACITY Area #4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
CIV-15	MECHANICAL	Room #										
15155	ION EXCHANGE COLUMNS											
	IX-100 A/B LLW ION EXCHANGER AND SPARE	1063										
	Vertical, cylindrical vessel with semi-elliptical heads 304L stainless steel 1'0" diameter, 6'0" tangent-to-tangent Resin bed depth 3'0" DP: 50 psig, DT: 135°F. Wt 315 LBS EA @ 11¢	2	EA	3470			6940			30		
	MTD HDW & FREIGHT	15%					1040					
	S/TOTAL	2	EA				7980			30		
					USG		8000					

CES-2000-0 (4/81)

CLINCH RIVER BASE CASE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY P. Bartok PRICED BY RBP DATE AUG 1985 SHEET 1 OF 1

JOB NO.: 6440-11 CLIENT: DOE / PNL TYPE OF ESTIMATE ROM ± CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION DECON

CAPACITY AREA # 4

ACCNT		ROOM #	QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV 15	MECHANICAL												
15156	SPECIAL MECH. EQUIPMENT												
	SME-400	1063	1	EA	24,300			24300			50		
	DRUM DECON SPRAY PACKAGE - SKID MOUNTED PUMP AND HEATER. PUMP: 15 GPM, 1200 PSI, 15 HP. HEATER: 100 KW ELECTRIC. MATERIAL 304L STAINLESS WETTED PARTS.												
	MTG. HWDE. & FRT. (15%)		1	EA				3650					
	S/TOTAL		1	EA				27950			50		
						USE		28000					

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY ENGINEERING PRICED BY VM DATE NOV 85 SHEET ____ OF ____

JOB NO.: 6440-11 CLIENT: DOE/PNC TYPE OF ESTIMATE CONT CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION R&H BLDG.

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV 15	MECHANICAL AREA											
15161	SUMMARY TANKS											
	TANKS TK-513,514,512,515 ✓	4	EA				19500			60		
	TANKS TK-101,103,104, 428 ✓	3	EA				33900			55		
		1	EA				19300			50		
15161	S/TOTAL	8	EA				72700			165		

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY PF BLASA | PRICED BY RBP | DATE AUG 95 | SHEET 2 OF 4

JOB NO.: 6440-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION FUEL SYSTEMS

CAPACITY AREA # 4

ACCNT		ROOM #	QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV. 15	MECHANICAL												
15161	TANKS												
	TK-512, TK-513, TK-514, TK-515	2009	1160	LBS	3.65			4230			15		
	FUEL OIL DAY TANKS, HOR.	2055	1160	LBS	3.65			4230			15		
	(FOR R&H BLDG DOOR HEATERS)	2057	1160	LBS	3.65			4230			15		
	CAP-450 GAL C.S. MAT'L	2058	1160	LBS	3.65			4230			15		
	15 PSIG @ 125 °F												
	3'-0" DIA x 8'-0 LONG												
	TOTAL FOR 4		4640	LBS									
	MTD HDWE & FREIGHT		15%					2540					
	(FUEL OIL PUMPS FOR THE ABOVE TANKS ARE INCLUDED WITH DOOR HEATER PACKAGE)												
	3/TOTAL		4	EA				19460			60		
						USE		19500					

PARSONS

CLINCH AVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY Jay Hellinger PRICED BY RBP DATE AUG 1985 SHEET 11 OF 13

JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY MG

UNIT/AREA MRS Facility

DESCRIPTION Low Level Liquid Radwaste System

CAPACITY Area #4

ACCNT DIV. 15		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	MECHANICAL	Room #										
15161	TANKS											
	TK-101	1063										
	LLW EVAPORATOR FEED TANK											
	Vertical, cylindrical vessel with semi-elliptical heads. 304L stainless steel 3'6" diameter, 7'0" tangent to tangent. Capacity 588 gal. DP=50psig DT=135°F	1	EA									
		1457	LB	9.00			13110			20		
	TK-103	1063										
	LLW EVAPORATOR CONDENSATE HOLD TANK											
	Horizontal, cylindrical vessel with semi-elliptical heads. 304L stainless steel. 3'0" diameter 10'0" tangent to tangent. Capacity 582 gal. DP: Full Vacuum / 50psig DT=135°F	1	EA									
		1594	LB	9.00			14350			20		
	TK-104	1063										
	LLW ION EXCHANGER RESIN MIXING TANK											
	Vertical, cylindrical tank with a conical bottom and a lid. 304L stainless steel. 3'0" diameter. 3'0" tangent to top Capacity: 100 gal Vendor: Milton Roy Company * Model: SSS-100	1	EA	#	2,000		2000			15		
	MTO HARDWARE & FREIGHT	15%					4420					
	S/TOTAL	3	EA				33870			55		

USE $33900

CES-2000-0 (4/81)

PARSONS

ESTIMATE WORKSHEET

CLINCH RIVER BASE CASE

M.T.O. BY Jay Hellinger PRICED BY RBP DATE AUG 1985 SHEET 2 OF 2

JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA MRS Facility
DESCRIPTION Welding Station System
CAPACITY Area #4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE			SUBCONTRACT			LABOR			TOTAL DOLLARS
				MATL	M/H	LAB $				M/HRS	DOLLARS		M/HRS	DOLLARS		
DIV. 15	MECHANICAL	Room #														
15161	TANKS															
	TK-421	1176														
	ARGON STORAGE TANK															
	Vertical, cylindrical, cryogenic tank with a double wall, whose space is filled with insulation. Capacity: 530 gal. Maximum working pressure: 250 psig. A vaporizer will be integral with the tank. 316 stainless steel. Vendor: Union Carbide Corp.* Linde Division Model: TM-500	1	EA		*16,800		16	800					50			
	(price includes tank mounted vaporizer HEX-421)															
	MTG. HWDE. & FRT. (15%)	1	EA					2520								
	S/TOTAL	1	EA					19320					50			
					USE			19320								

* - or equivalent

CES-2000-0 (4/81)

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PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY Jay Hellinger PRICED BY RHP DATE AUG 1985 SHEET 12 OF 13

JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA MRS Facility
DESCRIPTION Low Level Liquid Radwaste System
CAPACITY Area #4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV. 15	MECHANICAL	Room #										
15162	VACUUM PUMPS											
	VAC-103A/B	1063										
	LLW EVAPORATOR VACUUM PUMP AND SPARE											
	Single-stage, multivane, air-cooled direct driven vacuum pump. Rated capacity. 6 cfm Free air displacement standard 3/4 hp motor, 3phase, 460 V, 60 Hz, Cast iron. Vendor: Busch, Inc. * Model: R5 standard series type 010.	2	EA	$	900	/EA	1800			20		
	MID HOUSE & FAT	15%					200					
	S/TOTAL						2000			20		

* - or equivalent

CES-2000-0 (4/81)

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PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY ENGINEERING PRICED BY VTK DATE AUG. 85 SHEET ____ OF ____

JOB NO.: 6440-11 CLIENT: DOE TYPE OF ESTIMATE ROM CHECKED BY JWJ

UNIT/AREA MRS FACILITY

DESCRIPTION

CAPACITY R3H. BLDG.

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV 15	MECHANICAL AREA 4											
15463	SUMMARY VESSELS											
	VESSELS VES. 758, 759, 760	3	EA				600			30		
	VES 100 A, B, 106	3	EA				147 500			125		
15463	3/TOTAL	6	EA				148 100			155		

CES-2000-0 (4/81)

PARSONS

ESTIMATE WORKSHEET

CLINCH RIVER BASE CASE

M.T.O. BY P.F. BLASA | PRICED BY RBP | DATE AUG 85 | SHEET 1 OF 14

JOB NO.: 6440-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION SUPPORT BUILDINGS (HOT w/ BOILER)

CAPACITY AREA #4

ACCNT		ROOM #	QUANTITY	UNIT	COST OR M/HRS PER UNIT: MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT: M/HRS	DOLLARS	LABOR: M/HRS	DOLLARS	TOTAL DOLLARS
DIV. 15	MECHANICAL												
15163	VESSELS / DRUMS												
	VES-758		1	EA				150			10		
	POT FEEDER (ADM. BLDG)												
	CAP - 10 GAL												
	DES. 200 PSIG @ 212°F												
	VENDOR STD												
	VES-759		1	EA				150			10		
	POT FEEDER (SECURITY BLDG)												
	CAP 3 GAL												
	DES. PRESS 200 PSIG @ 212°F												
	VENDOR STD												
	VES-760		1	EA				200			10		
	POT FEEDER (SITE SERVICES)												
	CAP - 10 GAL												
	DES. PRESS 200 PSIG @ 212°F												
	MTD HDWE & FOOT		3	EA				100					
	3/TOTAL		3	EA				600			30		

CES-2000-0 (4/81)

PARSONS

GLINCH RIVER BASE CASE — **ESTIMATE WORKSHEET**

M.T.O. BY Jay Hellinger X8787 PRICED BY RLBP DATE AUG 1985 SHEET 13 OF 13

JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY JWJ

UNIT/AREA MRS Facility

DESCRIPTION Low Level Liquid Radwaste System

CAPACITY Area #4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE			SUBCONTRACT			LABOR			TOTAL DOLLARS
				MATL	M/H	LAB $				M/HRS	DOLLARS		M/HRS	DOLLARS		
DIV. 15	MECHANICAL	Room #														
15163	VESSELS															
	VES-100 A/B LLW LIQUID COLLECTION VESSELS	1063														
	Vertical, cylindrical vessels with semi-elliptical heads and a flat top. 304L stainless steel. 10'0" diameter, 7'6" tangent to top. Capacity 5385 gal ea. DP: 50 psig, DT = 135°F. 10,226 LBS EA @ 2	2	EA	61360			122720						110			
	VES-106 LLW STEAM CONDENSATE COLLECTION VESSEL	1063														
	Vertical cylindrical vessel with semi elliptical heads. 304L stainless steel. 2'0" diameter, 4'0" tangent to tangent Capacity: 110 gal. DP: 65 psig DT = 325°F. 499 LBS EA. @ 1	1	EA				5490						15			
	MTD. HDWE & FREIGHT	15%					19230									
	S/TOTAL	3	EA				147440						125			
					HSE		147500									

CES-2000-0 (4/81)

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PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY A. BUCKIN | PRICED BY MEC | DATE 4-6-85 | SHEET ___ OF ___

JOB NO.: 6440-11 | CLIENT: DOE/PNC | TYPE OF ESTIMATE ROM | CHECKED BY JWG

UNIT/AREA MRS R&H BLDG.

DESCRIPTION

CAPACITY AREA #4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV. 15	MECHANICAL											
15500	SUMMARY FIRE PROTECTION											
	SUB TOTAL FORWARD						313630 ✓			12025 ✓		
							25450 ✓			292 ✓		
							339080					
15500	TOTAL USE						364100			12317		

CES-2000-0 (4/81)

THE RALPH M. PARSONS COMPANY

CLINCH RIVER BASE CASE — ESTIMATE WORKSHEET

M.T.O. BY A. BULKIN | PRICED BY YM | DATE AUG 25 | SHEET 20 OF ____

JOB NO.: 6440-71 | CLIENT: DOE - PNL | TYPE OF ESTIMATE: ROM | CKD BY: MG

UNIT/AREA

DESCRIPTION MRS - R&H BLDG.

CAPACITY AREA #4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV. 15	MECHANICAL											
15500	FIRE PROTECTION											
	WET PIPE SPRINKLER SYSTEMS	137,187	FT²		$2.00/FT²		$274,370					
								$27000/hr		10595		
	PROTECTED AREA: THROUGHOUT THE AREA EXCEPT THE PROCESS AREAS (SHIELDED HOT CELLS AND LAG STORAGE VAULTS)											
	*MATERIAL COST $2.00/SQ. FT (INCLUDES RISERS, VALVES, PIPING, SPRINKLERS, E.T.C.)											
	HALON 1301 SUPPRESSION SYSTEMS											
	PROTECTED AREA:											
	CONTROL RM (#2004)	24,975	FT³	×	$1.5/FT³		$37,460					
	I/O RM (#1054)	1200	FT³	×	$1.5/FT³		$1,800					
								$27000/hr		1430		
	*MATERIAL COST $1.50/FT³ (INCLLIDES PIPING, CONTROLS, HALON, DETECTORS, E.T.C.)											
							313,630			12025		4-205

THE RALPH M. PARSONS COMPANY
CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY A. BULKIN | PRICED BY AV | DATE AUG 85 | SHEET 3 OF ____
JOB NO.: 6440-11 | CLIENT: DOE-PNL | TYPE OF ESTIMATE: ROM | CKD BY: MJ

UNIT/AREA
DESCRIPTION MRS - R&H BLDG
CAPACITY AREA #4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV.15	MECHANICAL											
15600	FIRE PROTECTION (CONT'D)											
	PORTABLE FIRE EXTINGUISHERS											
	I 2 1/2 GAL. WATER FIRE EXTINGUISHERS:	25	EA		$350.00		$8,750					
					4					100		
	EXTINGUISHER COST = $170.00 EA											
	INSTALLED COST OF EXTINGUISHER IN CABINET $350 EA											
	II 20 LB DRY CHEMICAL ABC	15	EA		$370.00		$5,550					
	EXTINGUISHER COST = $170.00 EA											
	INSTALLED COST OF EXTINGUISHER IN CABINET = $370.00 EA				4					60		
	III 17 LB HALON 1211	25	EA		$350.00		$8,750					
	EXTINGUISHER COST = $150.00 EA											
	INSTALLED COST OF EXTINGUISHER IN CABINET = $350.00 EA.				4					100		
	FIRE HOSE CABINETS	6	EA		$400.00		$2,400					
				8						32		
	INSTALLED COST $400 (INCLUDES CABINET, 100' HOSE, ANGLE VALVE, FOG NOZZLE, E.T.C.)						2560			292		

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PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY ENGINEERING PRICED BY V. MESEC DATE AUG. 85 SHEET ____ OF ____

JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA MRS R&H. BLDG

DESCRIPTION

CAPACITY AREA #4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV 15	MECHANICAL											
15800	SUMMARY AIR DISTRIBUTION											
15801	AUTO CONTROL VALVES	1	LOT				159000			1252		
15802	DUCTS / SUPPORTS	32900	LBS				353000			44823		
15803	A/C EQUIPMENT	21	PCS				223000			1413		
15804	HEPA / PRE FILTERS	15	EA				36900			60		
15805	GRILLS DIFFUSERS 137187 SQFT x 1.99	1	LOT				187000			2760		
15806	HWS / HWR / CWS / Chgout Piping 137187SF x 10.00/SF = 1371870 137900 EQUIT 66% M = 899000 34% L = 419900 INCL. INSULATION / Supports ETC						899000			10476		
15800	TOTAL						1781900			66784		

CES-2000-0 (4/81)

CES 2000-0

THE RALPH M. PARSONS COMPANY

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY JANS PRICED BY VA DATE AUG. '85 SHEET 25 OF ____

JOB NO.: 10440-11 CLIENT: DOE / PNL TYPE OF ESTIMATE: ROM CKD BY: JMO

UNIT/AREA MRS FACILITY

DESCRIPTION MRS - R&H BLDG

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DN 15	AREA 4											
15800	HVAC (CONTINUE)											
15804	AUTO DAMPERS & VALVES	1	LT				$132,900			1044		
	SUPPORTS	20	%				26 100			208		
							159000			1252		
	SEE ACCT 1 FOR BACKUP											

THE RALPH M. PARSONS COMPANY

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY S. LIEM | PRICED BY CM | DATE 6-27-85 | SHEET ~~1~~ OF ____

JOB NO.: 6440-11 | CLIENT: DOE-PNL | TYPE OF ESTIMATE: ROM | CKD BY: JWJ

UNIT/AREA MRS FACILITY

DESCRIPTION MRS - R & H BLDG.

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV.15	AREA # 4											
15800	HVAC (CONT)											
15802	DUCTWORK											
	- GALVANIZED STEEL DUCT	55,500	Lbs	0.20	.09		38900			4995		
										9288		
	- CARBON STEEL DUCT	77,400	Lbs	1.20	.12		135400					
	- INSULATION FOR GALV & C.S (131,700 + 14,000 = 145,700)	145,700	FT^2	.85	.19		123800			27683		
	- SUPPORTS 20% DUCT						34900			2857		
	S/TOTAL	132900	Lb	2.51	.34		333000			44803		

PARSONS

ESTIMATE WORKSHEET

CLINCH RIVER BASE CASE

M.T.O. BY ENGINEERING PRICED BY McKINNEY DATE AUG 85 SHEET ____ OF ____

JOB NO.: 6440-11 CLIENT: DOE/PNC. TYPE OF ESTIMATE ROM CHECKED BY MF

UNIT/AREA MRS RB&H BLDG.

DESCRIPTION

CAPACITY AREA 4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV/S	AIR DISTRIBUTION											
15803	SUMMARY											
	AHU											
	CARRIER MOL 39ED-57 (32,670 CFM)	4	EA	22500	176		90000			504		
	EXHAUST FANS											
	TWIN CITY MOL BCV-135	1	EA	700	5		700			5		
	BCV-122	2	EA	600	5		1200			10		
	BCV-182	1	EA	900	8		900			8		
	BCV-365	1	EA	2400	18		2400			18		
	BCV-122	1	EA	500	4		500			4		
	COOK POWER ROOF VENT. MOL-195C6B	3	EA	900	8		2700			24		
	RETURN FAN - BUFFALO TYPE 980BL	4	EA	9550	10		38200			40		
	OIL FIRED DOOR HEATER	—										
	DESVO MOL CF 200	4	EA	21600	200		86400			800		
	TOTAL -	21	LS				223000			1413		

CES-2000-0 (4/81)

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CBS 2000-0

THE RALPH M. PARSONS COMPANY

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY S. LIEM | PRICED BY CM | DATE 6-5-1985 | SHEET 2 OF ____

JOB NO.: 6440 - 11 | CLIENT: DOE - PNL | TYPE OF ESTIMATE: ROM | CKD BY: JWL

UNIT/AREA MRS FACILITY

DESCRIPTION MRS - R&H BLDG

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV. 15	AREA #4											
	HVAC (CONT.)											
15803	AIR HANDLING UNIT (RECEIVING & INSPECTION)											
	TAG NO. AHU-822A, AHU-822B AHU-823A, AHU-823B											
	CARRIER MODEL 39ED-57, HORIZ. DRAW THRU SYSTEM, AIR FOIL FAN,											
(205) Q6	HOT WATER COIL, CHILLED WATER COIL, 2" THICK 30% PREFILTER, 12" THICK 85% BAG TYPE FINAL FILTER.	4	EA	19572	-126		78,288 -			504		
	AIR FLOW: 32,620 CFM											
	STATIC PRESS: 2½" W.G											
	MOTOR : 25 HP											
	CHILLED WATER COIL:											
	EAT: 80/65, LAT: 54/52.5											
	EWT: 42°F, LWT: 52°F											
	LOCATION: RM # 2010 & RM #2056	4	EA	WAG 2928			11712			—		
	MTG HOWE & ERT (15%)											
	S/TOTAL	4	EA	XXXX	126		90000			504		

CES 2000-0

THE RALPH M. PARSONS COMPANY

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY S. LIEM | PRICED BY OM | DATE 6-6-85 | SHEET 12 OF ____

JOB NO.: 6490 - 11 | CLIENT: DOE-PNL | TYPE OF ESTIMATE: ROM | CKD BY: [illegible]

UNIT/AREA MRS FACILITY

DESCRIPTION MRS - R&H BLDG

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LABS	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	AREA #4											
15803	EXHAUST FAN (ADMIN. TOILET EXHAUST)											
	TAG NO.: EF-878											
(230)	"TWIN CITY" MODEL BCV-135											
Q20	SISW, BELT DRIVE	1	EA	564	.5		564			.5		
	AIR FLOW: 2240 CFM											
	STATIC PRESS: 1.0 "W.G											
	FAN : 0.8 BHP											
	MOTOR : 1.0 HP											
	MTG HDWE & FRT 15%	1	EA	USE 136			136			—		
	S/TOTAL	1	EA	700	5		700			5		

CES 2000-4

THE RALPH M. PARSONS COMPANY

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY S. LIEM | PRICED BY CM | DATE 6-6-85 | SHEET 12 OF ____

JOB NO.: 6440 - 11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE: ROM | CKD BY: JMG

UNIT/AREA MRS FACILITY

DESCRIPTION MRS - R&H BLDG

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV.15	AREA #4											
	HVAC (CONT.)											
15803	EXHAUST FAN (NORTH & SOUTH TUNNEL VENT)											
	TAG Nº: EF-879 : EF-880											
230 Q20	"TWIN CITY" MODEL BCV-122 SWSI, BELT DRIVE, AIR FLOW: 1500 CFM STATIC PRESS: 1.0 "W.G FAN : 0.48 BHP MOTOR : 3/4 HP	2	EA	534	5.0		1068 -			10		
	MOUNT HARDWARE & FREIGHT	2	EA	66			132			—		
	S/TOTAL	2	EA	600	5		1200			10		
	EXHAUST FAN (GENERAL EXH.)											
	TAG Nº EF-881											
230 Q20	"TWIN CITY" MODEL BCV-182 SWSI, BELT DRIVE AIR FLOW : 3850 CFM STATIC PRESS : 1.0 "W.G FAN : 1.22 BHP MOTOR : 1.5 HP.	1	EA	726	8		726 -			8.0		
	MTG HDWE & FRT (15%)	1	EA	174			174			—		
	S/TOTAL	1	EA	900	8		900			8		

CES 2000-U

THE RALPH M. PARSONS COMPANY

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY S. LIEM PRICED BY CM DATE 6-7-85 SHEET 15 OF ____

JOB NO.: 6440 - 11 CLIENT: DOE - PNL TYPE OF ESTIMATE: ROM CKD BY:

UNIT/AREA MRS FACILITY
DESCRIPTION MRS - R&H BLDG
CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LABS		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV. 15	AREA #4											
	HVAC (CONT.)											
15803	EXHAUST FAN (CHILLER RM EXH.)											
	TAG Nº EF-882											
229	"TWIN CITY" MODEL BCV-365											
Q20	SWSI, BELT DRIVE	1	EA	2040	18		2040 -			18		
	AIR FLOW : 18,320 CFM											
	STATIC PRESS : 1.0" WG											
	FAN : 6.6 BHP											
	MOTOR : 7½ HP.											
	MTG HDWE & FRT 15%	1	EA	USE 360			360			—		
	S/TOTAL	1	EA	2400	18		2400			18		

CES 2000-0

THE RALPH M. PARSONS COMPANY

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY S. LIEM | PRICED BY CM | DATE 6-7-85 | SHEET 4 OF ____

JOB NO.: 6440 - 11 | CLIENT: DOE-PNL | TYPE OF ESTIMATE: ROM | CKD BY: JWF

UNIT/AREA MRS FACILITY

DESCRIPTION MRS- R&H BLDG.

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV. 15	AREA # 4											
15803	EXHAUST FAN (BOTTLE GAS EXHAUST)											
	TAG NO: EF-888											
	"TWIN CITY" MODEL BCV-122											
(230)	SISW, BELT DRIVE											
Q20	AIR FLOW : 400 CFM	1	EA	437	4.0		437 -			4		
	STATIC PRESS : 3/8" W.G											
	MOTOR : 1/6 HP			416								
	MTG HDWE & FRT	1	EA	63			63			-		
	S/TOTAL	1	EA	500	4.0		500			4		
15803	EXHAUST FAN (STEAM GEN. BUILDING)											
	TAG NO EF-889A											
	EF-889B											
	EF-889C											
	"COOK" POWER ROOF VENTILATOR											
(2x9)	TYPE ACE-B, MODEL 195CGB											
Q20	BELT DRIVE, CURB MOUNTED.	3	EA	735	8.		2205 -			24		
	BACKDRAFT DAMPER											
	AIR FLOW : 4000 CFM											
	STATIC PRESS : 1/4" W.G											
	MOTOR : 3/4 HP											
				1166								
	MTG HDWE & FRT	3	EA	165			495			-		
	S/TOTAL	3	EA	900	8		2700			24		

CES 2000-C

THE RALPH M. PARSONS COMPANY

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY S. LIEM | PRICED BY CM | DATE 6-10-85 | SHEET 20 OF ____

JOB NO.: G440 - - 11 | CLIENT: DOE - PNL | TYPE OF ESTIMATE: ROM | CKD BY: JMJ

UNIT/AREA MRS FACILITY

DESCRIPTION MRS - R & H BLDG.

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV. 15	AREA #4											
	HVAC (CONT.)											
15803	RETURN FAN (N. & S. REC. & INSP AREA)											
	TAG Nº: RF-810A, RF-810B, RF-811A, RF-811B											
	"BUFFALO" TYPE 980 BL, SISW											
228 Q9	AIRFOIL FAN, DIRECT DRIVE AIR FLOW : 31,880 CFM STATIC PRESS : 2.0 "W.G SPEED : 605 RPM FAN : 15.5 BHP MOTOR : 20 HP.	4	EA	8300.	10.		33,200 -			40		
	LOCATION : RM #2010 & RM #2056											
	MTG HOWE & FRT 15%	4	EA	USE INCO			5000					
	S/TOTAL	4	EA	9550	10		38,200			40		

CES 2000-

THE RALPH M. PARSONS COMPANY

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY S. LIEM PRICED BY CAR DATE AUG '85 SHEET 23 OF ____

JOB NO.: 6440 - 11 CLIENT: DOE/PNL TYPE OF ESTIMATE: ROM CKD BY: JMG

UNIT/AREA MRS FACILITY

DESCRIPTION MRS - R&H BLDG

CAPACITY -

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LABS		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV. 15	AREA #4											
	HVAC (CONT.)											
15803	OIL FIRED DOOR HEATER											
	TAG NO DH-800											
	DH-801											
	DH-802											
	DH-803											
	"DRAVO" MODEL CF-200 COUNTER FLO.											
ALL	CAPACITY : 2,500 MBH	4	EA	18,800	200		75,200 -			800		
	AIR FLOW : 21,000 CFM											
	STATIC PRESS :											
	MOTOR : 10 HP											
	OIL : NO 2											
	OIL CONSUMP. : 17.2 GPH											
	ENT AIR :											
	LVG AIR :											
	LOCATION : RM # 2009											
	2055											
	2057											
	2058											
	MTG HDWE & FRT 15%	4	EA	2800			11200 -					
	SUBTOTAL	4	EA	21600	200		86400			800		

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY ENGINEERING PRICED BY MCKINNEY DATE AUG. 85 SHEET ____ OF ____

JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA MRS R&D. BLDG

DESCRIPTION

CAPACITY AREA 4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV 15	MECHANICAL											
15800												
15804	SUMMARY											
15804	SUB-TOTAL SHT. OF	4	EA				9300			16		
		4	EA				4000			8		
		9	EA				20700			36		
15864	TOTAL	15	EA				36960			60		

CES-2000-0 (4/81)

THE RALPH M. PARSONS COMPANY

CLINCH RIVER BASE CASE — ESTIMATE WORKSHEET

M.T.O. BY: S. LIEM | PRICED BY: CM | DATE: 6-25-85 | SHEET ___ OF ___

JOB NO.: 6440-11 | CLIENT: DOE-PNL | TYPE OF ESTIMATE: BOM | CKD BY: [illegible]

UNIT/AREA: MRS FACILITY

DESCRIPTION: MRS - R&H BLDG.

CAPACITY

ACCNT: DIV. 15 — ~~MECHANICAL~~ AREA #4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT: MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT: M/HRS	SUBCONTRACT: DOLLARS	LABOR: M/HRS	LABOR: DOLLARS	TOTAL DOLLARS
	HVAC (CONT)											
15804	HEPA FILTER (SPENT RESIN & COMB. WASTE GLOVE BOX)											
	TAG NO. F-800, F-801, F-802, F-803	4	EA	1970.	4		7,880.			16		
	AIR FLOW = 200 CFM; LOCATION: RM #1064											
	MTG HDWE & FRT 15%	4	EA	330			1320					
		4	EA	2300	4		9200			16		
15804	HEPA FILTER (RADIOISOTOPE LAB. GLOVE BOX)											
	TAG NO. F-804, F-805, F-806, F-807	4	EA	1510.	2		6,040.			8		
	AIR FLOW = 50 CFM; LOCATION: M-127											
	MTG HDWE & FRT 15%	4	EA	240			960					
		4	EA	1760	2		7000			8		

THE RALPH M. PARSONS COMPANY

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY S. LIEM | PRICED BY CM | DATE AUG. 85 | SHEET 54 OF ____

JOB NO.: 6440-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE: ROM | CKD BY: JMJ

UNIT/AREA MRS FACILITY

DESCRIPTION MRS - R&H BLDG

CAPACITY ~~MECHANICAL~~

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV. 15	AREA # 4											
	HVAC (CONT.)											
15804	HEPA FILTER (RADIOISOTOPE LAB. GLOVE BOX)											
	TAG Nº F-808 F-809 F-810 F-811 F-812 F-813 F-814 F-815 F-816	9	EA	1970.-	4		17,730.-			36		
	AIR FLOW : 160 - 200 CFM											
	LOCATION : M-127											
	MTG HOWE & FRT 15%	9	EA	Incl 330			2970					
	S/TOTAL	9	EA	2300	4		20700			36		

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CLINCH RIVER BASE CASE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY ENGINEERING PRICED BY V. MESA DATE AUG. 85 SHEET ____ OF ____

JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA MRS. FACILITY

DESCRIPTION

CAPACITY R&H. BLDG

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV.	AREA # 4											
16	SUMMARY ELECTRICAL						186000			61893		

CES-2000-0 (4/81)

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PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY ENGINEERING PRICED BY V. MESA DATE AUG. 85 SHEET ____ OF ____

JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA MRS. FACILITY

DESCRIPTION

CAPACITY R&H. BLDG

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV.	AREA # 4											
16	SUMMARY ELECTRICAL											
16100	POWER DIST. ABOVE GROUND	1	LOT				168000			10116		
16400	SERVICE DISTRIBUTION	1	LOT				543000			2684		
16500	LIGHTING CONDUIT, WIRE	1	LOT				4100			152		
16500	RECEPTACLES	1	LOT				95400			10068		
16500	LIGHTING CONDUIT & WIRE						325800			12960		
16550	GROUNDING	1	LOT				14300			700		
16602	LIGHTNING PROTECTION	1	LOT				6000			535		
16603	FIRE ALARM	1	LOT				116200			3841		
16700	COMMUNICATIONS	1	LOT				51500			2332		
16900	INST/CONTROL CONDUIT & WIRE	1	LOT				470000			18605		
16	S/TOTAL						1826300			61993		
					USE		1826000					

CES-2000-0 (4/81)

PARSONS

ESTIMATE WORKSHEET

CLINCH RIVER BASE CASE

M.T.O. BY J.N. PRICED BY J.J. DATE AUG-85 SHEET ____ OF ____

JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION R & H BUILDING

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV-16	ELECT. AREA-4											
16100	PWR DISTR.											
	AREA-1 = 63318 SF	.0956	%									
	" 2 = 30736 SF	.0464	%									
	" 3 = 430,942 SF	.6508	%									
	" 4 = 137,187 SF →	.2072	%				167,970			10,116		
							810660			48,820		
	810660 x .2072						167,970			10,116		
	48820 x .2072											
				USE			168000					
	BACK-UP IN AREA-4											

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PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY J.J. PRICED BY J.J. DATE AUG-85 SHEET 1 OF 2

JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE ROM CHECKED BY JMO

UNIT/AREA R & H BLDG

DESCRIPTION CONDT & WIRE

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV-16	ELECTRICAL AREA-1, 2, 3 & 4											
16100	PWR DISTRIB.											
	SS-04 SH-3						82190			3494		
	SS-07 SH-7						117910			6415		
	SS-08 SH-10						146170			9140		
	SS-09 SH-13						118640			7672		
	SS-10 SH-18						126840			8755		
	SS-10 SH-19						145620			3176		
	SS-11 SH-23						134690			7843		
							772060			46495		
	CONDT PENETR 5%						38600			2325		
							810,660			48,820		
	BACK-UP IN AREA-4											
	REFERENCE ONLY											

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY J.J. PRICED BY J.J. DATE AUG-95 SHEET ____ OF ____

JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE ROM CHECKED BY JMJ

UNIT/AREA R & H BLDG

DESCRIPTION

CAPACITY MRS

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV-16	ELECT AREA-4											
16400	POWER GEAR											
	AREA-1 = 63318 SF	.0956	%									
	-2 = 30736 SF	.0464	%									
	-3 = 430942 SF	.6508	%									
	-4 = 137187 SF →	.2072	%				572710			2684		
							2,764,020			12.953		
	2764020 x .2072						572710			2684		
	12953 x .2072				USE		578000					
	BACK-UP IN AREA-4											

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY J.J | PRICED BY J.J | DATE AUG-85 | SHEET 2 OF 2

JOB NO.: 6440-11 | CLIENT: PNL-DOE | TYPE OF ESTIMATE ROM | CHECKED BY [illegible]

UNIT/AREA R&H BLDG

DESCRIPTION MCC & SWGEAR

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV-16	ELECTRICAL AREA 1,2,3 & 4											
16400	POWER GEAR											
	SS-04 SH-2						316,500			1015		
	SS-07 SH-4						290,750			689		
	SH-5						75,200			478		
	SH-6						227,260			1791		
	SS-08 SH-8						289,000			615		
	SH-9						192,410			1037		
	SS-09 SH-11						275,300			595		
	SH-12						196,550			804		
	SS-10 SH-14						222,800			724		
	SH-15						35,880			215		
	SH-16						33,510			207		
	SH-17						27,480			1411		
	SS-11 SH-20						224,490			749		
	SH-21						59,380			378		
	SH-22						165,890			1700		
							2,632,400			12,336		
	COND'T PENETR 5%						131,620			617		
							2,764,020			12,953		
	BACK-UP IN AREA-4											
	REFERENCE ONLY											

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY J.J. PRICED BY J.J. DATE AUG-85 SHEET 1 OF 1

JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA STACK

DESCRIPTION WARNING LIGHTS

CAPACITY MRS FACILITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV. No	ELECTRICAL AREA 4											
16500	LIGHTING											
	1" ϕ RGS. COND.	200	LF	1.2	.1		240			20		
	FITTING & SUPP 100%	-	-	-	-		240			20		
	RELAY BOX	1	E	350	6		350			6		
	WARNING LITES	8	E	300	5		2400			40		
	LITE BRKT	8	E	30	4		240			32		
	4/0 LITNING CABLE	200	LF	1.8	.036		360			7		
	THOMPSON LIGHTN'G RODS	8	E	5.1	1		40			8		
	I BEAM CLAM	8	E	11.55	.5		90			4		
	CADWELD	5	E	2.5	1		10			5		
	#10 WIRING	1	LS	100	10		100			10		
							4070			152		
					USE		4100					

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY N.J. PRICED BY J.J. DATE AUG-85 SHEET 1 OF

JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA R & H BLDG

DESCRIPTION RECEPT, COND'T & WIRE

CAPACITY MRS FACILITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV. 16	ELECTRICAL AREA-4											
16500	RECEPTACLES											
	SUMMARY											
	AREA-3 = 430,942 S.F			.695	.0734		299,540			31,629		
	AREA-4 = 137,179 SF →			.695	.0734		95,350			10,068		
							394,890			41,697		
	137,179 S.F x .6951						95,350			10,068		
	137,179 S.F x .0734											
					USC		95460					

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CLINCH RIVER BASE CASE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY JJ. PRICED BY JJ DATE AUG. 85 SHEET ____ OF ____

JOB NO.: 6460-11 CLIENT: DOE/PNL TYPE OF ESTIMATE CONC CHECKED BY JWJ

UNIT/AREA MRS FACILITY

DESCRIPTION R&H BLDG

CAPACITY LIGHTING, CONDUIT & WIRE

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE			SUBCONTRACT			LABOR			TOTAL DOLLARS		
				MATL	M/H	LAB $				M/HRS	DOLLARS		M/HRS	DOLLARS				
DW16	ELECTRICAL AREA 4																	
6500	LIGHTING AREA 4						3	6	5				135	00				

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PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY J. J. PRICED BY J. J. DATE AUG-85 SHEET 1 OF ____

JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA R&H BLDG.

DESCRIPTION LIGHTING, CONDT & WIRE

CAPACITY MRS FACILITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV. 16	ELECTRICAL AREA-4											
16500	LIGHTING											
	AREA-1 = 63,318 SF			26.35	.1155		1668430			7313		
	AREA-2 = 30,736 SF			26.35	.1155		809890			3550		
	AREA-3 = 430,942 SF			2.375	.0984		1023490			42405		
	AREA-4 = 137,187 SF →			2.375	.0984		325820			13500		
							3,827,630			66,768		
	137,187 × 2.375						325820			13500		
	137,187 × .0984									(540) DEDUCTED FOR ADJ.		
										12960		
	FOR REFERENCE ONLY →											

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PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY N.T. PRICED BY J.J. DATE AUG-85 SHEET 2 OF 2

JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA LIGHTING STUDY

DESCRIPTION

CAPACITY MRS FACILITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV 16	ELECTRICAL AREA	4										
16500	LIGHTING											
	AREA 8 X 8 = 64 SQ FT Ø											
	2X4 @ FLOOR JOISTS	1	Ø	100	2		100			2		
	3/4" Ø RGS	25	LF	1.-	.08		25			2		
	FITTG & SUPPORTS 50%	-	-	-			10			1		
	#12 WIRES 3Ø X 3'	90	LF	.065	.008		10			1		
							145			6		
	COND FLOOR PENTR. 5%						7			.3		
							152			6.3		
	6.3 ÷ 64 =	1Ø			.0984							
	152 ÷ 64 =	1Ø		2.375								

FOR REFERENCE ONLY

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PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY J.J. PRICED BY J.J. DATE AUG-85 SHEET 4 OF 24

JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA RECEPTACLES STUDY

DESCRIPTION

CAPACITY MRS FACILITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV. 16	ELECTRICAL AREA-4											
16,500	RECEPTACLES											
	12 X 12 AREA OFFICE = 144 SF.											
	FOUR RECEPT.	4	ea	10	1.5		40			6		
	CONDUIT	100	LF	.86	.08		86			8		
	FITTING & SUPPORT	50%	—	—	—		43			4		
	#12 WIRE 100 X 3	300	LF	.065	.008		20			2.4		
	20 X 20 ARE CRANE = 400 SF											
	TWO RECEPT	2	ea	10	1.5		20			3		
	CONDUIT	100	LF	.86	.08		86			8		
	FITTING & SUPPORT	50	%	—	—		43			4		
	#12 WIRE 100 X 3	300	LF	.065	.008		20			2.4		
							360			38		
	360 ÷ 544 =	1	S.F				0.662			0.0698		
	38 ÷ 544 =			5% PENOR			0.0331			0.0035		
							0.6951			0.0734		

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PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY J.J. PRICED BY J.J. DATE AUG-85 SHEET 1 OF ____

JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE ROM CHECKED BY JMO

UNIT/AREA R&H BLDG
DESCRIPTION GROUNDING
CAPACITY MRS FACILITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV 16	ELECTRICAL AREA 4											
16550	GROUNDING											
	SUMMARY											
	AREA # 1 = 63,318 S.F			.104	.0051		6590			323		
	# 2 = 30,736 S.F			.104	.0051		3200			157		
	# 3 = 430,942 S.F			.104	.0051		44,820			2198		
	# 4 = 137,187 S.F →			.104	.0051		14,270			700		
							68,880			3378		
	137,187 SF X .104											
	137,187 SF X .0051						14,270			700		
					USE		14300					

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE — **ESTIMATE WORKSHEET**

M.T.O. BY J.J. | PRICED BY J.J. | DATE AUG-85 | SHEET 4 OF ____

JOB NO.: 6440-11 | CLIENT: PNL-DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA GROUNDING

DESCRIPTION MRS FACILITY

CAPACITY R2H BLDG-

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV 16	ELECTRICAL AREA-4											
16550	GROUNDING											
	THRU FLOORS 75 x 4 = 300											
	GRND 665 + 665 + 545 + 545 = 2420											
	SEC. 535 + 520 + 520 x 3 = 4725											
	70 x 14 = 980											
	26 x 10 = 260											
	GRND, FIRST, SEC, MEZ, MEZ, THIR = 6000											
	14685											
	COND 1" ϕ 8815											
	TRENCHING & BACKFILL	2420	LN	5	.08		12100			194		
	FLOOR PENETR	12	E	20	3		240			36		
	4/0 GRND CABLE	14685	LN	1.8	.036		26430			529		
	GRND WELL	8	E	100	4		800			32		
	CADWELD	130	E	2	1		260			130		
	GRND TERM.	160	E	2	1		320			160		
	#2 GRND 500 x 10 =	5000	LF	.66	.02		3300			100		
	MOTOR GRND. TERM.	500	E	1	.33		500			165		
	1½" RGS & FITTING 1.85 x 1.5	8815	LF	2.75	.25		24240			1851		
	GRND MCC & SWGER.	46	E	10	4		460			184		
							68,650			3381		
	MATERIAL COST PER SQ FT											
	68,650 ÷ 662,183	$.104										
	3381 ÷ 662,183				.0054							

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CLINCH RIVER BASE CASE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY J.N. PRICED BY J.J. DATE AUG-85 SHEET 18 OF 1

JOB NO.: 6440-11 CLIENT: PNL - DOE TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA R&H BLDG

DESCRIPTION LIGHTNING

CAPACITY MRS FACILITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DW.16	ELECTRICAL AREA 4											
16602	LIGHTNING											
	AIR TERMINALS	40	E	5.1	1		200			40		
	I-BEAM CLAMP	40	E	11.55	.5		460			20		
	GROUND ROD	15	E	15	2		230			30		
	4/0 GRND CABLE	150	LF	1.8	.036		270			5		
	CADWELD	30	E	2.5	1		80			30		
	2" ϕ RGS.	1000	LF	2.5	.18		2500			180		
	FITTING & SUPPORT	50%	—	—	—		1250			90		
	CONDUIT CLAMP	150	E	.15	.5		20			75		
	TRENCHING	200	LF	.5	.05		100			10		
	4/0 GRND CABLE	250	LF	1.8	.036		450			9		
	GROUND ROD	4	E	15	2		60			8		
	CADWELD	12	E	2.5	1		30			12		
							5650			509		
	FLOOR PENETR. 5%						280			26		
							$5930			$535		
					USE		6000					

CES-2000-0 (4/81)

CLINCH RIVER BASE CASE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY J.J. PRICED BY J.J. DATE AUG-85 SHEET 1 OF ____

JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE ROM CHECKED BY Jug

UNIT/AREA R&H BLDG

DESCRIPTION FIRE ALARM SYSTEM

CAPACITY MRS FACILITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV. 16	ELECTRICAL AREA 4											
16603	FIRE ALARM											
	SUMMARY											
	AREA #1	-0-					-0-			-0-		
	AREA #2	-0-					-0-			-0-		
	AREA #3 = 430,942 SF			.847	.028		365000			12,066		
	AREA #4 = 137,187 SF →			.847	.028		116200			3841		
							481,200			15,907		
	137,187 SF x .847											
	137,187 SF x .028						116200			3841		

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PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY J. J. PRICED BY J. J. DATE AUG-85 SHEET 4 OF 8

JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA FIRE ALARM
DESCRIPTION
CAPACITY R & H BUILDING

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	ELECTRICAL AREA-4											
1660B	FIRE ALARM											
	AREA 20X40 = 600 ϕ											
	SMOKE DETECTOR	1	E	35	1.5		35			1.5		
	FIRE ALARM SPEAKER	1	E	50	.5		50			.5		
	EVACUATION SPEAKER	1	E	50	.5		50			.5		
	MANUAL FIRE ALARM STAT.	1	E	16	1		16			1		
	RADIATION THERMO DETECTOR	1	E	30	.5		30			.5		
	3/4" ϕ RGS	30	LF	.9	.08		27			2.4		
	3/4" ϕ RGS	20	LF	.9	.08		18			1.6		
	3/4" ϕ RGS	20	LF	.9	.08		18			1.6		
	3/4" ϕ RGS.	20	LF	.9	.08		18			1.6		
	3/4" ϕ RGS.	20	LF	.9	.08		18			1.6		
	FITTING & SUPPORT 50%	-	-	-	-		50			-		
	10% STAINL STEEL C/10	11	LF	.6	-		66			-		
	FITTING & SUPPORT 50%						33			-		
	#12 OR #14 WIRES 100X2 =	200	LF	.06	.008		12			1.6		
							440			14.4		
	10% TOWARD PNLS.						44			1.4		
							484			15.8		
	FLOOR PENETRAT 5%						24			0.8		
							508			16.6		
	ONE SQ FEET											
	16.6 ÷ 600	1	SQF		.028							
	508 ÷ 600	1	ϕ	.847								

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CLINCH RIVER BASE CASE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY J.J. PRICED BY J.J. DATE AUG-85 SHEET 4 OF ____

JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA PHONE & COM.
DESCRIPTION R&H BLDG-
CAPACITY MRS FACILITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	ELECTRICAL AREA 4											
DIV. 16	COMMUNICATIONS											
16700												
	AREA #1 = -0-						-0-			-0-		
	#2 = -0-						-0-			-0-		
	#3 = 430,942 S.F			.375	.017		161,600			7326		
	#4 = 137,187 S.F →			.375	.017		51,450			2332		
							213,050			9658		
	137,187 SF X .375											
	137,187 SF X .017						51,450			2332		
					USE		5750					

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PARSONS

CLINCH RIVER BASE CASE — **ESTIMATE WORKSHEET**

M.T.O. BY J.J. | PRICED BY J.J. | DATE AUG-85 | SHEET 4 OF ____

JOB NO.: 6440-11 | CLIENT: PNL-DOE | TYPE OF ESTIMATE Rom | CHECKED BY

UNIT/AREA PHONE & COMMUN. | DESCRIPTION R&H BLDG | CAPACITY MRS FACILITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV 16	ELECTRICAL AREA-4											
16700	COMMUNICATIONS											
	CONSIDER FOR EVERY 20'x20'=400 ϕ											
	ONE PHONE											
	ONE PHONE	1	E	50	.25		50			.25		
	J. BOX & PHONE PLUG	1	E	10	1.5		10			1.5		
	3/4" ϕ RGS 30'	30	LF	.9	.08		30			2.5		
	PHONE WIRE	40	LF	.2	.008		10			.5		
	FITTING & SUPPORT 50%						15			4.25		
							115			6		
	25% TOWARDS PNL						30			1.5		
							145			7.5		
	FLOOR PENETR 5%						10			.38		
							155			7.88		
	PA SYSTEM 40x40 = 1600 ϕ											
	ONE SPEAKER	1	E	100	1.5		100			1.5		
	3/4" RGS. COND.	40	LF	.9	.08		40			3.2		
	CABLE	50	LF	.2	.008		10			.5		
	FITT'G & SUPPORT 50%						20			1.6		
							170			6.8		
	2.5% TOWARDS EQUIP'T						40			1.7		
							210			8.5		
	FLOOR PENETR. 5%						10			.43		
							220			8.93		
	400 ϕ + 1600 ϕ = 2000 ϕ ÷ 2 = 1000 ϕ											
	#155 + 220 = ÷ 1000 =	.1	#	0.375								
	7.88 + 8.93 = ÷ 1000 =				.017							

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE — ESTIMATE WORKSHEET

M.T.O. BY JJ | PRICED BY JJ | DATE AUG-85 | SHEET 1 OF ____

JOB NO.: 6440-11 | CLIENT: PNL-DOE | TYPE OF ESTIMATE ROM | CHECKED BY JMP

UNIT/AREA R&H BLDG.

DESCRIPTION ELECT INSTRUM, COND. & WIRE

CAPACITY MRS FACILITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV. 16	ELECT. INSTRUM. AREA 4											
16900	INSTRUMENT											
	SUMMARY											
	AREA #1 = 63318 SF			3.44	.1362		217,810			8624		
	AREA # 3 = 430,942 SF			3.44	.1362		1,482,440			58,694		
	AREA # 4 = 137,187 SF →			3.44	.1362		471,920			18,685		
						2,172,170				86,003		
	137,187 SF X 3.44						471920			18,685		
	137,187 SF X .1362				USE		472000					
	BACK-UP AT AREA-4											

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY J.J. PRICED BY J.J. DATE AUG-85 SHEET 5 OF ____

JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE ROM CHECKED BY JMJ

UNIT/AREA R & H FACILITY

DESCRIPTION INSTRUMENT

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV. 16	ELECTRICAL AREA-4											
16900												
	BASED ON THE FOLLOWING FIVE PAGES OF THE PREVIOUS ESTIMATE											
	THE PRICE OF MATERIAL PER EA. SQ FT.											
	311,536 Ø TOTAL.						949,900			36417		
	ADD FLOOR PENETRATIONS. 150 EA PER FLOOR x4 =	600	EA	200	10		120,000			6,000		
							1069,900			42,417		
	PRICE PER SQ FT # 1,069,900 ÷ 311,536 = MH 42,417 ÷ 311,536 =	1	Ø	3.44	0.1362							

CES-2000-0 (4/81)

PARSONS

ESTIMATE WORKSHEET

CLINCH RIVER BASE CASE

M.T.O. BY BJM PRICED BY BJM DATE AUG 85 SHEET 9 OF

JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA R&H FACILITY
DESCRIPTION INSTR. ELECT
CAPACITY AREA #4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV16	ELECT											
16900												
	SUMMARY - ELECTRICAL											
							731600	27007				
	SHEET 2 OF 5											
	✓ 3 OF 5						5000	220				
	✓ 4 OF 5						158100	8464				
	✓ 5 OF 5						49200	726				
	SUB TOTAL						949900	36417				

REFERENCE ONLY. THESE COSTS WERE PRO RATED TO EACH ACCOUNT ON A SQUARE FOOT BASIS.

CES-2000-0 (4/81)

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CLINCH RIVER BASE CASE

WARM WET SITE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY C.E. HUCK / VM / AQ | PRICED BY BM | DATE AUG 85 | SHEET 8 OF ____

JOB NO.: 6440-11 | CLIENT: DOE / PNL | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA R & H FACILITY

DESCRIPTION ELECTRICAL CABLE / WIRING

CAPACITY TO INSTRUMENTS

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DV16	AREA #4											
16900	DISTRIBUTED CONTROL SYSTEM (ELECTRICAL)											
	PROCESS CELL I/O'S TO MULTIPLEXER CONSISTING OF 5395 I/O'S AT 500 LF EACH RUN											
	50 PAIRED CABLE (109 RUNS)	54000	LF	5.21	.075		281340	4050				
	TERMINAL BOX	10	E	200	20		2000	200				
	✓ ✓ SUPP	10	E	10	1.5		100	15				
	HVAC I/O'S TO MULTIPLEXER CONSISTING OF 1175 I/O'S AT 500 LF EACH RUN											
	50 PAIRED CABLE (24 RUNS)	12000	LF	5.21	.075		62520	900				
	TERMINAL BOXES	4	E	200	20		800	80				
	✓ ✓ SUPPORTS	4	E	10	1.50		40	6				
	PROCESS I/O'S TO MULTIPLEXER CONSISTING OF 1500 I/O'S AT 800 LF AVG. EACH RUN TERMINAL BOX	5	E	200	20		1000	100				
	✓ ✓ SUPP	5	E	10	1.50		50	8				
	50 PAIRED CABLE (31 RUNS)	24000	LF	5.21	.075		125040	1800				
	TERMINAL BOX	5	EA	200	20		1000	100				
	✓ ✓ SUPPORTS	5	EA	10	1.5		50	8				
	1½ RGS FOR ALL OF THE ABOVE	9400	LF	1.87	.14		175780	13160				
	1½" RGS SUPT & FTG (50% OF RGS)	1	LS	—			87890	6580				
							737610	27007				

CES-2000-0 (4/81)

PARSONS

ESTIMATE WORKSHEET

CLINCH RIVER BASE CASE

M.T.O. BY C.E. HUCK/VM/AQ PRICED BY BM DATE AUG 85 SHEET 1 OF

JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE Rom CHECKED BY

UNIT/AREA R&H FACILITY

DESCRIPTION ELECTRICAL CABLE/WIRING

CAPACITY TO INSTRUMENTS

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV 16	AREA #4											
16900												
	CABLE FROM MULTIPLEXER TO CONTROL ROOM. 12 RUNS OF 5-COND. CABLE AT 300 LF EACH RUN											
	5-COND CABLE (12 RUNS)	3600	LF	.78	.017		2810	61				
	TERMINAL BOX	2	E	200	20		400	40				
	✓ ✓ SUPPORT	2	E	10	1.5		20	3				
	1½" RGS	300	FT	1.81	.14		560	42				
	1½" SUPP & FTG. (50% OF RGS)	1	LS	—			280	21				
	MISC. CONDUIT FROM U.G. TO TERM BOX	1	LS	—			500	10				
	TERMINAL BOX	2	EA	200	20		400	40				
	✓ ✓ SUPPORT	2	EA	10	1.5		20	3				
							4990	220				

CES-2000-0 (4/81)

PARSONS

ESTIMATE WORKSHEET

CLINCH RIVER BASE CASE

M.T.O. BY C.E. HUCK / VM / AP PRICED BY BM DATE AUG 85 SHEET 8 OF ____

JOB NO.: 6440-11 CLIENT: DOE / PNL TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA R&H FACILITY

DESCRIPTION ELECTRICAL CABLE / WIRING TO INSTRUMENTS

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV 16	AREA # 4											
16900	FOR ALL INSTR. TO T/B											
	3/4" RGS	32500	FT	.91	.08		29 580	2600				
	3/4" SUPP & FTG (50% OF RGS)	1	LS	—			14 790	1300				
	1PR-16 CABLE	39000	FT	.133	.008		5 190	312				
	CABLE FROM 300 CONTROL VALVES TO MULTIPLEXERS @ AVG. OF 600 LF EACH RUN											
	50 PAIR CABLE (6 RUNS)	3600	LF	5.21	.075		18 760	270				
	INSTR CONN	650	E	50	2		32 500	1300				
	CABLE FROM 350 d/p TRANSMITTERS TO MULTIPLEXERS AVG OF 600 LF EACH RUN.											
	50 PAIR CABLE (7 RUNS)	4200	LF	5.21	.075		21 880	315				
	THERMOCOUPLE WIRES TO MULTIPLEXER 100 EA SHIELDED TWISTED PAIRS @ 500 LF EACH RUN. AND 50 EA STP @ 3000 LF.											
	50 PAIR, SHIELDED, TWISTED	1000	LF	5.21	.075		5 210	75				
	1½" RGS (FOR ALL 50 PR CABLE)	10300	FT	1.87	.14		19 260	1442				
	1½" SUPP. & FTG (50% OF RGS)	1	LS	—			9 630	721				
	TERM. BOX	6	E	200	20		1 200	120				
	✓ ✓ SUPP	6	E	10	1.5		60	9				
							158 060	8464				

CES-2000-0 (4/81)

PARSONS

ESTIMATE WORKSHEET

CLINCH RIVER BASE CASE

M.T.O. BY C. E. HUCK / VM / AG PRICED BY BM DATE AUG 85 SHEET ___ OF ___

JOB NO.: 6440-11 CLIENT: DOE / PNL TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA R&H FACILITY
DESCRIPTION ELECTRICAL CABLE / WIRING
CAPACITY TO INSTRUMENTS

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV 16	AREA # 4											
16800												
	DISTRIBUTED CONTROL SYSTEM											
	100 I/O'S FROM R&H BLDG TO BLDG. 2 RUNS @ 3000 LF U.G.											
	50 PAIRED CABLE	6000	LF	5.21	.075		31260	450				
	CABLE FROM DEC GENERAL AIRAGE COMPUTER TO ADM. BLDG. U.G.											
	5 - COND. CABLE	3000	LF	.78	.017		2340	51				
	THERMOCOUPLE WIRES											
	50 PAIRED CABLE	3000	LF	5.21	.075		15630	225				
							49290	726				

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY J.N. PRICED BY J.N. DATE AUG-85 SHEET 1 OF

JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA R & H BUILDING

DESCRIPTION

CAPACITY MRS FACILITY

ACCNT				QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV.16	ELECTRICAL	AREA-1,2,3 & 4												
16400	PWR GEAR													
16400	SS-04	SH - 2							316,500			1015		
16100		SH - 3							82,190			3494		
16400	SS-07	SH - 4							290750			689		
16400		SH - 5							75200			478		
16400		SH - 6	- UPS						287260			1791		
16100		SH - 7							1179 10			6415		
16400	SS-08	SH - 8							289000			615		
16400		SH - 9	- UPS						102410			1037		
16100		SH - 10							146170			9140		
16400	SS-09	SH - 11							275300			595		
16400		SH - 12	- UPS						196550			804		
16100		SH - 13							118640			7672		
16400	SS-10	SH - 14							223800			724		
16400		SH - 15							35880			215		
16400		SH - 16							33510			207		
16400		SH - 17							27480			1411		
16100		SH - 18							126,840			8755		
16100		SH - 19							45,620			3176		
16400	SS-11	SH - 20							224890			749		
16400		SH - 21							59380			378		
16400		SH - 22	- UPS						165890			1700		
16100		SH - 23							134,690			7843		
16100	MOTOR RECGR.	SH - 24	AREA 1 & 2						451 190			2032		
									3,855,600			60,935		
	CONDUIT PENETRATION 5%								192780			3046		
									4,048,380			63,982		
	PRICE ONE SQ FT.			1 SF		6109.09664								

REFERENCE ONLY

CES-2000-0 (4/81)

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PARSONS

CLINCH RIVER ~~BASE CASE~~

ESTIMATE WORKSHEET

M.T.O. BY N.J. PRICED BY J.J DATE AUG-85 SHEET 2 OF ____

JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA R&H BUILD

DESCRIPTION SS-04

CAPACITY MRS FACILITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV. 16	ELECTRICAL AREA #4											
16400												
	SS-04 ROOM # 1077											
	3000A/250 MVA ~~CKV~~ PRIM. SW.	3	E	2900	45		87900			135		
(3)												
	250HP D.O.L. FUSED	6	E	10200	20		61200			120		
	300HP " "	8	E	10200	20		81600			160		
	800HP " "	6	E	12400	30		74400			180		
	SPACES	2	E	1700	10		3400			20		
							308,500			615		
	MOTORS, FLEX, FITT & TERMIN.											
	CONTR SW. PB. OR HOA	20	E	200	10		4000			200		
(3)												
	250HP EXH. FAN CONN & TERM.	6	E	200	10		1200			60		
	300HP " " "	8	E	200	10		1600			80		
	800HP CHILLER "	6	E	200	10		1200			60		
							8000			400		
	TOTAL						316,500			1015		

CES-2000-0 (4/81)

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PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY J.J PRICED BY J.J DATE AUG-85 SHEET 3 OF

JOB NO.: 6440-11 CLIENT: PNL - DOE TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA R&H BLDG-

DESCRIPTION 480V. MOTOR FEEDERS

CAPACITY MRS FACILITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV 16	ELECTRICAL AREA #4											
16100												
	EF-870 A 300HP #4 1½"C	575	LF									
	EF-870 B	600	LF									
	EF-870 C	615	LF									
	EF-870 D	635	LF									
	EF-871 A 250HP	660	LF									
	EF-871 B	710	LF									
	EF-871 C	730	LF									
	EF-872 A 300HP	360	LF									
	EF-872 B	385	LF									
	EF-872 C	400	LF									
	EF-872 D	420	LF									
	EF-873 A 250HP	445	LF									
	EF-873 B	495	LF									
	EF-873 C	515	LF									
	CH-800 A 800HP	300	LF									
	CH-800 B	320	LF									
	CH-800 C 1/0 2"φC	340	LF									
	CH-800 D	360	LF									
	CH-800 E	380	LF									
	CH-800 F	400	LF									
	2"φ RGS	2100	LF	254	.18		5340			378		
	1½"φ RGS	7545	LF	1.87	.14		14110			1056		
	FITTG & SUPPORTS	50	%	—	—		9720			717		
	STAINLESS STEEL 10% ↑	965	LF	600	—		5790			—		
	SKV #1/0 2100 X 1.1 X 4	9240	LF	1.57	.031		14510			286		
	SKV #4 7545 X 1.1 X 4	33200	LF	.9	.021		29880			697		
	#12 CONTROL 9645 X 1.1 X 4	42,500	LF	.065	.008		2760			340		
	#12 CONNECT.	80	E	.1	.125		80			20		
							82,190			3494		

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE — **ESTIMATE WORKSHEET**

M.T.O. BY J.J. | PRICED BY J.J. | DATE AUG-85 | SHEET 4 OF ____

JOB NO.: 6440-11 | CLIENT: PNL-DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA R&H BLDG-

DESCRIPTION SS-07 SWITCHGEAR & MCC

CAPACITY MRS FACILITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV 16	ELECTRICAL - AREA #4											
16400												
	SS-07											
	5KV 600A AIR INTER. SW.	2	E	7870	45		15,740			90		
	1500 KVA XFMRS 4160-480-277	2	E	18870	80		37,740			160		
	3200 A. D.OUT BRKR	3	E	26000	20		78,000			60		
	800 A. " "	2	E	10200	20		20,400			40		
	SPACES	3	E	1700	-		5,100			-		
	SS-07-S/B						156,980			350		
	5KV 600 A AIR. INTER. SW.	1	E	7870	45		7870			45		
	1000 KVA XFMR. 4160-480-277	1	E	15950	80		15950			80		
	3200 A. D.OUT BRKRS.	2	E	26000	20		52000			40		
	1600 A " "	1	E	17100	20		17100			20		
	800 A " "	2	E	10200	20		20400			40		
	SPACE	1	E	1700	-		1700			-		
							115020			225		
	MCC-07-S/B-3											
	800 A BRKR	2	E	1800	10		3600			20		
	600 A "	1	E	1600	7		1600			7		
	100 A "	1	E	410	3		410			3		
	125 HP COMB. START	4	E	2100	15		8400			60		
	50 HP " "	4	E	985	6		3940			24		
	SPARES	2	E	400	-		800			-		
							18750			114		
							290750			689		

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE — **ESTIMATE WORKSHEET**

M.T.O. BY N.N. | PRICED BY N.J. | DATE AUG-81 | SHEET 5 OF ____

JOB NO.: 6440-11 | CLIENT: PNL-DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA R&H BLDG

DESCRIPTION SS-07-S/B-1 & 07-1

CAPACITY MRS FACILITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV. No 16400	ELECTRICAL - AREA #14											
	MCC-07-1 ROOM-1149											
	225A BRKR.	2	E	900	4		1800			8		
	100A "	18	E	410	3		7380			54		
	SPACES	8	E	180	-		1440			-		
	30HP COMB. STARTER	1	E	985	6		990			6		
	25-15HP " "	15	E	785	5		11780			75		
	1/2HP TO 10HP " "	32	E	585	4		18720			128		
							42110			271		
	MCC-07-S/B-1											
	800A BRKR	1	E	1800	10		1800			10		
	100A BRKR	5	E	410	3		2050			15		
	SPACES	3	E	180	-		540			-		
	50H & 40HP COMB. START	2	E	985	6		1970			12		
	25HP TO 20HP " "	3	E	785	5		2360			15		
	10HP TO 3HP " "	12	E	585	4		7020			48		
							15,740			100		
	MCC-07-S/B-2											
	800A BRKR	1	E	1800	10		1800			10		
	225A "	1	E	900	4		900			4		
	100A "	2	E	410	3		820			6		
	SPACES	4	E	180	-		720			-		
	50H COMBIN STARTER	1	E	985	6		990			6		
	25HP to 15HP " "	5	E	785	5		3930			25		
	1/2HP to 10HP " "	14	E	585	4		8190			56		
							17,350			107		
							75,200			478		

CES-2000-0 (4/81)

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PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY J.J | PRICED BY J.J | DATE AUG-85 | SHEET 6 OF

JOB NO.: 6440-11 | CLIENT: PNL-DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA R&H BLDG.

DESCRIPTION SS-07 GENER. XFMR & PNLS

CAPACITY MRS FACILITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV-16	ELECTRICAL AREA #14											
16400												
	500 KW GENERATOR	1	E		250		55,000			250		
	DAY TANK	1	E		100		10,000			100		
							65,000			350		
	15 KVA XFMRS	3	E	620	15		1860			45		
	30 KVA XFMR	1	E	820	20		820			20		
	RECEPT. PANELS	4	E	960	24		3840			96		
	LIGHT'G PNLS 96 KW	2	E	1200	30		2400			60		
	LIGHT'G PNLS 20 KW	4	E	960	24		3840			96		
	LIGHT'G PNL 3 KVA	1	E	250	10		250			10		
	RESISTOR LOAD BANK	1	SET	1000	20		1000			20		
							14010			347		
	75 KW UPS SYSTEM	1	SET		200		135,000			200		
	CLASS = QA-1											
	125 HP MOTOR TERMINATE	4	E	150	10		600			40		
	50 HP - 40 HP " "	7	E	145	9		1020			63		
	30 HP - 25 HP " "	10	E	|	|		1450			90		
	20 HP - 15 HP " "	14	E	|	|		2030			126		
	1/2 HP - 10 HP " "	50	E	|	|		7250			450		
	TERMINATE @ BOXES	25	E	30	4		750			100		
	MCC FEEDERS	3	E	30	5		90			15		
	GENERATOR FEEDERS	1	E	60	10		60			10		
							13250			894		
							227,260			1791		

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY J.J | PRICED BY J.J. | DATE AUG-85 | SHEET 7 OF ____

JOB NO.: 6440-11 | CLIENT: PNL-DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA R & H BLDG.

DESCRIPTION SS-07 MOTOR FEEDERS

CAPACITY MRS FACILITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV. 16	ELECTRICAL - AREA #11											
16100												
	MCC FEEDERS 3"φ RGS 40x4	160	LF	5.39	.3		860			48		
	125HP 2"φ RGS 500x4	2000	LF	2.54	.18		5080			360		
	50HP & 40HP 1½φ RGS 500x7	3500	LF	1.87	.14		6550			490		
	30HP & 25HP 1" φ RGS 250x10	2500	LF	1.25	.1		3130			250		
	20HP & 15HP 1" φ RGS 250x14	3500	LF	1.25	.1		4380			350		
	10HP & 10HP 1" φ RGS 250x50	12,500	LF	1.25	.1		15630			1250		
	100 AMP BRKR 1" φ RGS 100x30	3000	LF	1.25	.1		3750			300		
	GENERATOR 3" φ RGS 200x1	200	LF	5.39	.3		1080			60		
	FITT'G & SUPPORT	50	%	—	—	—	20,230			1554		
	STAINLESS 10% OF 1"φ 1½φ PC	2500	LF	6.00	—		15,000			—		
	" FITT'G & SUPPORT						2500			—		
							83,190			4,662		
	250 MCM 500x6x4 =	1200	LF	2.15	.041		2580			49		
	4/0 500x3x4 =	6000	LF	1.9	.038		11400			230		
	#2 500x3x7 =	10500	LF	.7	.02		7350			210		
	#6 250x3x10 =	7500	LF	.25	.014		1880			105		
	#10 250x3x14 =	10500	LF	.1	.009		1050			95		
	#12 250x3x50 =	37500	LF	.065	.008		2440			300		
	#8 100x3x30 =	9000	LF	.17	.011		1530			99		
	250 MCM 100x6x1 =	600	LF	2.15	.041		1290			25		
	#12 CONTROL 500x4x40	80,000	LF	.065	.008		5200			640		
							34,720			1753		
							117,910			6415		

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY N.J. PRICED BY N.J. DATE AUG-85 SHEET 8 OF ____

JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA R & H BUILDING

DESCRIPTION SS-08 MCC

CAPACITY MRS FACILITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV. 16	ELECTRICAL - AREA #11											
16400												
	SS-08 ROOM #1127											
	5KV AIR INTER SW. 600A	2	E	7870	45		15740			90		
	1500 KVA 4160-480/277 3ϕ	2	E	18870	80		37,740			160		
	3200AF/2000AT D.OUT SEC.	2	E	26000	20		52,000			40		
	1200AF-600 AT "	1	E	17100	20		17100			20		
	3200AF/2000AT "	1	E	26000	20		26000			20		
	800 AF "	2	E	10200	20		20400			40		
	1 SPACE "	1	E	1700	—		1700			—		
							170680			370		
	SS-08 - S/B											
	5KV AIR INTER SW. 600A	1	E	7870	45		7870			45		
	1000 KVA 4160-480/277 3ϕ	1	E	15950	80		15950			80		
	3200 AF/1600 AT SEC. BRKR	1	E	26000	20		26000			20		
	3200AF/1600 AT D.OUT "	1	E	26000	20		26000			20		
	800 AF/600 AT " "	4	E	10200	20		40800			80		
	1 SPACE " "	1	E	1700	—		1700			—		
							118,320			245		
							289,000			615		

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY N.J. PRICED BY J.J. DATE AUG-95 SHEET 9 OF

JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA R&H BULDING
DESCRIPTION SS-08 MCC.
CAPACITY MRS FACILITY

ACCNT DIV. No		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
16400	ELECTRICAL - AREA #14											
	MCC-08-1											
	225AF/200AT BRKR	2	E	900	4		1800			8		
	100A "	6	E	410	3		2460			18		
	SPACES	8	E	180	-		1440			-		
	75HP COMB. STARTER	3	E	1200	9		3600			27		
	25, 20, 15 " "	10	E	785	5		7850			50		
	1/2 TO 10 " "	27	E	585	4		15,800			108		
							32,950			211		
	MCC-08-S/B-1											
	225A. BRKR	3	E	900	4		2700			12		
	100A BRKR	9	E	410	3		3690			27		
	SPACES	4	E	180	-		720			-		
	30HP COMBIN. STARTER	1	E	985	6		990			6		
	20HP " "	2	E	785	5		1570			10		
	1/2 TO 3 " "	11	E	585	4		6440			44		
							16,110			99		
	75HP MOTOR CONN.	4	E	150	10		600			40		
	30HP TO 1/2" " "	53	E	145	9		7690			477		
	MCC FEEDER "	2	E	30	5		60			10		
							8350			527		
	75KW UPS SYSTEM WITH BATTERIES, PNL ETC CLASS - QA-1	1	E				135,000			200		
							192,310			1037		

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE — **ESTIMATE WORKSHEET**

M.T.O. BY J.J | PRICED BY J.J | DATE AUG. '85 | SHEET 10 OF ____

JOB NO.: 6440-11 | CLIENT: PNL-DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA R&H BLDG.

DESCRIPTION SS-08 MCC FEEDERS

CAPACITY MRS FACILITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV. 16	ELECTRICAL - AREA #14											
	15KVA XFMRS	2	E	620	15		1240			30		
	9KVA XFMRS	2	E	480	8		960			16		
	PWR PNL 20 KW	4	E	960	24		3840			96		
	LITE PNL 13.5 KW @ 20	3	E	960	24		2880			72		
	LITE PNL 90.3 KW	2	E	1200	30		2400			60		
		1					11320			274		
16100	MCC FEEDERS 3"ϕ RGS	40	LF	5.39	.3		320			12		
	" " 3"ϕ RGS	40	LF	5.39	.3		320			12		
	UPS " 2"ϕ RGS	100	LF	2.54	.18		250			18		
	75HP " 2"ϕ RGS 100x3	1500	LF	"	"		3810			270		
	90 KW " 2"ϕ RGS 100x2	2,00	LF	"	"		510			136		
	30H - 15HP " 1½ϕ RGS 500x28	14,000	LF	1.87	.14		26180			1960		
	½HP - 10HP " 1"ϕ RGS 500x53	26,500	LF	.91	.08		24120			2120		
	FITTING & SUPPORT 50%	-	-	-	-		27660			2210		
	STAINL. STEEL 10% OF 1"&1½	2650	LF	6-			15900			-		
							198,870			6,638		
	MCC FEEDERS 250 MCM. 50x6x2	600	LF	2.15	.041		1290			25		
	75HP 3/0 600x3x3	5400	LF	1.55	.033		8370			178		
	UPS 3/0 100x3x1	300	LF	1.55	.033		470			10		
	90 KW. 3/0 200x3	600	LF	1.55	.033		930			20		
	30 TO 30 HP #6 14,000x3	42,000	LF	.25	.014		10500			588		
	0 TO 7½ H #12 26500x3	79500	LF	.065	.008		5170			636		
	NEUTRAL 20%	-	-	-	-		6350			291		
	CONTROL, R/B & HOR. 40x3x15%	60,000	LF	.065	.008		3900			480		
							35980			2228		
							146170			9140		

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PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY J.V. PRICED BY J.V DATE AUG-85 SHEET 11 OF

JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA R & H BLDG.

DESCRIPTION SS-09 MOTOR CONTROL CENTER

CAPACITY MRS FACILITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV. 16	ELECTRICAL - ~~AREA #11~~											
16400												
	SS-09 ROOM # 1127											
	5KV-600A AIR INTER. SW.	2	E	7870	45		15,740			90		
	1500KVA XFMR 4160-480/277	2	E	18870	80		37,740			160		
	3200 A D.OUT BRKR	3	E	26000	20		78,000			60		
	800 A " " "	2	E	10200	20		20,400			40		
	SPACE ONLY	2	E	1700	-		3,400			-		
							155,280			350		
	SS-09 S/B											
	5KV-600 A AIR INTER. SW.	1	E	7870	45		7870			45		
	1000 KVA XFMR 4160-480-277	1	E	15950	80		15950			80		
	3200 A D.OUT BRKR	2	E	26000	20		52000			40		
	800 A " " "	4	E	10200	20		40,800			80		
	SPACES ONLY	2	E	1700	-		3,400			-		
							120,020			245		
							275,300			595		

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PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY J.J. PRICED BY J.J. DATE AUG-85 SHEET 12 OF

JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA R&H BLDG.
DESCRIPTION SS-09 MOTOR CONTROL CENT.
CAPACITY MRS FACILITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV. 16	ELECTRICAL - AREA #4											
16400												
	MCC - SS-09-1											
	100 A BRKR	17	E	410	3		6970			51		
	225A "	2	E	900	4		1800			8		
	60 KW "	1	E	1600	4		1600			4		
	SPACES	8	E	180	-		1440			-		
	75HP COMB. STARTER	1	E	1200	9		1200			9		
	30-40HP " "	3	E	785	5		2360			15		
	1/2 TO 5HP " "	28	E	585	4		16380			112		
							31,250			199		
	SS-09-S/B-1											
	100A BRKR	7	E	410	3		2870			21		
	225A "	3	E	900	4		2700			12		
	SPACES	5	E	180	-		900			-		
	30HP COMBIN. START	2	E	985	5		1970			10		
	20HP " "	2	E	785	4		1570			8		
	1/2 TO 5HP " "	9	E	585	4		5270			36		
							15,280			87		
	WELD'G RECEPT.	4	E	560	4		2240			20		
	15 KVA XFMR	2	E	620	15		1240			30		
	9 KVA XFMR	2	E	480	8		960			16		
	LITE PANEL 20 & 24 KW	4	E	960	24		3840			96		
	POWER PNL 20 KW.	4	E	960	24		3840			96		
	LITE PANEL 96 KW	2	E	1200	30		2400			60		
							14520			318		
	75 KVA UPS SYSTEM	1	SET				185,000			200		
	UP TO CATEGORY #4 CLASS QA1											
							196,550			804		

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PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY J.J. PRICED BY J.J. DATE AUG-85 SHEET 13 OF ____

JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA R&H BUILDING

DESCRIPTION SS-09 MOTOR FEEDERS

CAPACITY MRS FACILITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV. 16	ELECTRICAL AREA #4											
16400												
	MCC FEEDERS 3"ϕ RGS.	40	LF	5.39	.3		220			12		
	" " 3"ϕ RGS	40	LF	↓	↓		220			12		
	UPS 2"ϕ RGS	100	LF	2.54	.18		250			18		
	75HP, 75KV, 2"ϕ RGS 500x3	1500	LF				3810			270		
	96.8 KW " 2"ϕ RGS 600x1	600	LF				1520			108		
	20-30HP " 1½ϕ RGS 500x21	10,500	LF	1.87	.14		19640			1470		
	0-7½HP " ¾"ϕ RGS 500x44	22,000	LF	.91	.08		20020			1760		
	FITTING & SUPPORTS	50	%	-	-		22840			1845		
	STAINLESS STEEL 10% OF ¾"	2200	LF	6.00	-		13200			-0-		
							181,720			5475		
	MCC FEEDERS 250 MCM 500x6x2	600	LF	2.15	.041		1290			25		
	75HP 575KV 3/0 600x3x3	5400	LF	1.55	.033		8370			178		
	UPS 3/0 100x3x1	300	LF	1.55	.033		470			10		
	20-30HP #6 500x3x21	31,500	LF	.25	.014		7880			441		
	0-7½HP #12 500x3x44	66,000	LF	.065	.004		4290			528		
	NEUTRAL 20%	—	-	—	-		4720			236		
	CONTROL PB. OR H-O-A.	—					—			—		
	#12 WIRE 40x3x500	60,000	LF	.065	.008		3900			480		
							32,210			1898		
	75HP MOTOR TERM.	1	E	150	10		150			10		
	25&30HP " " 3+4	3	E	145	9		440			27		
	½&5HP " " 28+9	28	E	145	9		4060			252		
	MCC FEEDER	2	E	30	5		60			10		
							4710			299		
							118,640			7672		

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PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY N.J. PRICED BY N.J. DATE AUG-85 SHEET 14 OF ____

JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA R & H BLDG

DESCRIPTION SS-10 MOTOR CONTROL CENT.

CAPACITY MRS FACILITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV. 16	ELECTRICAL - AREA #4											
16400	SS-10 ROOM #1077											
	5KV. 600A AIR INTER. SW.	2	E	7870	45		15740			90		
	1500 KVA-4160-480/277 XFMR	2	E	18870	80		37740			160		
	480 3200 AF/2000 AT SECOND. DISC.	2	E	26000	20		52000			40		
	1600 AF/1000 AT D.OUT BRKR	1	E	12400	20		12400			20		
	800 AF/600 AT D.OUT BRKR	5	E	10200	20		51000			100		
	SPACES	3	E	1700	1		5100			3		
							173980			410		
	MCC-101											
	BRKR 100AMP	8	E	410	3		3280			24		
	BRKR 250 HP TOTAL 600A	1	E	1600	8		1600			8		
	SPACES BRKR.	2	E	60	1		120			2		
	SPACES COMB. START.	10	E	180	1		1800			10		
	100 HP COMB. STARTER S-4	5	E	1200	9		6000			45		
	60HP " " S-3	3	E	985	6		2960			18		
	40HP " " S-3	3	E	985	6		2960			18		
	25HP " " S-2	2	E	785	5		1570			10		
	20HP " " S-2	5	E	785	5		3930			25		
	15HP " " S-2	3	E	785	5		2360			15		
	10HP " " S-1	10	E	585	4		5850			40		
	7½HP " "	—	E		—					—		
	5 HP " "	5	E	585	4		2980			20		
	3 HP " "	2	E	585	4		1170			8		
	2 HP " "	2	E	585	4		1170			8		
	1 HP " "	2	E	585	4		1170			8		
	¾ HP " "	2	E	585	4		1170			8		
	UNKNOWN COMB. START.	15	E	585	4		8780			60		
							48820			314		
	TOTAL						222800			724		

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PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY J.J. PRICED BY J.J DATE AUG-85 SHEET 15 OF

JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA R&H BLDG.

DESCRIPTION SS-10 MOTOR CONTROL CENT.

CAPACITY MRS FACILITY

ACCNT			QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV. 16	ELECTRICAL - AREA 14												
16400	MCC SS-10-2 ROOM-1077												
	BRKR 100 A.		5	E	410	3		2050			15		
	BRKR 800AF/400 AT		1	E	1800	10		1800			10		
	50 HP COMBIN. STARTER	S-3	1	E	985	6		990			6		
	40HP " "	S-3	1	E	985	6		990			6		
	25HP " "	S-2	1	E	785	5		790			5		
	20HP " "	S-2	2	E	785	5		1570			10		
	10HP " "	S-1	1	E	585	4		590			4		
	7½HP " "	S-1	3	E	585	4		1760			12		
	5HP " "	S-1	4	E	585	4		2340			16		
	3HP " "	S-1	2	E	585	4		1170			8		
	UNKNOWN " "	S-1	4	E	585	4		2340			16		
	SPACES		6	E	180	4		1080					
								17,470			108		
	MCC-SS-10-3												
	100A BRKR		2	E	410	3		820			6		
	75 KW BRKR 600A		1	E	1600	4		1600			4		
	800 A. BRKR		1	E	1800	10		1800			10		
	50 HP COMB. START	S-3	1	E	985	6		990			6		
	25HP " "	S-2	2	E	785	5		1570			10		
	20HP " "	S-2	2	E	785	5		1570			10		
	15HP " "	S-2	1	E	785	5		790			5		
	10HP " "	S-1	2	E	585	4		1170			8		
	5HP " "	S-1	8	E	585	4		4680			32		
	UNKNOWN " "	S-1	4	E	585	4		2340			16		
	SPACES ONLY		6	E	180	4		1080					
								18,910			107		
	TOTAL							35,880			265		

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY J.J. PRICED BY J.J. DATE AUG-85 SHEET 16 OF ____

JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA R&H BLDG.

DESCRIPTION SS-10 MOTOR CONTROL CENT.

CAPACITY MRS FACILITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV. 16	ELECTRICAL AREA #4											
16400	MCC-SS-10-4 ROOM-1077											
	BRKR 100A	5	E	410	3		2050			15		
	BRKR 800AF-400AT	1	E	1800	10		1800			10		
	50 HP COMB. STARTER S-3	1	E	985	6		990			6		
	40 HP " " S-3	1	E	985	6		990			6		
	25 HP " " S-2	1	E	785	5		790			5		
	20 HP " " S-2	2	E	785	5		1580			10		
	10 HP " " S-1	1	E	585	4		590			4		
	7½ HP " " 1	3	E	585	4		1760			12		
	5 HP " " 1	4	E	585	4		2340			16		
	3 HP " " 1	2	E	585	4		1170			8		
	SPACES	6	E	180	-		1080			-		
	UNKNOWN " " 1	5	E	585	4		2930			20		
							18060			112		
	MCC-SS-10-5											
	100 A BRKR	2	E	410	3		820			6		
	800 A BRKR	1	E	1800	10		1800			10		
	50HP COMB. STARTER	1	E	985	6		990			6		
	25HP " "	2	E	785	5		1570			10		
	20HP " "	2	E	785	5		1570			10		
	15HP " "	1	E	585	5		590			5		
	10HP " "	3	E	585	4		1760			12		
	5HP " "	8	E	585	4		4680			32		
	UNKNOWN " "	1	E	585	4		590			4		
	1 SPACES	6	E	180	-		1080			-		
							15,450			95		
	TOTAL						33,510			207		

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PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY J. J. | PRICED BY J. J. | DATE AUG-85 | SHEET 17 OF ____

JOB NO.: 6442-11 | CLIENT: PNL-DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA R & H BLDG.

DESCRIPTION MOTOR TERMINATIONS & XFMRS

CAPACITY MRS FACILITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV. 16	ELECTRICAL AREA 4											
	MOTOR CONN.											
16100	MCC FEEDERS	5	E	30	5		150			25		
	150 TON CRANE	1	E	160	11		160			11		
	100 HP MOTOR CONN.	5	E	150	10		750			50		
	50 HP " " 5+2	7	E	145	9		1020			63		
	40 HP " " 3+1+1	5	E	145	9		730			45		
	25 HP " " 2+3+3	8	E	145	9		1160			72		
	20 " " 1+8+4	13	E	145	9		1890			117		
	15 " " 0+4+1	5	E	145	9		730			45		
	10 " " 9+1+1	11	E	145	9		1600			99		
	7½ " " 3+5+3	9	E	145	9		1310			81		
	5 " " 3+17+12	32	E	145	9		4640			290		
	3 " " 2+2+2	6	E	145	9		870			54		
	2 " " 1+2	3	E	145	9		440			27		
	1 " " 1	1	E	145	9		150			9		
	3/4 " " 2+	2	E	145	9		290			18		
	31 KW. PANEL 1+1	2	E	5	2		10			4		
	19 KW PANEL 1+1	2	E	5	2		10			4		
	15 KW PANEL 1+1	2	E	5	2		10			4		
	10 KW PANEL 1+1	2	E	5	2		10			4		
	2 KW PANEL 2+2	4	E	5	2		20			8		
	UNKNOWN START & MOTOR 1+1	19	E	30	5		570			95		
							16,520			1125		
	15 KVA XFMR & SUPPORT	2	E	620	15		1240			30		
	30 KVA XFMR "	2	E	820	20		1640			40		
	30 KW LITE PNL "	4	E	1060	30		4240			120		
	20 KW RECE. PNL "	4	E	960	24		3840			96		
							10,960			286		
							27480			1411		

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PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY J.J | PRICED BY J.J | DATE AUG-85 | SHEET 18 OF ____

JOB NO.: 6440-11 | CLIENT: PNL-DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA R & H BLDG

DESCRIPTION 88-10 FEEDERS

CAPACITY MRS FACILITY

ACCNT DIV. No.		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	ELECTRICAL AREA #4											
16100	100HP 2"φ RGS	100	LF	2.54	.18					-		
	" 2"φ "	110	LF	↓	↓		1680			119		
	" 2"φ " 660	130	LF									
	" 2"φ "	150	LF									
	" 2"φ "	170	LF	↓	↓							
	150 TON CRANE 3"φ RGS	300	LF	5.39	.3							
	MCC FEEDER 3"φ "	20	LF									
	" " 3"φ "	30	LF				2750			153		
	" " 3"φ " 510	50	LF									
	" " 3"φ "	50	LF									
	" " 3"φ "	60	LF	↓	↓							
	40HP 1½"φ RGS 460x3	1380	LF	1.87	.14		2580			193		
	50HP 1½"φ RGS 500x7	3500	LF	"	"		6550			490		
	25HP 1"φ RGS 500x8	4000	LF	1.25	.10		5000			400		
	20HP 1"φ RGS 500x13	6500	LF	↓	↓		8130			650		
	15HP 1"φ RGS 500x5	2500	LF				3130			250		
	0-10HP 3/4"φ RGS 500x64	32,000	LF	.91	.08		29120			2560		
	2-10KW 1"φ RGS 150x6	300	LF	1.25	.1		380			30		
	15-31KW 1½"φ RGS 50x6	300	LF	1.87	.14		560			42		
	UNKNOWN 1"φ RGS 500x19	9,500	LF	1.25	.1		11880			950		
	FITTING & SUPPORT	50%	-	-	-	-	35880			2918		
	STAINLESS STEEL 10% OF 3/4"	3200	LF	6.00	-		19200			-0-		
							126840			8755		

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PARSONS

CLINCH RIVER BASE CASE — **ESTIMATE WORKSHEET**

M.T.O. BY J.J. | PRICED BY J.J. | DATE AUG-85 | SHEET 19 OF ____

JOB NO.: 6440-11 | CLIENT: PNL-DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA R&H BUILDING

DESCRIPTION SS-10 CABLE FEEDERS

CAPACITY MRS FACILITY

ACCNT DIV. 16 ELECTRICAL AREA #4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
16100	3/0 CABLE 100X3 =	300	LF	1.55	.033		470			10		
	3/0 CABLE 110 X3 =	330	LF	1.55	.033		510			11		
	3/0 CABLE 130X3 =	390	LF	1.55	.033		600			13		
	3/0 CABLE 150X3 =	450	LF	1.55	.033		700			15		
	3/0 CABLE 170X3 =	510	LF	1.55	.033		790			17		
	250 MCM 300X6 =	1800	LF	2.15	.041		3870			74		
	250 MCM 20X6 =	120	LF	2.15	.041		260			5		
	250 MCM 30X6 =	180	LF	2.15	.041		390			7		
	250 MCM 50X6 =	300	LF	2.15	.041		650			12		
	250 MCM 50X6 =	300	LF	2.15	.041		650			12		
	250 MCM 60X6 =	360	LF	2.15	.041		770			15		
	#4 WIRE 460X3X3	4200	LF	.39	.017		1640			71		
	#2 " 500X3X7	10500	LF	.70	.02		7350			210		
	#8 " 500X3X8	12000	LF	.17	.011		2040			132		
	#10 " 500X3X18	27000	LF	.10	.009		2700			243		
	#12 " 500X3X64	96,000	LF	.065	.008		6240			768		
	NEUTRAL WIRE 20%						5930			323		
	1 CONTROL PB. HOA ETC.	—	-				-			-		
	#12 WIRES	154,740	LF	.065	.008		10,060			1238		
	TOTAL						45,620			3176		

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PARSONS

ESTIMATE WORKSHEET

CLINCH RIVER BASE CASE

M.T.O. BY J.J. PRICED BY J.J DATE AUG 85 SHEET 20 OF ____

JOB NO.: 6440-11 CLIENT: PNL - DOE TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA R & H BUILDING

DESCRIPTION SS-11 MOTOR CONTROL CENTER

CAPACITY MRS FACILITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV. 16	ELECTRICAL - AREA #4											
16400	SS-11 ROOM #1149											
	SKV. 600A AIR INTER. SW. PRIM	2	E	7870	45		15940			90		
	1500KVA 4160-480-277V. XFMR	2	E	18870	80		37740			160		
	3200 AF/2000 AT SECOND. BRKR	2	E	26000	20		52000			40		
	1600 AF/800 AT D.OUT BRKR.	1	E	12400	20		12400			20		
	800 AF/600 AT " "	5	E	10200	20		51000			100		
	SPACES	3	E	1200	"		5100			"		
							173,980			410		
	MCC - SS-11-1											
	100HP COMB. STARTER	3	E	1200	9		3600			27		
	50HP " "	4	E	985	6		3940			24		
	30HP " "	2	E	985	5		1970			10		
	20HP & 15HP " "	2	E	785	5		1570			10		
	1½ TO 10HP " "	21	E	585	5		12290			105		
	SPACES "	10	E	180	—		1800			—		
	100 A. BRKR	16	E	410	3		6560			48		
	"						31,730			224		
	"											
	MCC-SS-11-2											
	800A BRKR	1	E	1800	10		1800			10		
	100A BRKR	5	E	410	3		2050			15		
	SPACES	8	E	180	—		1440			—		
	50HP & 40HP COMB. START	2	E	985	6		1970			12		
	20HP " "	2	E	785	5		1570			10		
	0 TO 10HP " "	17	E	585	4		9950			68		
							18,780			115		
	TOTAL						224,490			749		

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PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY N.J. PRICED BY N.J. DATE AUG-85 SHEET 21 OF ____

JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA R&H BUILDG.
DESCRIPTION SS-11 MOTOR CONTROL CENT.
CAPACITY MRS FACILITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV. 16	ELECTRICAL AREA #4											
16400	SS-11-3											
	800A. BRKR	1	E	1800	10		1800			10		
	100A. BRKR	10	E	410	3		4100			30		
	SPACE	8	E	180	—		1440			—		
	100HP COMB. STARTER	4	E	1200	9		4800			36		
	50HP " "	2	E	985	6		1970			12		
	20HP & 15HP " "	3	E	785	5		2360			15		
	0 TO 10HP " "	17	E	585	4		9950			68		
							26,420			171		
	SS-11-4											
	800A. BRKR	1	E	1800	10		1800			10		
	100A. BRKR	5	E	410	3		2050			15		
	SPACES	4	E	180	—		720			—		
	50 & 40HP COMB. START	2	E	985	6		1970			12		
	20 & 25HP " "	3	E	785	5		2360			15		
	0 & 10HP	15	E	585	4		8780			60		
							17,680			112		
	SS-11-5											
	800A. BRKR	1	E	1800	10		1800			10		
	100A. BRKR	2	E	410	3		820			6		
	SPACES	4	E	180	—		720			—		
	50HP COMB. START.	1	E	985	6		990			6		
	20 & 25HP " "	4	E	785	5		3140			20		
	15HP " "	1	E	785	5		790			5		
	0 & 10HP	12	E	585	4		7020			48		
							15,280			95		
							59,380			378		

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PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY J.J PRICED BY J.J DATE AUG-85 SHEET 22 OF ____

JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA R & H BLDG

DESCRIPTION SS-11 SCC: XFMR, PNL & TIE-IN

CAPACITY MRS FACILITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV. 16	ELECTRICAL - DROP #4											
16400	15KVA XFMR	2	E	620	15		1240			30		
	30 KVA XFMR	2	E	820	20		1640			40		
	LITE PANEL	4	E	960	24		3840			96		
	RECEPT. PANEL	4	E	960	24		3840			96		
	BATTERY CHARGER	1	E	250	4		250			4		
	BATTERY CHARGER	1	E	250	4		250			4		
	WELD'G RECEPT.	4	E	560	4		2240			16		
							13,300			286		
	MOTOR CONNECTIONS & P.B.											
	MCC FEEDERS TERMINATIONS.	5	E	30	5		150			25		
	100 HP	7	E	150	10		1050			70		
	50 & 40 HP	11	E	145	9		1600			99		
	30 & 25 HP	5	E	145	9		730			45		
	20 & 15 HP	12	E	145	9		1740			108		
	0 TO 10 HP	82	E	145	9		11890			738		
	BRKRS	42	E	10	3		420			129		
	SPACES	34	E	-	-							
							17,590			1214		
	75KW UPS SYSTEM	1	SET		200		135,000			200		
	CLASS - QA-1											
							165,890			1700		

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PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY J.J. PRICED BY J.J. DATE AUG-85 SHEET 23 OF ____

JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA R & H BUILDING.

DESCRIPTION SS-11 MOTOR FEEDERS

CAPACITY MRS FACILITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV. 16	ELECTRICAL AREA #4											
16100	MCC FEED. 3"φ RGS. 40x5	200	LF	5.39	.3		1080			60		
	100 HP 2"φ RGS. 500x7	3500	LF	2.54	.18		8890			630		
	50 & 40 HP 1½"φ RGS. 500x11	5500	LF	1.87	.14		10290			770		
	30 & 25 HP 1"φ RGS 250x5	1250	LF	1.25	.1		1560			125		
	20 & 15 HP 1"φ RGS. 200x12	2400	LF				3000			240		
	0 TO 10 HP 1"φ RGS. 200x82	16,400	LF				20500			1640		
	BRKRS. 1"φ 100x22	2200	LF				2750			220		
	BRKRS 1½φ 100x4	400	LF	1.87	.14		750			56		
	FITTING & SUPPORT	50%	-	-	-	-	24410			1870		
	STAIN. STEEL 10% OF 1"φc	2000	LF	6.00	-	-	12000			-		
							85,230			5611		
	CABLE & WIRE FEEDERS											
	250 MCM. 50x6x5	1500	LF	2.15	.041		3230			62		
	3/0 500x3x7	10,500	LF	1.55	.033		16280			347		
	#2 500x3x11	16,500	LF	.7	.02		11550			330		
	#6 250x3x5	3750	LF	.25	.014		940			53		
	#10 200x3x12	7200	LF	.10	.009		720			65		
	#12 200x3x82	49200	LF	.065	.008		3200			394		
	#10 100x3x22	6600	LF	.10	.009		660			59		
	#6 100x3x4	1200	LF	.25	.014		300			17		
	NEUTRAL 20%		-				7380			265		
	CONTROL #12 250x4x80	80,000	LF	.065	.008		5200			640		
							49460			2232		
							134,690			7843		

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PARSONS

CLINCH RIVER BASE CASE ESTIMATE WORKSHEET

M.T.O. BY EMB/BH PRICED BY BH DATE AUG 85 SHEET 1 OF 3

JOB NO.: 6440-11 CLIENT: PNL/DOE TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA R&H BUILDING

DESCRIPTION

CAPACITY AREA 4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV.17	INSTRUMENTATION											
	SUMMARY											
1702	CONTROL VALVES	INCLUDED WITH AREA 3 ESTIMATE										
1706	FLOW/DIFFERENTIAL PRESSURE INSTR.											
1712	ANALYZERS											
1715	ORIFICE PLATES											
1718	INSTRUMENT INSTALLATION MATERIAL											
1719	CALIBRATION											

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CLINCH RIVER BASE CASE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY	EMB/RH	PRICED BY	RH					DATE	AUG 85									SHEET	2	OF			
JOB NO.:	6440-11	CLIENT:	PNL/DOE					TYPE OF ESTIMATE	ROM									CHECKED BY					
UNIT/AREA	R&H BUILDING			QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE			SUBCONTRACT			LABOR			TOTAL DOLLARS					
DESCRIPTION						MATL	M/H	LAB $				M/HRS	DOLLARS			M/HRS	DOLLARS						
CAPACITY	AREA 4																						
ACCNT																							
DN.17	INSTRUMENTATION																						
1702	CONTROL VALVE, MASONEILAN SERIES 20,000 BODY MATERIAL: 300 SERIES S.S. PLUG & SEAT: 300 SERIES S.S. PNEUMATIC DIAPHRAGM OPERATOR																						
1702	INTEGRAL I/P CONVERTER MOUNTED ON VALVE ACTUATOR FOR ABOVE																						
1702	SOLENOID OPERATED VALVE, 3-WAY 24 VDC OR 115 V AC COIL ASCO SERIES 8000 ½" PIPE SIZE ORIFICE 1/8" TO 5/8" BODY S.S., SOFT SEAT, NEMA 4 ENCLOSURE								INCLUDED WITH AREA 3														
1706	DIFFERENTIAL PRESSURE TRANSMITTER ROSEMOUNT 1151 FOR LEVEL, FLOW, AND DIFFERENTIAL PRESSURE MEASUREMENTS.																						
1706	MAGNETIC FLOW METER, SPARLING PDS-650 1 TO 30 FPS FOR 0.25 IN METER SIZE, 304L SS W/ KYNAR LINER																						

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PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY EMB/BH | PRICED BY BH | DATE AUG 95 | SHEET 3 OF ____

JOB NO.: 6440-11 | CLIENT: PNL/DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA R&H BUILDING

DESCRIPTION

CAPACITY AREA 4

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV. 17	INSTRUMENTATION											
1712	HELIUM LEAK DETECTOR FOR CHECKING CANISTER WELDS, VARIAN 938-41 CART MOUNTED, MASS SPECTROMETER WITH 90 L/SEC SS. DIFFUSION PUMP, COLD CATHODE GAUGE, AND THERMOCOUPLE GAUGES IN PORT MANIFOLD & ROUGHING PUMP. WHOLE SYSTEM TO BE MOUNTED ON A CART INCLUDING ALL VALVING AND TUBING PLUS CONNECTIONS.											
1715	ORIFICE PLATE, FLOW MEASURING DANIEL #320 S.S. .125" THK ANSI 150#, BORE: SQUARE & SHARP											
				INCLUDED WITH AREA 3								
1718	INSTRUMENT INSTALLATION MATERIAL											
	5-VALVE MANIFOLD FOR CALIBRATION & INTERCONNECTION OF D/P TRANSMITTERS IMPERIAL EASTMAN 790 SERIES, S.S.											
	INSTRUMENT SUPPORTS											
	INSTR. AIR SUBHEADER											
	INSTR. AIR SUPPLY											
	TUBING & FITTING HOOKUPS FOR D/P TRANS.											
	TUBE SUPPORTS											
1719	CALIBRATION											

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