

DOE/RL/10436--T2-Vol.5-Bk.10

DE90 013265

INTEGRAL
MONITORED RETRIEVABLE STORAGE (MRS)
FACILITY

CONCEPTUAL DESIGN REPORT

VOLUME V BOOK X – 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**

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PREPARED BY:

MRS Facility Hartsville Base Case - Cask Storage

PROJECT COST ESTIMATE SUMMARY

TITLE Project Cost Estimate	PREPARED FOR PNL/DOE	PREPARED BY V. Mesec	CHECKED BY CCE	PROJECT NO. 6440-11	DATE August 85
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	TITLE I	TITLE II	TITLE III	(\$ TOTAL X 1000)
A. ENGINEERING				
ARCHITECT - ENGINEER	NA	49,500	23,600	73,100
OTHER ENGINEERING - SPECIFY	NA	4,800	0	4,800
SUBTOTAL	NA	54,300	23,600	77,900
ESCALATION	NA %	0	0	0
CONTINGENCY	NA %	10,700	4,400	15,100
SUBTOTAL ENGINEERING	NA	65,000	28,000	93,000
OPERATING CONTRACTOR				0
TOTAL A				93,000
B. CONSTRUCTION				
(1) IMPROVEMENTS TO LAND				61,754
(2) BUILDINGS				0
BUILDING NO. R&H Bldg 709,025 sq. ft.				337,300
BUILDING NO. Suppt. Bldgs sq. ft.				35,266
(3) OTHER (DETACHED) STRUCTURES CHTRU Bldg.				1,163
(4) SPECIAL FACILITIES AND INSTAL. Storage Area				25,053
(5) UTILITIES				4,453
(6) OPERATING EXPENSE CHARGES NA				0
(7) CONTRACT ADMINISTRATION NA				0
(8) Construction Management				45,240
SUBTOTAL				510,229
ESCALATION NA % @ NA YEARS				0
CONTINGENCY Varies %				105,141
TOTAL B				615,370
C. STANDARD EQUIPMENT				0
TOTAL C				0
D. TRANSFERRED CAPITAL PROP. OR EQUIPMENT NA				0
CURRENT ENR. COST INDEX	BUILDING	CONSTRUCTION		
TOTAL PROJECT ESTIMATE				\$ 708,370

PROPOSED FUNDS ALLOCATION			TYPE OF ESTIMATE:		REMARKS: (1) All cost 2nd quarter 1985. (2) 85% productivity on labor is included in the estimate. Productivity factor furnished by DOE Oak Ridge. (3) Escalation not included in estimate. (4) NA = Not applicable
FUNDS PURPOSE	OPER. CONTR.	DOE-RL	APPROVALS	DATE	
ENGINEERING	_____	_____	_____	_____	
PROCUREMENT	_____	_____	_____	_____	
CONSTRUCTION	_____	_____	ESTIMATING	_____	
ESCALATION	_____	_____	PROJECT MANAGER	_____	
CONTINGENCY	_____	_____	CLIENT ENGINEER	_____	
TCP/TCE	_____	_____			
WASH. STATE TAX	_____	_____			
TOTAL	_____	_____			

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ESTIMATE WORKSHEET

HARTSVILLE - BASE CASE

M.T.O. BY		PRICED BY		DATE		SHEET		OF						
JOB NO.: 6440-11		CLIENT: D&B/PAUL		TYPE OF ESTIMATE: ROM		DATE: AUG. 85		CHECKED BY:						
UNIT/AREA	DESCRIPTION	CAPACITY	QUAN-TITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE		SUBCONTRACT		LABOR		TOTAL DOLLARS
					MATL	M/H	LAB \$	M/HRS	DOLLARS	M/HRS	DOLLARS			
ACCNT	CONTINGENCY FACTORS													
	R&H BUILDING (AREAS 1, 2, 3 & 4)		25%			337300	K							84330000
	STORAGE (AREA 6)		15%			25053	K							3757000
	SUPPORT BUILDING (PART AREA 5)					35266	K							
	CHTRY " "					1163	K							
	UTILITIES " "					4453	K							
	IMPROVEMENTS TO LAND (" & AREA 7)					61754	K							
			10%			102636	K							10264000
	SUB-TOTAL													98351000
	CONSTRUCTION MANAGEMENT		15%			45240	K							6790000
	TOTAL													105141000
	ROUND OFF ADJUST USE													

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ESTIMATE WORKSHEET

M.T.O. BY <u>ENGINEERING</u>		PRICED BY <u>V. Mese</u>		DATE <u>Aug. 85</u>		SHEET <u> </u> OF <u> </u>					
JOB NO.: <u>6440-11</u>		CLIENT: <u>DOE/PNL</u>		TYPE OF ESTIMATE <u>ROM 3570</u>		CHECKED BY <u>DJ</u>					
UNIT/AREA <u>MRO</u>		QUAN- TITY	UNIT	COST OR M/HR\$ PER UNIT			SUBCONTRACT		LABOR		TOTAL DOLLARS
DESCRIPTION				MATL	M/H	LAB\$	M/HR\$	DOLLARS	M/HR\$	DOLLARS	
CAPACITY <u>ACCELERATED SCHEDULE</u>											
ACCNT											
<u>AREA #1-7</u>		<u>(WORK SHEET REF ONLY)</u>									
<u>TOTAL SUMMARY WITHOUT CONTINGENCIES.</u>											
<u>REN BUILDING - AREA I</u>											
<u>II</u>											
<u>III</u>											
<u>IV</u>											
<u>(B)(2) REN</u>	<u>TOTAL REN</u>	<u>TOTAL w/o CONTINGENCY =</u>								<u>337,300,000</u>	<u>+</u>
<u>(B)(2)</u>	<u>SUPPORT BUILDINGS (PART OF AREAS)</u>	<u>26,935 + PRODUCTIVITY (943) + OVERT (7382)</u>					<u>35,266,000</u>	<u>+</u>			
<u>(B)(3)</u>	<u>CHTRY (do)</u>	<u>893 +</u>					<u>1,176,000</u>	<u>+</u>			
<u>(B)(4)</u>	<u>STORAGE AREA (PART OF AREAS)</u>	<u>3,308 +</u>					<u>25,053,000</u>	<u>+</u>			
<u>(B)(5)</u>	<u>UTILITIES</u>	<u>3,308 +</u>					<u>4,453,000</u>	<u>+</u>			
<u>AREA 5 (SITE)</u>											
<u>7.</u>											
<u>(B)(1)</u>	<u>TOTAL IMPROV. TO LAND</u>									<u>48,446,000</u>	<u>+</u>
										<u>13,308,000</u>	<u>+</u>
										<u>61,754,000</u>	<u>+</u>
<u>TOTAL</u>										<u>464,989,000</u>	

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ESTIMATE WORKSHEET

HARTSVILLE BASE CASE

M.T.O. BY **ENGINEERING** PRICED BY **V. MESEK** DATE **AUG. 85** SHEET **OF**
 JOB NO.: **6440-11** CLIENT **DOE/PNL** TYPE OF ESTIMATE **ROM.** CHECKED BY **km**

UNIT/AREA	DESCRIPTION	CAPACITY	ACCNT	QUAN-TITY	UNIT	COST OR M/HR\$ PER UNIT			MATERIAL EXPENSE		SUBCONTRACT		LABOR		TOTAL DOLLARS	
						MATL	M/H	LAB\$			M/HR\$	DOLLARS	M/HR\$	DOLLARS		
	Summary AREA (5)															
DIV 2	SITE WORK															
3	CONCRETE															
4	MASONARY															
5	METALS															
6	WOOD & PLASTICS															
7	THERMAL MOIST. PROTECTION															
8	DOORS & WINDOWS															
9	FINISHES															
10	SPECIALTIES															
11	EQUIPMENT															
12	FURNISHINGS															
13	SPECIAL CONSTRUCTION.															
14	CONVEYING. SYSTEMS															
15	MECHANICAL SYSTEMS															
16	ELECTRICAL															
17	INSTRUMENTATION.															
	TOTAL AREA # 1															

X
HARTSVILLE BASE CASE

PARSONS
ESTIMATE WORKSHEET

M.T.O. BY ENGINEERING PRICED BY VM DATE AUG. 85 SHEET OF
 JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY KMI/IS

UNIT/AREA	DESCRIPTION	CAPACITY	ACCNT	QUAN-TITY	UNIT	COST OR M/HR PER UNIT			MATERIAL EXPENSE			SUBCONTRACT		LABOR		TOTAL DOLLARS				
						MATL	M/H	LAB \$	M/HR	DOLLARS	M/HR	DOLLARS	M/HR	DOLLARS						
	<u>SUMMARY AREA #2</u>																			
	<u>SUMMARY BY DIVISIONS</u>																			
	<u>LABOR PRODUCTIVITY</u>	<u>85%</u>																		
	<u>3/TOTAL</u>																			
	<u>SHIFT DIFFERENTIAL</u>	<u>(5826000/2 x 11%) =</u>																		
	<u>3/TOTAL</u>																			
	<u>CONTRACTORS OHD - PROFIT</u>	<u>26.5%</u>																		
	<u>TOTAL AREA #2 w/out CONTINGENCY</u>																			

PARSONS

ESTIMATE WORKSHEET

HARTSVILLE BASE CASE

M.T.O. BY ENGINEERING PRICED BY V. MESEK DATE AUG. 85 SHEET OF
 JOB NO.: 6440-11 CLIENT DOE/PNL TYPE OF ESTIMATE ROM. CHECKED BY KCM

UNIT/AREA	DESCRIPTION	QUANTITY	UNIT	COST OR M/HR PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS	
				MATL	M/H	LAB \$		M/HR	DOLLARS	M/HR	DOLLARS		
ACCNT	<u>Summary AREA (3)</u> <u># 2</u>												
DIV 2	<u>SITE WORK</u>												
3	<u>CONCRETE</u>	<u>15880</u>	<u>CY</u>			<u>16.08</u>	<u>5000</u>			<u>106.</u>	<u>2000</u>	<u>7000</u>	
4	<u>MASONRY</u>					<u>16.30</u>	<u>0</u>			<u>0</u>	<u>0</u>	<u>0</u>	
5	<u>METALS</u>	<u>1290</u>	<u>TN</u>			<u>18.99</u>	<u>3444000</u>			<u>65395</u>	<u>1206000</u>	<u>4660000</u>	
6	<u>WOOD & PLASTICS</u>					<u>16.30</u>	<u>0</u>			<u>0</u>	<u>0</u>	<u>0</u>	
7	<u>THERMAL MOIST. PROTECTION</u>					<u>16.30</u>	<u>0</u>			<u>0</u>	<u>0</u>	<u>0</u>	
8	<u>DOORS & WINDOWS</u>					<u>16.30</u>	<u>0</u>			<u>0</u>	<u>0</u>	<u>0</u>	
9	<u>FINISHES</u>					<u>16.30</u>	<u>117000</u>			<u>608</u>	<u>98000</u>	<u>215000</u>	
10	<u>SPECIALTIES</u>					<u>17.00</u>	<u>0</u>			<u>0</u>	<u>0</u>	<u>0</u>	
11	<u>EQUIPMENT</u>					<u>18.75</u>	<u>2166000</u>			<u>5725</u>	<u>107000</u>	<u>2262000</u>	
12	<u>FURNISHINGS</u>					<u>16.30</u>	<u>0</u>			<u>0</u>	<u>0</u>	<u>0</u>	
13	<u>SPECIAL CONSTRUCTION</u>					<u>18.75</u>	<u>0</u>			<u>0</u>	<u>0</u>	<u>0</u>	
14	<u>CONVEYING SYSTEMS</u>					<u>18.75</u>	<u>0</u>			<u>0</u>	<u>0</u>	<u>0</u>	
15	<u>MECHANICAL SYSTEMS</u>					<u>18.75</u>	<u>2373000</u>			<u>124006</u>	<u>2286000</u>	<u>4659000</u>	
16	<u>ELECTRICAL</u>					<u>17.05</u>	<u>1126000</u>			<u>7337</u>	<u>136000</u>	<u>1866000</u>	
17	<u>INSTRUMENTATION</u>					<u>18.38</u>	<u>0</u>			<u>0</u>	<u>0</u>	<u>0</u>	
	<u>TOTAL AREA 2</u>							<u>12231000</u>			<u>280113</u>	<u>4961000</u>	<u>17192000</u>

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ESTIMATE WORKSHEET

HARTSVILLE BASE CASE

M.T.O. BY ENGINEERING		PRICED BY V. NIESEC		DATE Aug 85		SHEET ___ OF ___						
JOB NO.: 6440-11		CLIENT: DOE/PNL		TYPE OF ESTIMATE		CHECKED BY LUF LRS						
UNIT/AREA MRS FACILITY		QUAN-TITY	UNIT	COST OR M/HR PER UNIT			SUBCONTRACT		LABOR		TOTAL DOLLARS	
DESCRIPTION R&H BLDG.				MATL	M/H	LAB \$	M/HR	DOLLARS	M/HR	DOLLARS		
CAPACITY												
ACCNT												
SUMMARY AREA # 3												
SUMMARY BY DIVISIONS					17.4	93313000			1580593	27364000	120	677000
LABOR PRODUCTIVITY		85%							87894	4829000		4829000
3/TOTAL					17.31	93313000			1859427	32193000		125506000
SHIFT DIFFERENCE (32193000/2 x 11%)												1770000
5/TOTAL												33963000
CONTRACTORS OHD PROFIT 26.5%												33728000
TOTAL COST AREA # 3 w/out CONTINGENCY												161004000

ESTIMATE WORKSHEET

2 HARTSVILLE BASE CASE

M.T.O. BY **ENGINEERING** PRICED BY **V. MESEK** DATE **Aug. 85** SHEET **1** OF **1**
 JOB NO.: **6440-11** CLIENT: **DOE/PNL** TYPE OF ESTIMATE **ROM.** CHECKED BY **MS**

UNIT/AREA	DESCRIPTION	CAPACITY	QUAN-TITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS	
					MATL	M/H	LAB \$		M/HRS	DOLLARS	M/HRS	DOLLARS		
ACCNT	Summary AREA (3)													
	# 3													
DIV 2	SITE WORK													
3	CONCRETE		96941	CY	-	15 ³¹		1402000			546443	8462000	29004000	
4	MASONARY				-	16 ⁵⁰		0			0	0	0	
5	METALS		165	TN	-	18 ⁴¹		766000			23262	429000	1195000	
6	WOOD & PLASTICS				-	16 ⁵⁰		1000			346	6000	7000	
7	THERMAL MOIST. PROTECTION				-	16 ⁵⁰		707600			14121	733000	946000	
8	DOORS & WINDOWS				-	16 ⁵⁰		4331000			8707	144000	4475000	
9	FINISHES				-	16 ³³		765000			58490	955000	1920000	
10	SPECIALTIES				-	17 ⁰¹		10000			35	1000	11000	
11	EQUIPMENT				-	18 ¹¹		19519000			54484	1021000	20540000	
12	FURNISHINGS				-	16 ⁵⁰		0			0	0	0	
13	SPECIAL CONSTRUCTION				-	18 ⁴¹		3430000			7690	144000	3574000	
14	CONVEYING. SYSTEMS				-	18 ¹¹		837000			9415	176000	1013000	
15	MECHANICAL SYSTEMS				-	18 ¹¹		26706000			382957	10925000	37631000	
16	ELECTRICAL				-	17 ⁰⁵		5704000			194520	3472000	9176000	
17	INSTRUMENTATION		1	LOT	-	18 ³⁰		10150000			74812	1375000	11525000	
	TOTAL								93313000			158050	27344000	120677000

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ESTIMATE WORKSHEET

HARTSVILLE BASE CASE

M.T.O. BY ENGINEERING PRICED BY V. M. BEE DATE Aug. 85 SHEET OF

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

UNIT/AREA MRS FACILITY QUAN- UNIT COST OR M/HR MATERIAL SUBCONTRACT LABOR TOTAL
 DESCRIPTION RSH. BLDG. TITY UNIT PER UNIT EXPENSE M/HR DOLLARS M/HR DOLLARS DOLLARS
 CAPACITY

ACCNT SUMMARY AREA # 4

SUMMARY BY DIVISIONS

LABOR PRODUCTIVITY (BASE HOURS) 85% 17.10 15 267 000 466464 7960 000 23 227 000

5/TOTAL 15 267 000 547605 9365 000 24 632 000

SHIFT DIFFERENTIAL (*9365000 / 2 * 11%) = 515 000 515 000

3/TOTAL 16 267 000 547605 9880 000 25 147 000

CONTRACTORS OHD/P&FIT 26.5% 6664 000

TOTAL COST AREA # 4 w/o OHD CONTINGENCY 21 811 000

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ESTIMATE WORKSHEET

HARTSVILLE BASE CASE

M.T.O. BY **ENGINEERING** PRICED BY **V. NIESEL** DATE **AUG. 85** SHEET **1** OF **1**
 JOB NO.: **6440-11** CLIENT **DOE/PNL** TYPE OF ESTIMATE **COM.** CHECKED BY **[Signature]**

UNIT/AREA	DESCRIPTION	CAPACITY	QUAN-TITY	UNIT	COST OR M/HR\$ PER UNIT			MATERIAL EXPENSE			SUBCONTRACT		LABOR		TOTAL DOLLARS
					MATL	M/H	LAB\$	M/HR\$	DOLLARS	M/HR\$	DOLLARS				
ACCNT	Summary AREA (5)														
	# 4														
DIV 2	SITE WORK														
3	CONCRETE		22860	CY			16.98	39000				596	10000	49000	
4	MASONARY						15.37	3000000				171627	2638000	5982000	
5	METALS		1553	TN			16.50	13000				1301	21000	34000	
6	WOOD & PLASTICS						18.00	2264000				41540	772000	3036000	
7	THERMAL MOIST. PROTECTION						16.50	2000				397	7000	9000	
8	DOORS & WINDOWS						16.50	161000				26144	431000	1592000	
9	FINISHES						16.50	249000				2193	35000	278000	
10	SPECIALTIES						16.50	223000				19125	312000	605000	
11	EQUIPMENT						17.00	161000				1616	28000	189000	
12	FURNISHINGS						18.00	472000				6119	115000	1087000	
13	SPECIAL CONSTRUCTION						16.50	239000				528	5000	244000	
14	CONVEYING. SYSTEMS						18.00	856000				9550	179000	1035000	
15	MECHANICAL SYSTEMS						18.00	657000				2695	51000	708000	
16	ELECTRICAL						18.00	3197000				119990	2249000	5046000	
17	INSTRUMENTATION						17.00	1826000				61993	1107000	2933000	
							18.00	INCLUDED IN AREA 5				0	0	0	
	TOTAL AREA #4														
								16267000				465460	71960000	23227000	

HARTSVILLE
BASE CASE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY ENGINEERING PRICED BY V. MESSER DATE Aug. 95 SHEET OF
 JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM 35% CHECKED BY

UNIT/AREA	DESCRIPTION	CAPACITY	QUAN- TITY	UNIT	COST OR M/HR\$ PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
					MATL	M/H	LAB \$		M/HR\$	DOLLARS	M/HR\$	DOLLARS	
ACCNT DIV.	AREA # 5												
	SUMMARY												
	AREA # 5												
	CENTRAL												
	SUPPORT FACILITIES												
	UTILITIES												
	TOTAL AREA 5												
													48446000
													1163000
													35216000
													4453000
													89328000

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ESTIMATE WORKSHEET

HARTSVILLE BASE CASE

M.T.O. BY		PRICED BY		DATE		SHEET		OF				
JOB NO.: 6440-11		CLIENT: DOE/PNL		TYPE OF ESTIMATE		CHECKED BY		Rom/pt				
UNIT/AREA		QUAN- TITY	UNIT	COST OR M/HRS PER UNIT			SUBCONTRACT		LABOR		TOTAL DOLLARS	
DESCRIPTION				MATL	M/H	LAB \$	M/HR	DOLLARS	M/HR	DOLLARS		
CAPACITY												
ACCNT												
SUMMARY AREA #5												
SUMMARY BY DIVISIONS						16.3%	28,062,000			590,866	2,699,000	36,761,000
LABOR PRODUCTIVITY		85%								936,82	1,536,000	1,536,000
S/TOTAL							28,062,000			245,48	10,235,000	38,297,000
CONTRACTORS OH-PROFIT		26.5%										10,149,000
TOTAL COST AREA 5 W/OUT CONTINGENCY												48,446,000

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ESTIMATE WORKSHEET

HARTSVILLE -

BASE CASE

M.T.O. BY V. MIESSE PRICED BY V. MIESSE DATE Aug 85 SHEET OF

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

UNIT/AREA	DESCRIPTION	CAPACITY	ACCNT	QUAN-TITY	UNIT	COST OR M/HR\$ PER UNIT			MATERIAL EXPENSE			SUBCONTRACT		LABOR		TOTAL DOLLARS		
						MATL	M/H	LAB \$	M/HR\$	DOLLARS	M/HR\$	DOLLARS	M/HR\$	DOLLARS				
	<u>Summary CHTRM FACILITY</u>																	
	<u>TOTAL DIRECT COST</u>																	
	<u>LABOR PRODUCTIVITY</u>																	
	<u>S/TOTAL</u>																	
	<u>CONTRACTORS OH-PROFIT</u>																	
	<u>TOTAL CHTRM PRG. w/out CONTINGENCY</u>																	

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ESTIMATE WORKSHEET

CLINCH RIVER BASE CASE

M.T.O. BY ENGINEERING PRICED BY V Messer DATE Aug 85 SHEET OF
 JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE Room CHECKED BY JH

UNIT/AREA	DESCRIPTION	CAPACITY	ACCNT	QUAN-TITY	UNIT	COST OR M/HR\$ PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
						MATL	M/H	LAB\$		M/HR\$	DOLLARS	M/HR\$	DOLLARS	
	<u>Summary Support Facilities</u>													
	<u>TOTAL DIRECT COST</u>													
									<u>21,591,000</u>			<u>323845</u>	<u>5344000</u>	<u>24955000</u>
	<u>LABOR PRODUCTIVITY</u>													
				<u>85</u>	<u>%</u>							<u>57149</u>	<u>943000</u>	<u>943000</u>
	<u>S/TOTAL</u>													
									<u>21,591,000</u>			<u>380994</u>	<u>6257000</u>	<u>27,878,000</u>
	<u>Contractors O&EP</u>													
				<u>26.5</u>	<u>%</u>									<u>7388000</u>
	<u>TOTAL COST Support Facilities without Contingency</u>													
														<u>35,266,000</u>

**PARSONS
ESTIMATE WORKSHEET**

WARTSVILLE - BASE CASE

M.T.O. BY V. MESEC PRICED BY V. MESEC DATE AUG 85 SHEET OF
 JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY R. J. [Signature]

UNIT/AREA MRS FACILITY
 DESCRIPTION AREA #5
 CAPACITY
 ACCNT

DESCRIPTION	QUAN- TITY	UNIT	COST OR M/HR\$ PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
			MATL	M/H	LAB \$		M/HR\$	DOLLARS	M/HR\$	DOLLARS	
<u>SUMMARY UTILITIES</u>											
<u>TOTAL DIRECT COST</u>					<u>18%</u>	<u>2105000</u>			<u>64133</u>	<u>1702000</u>	<u>3308000</u>
<u>LABOR PRODUCTIVITY</u>	<u>85%</u>								<u>11318</u>	<u>212000</u>	<u>212000</u>
<u>S/TOTAL</u>						<u>2106000</u>			<u>75451</u>	<u>1444000</u>	<u>3520000</u>
<u>CONTRACTORS OWN'D PROFIT</u>	<u>26.9%</u>										<u>933000</u>
<u>TOTAL COST UTILITIES w/out CONTINGENCY</u>											<u>4453000</u>

PARSONS

ESTIMATE WORKSHEET

HARTSVILLE BASE CASE

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

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

UNIT/AREA MRS FACILITY
 DESCRIPTION
 CAPACITY
 ACCNT

QUAN-TITY	UNIT	COST OR M/HR PER UNIT			MATERIAL EXPENSE			SUBCONTRACT		LABOR		TOTAL DOLLARS	
		MATL	M/H	LAB \$				M/HR	DOLLARS	M/HR	DOLLARS		
		<u>SUMMARY AREA (5) # 5</u>											
<u>DIV 2</u>	<u>SITE WORK</u>			<u>1608</u>	<u>22</u>	<u>106</u>	<u>000</u>				<u>439205</u>	<u>7062000</u>	<u>29168000</u>
<u>3</u>	<u>CONCRETE</u>			<u>1537</u>							<u>0</u>	<u>0</u>	<u>0</u>
<u>4</u>	<u>MASONARY</u>			<u>1650</u>							<u>0</u>	<u>0</u>	<u>0</u>
<u>5</u>	<u>METALS</u>			<u>1874</u>							<u>0</u>	<u>0</u>	<u>0</u>
<u>6</u>	<u>WOOD & PLASTICS</u>			<u>430</u>							<u>0</u>	<u>0</u>	<u>0</u>
<u>7</u>	<u>THERMAL MOIST. PROTECTION</u>			<u>1650</u>							<u>0</u>	<u>0</u>	<u>0</u>
<u>8</u>	<u>DOORS & WINDOWS</u>			<u>1600</u>							<u>0</u>	<u>0</u>	<u>0</u>
<u>9</u>	<u>FINISHES</u>			<u>1635</u>							<u>0</u>	<u>0</u>	<u>0</u>
<u>10</u>	<u>SPECIALTIES</u>			<u>174</u>							<u>0</u>	<u>0</u>	<u>0</u>
<u>11</u>	<u>EQUIPMENT</u>			<u>1874</u>			<u>21000</u>			<u>16</u>	<u>300</u>		<u>21000</u>
<u>12</u>	<u>FURNISHINGS</u>			<u>1650</u>							<u>0</u>	<u>0</u>	<u>0</u>
<u>13</u>	<u>SPECIAL CONSTRUCTION</u>			<u>1874</u>							<u>0</u>	<u>0</u>	<u>0</u>
<u>14</u>	<u>CONVEYING. SYSTEMS</u>			<u>1874</u>							<u>0</u>	<u>0</u>	<u>0</u>
<u>15</u>	<u>MECHANICAL SYSTEMS</u>			<u>1874</u>							<u>0</u>	<u>0</u>	<u>0</u>
<u>16</u>	<u>ELECTRICAL</u>			<u>1705</u>			<u>5736000</u>				<u>89720</u>	<u>1602000</u>	<u>7338000</u>
<u>17</u>	<u>INSTRUMENTATION</u>			<u>1830</u>			<u>199000</u>				<u>1925</u>	<u>35000</u>	<u>234000</u>
	<u>TOTAL</u>						<u>28002000</u>				<u>530866</u>	<u>8699000</u>	<u>36761000</u>
											<u>488</u>	<u>8699000</u>	<u>36761000</u>

PARSONS

ESTIMATE WORKSHEET

HARTSVILLE - BASE CASE

M.T.O. BY **ENGK.** PRICED BY **RUF** DATE **AUG. '85** SHEET OF

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

UNIT/AREA DESCRIPTION CAPACITY ACCNT	QUAN- TITY	UNIT	COST OR M/HR\$ PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
			MATL	M/H	LAB \$		M/HR\$	DOLLARS	M/HR\$	DOLLARS	
SITE WORK AREA #5											
SITE WORK - AREA #5 (CLINCH RIVER - BASE CASE)						20,950,000			318,568		
DELETE: - EARTHWORK (CLINCH RIVER - BASE CASE)						< 14,538,600 >			< 207,433 >		
ADD: - EARTHWORK (HARTSVILLE - BASE CASE)						16,296,400			328,070		
TOTAL SITE WORK (HARTSVILLE - BASE CASE)						22,105,800			439,205		
						Use					
						22,106,000					

PARSONS
ESTIMATE WORKSHEET

HARTSVILLE - BASE CASE

M.T.O BY ENGR.		PRICED BY RUF		DATE AUG. '85			SHEET _____ OF _____								
JOB NO. G440-11		CLIENT: DOE/PNL		TYPE OF ESTIMATE ROM			CHECKED BY [Signature]								
UNIT/AREA	MRS FACILITY	QUAN- TITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE		SUBCONTRACT		LABOR		TOTAL DOLLARS		
DESCRIPTION	GITE LOCATION			MATL	M/H	LABS	M/HRS	DOLLARS	M/HRS	DOLLARS					
CAPACITY	ACCNT														
	DIV. 2	SITWORK	Area #5												
2200		EARTHWORK													
10		FINE GRADING - EARTH (MACH)	-	AC	1878	48									
11		EXCAVATION INCL. HAULING - EARTH	1364800	CY	1.09	.01		1187630				13648			
12		EMBANKMENT - COMPACTED FILL	11433040	CY	1.10	.02		1576340				28661			
13		ROCK EXCAV. & HAUL - BLASTING	2811200	CY	4.50	.10		12650400				281120			
14		ROCK EXCAV. & HAUL - RIPPLE	-	CY	1.70	.02									
15		ROCK EMBANKMENT - COMP - HAUL	580060	CY	1.00	.08		580060				4641			
16		CRUSHING & SCREENING & HAULING	-	CY	2.00	.016									
17		DIKE (EARTH FILL) POND	-	CY	1.10	.02									
18		EARTH FILL AT EXISTING TUNNEL & DIKES	-	CY	1.10	.02									
19		EXCAVATION AT PONDS	-	CY	1.09	.01									
		IMPACT	-	-											
		SUB TOTAL						16294430				328070			
								16294430							

PARSONS
ESTIMATE WORKSHEET

HARTSVILLE BASE

M.T.O. BY J.J. PRICED BY J.J. DATE AUG-15 SHEET 6 OF 6
 JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE ROM CHECKED BY [Signature]

UNIT/AREA	DESCRIPTION	QUAN-TITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB \$		M/HRS	DOLLARS	M/HRS	DOLLARS	
ACCNT	ELECTRIC, AREA - 5											
	SUMMARY											
16110	161 KV. CONC. DUCT BANK						430,300				5280	
16110	69 KV. " " "						144,800				1960	
16500	STREET & AREA LIGHTING						573,220				7,666	
16500	SECURITY LIGHTING						16,100				2228	
16550	GROUND'G						45,990				1060	
16600	ALARM ZONE						525,340				9624	
							1,970,650				27,818	
16400	MAIN SUBSTATION (CLINGH RIVER)						881,480				1220	
16210	5 KV FEEDER	4	"				2,063,760				44,697	
16210	OUTDOOR CONTROL WIRING	"	"				132,530				2749	
16110	HTR FEEDER	"	"				84,960				1264	
16700	PHONE TRUNK	"	"				89,000				2720	
16400	SUPPORT BLDG XFMTR	4	"				194,590				933	
16700	RADIO	"	"				193,820				820	
16700	RADIO	"	"				74,880				437	
16900	OUTSIDE INSTRUM. WIRING	4	"				150,000				7062	
							3,865,070				61,902	
							5,735,700				89,720	
							5,735,700					

HARTSVILLE BASE

PARSONS ESTIMATE WORKSHEET

M.T.O. BY J.J. PRICED BY J.J. DATE AUG-15 SHEET 7 OF 7
 JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE ROM CHECKED BY Rem

UNIT/AREA	DESCRIPTION	CAPACITY	ACCNT	QUANTITY	UNIT	COST OR M/HR PER UNIT			MATERIAL EXPENSE		SUBCONTRACT		LABOR		TOTAL DOLLARS
						MATL	M/H	LAB \$	M/HR	DOLLARS	M/HR	DOLLARS			
	<u>ELECTRICAL AREA - 5</u>														
<u>16110</u>	<u>161 KV CONC DUCT BANK</u>														
	<u>EXCAVAT. 4000x2.5x4.5</u>			<u>1667</u>	<u>CY</u>	<u>6</u>	<u>.15</u>		<u>10,000</u>				<u>250</u>		
	<u>27</u>														
	<u>CONC. 4000x2.5x1</u>			<u>370</u>	<u>CY</u>	<u>55</u>	<u>.5</u>		<u>20,350</u>				<u>185</u>		
	<u>27</u>														
	<u>BACKFILL 1667-370 =</u>			<u>1297</u>	<u>CY</u>	<u>35</u>	<u>.07</u>		<u>4,540</u>				<u>91</u>		
	<u>6" PVE COND. 4000x3</u>			<u>12,000</u>	<u>LF</u>	<u>4.1</u>	<u>.20</u>		<u>49,200</u>				<u>2400</u>		
	<u>PLUMBING & SUPPORT 25%</u>			<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>		<u>12,300</u>				<u>600</u>		
	<u>161 KV. FEEDERS</u>														
	<u>500 MCM 4000x3x1.05 =</u>			<u>13,200</u>	<u>LF</u>	<u>20.86</u>	<u>.1</u>		<u>275,350</u>				<u>1320</u>		
	<u>4/0 GRND 4000x1.05 =</u>			<u>4,200</u>	<u>LF</u>	<u>3.9</u>	<u>.063</u>		<u>16,380</u>				<u>265</u>		
	<u>CABLE TERM. & SPLICING</u>			<u>8</u>	<u>E</u>	<u>225</u>	<u>4</u>		<u>180</u>				<u>32</u>		
	<u>POT HEAD</u>			<u>6</u>	<u>E</u>	<u>2000</u>	<u>20</u>		<u>42,000</u>				<u>120</u>		
	<u>TESTING</u>			<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>		<u>-</u>				<u>17</u>		
									<u>430,300</u>				<u>5280</u>		

HARTSVILLE BASE

PARSONS
ESTIMATE WORKSHEET

M.T.O. BY J.J. PRICED BY J.J. DATE AUG-15 SHEET 8 OF 8
 JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE ROM CHECKED BY [Signature]

UNIT/AREA	DESCRIPTION	CAPACITY	ACCNT	QUAN-TITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	'SUBCONTRACT		LABOR		TOTAL DOLLARS
						MATL	M/H	LAB \$		M/HRS	DOLLARS	M/HRS	DOLLARS	
	<u>ELECTRICAL AREA-5</u>													
<u>16110</u>	<u>69KV CONC. DUCT</u>													
	<u>EXCAVATION 1500x2.5x4.5</u>	<u>27</u>		<u>625</u>	<u>CY</u>	<u>6</u>	<u>.15</u>		<u>3750</u>			<u>94</u>		
	<u>CONC. 1500x2.5x1</u>	<u>27</u>		<u>139</u>	<u>CY</u>	<u>55</u>	<u>.5</u>		<u>7650</u>			<u>70</u>		
	<u>BACKFILL 625-139 =</u>			<u>486</u>	<u>CY</u>	<u>3.5</u>	<u>.07</u>		<u>1700</u>			<u>34</u>		
	<u>6" PVC PIPE 1500x3 =</u>			<u>4500</u>	<u>LF</u>	<u>4.1</u>	<u>.02</u>		<u>18450</u>			<u>900</u>		
	<u>FITTING & SUPPLIES 25%</u>			<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>		<u>4610</u>			<u>225</u>		
	<u>69KV FEEDER</u>													
	<u>500MCM 1500x3x1.05</u>			<u>4725</u>	<u>LF</u>	<u>20.86</u>	<u>.01</u>		<u>98560</u>			<u>473</u>		
	<u>4/0 GRND 1500x1.05</u>			<u>1575</u>	<u>LF</u>	<u>3.9</u>	<u>.066</u>	<u>03</u>	<u>6140</u>			<u>104</u>		
	<u>CABLE TERM. & SPLICING</u>			<u>8</u>	<u>E</u>	<u>20</u>	<u>4</u>		<u>160</u>			<u>32</u>		
	<u>POTHEADS</u>			<u>3</u>	<u>E</u>	<u>1260</u>	<u>5</u>		<u>3780</u>			<u>15</u>		
	<u>TESTING</u>			<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>		<u>-</u>			<u>13</u>		
									<u>144,800</u>			<u>1960</u>		

HARTSVILLE BASE

PARSONS ESTIMATE WORKSHEET

M.T.O. BY J.V. PRICED BY J.V. DATE AUG-15 SHEET 9 OF 9
 JOB NO.: 6440-11 CLIENT: PVL-DOE TYPE OF ESTIMATE ROM CHECKED BY Rem O

UNIT/AREA	DESCRIPTION	CAPACITY	QUAN-TITY	UNIT	COST OR M/HR\$ PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
					MATL	M/H	LAB \$		M/HR\$	DOLLARS	M/HR\$	DOLLARS	
ACCNT	ELECTRICAL	AREA-5											
16500	BASE HARTSVILLE LIGHTING	STREET & OUTSIDE AREA.											
		13 X 200 = 2600											
		14.5 X 200 = 2900											
		AREA, 2000 X 2900 = 7,540,000 SF											
		USING CLINCH RIVER ESTIM.											
		$\$ \frac{798250 \times 7,540,000}{10,500,000} =$						573,220			7666		
		$\frac{10676 \times 7,540,000}{10,500,000} =$											

HARTSVILLE BASE

PARSONS ESTIMATE WORKSHEET

M.T.O. BY J.J. PRICED BY J.J. DATE AUG-15 SHEET 11 OF 11
 JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE ROM CHECKED BY Rempia

ACCNT	UNIT/AREA	DESCRIPTION	CAPACITY	QUAN-TITY	UNIT	COST OR M/HR\$ PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
						MATL	M/H	LAB \$		M/HR\$	DOLLARS	M/HR\$	DOLLARS	
	ELECTRICAL	AREA - 5												
16550		BASE HARTSVILLE GRND'G												
		14.5 x 200 = 2900												
		13 x 200 = 2600												
		2600 x 2900 =												
						7,540,000	.006099		45,990			1060		
						7,540,000	.0001405							

HARTSVILLE BASE

PARSONS ESTIMATE WORKSHEET

M.T.O. BY J.J. PRICED BY J.J. DATE AUG-15 SHEET 12 OF 12

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

UNIT/AREA	DESCRIPTION	CAPACITY	QUAN- TITY	UNIT	COST OR M/HR\$ PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
					MATL	M/H	LAB \$		M/HR\$	DOLLARS	M/HR\$	DOLLARS	
ACCNT	ELECTRICAL AREA		5										
16609	BASE HARTSVILLE ALARM ZONE												
	12+12+8.25 = 32.25 =		6450 LF										
	USING PREVIOUS ESTIMAT. CALCULATION												
	11,000 LF @ \$533,400												
	THE PRICE OF THE BASE												
	$\frac{533,400 \times 6450}{11,000} = 312,770$												
	USING ONE TO THREE RATIO												
	$312,770 \div 4 = 78,180$												
	$78,180 \div 17.85 =$												
	$- 171,780 =$												
								<u>515,340</u>				<u>9624</u>	

1/2/85

PARSONS
ESTIMATE WORKSHEET

HARTSVILLE BASE CASE

M.T.O. BY CBW/BSH PRICED BY _____ DATE AUG 85 SHEET 1 OF 4
 JOB NO.: 6440-11 CLIENT: PNL/DOE TYPE OF ESTIMATE ROM CHECKED BY D/RS

ACCNT	UNIT/AREA	DESCRIPTION	CAPACITY	QUAN-TITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
						MATL	M/H	LAB \$		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV. 17	RFH BUILDING	ONSITE BAL OF PLANT												
		SUMMARY												
	1712	ANALYZERS		1	LOT				126600				500	
	1714	MISCELLANEOUS INSTRUMENTS		1	LOT				60000				1000	
	1718	INSTRUMENT INSTALLATION MATERIAL		1	LOT				7000				225	
	1719	CALIBRATION		1	LOT								200	
		SUBTOTAL							193600				1925	
		INLAND FREIGHT ALLOWANCE @ ~ 3%			1	LOT			5400					
		TOTAL							199000				1925	

PARSONS
ESTIMATE WORKSHEET

HARTSVILLE - BASE CASE

M.T.O. BY **ESTG. LENGRG** PRICED BY **RUF** DATE **AUG 85** SHEET OF
 JOB NO.: **6440-11** CLIENT: **DOE/PNL** TYPE OF ESTIMATE **ROM** CHECKED BY **RUF/PLS**

UNIT/AREA	DESCRIPTION	CAPACITY	QUAN-TITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE			SUBCONTRACT		LABOR		TOTAL DOLLARS
					MATL	M/H	LAB \$	M/HRS	DOLLARS	M/HRS	DOLLARS				
ACCNT	SUMMARY	AREA 5	AREA	(SF)	YOLWDB	(CF)									
	CHTRU STORAGE FACILITY		2400	SF	58000		713500					9086			
	FROM RA ESTIMATE														
	2Q 1984 TO 2Q 1985 LABORS						713000					9086	149700		863000
	= 1.0427 x 713500						743500						19000		
						USE	743000						150000		893000

NARTSVILLE

BASE CASE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY ENGINEERING PRICED BY V. Messer DATE Aug 85 SHEET 1 OF 2
 JOB NO.: 6440-1 CLIENT: DOE/POL TYPE OF ESTIMATE RM CHECKED BY JH

UNIT/AREA	DESCRIPTION	CAPACITY	ACCNT	QUAN-TITY	UNIT	COST OR M/HR PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
						MATL	M/H	LABS		M/HR	DOLLARS	M/HR	DOLLARS	
	Summary			AREA	SF	CF	VOLUME					LABOR RATE @ \$16/HR		
	SUPPORT FACILITIES													
	ADMIN BUILDING			19100	SF		286500	152580				3240	53500	
	FIRE STATION			9000	SF		150660	167200				13027	214900	
	SECURITY BUILDING			9800	SF		122500	149000				25254	418300	
	MAIN GATE - BADGE HOUSE			1500	SF		21300	153700				4291	70800	
	GATE HOUSE & INSPECT STATION			1200	SF		27800	108000				8765	144600	
	ROOF CANOPY			10310	SF									
	PROTECTED AREA GATE STATION			6470	SF		168673	1384500				23980	375700	
	VEHICLE MAINTENANCE BLDG			17710	SF		456504	1215500				20900	344800	
	SITE SERVICES BUILDING			7450	SF		2347380	859000				98806	1622000	
	WAREHOUSE			3875	SF		968750	1107000				24432	403100	
	HELIPORT			1	EA			20600				355	5800	

NARTSVILLE

BASE CASE

PARSONS
ESTIMATE WORKSHEET

M.T.O. BY ENGINEERING PRICED BY V. Messac / P.M. D. DATE AUG 85 SHEET 2 OF 2
 JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROA CHECKED BY SA

UNIT/AREA	DESCRIPTION	CAPACITY	QUAN-TITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
					MATL	M/H	LAB \$		M/HRS	DOLLARS	M/HRS	DOLLARS	
ACCNT	<u>Summary</u>		<u>AREA</u>	<u>SF</u>	<u>CF VOLUME</u>								
	<u>STANDBY GENERATOR BLDG</u>		<u>11750</u>	<u>SF</u>	<u>400000</u>			<u>202300</u>			<u>29152</u>	<u>181000</u>	
	<u>WATER TREATMENT FACILITY</u>		<u>1360</u>	<u>SF</u>	<u>20400</u>			<u>175300</u>			<u>2063</u>	<u>34000</u>	
	<u>SEWAGE TREATMENT FACILITY</u>		<u>3840</u>	<u>SF</u>	<u>57600</u>			<u>346100</u>			<u>4997</u>	<u>122000</u>	
	<u>STEAM GENERATOR BLDG</u>		<u>9600</u>	<u>SF</u>	<u>34600</u>			<u>1394400</u>			<u>33403</u>	<u>551100</u>	
	<u>TOTAL DIRECT COST (2Q85)</u>							<u>21591300</u>			<u>323845</u>	<u>5344000</u>	
	<u>USE</u>							<u>21591000</u>			<u>323845</u>	<u>5344000</u>	<u>26935000</u>

HARTSVILLE

BASE CASE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY ENGINEERING PRICED BY ✓ Messac/PA DATE Aug 85 SHEET OF
 JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE Ret CHECKED BY JH

UNIT/AREA DESCRIPTION CAPACITY ACCNT	QUAN- TITY	UNIT	COST OR M/HR PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
			MATL	M/H	LAB \$		M/HR	DOLLARS	M/HR	DOLLARS	
TOTAL Summary AREA 6											
TOTAL By Division					16.5%	16094000			19870	3154000	19248000
PRODUCTIVITY	85%								33612	57000	57000
S/TOTAL						16094000			224082	3711000	19805200
CONTR ON&P	26.5%										5248000
TOTAL											25053000

HARTSVILLE

BASE CASE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY ENGINEERING PRICED BY V. MESEK DATE AUG. 85 SHEET OF
 JOB NO.: 6440-11 CLIENT: DOE/PNC TYPE OF ESTIMATE ROM. CHECKED BY DH

UNIT/AREA	DESCRIPTION	QUAN-TITY	UNIT	COST OR M/HR'S PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB \$		M/HR'S	DOLLARS	M/HR'S	DOLLARS	
ACCNT	<u>Summary AREA (3) H/6</u>											
DIV 2	<u>SITE WORK</u>											
3	<u>CONCRETE</u>					<u>16⁰⁸</u>	<u>7019.00</u>			<u>87882</u>	<u>1413000</u>	<u>8432000</u>
4	<u>MASONARY</u>					<u>15³¹</u>	<u>1773.00</u>			<u>46710</u>	<u>718000</u>	<u>2491000</u>
5	<u>METALS</u>					<u>16⁵⁰</u>						
6	<u>WOOD & PLASTICS</u>					<u>18⁰²</u>						
7	<u>THERMAL MOIST. PROTECTION</u>					<u>4⁵⁰</u>						
8	<u>DOORS & WINDOWS</u>					<u>16³⁰</u>						
9	<u>FINISHES</u>					<u>16³²</u>						
10	<u>SPECIALTIES</u>					<u>17⁵¹</u>						
11	<u>EQUIPMENT</u>					<u>18⁷²</u>	<u>5812.00</u>			<u>28260</u>	<u>130000</u>	<u>6342000</u>
12	<u>FURNISHINGS</u>					<u>16⁵⁰</u>						
13	<u>SPECIAL CONSTRUCTION</u>					<u>18⁷²</u>	<u>2400</u>			<u>768</u>	<u>14000</u>	<u>38000</u>
14	<u>CONVEYING. SYSTEMS</u>					<u>18⁷²</u>						
15	<u>MECHANICAL SYSTEMS</u>					<u>18⁷²</u>						
16	<u>ELECTRICAL</u>					<u>17⁰⁵</u>	<u>1466.00</u>			<u>26850</u>	<u>479000</u>	<u>1945000</u>
17	<u>INSTRUMENTATION</u>					<u>18³²</u>						
	<u>TOTAL</u>					<u>16⁵⁶</u>	<u>16094.00</u>			<u>190470</u>	<u>3154000</u>	<u>19248000</u>

NARTSVILLE
BASE CASE

PARSONS
ESTIMATE WORKSHEET

M.T.O. BY ENGINEERING PRICED BY ✓ MESSOR DATE AUG 85 SHEET OF
 JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY DA

UNIT/AREA	DESCRIPTION	CAPACITY	QUAN- TITY	UNIT	COST OR M/HR PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
					MATL	M/H	LAB \$		M/HR	DOLLARS	M/HR	DOLLARS	
ACCNT DIV 2	SITE WORK	AREA #6											
	SUMMARY												
2100	CLEARING	Pg 1						133930				3192	
2200	EARTHWORK	2						562500				64875	
2220	TRENCH & BACKFILL	4						368610				10911	
2500	SITE DRAINAGE	7						88490				1937	
2577	MEMBRANE LINER	8						1700				125	
2600	ROADS & PAVING	9						589340				3971	
2700	SITE IMPROVEMENTS	10						204700				2790	
2800	LANDSCAPING	12						640				81	
TOTAL AREA 6 SITEWORK								7012780					
								USE	7019000				81882

PARSONS
ESTIMATE WORKSHEET

HARTSMILLE - BASE CASE

M.T.O. BY <u>ENGR.</u>		PRICED BY <u>RUF</u>		DATE <u>AUG. '85</u>				SHEET <u> </u> OF <u> </u>					
JOB NO. <u>GUUD-11</u>		CLIENT <u>DOE/PNL</u>		TYPE OF ESTIMATE <u>ROM</u>				CHECKED BY <u>DM</u>					
UNIT/AREA <u>MRS FACILITY</u>		QUAN- TITY	UNIT	COST OR M/HR\$ PER UNIT			MATERIAL EXPENSE		SUBCONTRACT		LABOR		TOTAL DOLLARS
DESCRIPTION <u>GITE LOCATION</u>				MATL	M/H	LAB\$			M/HR\$	DOLLARS	M/HR\$	DOLLARS	
CAPACITY													
ACCNT <u>DIV. 2</u>	<u>SITWORK - AREA # 6</u>												
<u>2200 EARTHWORK</u>													
<u>10</u>	<u>LINE GRADINGS - EARTH (MACH)</u>	<u>-</u>	<u>AC</u>	<u>1878</u>	<u>48-</u>								
<u>11</u>	<u>EXCAVATION INCL. HAULING - EARTH</u>	<u>255600</u>	<u>CY</u>	<u>1.09</u>	<u>.01</u>		<u>278600</u>				<u>2556</u>		
<u>12</u>	<u>EMBANKMENT - COMPACTED FILL</u>	<u>248380</u>	<u>CY</u>	<u>1.10</u>	<u>.02</u>		<u>245200</u>				<u>5268</u>		
<u>13</u>	<u>ROCK EXCAV. & HAUL - BLASTING</u>	<u>258400</u>	<u>CY</u>	<u>4.50</u>	<u>.10</u>		<u>1162800</u>				<u>25840</u>		
<u>14</u>	<u>ROCK EXCAV. & HAUL - RIPPABLE</u>	<u>-</u>	<u>CY</u>	<u>1.70</u>	<u>.02</u>								
<u>15</u>	<u>ROCK EMBANKMENT - COMP - HAUL</u>	<u>3883895</u>	<u>CY</u>	<u>1.00</u>	<u>.008</u>		<u>3888900</u>				<u>3111</u>		
<u>16</u>	<u>CRUSHING & SCREENING & HAULING</u>	<u>-</u>	<u>CY</u>	<u>2.00</u>	<u>.016</u>								
<u>17</u>	<u>DIKE (EARTH FILL) POND</u>	<u>-</u>	<u>CY</u>	<u>1.10</u>	<u>.02</u>								
<u>18</u>	<u>EARTH FILL AT EXISTING TUNNEL & PIPES</u>	<u>-</u>	<u>CY</u>	<u>1.10</u>	<u>.02</u>								
<u>19</u>	<u>EXCAVATION AT PONDS</u>	<u>-</u>	<u>CY</u>	<u>1.09</u>	<u>.01</u>								
	<u>IMPORT.</u>	<u>-</u>	<u>-</u>										
<u>SUB TOTAL</u>							<u>5645500</u>				<u>61815</u>		

HARTSVILLE

BASE CASE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY ENGINEERING PRICED BY *V. Messer* DATE *AUG 85* SHEET *5* OF *5*

JOB NO.: *6440-1* CLIENT: *DOE/PA* TYPE OF ESTIMATE *PC* CHECKED BY *SM*

UNIT/AREA	DESCRIPTION	CAPACITY	QUAN-TITY	UNIT	COST OR M/HR\$ PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
					MATL	M/H	LAB \$		M/HR\$	DOLLARS	M/HR\$	DOLLARS	
ACCNT	<i>0113 CONCRETE AREA 6</i>												
	<i>3341 CONCRETE</i>												
	<i>CAT I STRUCTURE CONCRETE</i>												
	<i>SUPPORT PADS-REINF. FOR</i>												
	<i>CASKS- 30.260 X 13</i>		<i>10080</i>	<i>CY</i>	<i>168</i>	<i>4.3</i>	<i>1683940</i>				<i>43344</i>		
	<i>STRUCTS-CONCRETE CAT I</i>		<i>440</i>	<i>CY</i>	<i>163</i>	<i>6.8</i>	<i>71710</i>				<i>2992</i>		
	<i>1330 X 13</i>												
	<i>1/2" S/S LINER W/WELSON STEPS</i>		<i>733</i>	<i>SF</i>	<i>11.00</i>	<i>.51</i>	<i>8060</i>				<i>374</i>		
	<i>2200 SF X 13</i>												
	<i>3341 SUB TOTAL</i>						<i>1773210</i>				<i>46710</i>		
				<i>USG</i>			<i>1773200</i>						

PARSONS
ESTIMATE WORKSHEET

HARTSVILLE BASE

M.T.O. BY JJ PRICED BY JJ DATE AUG-85 SHEET 2 OF
 JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE ROM CHECKED BY Tom [Signature]

UNIT/AREA DESCRIPTION CAPACITY ACCNT	QUAN- TITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
			MATL	M/H	LAB \$		M/HRS	DOLLARS	M/HRS	DOLLARS	
<u>ELECTRICAL AREA-</u>	<u>6</u>										
<u>16,400</u>						<u>242,000</u>			<u>1190</u>		
<u>SUMMARY</u>											
<u>(FROM CLINCH RIVER ESTIM)</u>											

HARTSVILLE BASE

PARSONS ESTIMATE WORKSHEET

M.T.O. BY J.J. PRICED BY J.J. DATE AUG-85 SHEET 3 OF 3
 JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE ROM CHECKED BY Rcm PJ

UNIT/AREA	DESCRIPTION	CAPACITY	QUANTITY	UNIT	COST OR M/HR PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
					MATL	M/H	LAB \$		M/HR	DOLLARS	M/HR	DOLLARS	
ACCNT	ELECTRICAL AREA-6												
16500	BASE HARTSVILLE LIGHTING CASK STORAGE												
	5X200 = 1000												
	7.5X200 = 1500												
	1000 X 1500 = 1,500,000 1												
	6X200 = 1200												
	12 X 200 = 2400												
	1200 X 2400 = 2,880,000 1												
	2,880,000 + 1,500,000 = 4,380,000 1 SF												
	$\frac{\$798,250 \times 4,380,000}{10,500,000} =$							332,980		4453			
	$\frac{10676 \times 4,380,000}{10,500,000} =$												

PARSONS

ESTIMATE WORKSHEET

HARTSVILLE BASE

M.T.O. BY JT PRICED BY JT DATE AUG-95 SHEET 4 OF

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

UNIT/AREA	DESCRIPTION	CAPACITY	ACCNT	QUAN-TITY	UNIT	COST OR M/HR\$ PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
						MATL	M/H	LAB \$		M/HR\$	DOLLARS	M/HR\$	DOLLARS	
	ELECTRIC, AREA - G													
16,300	SECURITY LIGHTING STORAGE AREA													
	$226,340 \times 438,000 =$								93,530			1294		
	10,600,000													
	$3132 \times 438,000 =$													
	10,600,000													

PARSONS
ESTIMATE WORKSHEET

M.T.O. BY J.J. PRICED BY J.J. DATE AUG-85 SHEET 5 OF 3
 JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE ROM CHECKED BY T.B.H.

UNIT/AREA	DESCRIPTION	CAPACITY	QUANTITY	UNIT	COST OR M/HR PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
					MATL	M/H	LAB \$		M/HR	DOLLARS	M/HR	DOLLARS	
ACCNT	ELECTRICAL		AREA	5.6									
	SECURITY LIGHTING (11-14)												
16500	FLOODLIGHT 1000W. HPS. 277V. HOLOPHATIC # VFLDC124P27W		140	E	671	3		93940			420		
	10 FT ROUND STEEL POLE		130	E	402	2		52260			260		
	DIRECT BARRIAL CABLE		14000	LF	2.5	.037		35000			518		
	1000 W. H. PRESS. SOD. LAMP		140	E	126	.1		17640			14		
	TRENCHING & BACK FILL		14000	LF	1.5	.1		21000			1400		
	CONCRETE FOUNDATION		130	E	50	.4		6500			520		
								226,340			3132		
REFERENCE BACK-UP ONLY													

HARTSVILLE

BASE

PARSONS ESTIMATE WORKSHEET

M.T.O. BY J.J. PRICED BY J.J. DATE AUG-85 SHEET 6 OF 6
 JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE ROM CHECKED BY Rcm PJP

UNIT/AREA	DESCRIPTION	CAPACITY	QUAN-TITY	UNIT	COST OR M/HR PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
					MATL	M/H	LAB \$		M/HR	DOLLARS	M/HR	DOLLARS	
ACCNT	ELECTRICAL AREA-6												
16550	BASE HARTSVILL GROUNDING												
	5x200 = 1000 x 1500 =		1,500,000										
	75x200 = 1500												
	6x200 = 1200 x 2400 =		2,880,000										
	12x200 = 2400												
			4,380,000				.006099	26,710			615		
			4,380,000				.0001405						

PARSONS
ESTIMATE WORKSHEET

HARTSVILLE BASE CASE

M.T.O. BY ENGR. PRICED BY RUF DATE AUG 87 SHEET OF
 JOB NO.: 6440-11 CLIENT: DDE/INL TYPE OF ESTIMATE ROM CHECKED BY Rom P

UNIT/AREA	DESCRIPTION	CAPACITY	ACCNT	QUAN-TITY	UNIT	COST OR M/HR\$ PER UNIT			MATERIAL EXPENSE			SUBCONTRACT		LABOR		TOTAL DOLLARS		
						MATL	M/H	LAB \$				M/HR\$	DOLLARS	M/HR\$	DOLLARS			
	TOTAL SUMMARY AREA 7																	
	TOTAL BY DIVISION							16.65	7 433 000					157579	2684 000			10 057 000
	LABOR PRODUCTIVITY			85%										27808	463 000			463 000
	S/TOTAL								7 433 000					185387	3 081 000			10 520 000
	CONTRACTORS OH-PROFIT																	2 788 000
	TOTAL AREA 7 W/OUT CONTINGENCY																	13 308 000

PARSONS

ESTIMATE WORKSHEET

HARTSVILLE BASE CASE

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

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

UNIT/AREA	DESCRIPTION	QUANTITY	UNIT	COST OR M/HR PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS	
				MATL	M/H	LAB \$		M/HR	DOLLARS	M/HR	DOLLARS		
ACCNT	<u>SUMMARY AREA (5) #7</u>												
<u>DIV 2</u>	<u>SITE WORK</u>					<u>1608</u>	<u>11879000</u>			<u>10689</u>	<u>1715000</u>	<u>6214000</u>	
<u>3</u>	<u>CONCRETE</u>					<u>1531</u>	<u>0</u>			<u>0</u>	<u>0</u>	<u>0</u>	
<u>4</u>	<u>MASONARY</u>					<u>1650</u>	<u>0</u>			<u>0</u>	<u>0</u>	<u>0</u>	
<u>5</u>	<u>METALS</u>					<u>1874</u>	<u>0</u>			<u>0</u>	<u>0</u>	<u>0</u>	
<u>6</u>	<u>WOOD & PLASTICS</u>					<u>1650</u>	<u>0</u>			<u>0</u>	<u>0</u>	<u>0</u>	
<u>7</u>	<u>THERMAL MOIST. PROTECTION</u>					<u>1650</u>	<u>0</u>			<u>0</u>	<u>0</u>	<u>0</u>	
<u>8</u>	<u>DOORS & WINDOWS</u>					<u>1600</u>	<u>0</u>			<u>0</u>	<u>0</u>	<u>0</u>	
<u>9</u>	<u>FINISHES</u>					<u>1632</u>	<u>0</u>			<u>0</u>	<u>0</u>	<u>0</u>	
<u>10</u>	<u>SPECIALTIES</u>					<u>1761</u>	<u>0</u>			<u>0</u>	<u>0</u>	<u>0</u>	
<u>11</u>	<u>EQUIPMENT</u>					<u>1874</u>	<u>0</u>			<u>0</u>	<u>0</u>	<u>0</u>	
<u>12</u>	<u>FURNISHINGS</u>					<u>1650</u>	<u>0</u>			<u>0</u>	<u>0</u>	<u>0</u>	
<u>13</u>	<u>SPECIAL CONSTRUCTION</u>					<u>1874</u>	<u>0</u>			<u>0</u>	<u>0</u>	<u>0</u>	
<u>14</u>	<u>CONVEYING. SYSTEMS</u>					<u>1874</u>	<u>0</u>			<u>0</u>	<u>0</u>	<u>0</u>	
<u>15</u>	<u>MECHANICAL SYSTEMS</u>					<u>1874</u>	<u>0</u>			<u>0</u>	<u>0</u>	<u>0</u>	
<u>16</u>	<u>ELECTRICAL</u>					<u>1785</u>	<u>2934000</u>			<u>58930</u>	<u>909000</u>	<u>3843000</u>	
<u>17</u>	<u>INSTRUMENTATION</u>					<u>1838</u>	<u>0</u>			<u>0</u>	<u>0</u>	<u>0</u>	
	<u>TOTAL</u>						<u>7433000</u>			<u>157519</u>	<u>2621000</u>	<u>10057000</u>	

PARSONS

ESTIMATE WORKSHEET

HARTSVILLE BASE CASE

M.T.O. BY _____ PRICED BY _____ DATE AUG 85 SHEET 1 OF 1
 JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY Rem B/W

UNIT/AREA	DESCRIPTION	CAPACITY	QUAN-TITY	UNIT	COST OR M/HR\$ PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
					MATL	M/H	LAB \$		M/HR\$	DOLLARS	M/HR\$	DOLLARS	
ACCNT													
DIV 2	SUMMARY	AREA #7											
2100	CLEARING							128390			3060		
2200	EARTHWORK							1114700			17528		
2220	TRENCHING & BACKFILL							60540			1018		
2520	DRAINAGE PIPE							33790			452		
2550	SITE UTILITIES							132000			7200		
2580	NATURAL GAS SYSTEM							66000			3900		
2600	ROADS & PAVING							445240			4712		
2800	LANDSCAPING							2517860			68779		
DIV 2	TOTAL SITE WORK	AREA #7						4448920			100629		
								USE 4449000					

HARTSVILLE
AREA #7
BASE CASE

PARSONS
ESTIMATE WORKSHEET

M.T.O. BY <u>Engl.</u>		PRICED BY <u>KUF</u>		DATE <u>AUG. '85</u>				SHEET <u>1</u> OF <u>1</u>									
JOB NO.: <u>6440-11</u>		CLIENT: <u>DOE/PAL</u>		TYPE OF ESTIMATE <u>ROM</u>				CHECKED BY <u>[Signature]</u>									
UNIT/AREA	DESCRIPTION	MRS	FACILITY	SITE	LOCATION	QUAN. TITY	UNIT	COST OR M/HR\$ PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS	
								MATL	M/H	LAB\$		M/HR\$	DOLLARS	M/HR\$	DOLLARS		
ACCNT																	
DIV. 2	SITEWORK AREA #7																
2010	SUB SURFACE																
2100	CLEARING																
2102	CLEARING AND GRUBBING					187.5	AC	1007	44		128390.				3060		
2110	DEMOLITION					1	LOT	LS	LS								
2110	TOTAL CLEARING										128390				3060		

HARTSVILLE
AREA #7
BASE CASE

PARSONS
ESTIMATE WORKSHEET

M.T.O. BY ENCL.		PRICED BY KUF		DATE AUG. '85		SHEET 2 OF 2					
JOB NO.: GUUD-11		CLIENT: DOE/PNL		TYPE OF ESTIMATE ROM		CHECKED BY [Signature]					
UNIT/AREA	MRS FACILITY	QUAN- TITY	UNIT	COST OR M/HR\$ PER UNIT			SUBCONTRACT		LABOR		TOTAL DOLLARS
DESCRIPTION	SITE LOCATION			MATL	M/H	LAB\$	M/HR\$	DOLLARS	M/HR\$	DOLLARS	
CAPACITY											
ACCNT											
DN. 2	SITWORK										
2200	EARTHWORK										
10	FINE GRADING - EARTH (MACH)	0	AC	1878.	48.						
11	EXCAVATION INCL. HAULING - EARTH	321700	CY	1.09	.01	350700			3217		
12	EMBANKMENT - COMPACTED FILL	33785	CY	1.10	.02	371600			6756		
13	ROCK EXCAV. & HAUL - BLASTING	69000	CY	4.50	.10	310500			6900		
14	ROCK EXCAV. & HAUL - RIPPABLE	0	CY	1.70	.02						
15	ROCK EMBANKMENT - COMP - HAUL	81915	CY	1.00	.08	81900			655		
16	CRUSHING & SCREENING & HAULING		CY	2.00	.016						
17	DIKE (EARTH FILL) POND.	0	CY	1.10	.02						
18	EARTH FILL AT EXISTING TUNNEL & PIKES	0	CY	1.10	.02						
19	EXCAVATION AT PONDS	0	CY	1.09	.01						
2200	TOTAL EARTHWORK					1114700			17528		

HARTSVILLE
AREA #7
BASE CASE

PARSONS
ESTIMATE WORKSHEET

M.T.O. BY <u>ENG.</u>		PRICED BY <u>RUF</u>		DATE <u>AUG. 86</u>				SHEET <u>7</u> OF <u> </u>					
JOB NO.: <u>G400-11</u>		CLIENT: <u>DOE/PNL</u>		TYPE OF ESTIMATE <u>ROM</u>				CHECKED BY <u>Jug PVA</u>					
UNIT/AREA <u>MRS FACILITY</u>		QUAN- TITY	UNIT	COST OR M/HR\$ PER UNIT			SUBCONTRACT			LABOR			TOTAL DOLLARS
DESCRIPTION <u>SITE LOCATION</u>				MATL	M/H	LAB\$	M/HR\$	DOLLARS	M/HR\$	DOLLARS			
CAPACITY													
ACCNT DIV 2	SITEWORK												
2220	TRENCHING - INCL. DITCHES												
21	EXCAV. AND HAUL - EARTH	0	CY	1.90	.08								
22	EXCAV. AND HAUL - ROCK TRENCHES	0	CY	6.00	.15								
24	1 FT DEEP FOR FOUNDATIONS	0	CY	6.00	.15								
24.2	2 " " " "	0	CY	6.00	.15								
22.5	VARIOUS " " ELEC. POWER LINES	0	CY	6.00	.15								
22.6	6 FT " " PIPE, DRAINS, ETC	4460	CY	6.00	.15		26760			669			
2320	SUB TOTAL TRENCHING TRANS TO SHT 4						26760			669			

HARTSVILLE
 AREA #7
 BASE CASE

PARSONS
 ESTIMATE WORKSHEET

M.T.O. BY ENG. PRICED BY RUF DATE AUG. '86 SHEET 4 OF
 JOB NO.: 6440-11 CLIENT: VAE/PNL TYPE OF ESTIMATE ROM CHECKED BY [Signature]

UNIT/AREA	DESCRIPTION	SITE	LOCATION	QUAN- TITY	UNIT	COST OR M/HR\$ PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
						MATL	M/H	LAB\$		M/HR\$	DOLLARS	M/HR\$	DOLLARS	
ACCNT DIV. 2	SITWORK													
2223	BACKFILL			2640	CY	3.48	.07		9190					185
24	GRAVEL BEDDING			1820	CY	13.51	.09		24590					164
25	SHORING. EARTH TRENCH WALLS			0	SF	0.60	.06							
10	SAND (PONDS)			0	CY	17.40	.05							
	TRENCHING 9" T FM SIT 3								26760					669
2220	TOTAL TRENCHING & BACKFILL													
									60540					1018

HARTSVILLE
AREA #7
BASE CASE

PARSONS
ESTIMATE WORKSHEET

M.T.O. BY ENG. PRICED BY RUF DATE AUG. '85 SHEET 5 OF 5

JOB NO.: GWO-11 CLIENT: DES/PNL TYPE OF ESTIMATE ROM CHECKED BY Rom

UNIT/AREA	DESCRIPTION	CAPACITY	QUAN-TITY	UNIT	COST OR M/HR\$ PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
					MATL	M/H	LAB\$		M/HR\$	DOLLARS	M/HR\$	DOLLARS	
ACCNT													
Div. 2	SITENWORK												
2522	CORRUGATED METAL PIPE												
2522.15	15" DIA		0	LF	2.00	.12							
.18	18"		0		9.30	.15							
.21	21"		0		13.20	.18							
.24	24"		0		15.00	.18							
.30	30"		0		18.00	.24							
.36	36"		72		27.40	.47		2120			34		
.42	42"		0		37.10	.56							
.48	48"		250		41.80	.76		10450			140		
.60	60"		240		65.00	.75		15600			180		
.72	72" PERFORATED		0		32.00	.90							
2520	SUB TOTAL CORR METAL PIPE												
	TRANS TO SHT 6												
								28170			354		

HARTSVILLE
AREA #7
BASE CASE

PARSONS
ESTIMATE WORKSHEET

M.T.O. BY		PRICED BY		DATE			SHEET					
JOB NO.: 6440-11		CLIENT: PVE/PLN		AUG. '85			6 OF 7					
UNIT/AREA		QUAN- TITY	UNIT	COST OR M/HR PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
DESCRIPTION				MATL	M/H	LAB \$		M/HR	DOLLARS	M/HR	DOLLARS	
CAPACITY												
ACCNT												
Div. 2	SITWORK											
	DRAINAGE PIPE (CONT)											
2523	CMP END SECTIONS											
2523.15	15" DIA.	0	EA	42.00	1.6							
.18	18"	0	EA	58.00	1.7							
.21	21"	0	EA	68.00	2.0							
.24	24"	0	EA	107.00	2.2							
.30	30"	0	EA	137.00	2.3							
.36	36"	4	EA	184.00	2.8		760.			11.		
.42	42"	0	EA	215.00	3.5							
.48	48"	10	EA	248.00	4.7		2480.			47.		
.60	60" ↓	8	EA	300.00	5.0		2400.			40.		
2524	PVC PERFORATED PIPE											
2524.6	6" DIA		LF	1.40	0.06							
.8	8" ↓		LF	2.00	0.07							
	CORR METAL PIPE 5/16" FM SHT 5						28770.			384.		
2520	TOTAL DRAINAGE PIPE						33770.			452.		

HARTSVILLE
AREA #7
BASE CASE

PARSONS
ESTIMATE WORKSHEET

M.T.O. BY <u>ENGR.</u>		PRICED BY <u>RUF</u>		DATE <u>AUG. '85</u>		SHEET <u>7</u> OF <u>7</u>					
JOB NO.: <u>GU10-11</u>		CLIENT: <u>DOE/PNL</u>		TYPE OF ESTIMATE <u>ROM</u>		CHECKED BY <u>MSM</u>					
UNIT/AREA <u>MRS FACILITY</u>		QUAN-TITY	UNIT	COST OR M/HRS PER UNIT			SUBCONTRACT		LABOR		TOTAL DOLLARS
DESCRIPTION <u>SITE LOCATION</u>				MATL	M/H	LAB \$	M/HRS	DOLLARS	M/HRS	DOLLARS	
CAPACITY											
ACCNT											
<u>DN. 2</u>	<u>SITWORK</u>										
<u>2550</u>	<u>SITE UTILITIES</u>										
<u>2551</u>	<u>WATER SYSTEM</u>										
<u>2551.4</u>	<u>12" PVC PIPE</u>		<u>LF</u>	<u>2.50</u>	<u>.33</u>						
<u>.6</u>	<u>6"</u>		<u>LF</u>	<u>5.50</u>	<u>.5</u>						
<u>.8</u>	<u>8"</u>		<u>LF</u>	<u>9.50</u>	<u>.55</u>						
<u>.10</u>	<u>10"</u>		<u>LF</u>	<u>13.50</u>	<u>.6</u>						
<u>.12</u>	<u>12"</u>		<u>LF</u>	<u>15.50</u>	<u>.7</u>						
<u>2551.99</u>	<u>CF FITTINGS (25% OF PVC)</u>	<u>1</u>	<u>LOT</u>								
<u>2552.6</u>	<u>6" CAST IRON PIPE</u>		<u>LF</u>	<u>10.50</u>	<u>.8</u>						
<u>.8</u>	<u>8" RUSTLE IRON CEMENT LINED</u>	<u>8000</u>	<u>LF</u>	<u>15.00</u>	<u>.9</u>		<u>120000.</u>		<u>7200</u>		
<u>.9</u>	<u>FITTINGS - 10%</u>	<u>1</u>	<u>LOT</u>				<u>12000</u>				
<u>2555.6</u>	<u>6" GATE VALVES</u>		<u>EA</u>	<u>180.</u>	<u>10.</u>						
<u>.8</u>	<u>8"</u>		<u>EA</u>	<u>300.</u>	<u>12</u>						
<u>.10</u>	<u>10"</u>		<u>EA</u>	<u>700.</u>	<u>15</u>						
<u>.12</u>	<u>12"</u>		<u>EA</u>	<u>1000.</u>	<u>20</u>						
<u>2556</u>	<u>VALVE BOXES</u>		<u>EA</u>	<u>15.</u>	<u>5.0</u>						
<u>2557</u>	<u>POST INDICATOR</u>		<u>EA</u>	<u>140.</u>	<u>6.0</u>						
<u>2558</u>	<u>CONC. THRUST BLOCKS</u>		<u>CY</u>	<u>50.</u>	<u>0.5</u>						
<u>2559</u>	<u>FIRE HYDRANTS</u>		<u>EA</u>	<u>500.</u>	<u>20.</u>						
<u>2550</u>	<u>TOTAL SITE UTILITIES</u>						<u>182000.</u>		<u>7200</u>		

HARTSVILLE
AREA #1
BASE CASE

PARSONS
ESTIMATE WORKSHEET

M.T.O. BY <u>ENGR.</u>		PRICED BY <u>RUF</u>		DATE <u>AUG. '85</u>		SHEET <u>8</u> OF <u> </u>							
JOB NO.: <u>CAHD-11</u>		CLIENT: <u>MOB/PAL</u>		TYPE OF ESTIMATE <u>ROM</u>		CHECKED BY <u>Aug BT</u>							
UNIT/AREA <u>MRS FACILITY</u>		QUAN- TITY	UNIT	COST OR M/HR\$ PER UNIT			MATERIAL EXPENSE		SUBCONTRACT		LABOR		TOTAL DOLLARS
DESCRIPTION				MATL	M/H	LAB\$	M/HR\$	DOLLARS	M/HR\$	DOLLARS			
CAPACITY													
ACCNT													
<u>2580</u>	<u>NATURAL GAS SYSTEM</u>												
	<u>C.S. PIPE STD/W</u>		<u>LF</u>	<u>2.00</u>	<u>.32</u>								
	<u>1 1/2" φ</u>			<u>3.00</u>	<u>.40</u>								
	<u>2" φ</u>			<u>4.00</u>	<u>.40</u>								
	<u>3" φ</u>			<u>5.00</u>	<u>.48</u>								
	<u>4" φ</u>	<u>6000</u>		<u>11.00</u>	<u>.65</u>		<u>66000</u>				<u>3900</u>		
	<u>6" φ</u>			<u>25.00</u>	<u>.80</u>								
	<u>PRE-CAST CONC. METER BOX & COVER</u>		<u>EA</u>	<u>490.</u>	<u>9</u>								
	<u>4" METER & PRESSURE REDUCER</u>		<u>EA</u>	<u>1000.</u>	<u>2</u>								
<u>2580</u>	<u>TOTAL NAT GAS SYS</u>						<u>66000</u>				<u>3900</u>		

HARTSVILLE
 AREA #7
 BASE CASE

PARSONS
 ESTIMATE WORKSHEET

M.T.O. BY		PRICED BY		DATE		SHEET						
JOB NO.: 6440-11		CLIENT: DOG/PNL		AUG 1985		7 OF						
UNIT/AREA		QUAN- TITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
DESCRIPTION SITE LOCATION - CAPACITY AREA -				MATL	M/H	LABS		M/HRS	DOLLARS	M/HRS	DOLLARS	
ACCNT DUZ	SITE WORK											
2600	ROADS & PAVING											
2612	ASPHALT CONC PAVING	-										
2612.03	3" TNK	0	SY	8.95	.06							
2612.05	5" TNK	30667	SY	8.7	.09	277340				3120		
2613	CONCRETE PAVING	-										
2613.04	4" TNK		SY	7.2	.05							
.08	8" (SY	15.2	.07							
.09	9")		SY	15.20	.07							
2613.12	12" TNK		SY	17.20	.09							
2614	CRUSHED ROCK (GRAVEL) PAVING		SY	15.2	.06							
2614.2	2" TNK		SY	.80	.01							
.12	12" (SY	5.2	.02							
.13	13")		SY	5.30	.03							
2614.15	15" TNK		SY	6.30	.03							
2615.07	9" GRAVEL BASE		SY	5.90	.02							
2615.12	12" TNK GRAVEL BASE		SY	4.05	.02							
	13") GRAVEL BASE		SY	5.90	.03							
2616	SUB BASE - COMPACTED GRAVEL	-										
2616.06	6" TNK	52000	SY	2.50	.01	130000				520		
	12" TNK		SY	9.29	.02							
2617	SUB GRADE PREP	-										
2617.06	6" (SEE 2201)		SY	.36	.01							
2617.12	12" (")	54600	SY	.63	.01	34400				546		
2600	SUB TOTAL ROADS & PAVING					441740				4186		

HARTSVILLE
AREA #7
BASE

CASE

PARSONS
ESTIMATE WORKSHEET

M.T.O. BY <u>ENGR.</u>		PRICED BY <u>RUF</u>	DATE <u>AUG 1985</u>			SHEET <u>10</u> OF <u>11</u>						
JOB NO.: <u>6440-11</u>		CLIENT: <u>DOE/PNL</u>		TYPE OF ESTIMATE <u>ROM 35%</u>			CHECKED BY <u>[Signature]</u>					
UNIT/AREA <u>MRS FACILITY</u>		QUAN- TITY	UNIT	COST OR M/HR\$ PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
DESCRIPTION <u>SITE LOCATION -</u>				MATL	M/H	LAB\$		M/HR\$	DOLLARS	M/HR\$	DOLLARS	
CAPACITY <u>AREA -</u>												
ACCNT INV 2	<u>SITE WORK</u>											
	<u>ROADS & PAVING (CONT)</u>											
<u>2618</u>	<u>CONC CURBS</u>		<u>LF</u>	<u>540</u>	<u>.21</u>							
<u>2619</u>	<u>CONC CURB & GUTTER</u>		<u>LF</u>	<u>625</u>	<u>.42</u>							
<u>2620</u>	<u>CONC STAIRS</u>		<u>CY</u>	<u>129</u>	<u>16.9</u>							
<u>2622</u>	<u>PAVEMENT STRIPING</u>	<u>52000</u>	<u>LF</u>	<u>.06</u>	<u>.01</u>		<u>3120</u>			<u>520</u>		
<u>2623</u>	<u>PAVEMENT MARKINGS</u>		<u>SY</u>	<u>945</u>	<u>.72</u>							
<u>2626</u>	<u>SIGNS</u>	<u>8</u>	<u>EA</u>	<u>46</u>	<u>.74</u>		<u>380</u>			<u>6</u>		
<u>2628</u>	<u>PRECAST CONC BUMPERS</u>											
<u>2628.4</u>	<u>4 FT</u>		<u>EA</u>	<u>12</u>	<u>.33</u>							
<u>.8</u>	<u>8 FT</u>		<u>EA</u>	<u>24</u>	<u>.41</u>							
<u>2628.12</u>	<u>12 FT</u>		<u>EA</u>	<u>36</u>	<u>.50</u>							
	<u>ROADS & PAVING S/T FM SHT 9</u>						<u>141740</u>			<u>4186</u>		
<u>2600</u>	<u>TOTAL ROADS & PAVING</u>						<u>145240</u>			<u>4712</u>		

HARTSVILLE
AREA #7
BASE

CASE

PARSONS
ESTIMATE WORKSHEET

M.T.O. BY ENGL.		PRICED BY RUP			DATE AUG 1985			SHEET 11 OF 11				
JOB NO.: 6440-11		CLIENT: DOB/PNL			TYPE OF ESTIMATE ROR 35%			CHECKED BY [Signature]				
UNIT/AREA MRS FACILITY		QUAN- TITY	UNIT	COST OR M/HR PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
DESCRIPTION SITE LOCATION -				MATL	M/H	LAB \$		M/HR	DOLLARS	M/HR	DOLLARS	
CAPACITY AREA -												
ACCNT DIV 2	SITE WORK											
2800	LANDSCAPING		SY	9.45	.28							
2801	LANDSCAPING & IRRIGATION GRASS SEEDING		SY	10.00	.36							
			BY	0.00	.001							
2850	RAILROAD WORK											
2851	RAIL - SINGLE	64800	LF	10.75	.42		696600			27216		
2852	TIES	19440	EA	16.35	.53		317840			10307		
2853	BALLAST	72900	CY	13.95	.06		313880			1350		
2854	SUB BALLAST	9563	CY	13.19	.05		125560			478		
2855	SUB GRADE PREP 6"	86400	SY	.36	.01		31100			864		
2856	SWITCH	2	EA	2110	96.0		24220			92		
2857	RAIL CROSSING (RAIL)	5	EA	113	132.0		56500			660		
2858	RAIL CROSSING (ROAD) 9'-0" WDM	72	LF	30.00	3.0		2160			216		
2859	WHEEL STOPS		EA	25	2.0							
2852.1	RAILROAD BRIDGE (16' WIDE) 4800 LF - 2400 W x 2000 D x 2000 H - 4x12	300	LF	1000	5.0		300000			1500		
2852.2	REFURBISH EXISTING ABANDONED RAILROAD TRACKS Reptd Matl = 0K 2000 LF @ 50K 2000 LF	13	MI	50K	2000		650000			20000		
2800	TOTAL LANDSCAPING						2517860			68779		

PARSONS
ESTIMATE WORKSHEET

HARTSVILLE BASE

M.T.O. BY JJ PRICED BY JJ DATE AUG-15 SHEET 1 OF 1
 JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE RQM CHECKED BY Rom/pt

UNIT/AREA	DESCRIPTION	CAPACITY	QUAN-TITY	UNIT	COST OR M/HR\$ PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
					MATL	M/H	LAB \$		M/HR\$	DOLLARS	M/HR\$	DOLLARS	
ACCNT	ELECTRIC.	AREA-7											
	SUMMARY												
16350	HIGH PWR OVERHEAD LINE							2,786,500				48,490	
16700	PHONE TRUNK LINES							147,000 ✓				2490 ✓	
								2,933,500				50,930	
								USE 2,933,500					

HARTSVILLE BASE

PARSONS ESTIMATE WORKSHEET

M.T.O. BY J.J. PRICED BY J.J. DATE AUG-15 SHEET 2 OF 2

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

UNIT/AREA	DESCRIPTION	CAPACITY	ACCNT	QUAN-TITY	UNIT	COST OR M/HR\$ PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
						MATL	M/H	LAB \$		M/HR\$	DOLLARS	M/HR\$	DOLLARS	
	BASE HARTSVILLE	MRS FACILITY												
			ELECTERICAL AREA-7											
16300	HIGH POWER OVERHEAD LINE & DUCT BANK													
	SUBTOTAL SH# 2								2,736,100				47,230	
									50,400				1,260	
	TOTAL								2,786,500				48,490	

HARTSVILLE BASE

PARSONS ESTIMATE WORKSHEET

M.T.O. BY J.V. PRICED BY J.V. DATE AUG-15 SHEET 3 OF 3

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

UNIT/AREA 161 KVA O.HEAD POWER LINE
 DESCRIPTION BASE HARTSVILLE
 CAPACITY MRS FACILITY

ACCNT	QUANTITY	UNIT	COST OR M/HR PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
			MATL	M/H	LAB \$		M/HR	DOLLARS	M/HR	DOLLARS	
	ELECTRICAL AREA -7										
16300											
	1	LS	5000	60		5000				60	
	67	E	5000	160		335,000				10720	
	3618	E	2.15	.15		76,520				543	
	546500	LF	3.98	.05		2,175,070				27,325	
	121,500	LF	.666	.05		80,920				6075	
	TRANS. TOWER FOUNDATIONS										
	100	CY	234	7		23400				700	
	396	CY	72	3		28,510				1188	
	201	E	8.18	.20		1,650				40	
	201	E	6.10	.20		1,230				40	
	610	E	10	.33		6100				201	
	GUY ASSEMBLY										
	4	E	675	77		2700				308	
	1	LS	-	-		-				30	
	TESTING										
	REFERENCE BACK-UP										
						2,736,100				47,230	

PARSONS

ESTIMATE WORKSHEET

HARTSVILLE BASE

M.T.O. BY JJ PRICED BY JJ DATE AUG-15 SHEET 5 OF 11
 JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE ROM CHECKED BY Ram/AV

UNIT/AREA	DESCRIPTION	CAPACITY	ACCNT	QUAN-TITY	UNIT	COST OR M/HR\$ PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
						MATL	M/H	LAB \$		M/HR\$	DOLLARS	M/HR\$	DOLLARS	
	ELECTRICAL	AREA-7												
16100	SUMMARY								147,000			2440		
	(FROM CLINCH RIVER ESTIM)													

PREPARED BY:

MRS Facility Hartsville Alternate Case (Drywells)

PROJECT COST ESTIMATE SUMMARY

TITLE Project Cost Estimate	PREPARED FOR PNL/DOE	PREPARED BY V. Mesec	CHECKED BY CCE	PROJECT NO. 6440-11	DATE August 85
--------------------------------	-------------------------	-------------------------	-------------------	------------------------	-------------------

	TITLE I	TITLE II	TITLE III	(\$ TOTAL X 1000)
A. ENGINEERING				
ARCHITECT - ENGINEER	NA	49,500	23,600	73,100
OTHER ENGINEERING - SPECIFY	NA	4,800	0	4,800
SUBTOTAL	NA	54,300	23,600	77,900
ESCALATION	NA %	0	0	0
CONTINGENCY	NA %	10,700	4,400	15,100
SUBTOTAL ENGINEERING	NA	65,000	28,000	93,000
OPERATING CONTRACTOR				0
TOTAL A				93,000
B. CONSTRUCTION				
(1) IMPROVEMENTS TO LAND				60,748
(2) BUILDINGS				0
BUILDING NO. R&H Bldg 709,025 SQ. FT.				337,300
BUILDING NO. Suppt. Bldgs SQ. FT.				35,248
(3) OTHER (DETACHED) STRUCTURES CHTRU Bldg.				1,163
(4) SPECIAL FACILITIES AND INSTAL. Storage Area				83,140
(5) UTILITIES				3,360
(6) OPERATING EXPENSE CHARGES NA				0
(7) CONTRACT ADMINISTRATION NA				0
(8) SUBTOTAL Construction Management				45,240
ESCALATION	NA	0	NA	0
CONTINGENCY	Varies			113,641
TOTAL B				679,840
C. STANDARD EQUIPMENT				0
TOTAL C				0
D. TRANSFERRED CAPITAL PROP. OR EQUIPMENT NA				0
CURRENT ENR. COST INDEX	BUILDING	CONSTRUCTION		
TOTAL PROJECT ESTIMATE				\$ 772,840

PROPOSED FUNDS ALLOCATION			TYPE OF ESTIMATE:		REMARKS: (1) All cost 2nd quarter 1985. (2) 85% productivity on labor is included in the estimate. Productivity factor furnished by DOE Oak Ridge. (3) Escalation not included in estimate. (4) NA = Not applicable
FUNDS PURPOSE	OPER. CONTR.	DOE-RL	APPROVALS	DATE	
ENGINEERING					
PROCUREMENT					
CONSTRUCTION					
ESCALATION			ESTIMATING		
CONTINGENCY					
TCP/TCE			PROJECT MANAGER		
WASH. STATE TAX					
TOTAL			CLIENT ENGINEER		
ESTIMATE SHEET ___ OF ___					

HARTSVILLE ALTERNATE CASE

PARSONS ESTIMATE WORKSHEET

M.T.O. BY		PRICED BY		DATE		SHEET		OF				
JOB NO.: 6440-11		CLIENT: VAB/PMU		TYPE OF ESTIMATE: ROM		DATE: AUG. 85		CHECKED BY:				
UNIT/AREA		QUANTITY	UNIT	COST OR M/HR PER UNIT			SUBCONTRACT		LABOR		TOTAL DOLLARS	
DESCRIPTION				MATL	M/H	LAB \$	M/HR	DOLLARS	M/HR	DOLLARS		
CAPACITY												
ACCNT												
CONTINGENCY FACTORS												
R&H BUILDING (AREAS 1, 2, 3 & 4)		25%		337300	K							84320000
STORAGE (AREA 6)		15%		83140	K							12471000
SUPPORT BUILDING (PART AREA 6)				35245	K							
CENTR " "				1163	K							
UTILITIES " "				9360	K							
IMPROVEMENTS TO LAND (" & AREA 7)				60748	K							
		10%		60519	K							10052000
SUB-TOTAL												106853000
CONSTRUCTION MANAGEMENT		15%		45240	K							6786000
TOTAL												113639000
ROUND OFF ADJUST												+2000
USE												113641000

**PARSONS
ESTIMATE WORKSHEET**

HARTSVILLE - ALTERNATE CASE

M.T.O. BY _____ PRICED BY _____ DATE **AUG. 85** SHEET _____ OF _____

JOB NO.: **6440-11** CLIENT: **DOE/PTL** TYPE OF ESTIMATE **KOM** CHECKED BY _____

UNIT/AREA	DESCRIPTION	CAPACITY	ACCNT	QUAN- TITY	UNIT	COST OR M/HR\$ PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS		
						MATL	M/H	LAB\$		M/HR\$	DOLLARS	M/HR\$	DOLLARS			
	TOTAL Summary BY AREAS															
	R & H BUILDING - AREA 1															121 224 000
	" " 2															23 261 000
	" " 3															161 004 000
	" " 4															51 811 000
	R & H															337 300 000
	SUPPORT BUILDING (PART OF AREA 5)															35 248 000
	CHTRU															1 163 000
	STORAGE															83 140 000
	UTILITIES															8 360 000
	AREA 5 SITE															117 440 000
	TOTAL IMPROV'S TO LAND															13 208 000
	TOTAL															510 959 000

W. W. WIESER

PROJECT Summary Sheet
MRT. D/L/502

DATE 10.85
JOB NO. 6990-11

HARTSVILLE - ALTERNATE 102

DIVISION	AREA	UNIT	QTY	UNIT PRICE	AMOUNT	UNIT PRICE	QTY	AMOUNT
2	SITE WORK		7	666	4662	100	4662	
			1143	2800	3182	100	3182	
3	CONCRETE		1195	3096	3666	100	3666	
			34	34	1156	100	1156	
4	MASONRY		495	4650	22905	100	22905	
			38	38	1442	100	1442	
5	METALS		1182	1143	13512	100	13512	
			34	34	1156	100	1156	
6	WOOD/PLASTIC		7	940	6580	100	6580	
			9	9	324	100	324	
7	THERM/INSUL PARTITION		192	1592	30566	100	30566	
			278	4475	124385	100	124385	
8	DOORS/WINDOWS		215	1920	41280	100	41280	
			215	1920	41280	100	41280	
9	FINISHES		11	189	2079	100	2079	
			11	189	2079	100	2079	
10	OPERILITIES		11	189	2079	100	2079	
			11	189	2079	100	2079	
11	EQUIPMENT		11	189	2079	100	2079	
			11	189	2079	100	2079	
12	FURNISHINGS		11	189	2079	100	2079	
			11	189	2079	100	2079	
13	SERIAL CONSTRUCTION		11	189	2079	100	2079	
			11	189	2079	100	2079	
14	CONVEYING SYSTEMS		11	189	2079	100	2079	
			11	189	2079	100	2079	
15	MECHANICAL		11	189	2079	100	2079	
			11	189	2079	100	2079	
16	ELECTRICAL		11	189	2079	100	2079	
			11	189	2079	100	2079	
17	INSTALLMENTION		11	189	2079	100	2079	
			11	189	2079	100	2079	
S/TOTAL			17192	110077	22227	35985	63391	10057
PRODUCTIVITY ON LABOR			816	4829	1405	2629	2333	463
SHIFT DIFFERENTIAL			584	321	1770	515	-	381498
STRAIT			95829	18908	12222	95147	38614	65724
CENTR. FACILITY						893		
SUPPORT FACILITIES						26922		
UTILITIES						2512		
30% DIRECT COST			18988	127276	25147	68947	65724	10520
CONTRACTOR ON PROFIT			4873	33728	646	18270	17416	4788
S/TOTAL			11224	161004	31811	87211	83440	13308
CONTINGENCY			30308	5816	40252	7954	12471	1331
TOTAL			151532	29077	201252	39765	95611	14639
AREA			0.2	0.5	0.5	0.5	0.7	0.7
TOTAL			100	100	100	100	100	100
CONSTR. CONTR.								

HARTSVILLE ALTERNATE CASE ESTIMATE WORKSHEET

M.T.O. BY V. MESEC PRICED BY V. MESEC DATE AUG. 85 SHEET OF
 JOB NO. 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY PD

UNIT/AREA DESCRIPTION CAPACITY ACCNT	QUAN- TITY	UNIT	COST OR M/HR PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
			MATL	M/H	LABS		M/HR	DOLLARS	M/HR	DOLLARS	
Summary Area #1											121,724,000
FROM CLINCH RIVER BASE CASE											
Summary Area #2											23,261,000
Summary Area #3											161,004,000
Summary Area #4											31,811,000
Total Areas 1, 2, 3 & 4											337,300,000

PARSONS

HARTSVILLE ALTERNATE CASE ESTIMATE WORKSHEET

M.T.O. BY ENGINEERING PRICED BY V. MESEC DATE AUG. 85 SHEET OF
 JOB NO.: 6840-11 CLIENT: TYPE OF ESTIMATE R.O.M. CHECKED BY

UNIT/AREA	DESCRIPTION	CAPACITY	ACCNT	QUAN-TITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE			SUBCONTRACT		LABOR		TOTAL DOLLARS	
						MATL	M/H	LAB \$	M/HRS	DOLLARS	M/HRS	DOLLARS					
	<u>SUMMARY AREA # 1</u>																
	<u>SUMMARY BY DIVISIONS</u>																
	<u>LABOR PRODUCTIVITY</u>			<u>85 %</u>				<u>17.10</u>									
	<u>S/TOTAL</u>								<u>84 629 000</u>					<u>521 672</u>	<u>9 024 000</u>		<u>93 653 000</u>
	<u>SHIFT DIFFERENTIAL ($9,016,000 / 2 \times 11\%$) -</u>																<u>984 000</u>
	<u>S/TOTAL</u>								<u>84 629 000</u>					<u>620 791</u>	<u>10 616 000</u>		<u>95 245 000</u>
	<u>CONTRACTORS OHD-PROFIT</u>			<u>26.5 %</u>													<u>25 395 000</u>
	<u>TOTAL AREA #1 w/out CONTINGENCY</u>																<u>121 224 000</u>

PARSONS

HARTSVILLE ALTERNATE CASE ESTIMATE WORKSHEET

M.T.O. BY ENGINEERING		PRICED BY V. MESEK		DATE AUG. 85		SHEET OF 						
JOB NO.: 6440-11		CLIENT DOE/PNL		TYPE OF ESTIMATE ROM.		CHECKED BY km/						
UNIT/AREA MRS FACILITY		QUAN-TITY	UNIT	COST OR M/HR\$ PER UNIT			SUBCONTRACT		LABOR		TOTAL DOLLARS	
DESCRIPTION R & H BUILDING				MATL	M/H	LAB \$	M/HR\$	DOLLARS	M/HR\$	DOLLARS		
CAPACITY												
ACCNT	Summary AREA (S) # 1											
DIV 2	SITE WORK											
3	CONCRETE				16.50		600000			4711	76000	676000
4	MASONARY				15.00		9387000			233887	3395000	12882000
5	METALS				16.50		0			0	0	0
6	WOOD & PLASTICS				16.50		3525000			77574	1430000	4955000
7	THERMAL MOIST. PROTECTION				16.50		0			0	0	0
8	DOORS & WINDOWS				16.50		3792000			7824	129000	3921000
9	FINISHES				16.50		0			0	0	0
10	SPECIALTIES				17.00		0			0	0	0
11	EQUIPMENT				18.75		60447000			73300	1374000	61871000
12	FURNISHINGS				16.50		0			0	0	0
13	SPECIAL CONSTRUCTION				18.75		0			0	0	0
14	CONVEYING SYSTEMS				18.75		0			0	0	0
15	MECHANICAL SYSTEMS				18.75		2982000			98543	1847000	4829000
16	ELECTRICAL				17.00		2539000			23533	420000	2959000
17	INSTRUMENTATION				18.00		1407000			8300	153000	1560000
	TOTAL AREA # 1						84629000			527672	9024000	92653000

PARSONS

ESTIMATE WORKSHEET

HARTSVILLE ALTERNATE CASE

M.T.O. BY ENGINEERING PRICED BY VM DATE AUG. 85 SHEET OF
 JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROW CHECKED BY Rom/15/

UNIT/AREA MES FACILITY QUAN- UNIT COST OR M/HRS MATERIAL SUBCONTRACT LABOR TOTAL
 DESCRIPTION R & H. BLDG TITY UNIT PER UNIT EXPENSE M/HR\$ M/HR\$ M/HR\$ DOLLARS DOLLARS
 CAPACITY ACCNT

ACCNT	QUAN- TITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
			MATL	M/H	LAB \$		M/HR\$	DOLLARS	M/HR\$	DOLLARS	
<u>Summary Area #2</u>											
<u>Summary By Divisions</u>					<u>17.71</u>	<u>12 231 000</u>			<u>280113</u>	<u>4961000</u>	<u>17 192 000</u>
<u>LABOR PRODUCTIVITY</u>	<u>85%</u>								<u>49025</u>	<u>875000</u>	<u>875000</u>
<u>Σ TOTAL</u>						<u>12 231 000</u>			<u>929548</u>	<u>5826000</u>	<u>18 067 000</u>
<u>SHIFT DIFFERENTIAL ($\frac{5826000}{2} \times 11\%$) =</u>										<u>321000</u>	<u>321000</u>
<u>Σ TOTAL</u>						<u>12 231 000</u>			<u>929548</u>	<u>6 157 000</u>	<u>18 388 000</u>
<u>CONTRACTOR'S OHD - PROFIT</u>	<u>26.5%</u>										<u>4873000</u>
<u>TOTAL AREA #2 w/out Contingency</u>											<u>23 261 000</u>

PARSONS

ESTIMATE WORKSHEET

HARTSVILLE ALTERNATE CASE

M.T.O. BY **ENGINEERING** PRICED BY **V. MESEK** DATE **AUG. 85** SHEET **1** OF **1**
 JOB NO.: **6440-11** CLIENT: **DOE/PNC** TYPE OF ESTIMATE **ROM.** CHECKED BY **KCM/BJ**

ACCT	UNIT/AREA	DESCRIPTION	CAPACITY	QUAN-TITY	UNIT	COST OR M/HR\$ PER UNIT			MATERIAL EXPENSE			SUBCONTRACT		LABOR		TOTAL DOLLARS		
						MATL	M/H	LAB \$	M/HR\$	DOLLARS	M/HR\$	DOLLARS						
		Summary AREA (3)																
		# 2																
DIV 2		SITE WORK																
3		CONCRETE		15880	CY			1537	3011000					73636	1132000	4143000		
4		MASONARY						1650	0					0	0	0		
5		METALS		1290	TN			1889	3444000					65395	126000	4650000		
6		WOOD & PLASTICS						1650	0					0	0	0		
7		THERMAL MOIST. PROTECTION						1650	0					0	0	0		
8		DOORS & WINDOWS						1650	0					0	0	0		
9		FINISHES						1632	117000					6008	98000	215000		
10		SPECIALTIES						1700	0					0	0	0		
11		EQUIPMENT						1877	2155000					5725	107000	2262000		
12		FURNISHINGS						1650	0					0	0	0		
13		SPECIAL CONSTRUCTION						1877	0					0	0	0		
14		CONVEYING. SYSTEMS						1877	0					0	0	0		
15		MECHANICAL SYSTEMS						1877	2373000					172006	2226000	4659000		
16		ELECTRICAL						1775	1126000					7237	136000	1256000		
17		INSTRUMENTATION						1838	0					0	0	0		
		TOTAL AREA 2																
									17231000					280113	4961000	17192000		

PARSONS

ESTIMATE WORKSHEET

HARTSVILLE ALTERNATE CASE

M.T.O. BY ENGINEERING PRICED BY V. NIBEL DATE Aug 85 SHEET OF
 JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY LUF/LAS

UNIT/AREA	DESCRIPTION	CAPACITY	ACCNT	QUAN-TITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE			SUBCONTRACT		LABOR		TOTAL DOLLARS		
						MATL	M/H	LAB\$	M/HRS	DOLLARS	M/HRS	DOLLARS	M/HRS	DOLLARS				
	<u>Summary Area # 3</u>																	
	<u>Summary by Divisions</u>																	
	<u>Labor Productivity</u>																	
	<u>5/TOTAL</u>																	
	<u>SHIFT DIFFERENTIAL (32193000 / 2 x 11%)</u>																	
	<u>5/TOTAL</u>																	
	<u>Contractors and Profit</u>																	
	<u>26.5%</u>																	
	<u>TOTAL Cost Area # 3 w/out Contingency</u>																	

ESTIMATE WORKSHEET

HARTSVILLE ALTERNATE CASE

M.T.O. BY **ENGINEERING** PRICED BY **V MESEL** DATE **Aug. 85** SHEET **15** OF **15**
 JOB NO.: **6440-11** CLIENT **DOE/PNL** TYPE OF ESTIMATE **ROM.** CHECKED BY **15**

UNIT/AREA	DESCRIPTION	CAPACITY	ACCNT	QUANTITY	UNIT	COST OR M/HR PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
						MATL	M/H	LAB \$		M/HR	DOLLARS	M/HR	DOLLARS	
	SUMMARY AREA (S)													
	# 3													
DIV 2	SITE WORK													
3	CONCRETE			96941	CY			15.37	1462000			546443	8462000	28004000
4	MASONRY							16.50	0			0	0	0
5	METALS			165	TN			18.44	366000			23262	489000	1195000
6	WOOD & PLASTICS							16.50	1000			346	6000	7000
7	THERMAL MOIST. PROTECTION							16.50	707000			14121	23000	940000
8	DOORS & WINDOWS							16.50	4331000			8707	144000	4475000
9	FINISHES							16.37	765000			58490	935000	1920000
10	SPECIALTIES							17.01	10000			35	1000	11000
11	EQUIPMENT							18.44	19519000			54484	1021000	20540000
12	FURNISHINGS							16.50	0			0	0	0
13	SPECIAL CONSTRUCTION							18.44	343000			7690	144000	3514000
14	CONVEYING SYSTEMS							18.44	837000			9415	176000	1013000
15	MECHANICAL SYSTEMS							18.44	26706000			582957	10925000	37631000
16	ELECTRICAL							17.01	5704000			194520	3472000	9176000
17	INSTRUMENTATION			1	LOT			18.44	10130000			74812	1375000	11525000
	TOTAL											158050	27344000	120677000

ESTIMATE WORKSHEET

M.T.O. BY **ENGINEERING** PRICED BY **V. MESEK** DATE **AUG. 85** SHEET **1** OF **1**
 JOB NO.: **6440-11** CLIENT: **DOE/PNL** TYPE OF ESTIMATE **ROM.** CHECKED BY **[Signature]**

UNIT/AREA	DESCRIPTION	CAPACITY	QUAN-TITY	UNIT	COST OR M/HR'S PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
					MATL	M/H	LAB \$		M/HR'S	DOLLARS	M/HR'S	DOLLARS	
ACCNT	Summary AREA (5) # 4												
DIV 2	SITE WORK												
3	CONCRETE		22860	cy			1537	3344000			171627	2638000	5982000
4	MASONARY						1650	13000			1301	21000	34000
5	METALS		1533	sq			1800	2264000			41840	772000	3036000
6	WOOD & PLASTICS						1650	2000			397	7000	9000
7	THERMAL MOIST. PROTECTION						1600	1461000			26144	431000	1592000
8	DOORS & WINDOWS						1600	243000			243	35000	278000
9	FINISHES						1600	223000			19125	372000	605000
10	SPECIALTIES						1700	161000			1616	28000	189000
11	EQUIPMENT						1800	972000			6119	115000	1087000
12	FURNISHINGS						1650	239000			528	5000	244000
13	SPECIAL CONSTRUCTION.						1800	856000			9550	179000	1035000
14	CONVEYING SYSTEMS						1800	657000			2695	57000	708000
15	MECHANICAL SYSTEMS						1800	3197000			119990	2249000	5446000
16	ELECTRICAL						1700	1826000			21993	1107000	2933000
17	INSTRUMENTATION.						1800	INCLUDED IN AREA 3					
TOTAL AREA #4								15267000			465464	71960000	23427000

PARSONS

ESTIMATE WORKSHEET

HARTSVILLE ALTERNATE CASE

M.T.O. BY _____ PRICED BY _____ DATE AUG 85 SHEET _____ OF _____
 JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY Romy RA

UNIT/AREA	DESCRIPTION	CAPACITY	QUAN-TITY	UNIT	COST OR M/HR\$ PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
					MATL	M/H	LAB \$		M/HR\$	DOLLARS	M/HR\$	DOLLARS	
ACCNT	TOTAL SUMMARY AREA 5												
	AREA 5												47,440,000
	CHTRU												1,163,000
	SUPPORT FACILITIES												35,248,000
	UTILITIES												3,360,000
	TOTAL AREA 5 w/o CONTINGENCY												87,211,000

PARSONS

ESTIMATE WORKSHEET

HARTSVILLE ALTERNATE CASE

M.T.O. BY ENGR. PRICED BY RUF DATE AUG 85 SHEET OF
 JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY RCM/PJ

UNIT/AREA	DESCRIPTION	CAPACITY	ACCNT	QUAN-TITY	UNIT	COST OR M/HR PER UNIT			MATERIAL EXPENSE	SUBCONTRACT			LABOR			TOTAL DOLLARS
						MATL	M/H	LAB \$		M/HR	DOLLARS	M/HR	DOLLARS			
	SUMMARY AREA 5															
	SUMMARY BY DIVISIONS							16.37	27 389 000			585 203	8 576 000			35 985 000
	LABOR PRODUCTIVITY	85%										92 683	1 517 000			1 517 000
	SI TOTAL								27 389 000			6 17 886	10 113 000			37 502 000
	CONTRACTORS OH-PROFIT	26.5%														9 938 000
	TOTAL COST AREA 5 w/o CONTINGENCY															47 440 000

PARSONS

ESTIMATE WORKSHEET

HARTSVILLE ALTERNATE CASE

M.T.O. BY ENGR PRICED BY RUF DATE AUG 85 SHEET OF
 JOB NO.: 6440-11 CLIENT: DE/PLN TYPE OF ESTIMATE ROM CHECKED BY Rom/RJ

UNIT/AREA DESCRIPTION CAPACITY ACCNT	QUAN- TITY	UNIT	COST OR M/HR PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
			MATL	M/H	LAB \$		M/HR	DOLLARS	M/HR	DOLLARS	
<u>MRS FACILITY</u> <u>AREAS</u>											
<u>SUMMARY CHTRU FACILITY</u>											
<u>TOTAL DIRECT COST</u>					<u>16.50</u>	<u>743,000</u>			<u>9086</u>	<u>150,000</u>	<u>893,000</u>
<u>LABOR PRODUCTIVITY</u>	<u>85%</u>								<u>1603</u>	<u>26,000</u>	<u>26,000</u>
<u>5/TOTAL</u>						<u>743,000</u>			<u>10689</u>	<u>176,000</u>	<u>919,000</u>
<u>CONTRACTORS OH-PROFIT</u>	<u>26.5%</u>										<u>244,000</u>
<u>TOTAL CHTRU FAC w/o CONTINGENCY</u>											<u>1,163,000</u>

PARSONS

ESTIMATE WORKSHEET

HARTSVILLE ALTERNATE CASE

M.T.O. BY RUF PRICED BY RUF DATE AUG 85 SHEET OF
 JOB NO.: 0440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY RUF/pj

UNIT/AREA	DESCRIPTION	CAPACITY	ACCNT	QUAN-TITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS	
						MATL	M/H	LAB \$		M/HRS	DOLLARS	M/HRS	DOLLARS		
	<u>MRS FACILITY</u>	<u>AREAS</u>													
	<u>SUMMARY UTILITIES</u>														
	<u>TOTAL DIRECT COST</u>							<u>1875</u>	<u>1 699 000</u>			<u>43381</u>	<u>813 000</u>	<u>2 512 000</u>	
	<u>LABOR PRODUCTIVITY</u>			<u>85%</u>								<u>7655</u>	<u>144 000</u>	<u>144 000</u>	
	<u>5/TOTAL</u>								<u>1 699 000</u>			<u>51036</u>	<u>957 000</u>	<u>2 656 000</u>	
	<u>CONTRACTORS ON-PROFIT</u>			<u>26.6%</u>										<u>704 000</u>	
	<u>TOTAL COST UTILITIES % CONTINGENCY</u>													<u>3 360 000</u>	

PARSONS
ESTIMATE WORKSHEET

HARTSVILLE ALTERNATE CASE

M.T.O. BY ENGR. PRICED BY RUF DATE AUG 85 SHEET OF
 JOB NO.: 6440-11 CLIENT: DD/EPNL TYPE OF ESTIMATE REM CHECKED BY RUF

UNIT/AREA	DESCRIPTION	CAPACITY	QUAN-TITY	UNIT	COST OR M/HR\$ PER UNIT			MATERIAL EXPENSE		SUBCONTRACT		LABOR		TOTAL DOLLARS
					MATL	M/H	LAB \$	M/HR\$	DOLLARS	M/HR\$	DOLLARS			
ACCNT	SUMMARY AREA 5													
DIV 2	SITEWORK													
	TOTAL SITEWORK (GLINCH RIVER ALTERNATE CASE)							21 458 000				306015		
	DELETE EARTHWORK (GLINCH RIVER ALTERNATE CASE)							15 708 000				190443		
	ADD EARTHWORK (HARTSVILLE ALTERNATE CASE)							16 075 000				326313		
	TOTAL							21 825 000				440885		

HARTSVILLE - ALTERNATE CASE

PARSONS ESTIMATE WORKSHEET

M.T.O. BY ENGR.		PRICED BY RUF		DATE AUG. '85		SHEET		OF					
JOB NO.: 6440-11		CLIENT: DME/PAL		TYPE OF ESTIMATE ROM		CHECKED BY [Signature]							
UNIT/AREA MRS FACILITY		QUAN- TITY	UNIT	COST OR M/HR\$ PER UNIT			MATERIAL EXPENSE		SUBCONTRACT		LABOR		TOTAL DOLLARS
DESCRIPTION GITE LOCATION				MATL	M/H	LABS	M/HR\$	DOLLARS	M/HR\$	DOLLARS			
CAPACITY													
ACCNT													
DIV. 2	SITWORK AREA #5												
2200	EARTHWORK												
10	FINE GRADING - EARTH (MACH)	-	AC	1878	48-								
11	EXCAVATION INCL. HAULING - EARTH	1364800	CY	1.09	.01			1487620				13648	
12	EMBANKMENT - COMPACTED FILL	1433000	CY	1.10	.02			1576300				28661	
13	ROCK EXCAV. & HAUL - BLASTING	2811200	CY	4.50	.10			12650400				281120	
14	ROCK EXCAV. & HAUL - RIPPABLE	-	CY	1.70	.02								
15	ROCK EMBANKMENT - COMP - HAUL	360560	CY	1.00	.008			360560				36056	
16	CRUSHING & SCREENING & HAULING	-	CY	2.00	.016								
17	DIKE (EARTH FILL) POND	-	CY	1.10	.02								
18	EARTH FILL AT EXISTING TUNNEL & PIPES	-	CY	1.10	.02								
19	EXCAVATION AT PONDS	-	CY	1.09	.01								
190	IMPOLT	-	-	-	-								
SUB TOTAL								16074930				326313	
								16075000					

PARSONS

ESTIMATE WORKSHEET

HARTSVILLE ALTERNATE

M.T.O. BY JJ PRICED BY JJ DATE AUG-85 SHEET 2 OF 2
 JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE ROM CHECKED BY Remy A

UNIT/AREA DESCRIPTION CAPACITY	QUAN- TITY	UNIT	COST OR M/HR PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
			MATL	M/H	LAB \$		M/HR	DOLLARS	M/HR	DOLLARS	
ACCNT DIV. 16	ELECTRIC.	AREA-5									
	SUMMARY										
16100	TOTAL ELECTRICAL (SAME AS CLINCH RIVER ALTERNATE CASE)					5334000			82377		

HARTSVILLE ALTERNATE CASE

PARSONS
ESTIMATE WORKSHEET

7/27/85

M.T.O. BY <i>CMS/BA</i>		PRICED BY			DATE <i>AUG 85</i>			SHEET <i>1</i> OF <i>4</i>					
JOB NO.: <i>6440-11</i>		CLIENT: <i>PNL/DDE</i>			TYPE OF ESTIMATE <i>ROM</i>			CHECKED BY <i>D. 1/10</i>					
UNIT/AREA <i>RSH BUILDING</i>		QUAN- TITY	UNIT	COST OR M/HR\$ PER UNIT			MATERIAL EXPENSE		SUBCONTRACT		LABOR		TOTAL DOLLARS
DESCRIPTION <i>ONSITE CAL OF PLANT</i>				MATL	M/H	LAB \$	M/HR\$	DOLLARS	M/HR\$	DOLLARS			
CAPACITY													
ACCNT													
<i>DIV. 17</i>	<i>INSTRUMENTATION AREA 5</i>												
	<i>SUMMARY</i>												
<i>1712</i>	<i>ANALYZERS</i>	<i>1</i>	<i>LOT</i>				<i>124600</i>				<i>500</i>		
<i>1714</i>	<i>MISCELLANEOUS INSTRUMENTS</i>	<i>1</i>	<i>LOT</i>				<i>60000</i>				<i>1000</i>		
<i>1718</i>	<i>INSTRUMENT INSTALLATION MATERIAL</i>	<i>1</i>	<i>LOT</i>				<i>7000</i>				<i>225</i>		
<i>1719</i>	<i>CALIBRATION</i>	<i>1</i>	<i>LOT</i>								<i>200</i>		
	<i>SUBTOTAL</i>						<i>193600</i>				<i>1925</i>		
	<i>INLAND FREIGHT ALLOWANCE @ ~3%</i>	<i>1</i>	<i>LOT</i>				<i>5400</i>						
	<i>TOTAL</i>						<i>199000</i>				<i>1925</i>		

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY ENGINEERING PRICED BY V. MESSER DATE Aug. 85 SHEET OF
 JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM 35% CHECKED BY DH

UNIT/AREA	DESCRIPTION	CAPACITY	QUAN-TITY	UNIT	COST OR M/HR\$ PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS	
					MATL	M/H	LAB \$		M/HR\$	DOLLARS	M/HR\$	DOLLARS		
ACCNT DIV.	TOTAL AREA # 6													
	Summary													
	TOTAL By Divisions						1633	50	169,000			809,606	13,222,000	6,339,000
	Labor Productivity		85%									142,872	2,333,000	2,333,000
	5/total								50	169,000		9,524,78	15,335,000	6,572,400
	CONTR O&P		26 1/2%										11.5	1,741,600
	TOTAL													8,314,000

HARTSVILLE

ALT CASE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY <u>ENGINEERING</u>		PRICED BY <u>V. NIESEL</u>	DATE <u>AUG. 85</u>	SHEET <u> </u> OF <u> </u>									
JOB NO.: <u>6440-11</u>		CLIENT <u>DOE/PNL</u>	TYPE OF ESTIMATE <u>ROM.</u>		CHECKED BY <u>SH</u>								
UNIT/AREA	DESCRIPTION	QUAN-TITY	UNIT	COST OR M/HR PER UNIT			MATERIAL EXPENSE		SUBCONTRACT		LABOR		TOTAL DOLLARS
CAPACITY				MATL	M/H	LAB \$		M/HR	DOLLARS	M/HR	DOLLARS		
ACCNT	<u>SUMMARY AREA (S)</u>	<u>6</u>											
<u>DIV 2</u>	<u>SITE WORK</u>				<u>16.08</u>			<u>39675000</u>		<u>696148</u>	<u>11198000</u>	<u>50869000</u>	
<u>3</u>	<u>CONCRETE</u>				<u>15.31</u>			<u>-</u>		<u>-</u>			
<u>4</u>	<u>MASONARY</u>				<u>16.50</u>								
<u>5</u>	<u>METALS</u>				<u>18.00</u>								
<u>6</u>	<u>WOOD & PLASTICS</u>				<u>14.50</u>								
<u>7</u>	<u>THERMAL MOIST. PROTECTION</u>				<u>16.50</u>								
<u>8</u>	<u>DOORS & WINDOWS</u>				<u>16.00</u>								
<u>9</u>	<u>FINISHES</u>				<u>16.30</u>								
<u>10</u>	<u>SPECIALTIES</u>				<u>17.51</u>								
<u>11</u>	<u>EQUIPMENT</u>				<u>18.00</u>			<u>7339000</u>		<u>2010</u>	<u>38000</u>	<u>7377000</u>	
<u>12</u>	<u>FURNISHINGS</u>				<u>16.50</u>								
<u>13</u>	<u>SPECIAL CONSTRUCTION</u>				<u>18.00</u>			<u>24000</u>		<u>768</u>	<u>14000</u>	<u>38000</u>	
<u>14</u>	<u>CONVEYING. SYSTEMS</u>				<u>18.00</u>								
<u>15</u>	<u>MECHANICAL SYSTEMS</u>				<u>18.00</u>								
<u>16</u>	<u>ELECTRICAL</u>				<u>17.00</u>			<u>3131000</u>		<u>110680</u>	<u>1976000</u>	<u>5107000</u>	
<u>17</u>	<u>INSTRUMENTATION</u>				<u>18.30</u>								
	<u>TOTAL</u>							<u>50169000</u>		<u>809606</u>	<u>13232000</u>	<u>63391000</u>	

PARSONS
ESTIMATE WORKSHEET

M.T.O. BY ENGINEERING PRICED BY ✓ Messer / [Signature] DATE Aug 85 SHEET OF
 JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY [Signature]

UNIT/AREA	DESCRIPTION	CAPACITY	QUAN-TITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
					MATL	M/H	LAB \$		M/HRS	DOLLARS	M/HRS	DOLLARS	
ACCNT													
DIV 2	SITE WORK AREA 6												
	SUMMARY												
2100	CLEARING							281960				6720	
2200	EARTHWORK							7354000				84333	
2220	TRENCHING & BACKFILLING							258560				743	
2500	SITE DRAINAGE							18850				2991	
2600	ROADS & PAVING							3102000				11388	
2700	SITE IMPROVEMENTS							260700				3530	
2795	DRY WELLS,							28196000				579881	
2800	LANDSCAPING							12930				162	
<hr/>													
DIV 2	TOTAL SITEWORK							39674900				696148	
								Use 39675000					

**PARSONS
ESTIMATE WORKSHEET**

HARTSVILLE - ALTERNATE CASE

M.T.O. BY ENGR.		PRICED BY RUF		DATE AUG. '85		SHEET _____ OF _____					
JOB NO.: 6440-11		CLIENT: DHE / PNL		TYPE OF ESTIMATE ROM		CHECKED BY [Signature]					
UNIT/AREA	MRS. FACILITY	QUAN- TITY	UNIT	COST OR M/HRS PER UNIT			SUBCONTRACT		LABOR		TOTAL DOLLARS
DESCRIPTION	GITE LOCATION			MATL	M/H	LABS	M/HRS	DOLLARS	M/HRS	DOLLARS	
ACCNT DIV. 2	SITWORK AREA #6										
2200 EARTHWORK											
10	LINE GRADINGS - EARTH (MACH)	-	AC	1878	48.						
11	EXCAVATION INCL. HAULING - EARTH	381200	CY	1.09	.01	416	500		3812		
12	EMBANKMENT - COMPACTED FILL	400280	CY	1.10	.02	440	300		8005		
13	ROCK EXCAV. & HAUL - BLASTING	287900	CY	4.50	.10	1295	600		28790		
14	ROCK EXCAV. & HAUL - RIPPABLE	-	CY	1.70	.02						
15	ROCK EMBANKMENT - COMP - HAUL	4161270	CY	1.00	.08	4161	300		33210		
16	CRUSHING & SCREENING & HAULING		CY	2.00	.016						
17	DIKE (EARTH FILL) POND		CY	1.10	.02						
18	EARTH FILL AT EXISTING TUNNEL & PIPES		CY	1.10	.02						
19	EXCAVATION AT PONDS		CY	1.09	.01						
19B	IMPACT	1051570	CY	1.02	.01	1051	600		10516		
GIB TOTAL						7354	300		84333		
				USE		7354	000				

PARSONS

HARTSVILLE - ALTERNATE CASE

ESTIMATE WORKSHEET

M.T.O. BY ENGR.		PRICED BY RWF		DATE AUG. '86		SHEET OF									
JOB NO.: 6440-11		CLIENT: DDE/PAL		TYPE OF ESTIMATE ROM		CHECKED BY									
UNIT/AREA MRS FACILITY		QUAN. TITY	UNIT	COST OR M/HR PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS			
DESCRIPTION SITE LOCATION				MATL	M/H	LABS		M/HR	DOLLARS	M/HR	DOLLARS				
CAPACITY															
ACCNT DIV. 2		SITE WORK													
2795		DRYWELL HOLE (FILL)													
	.1	HOLE DRILLING	26"φ	81800	LF	8.	.3		1751	400			21540		
	.2		42"φ	16000	LF	16.50	.5		218	000			8000		
	.3		48"φ	2000	LF	21.	.7		42	000			1400		
2795		DRYWELL HOLE (ROCK)													
		HOLE DRILLING													
	.1		26"φ	4300	LF	16.	.5		68	800			2150		
	.2		42"φ	800	LF	31.	1.1		24	800			880		
	.3		48"φ	100	LF	42.	1.4		4	200			140		
2795.5		DISPOSAL - EARTH/ROCK FROM HOLE													
				18700	CY	2.69	.05		50	200			985		
2795.6		DRYWELL HOLE LINER 16"φ													
	.7		30"φ	81100	LF	164	4.5		13	712	000		378450		
	.8		36"φ	16400	LF	435	6.5		7	134	000		106600		
	.8		36"φ	2100	LF	625	7.5		1	312	500		15100		
2795.9		DRYWELL LINER GROUT													
				11000	CY	55	.9		60	200			9936		
2795.10		EXCAV. & DISPOSAL - FOR CONC. COLLAR													
				11000	CY	4.5	.1		49	500			1100		
2795.11		REINF. CONC. FOR COLLARS - CAT. I													
				10000	CY	100.	3.0		1	200	000		30000		
		S/TOTAL FOR 5000 HOLES							25	868	100			57881	
		ADJUST FOR 5000 MTU							9%		400			-	
		SUB TOTAL									28	196	000		579881

PARSONS

ESTIMATE WORKSHEET

HARTSVILLE ALTERNATE

M.T.O. BY JJ PRICED BY JJ DATE AUG-15 SHEET 1 OF 1
 JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE ROM CHECKED BY ACM/A

UNIT/AREA	DESCRIPTION	CAPACITY	QUAN-TITY	UNIT	COST OR M/HR\$ PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
					MATL	M/H	LAB \$		M/HR\$	DOLLARS	M/HR\$	DOLLARS	
ACCNT	ELECTRIC.		6										
	SUMMARY												
16400	OUTDOOR SUBSTATION #SS-05							251,050				1232	
16500	AREA LIGHTING							296,490				3965	
16505	SECURITY LIGHTING							83,280				1152	
16550	AREA GROUND'G							23,180				534	
16600	CATHODIC PROTECTION							852,140				51174	
16604	ALARM ZONE							127,290				2377	
16900	INSTRUMENT DRY WELL							1,959,030				63,520	
16905	MONITOR WIRING							40,400				1,000	
								3,632,860				124,954	
<16900>	DELETE INSTR. FOR CASK STORAGE							< 501,800				< 14,274 >	
								SAY = 3,131,000				110,680	

PARSONS
ESTIMATE WORKSHEET

HARTSVILLE ALTERNATE CASE

M.T.O. BY JJ PRICED BY JJ DATE AUG 85 SHEET ____ OF ____
 JOB NO.: 6440-11 CLIENT: DOE / PNL TYPE OF ESTIMATE ROM CHECKED BY Rm / RD

UNIT/AREA	DESCRIPTION	CAPACITY	QUAN-TITY	UNIT	COST OR M/HR\$ PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
					MATL	M/H	LAB \$		M/HR\$	DOLLARS	M/HR\$	DOLLARS	
ACCNT	ELECTRIC AREA 6 (ALTERNATE)												
6440	OUTDOOR SUBSTATION SS-05												
	AIR INTER. SW		2	E	7870	45	15740				90		
	500 KVA XFMR\$		2	E	12300	58	24600				116		
	800 A BRKR		10	E	1800	20	18000				200		
	SPACE ONLY		2	E	300	-	600				-		
	MCC-05-1, S/A-1 & S/A-2												
	100 A BRKR		30	E	410	3	12300				90		
	SPACE ONLY		6	E	170	-	1020				-		
							72260				496		
	ADD CIVIL WORK						178790				736		
							251050				1232		

ESTIMATE WORKSHEET

HARTSVILLE ALTERNATE

M.T.O. BY RUF PRICED BY RUF DATE Aug. 85 SHEET 3 OF

JOB NO.: 640-11 CLIENT: DOE TYPE OF ESTIMATE ROM CHECKED BY RUF

UNIT/AREA DESCRIPTION CAPACITY	QUAN- TITY	UNIT	COST OR M/HR\$ PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
			MATL	M/H	LAB\$		M/HR\$	DOLLARS	M/HR\$	DOLLARS	
ACCNT <u>DIVISION ELECTRICAL AREA #6</u>											
<u>16400 SUBSTATIONS: ENDORSE</u>											
<u>#05-1</u>	<u>1600</u>	<u>SF</u>									
<u>PAD 1-0" TALK</u>	<u>60</u>	<u>CY</u>	<u>519</u>	<u>3.</u>		<u>31140</u>			<u>180</u>		
<u>BULK (PROFAS)</u>	<u>1600</u>	<u>SF</u>	<u>50</u>	<u>.1</u>		<u>80000</u>			<u>160</u>		
<u>EARTHWORK</u>	<u>21000</u>	<u>LINE</u>	<u>1000</u>	<u>50</u>		<u>1000</u>			<u>50</u>		
<u>#05-2</u>	<u>800</u>	<u>SF</u>									
<u>PAD 1-0" TALK</u>	<u>30</u>	<u>CY</u>	<u>519</u>	<u>3</u>		<u>15570</u>			<u>90</u>		
<u>BULK (PROFAS)</u>	<u>800</u>	<u>SF</u>	<u>50</u>	<u>.1</u>		<u>40000</u>			<u>80</u>		
<u>EARTHWORK</u>	<u>21000</u>	<u>LINE</u>	<u>500</u>	<u>20</u>		<u>500</u>			<u>20</u>		
<u>TRANSF. PDN</u>	<u>2</u>	<u>EA</u>									
<u>FOUNDATION</u>	<u>20</u>	<u>CY</u>	<u>504</u>	<u>6.8</u>		<u>10080</u>			<u>136</u>		
<u>EARTHWORK</u>	<u>21000</u>	<u>LINE</u>	<u>500</u>	<u>20</u>		<u>500</u>			<u>20</u>		
<u>BACK-UP REFERENCE ONLY</u>											
<u>TOTAL DIRECT COST</u>						<u>178190</u>			<u>736</u>		

PARSONS
ESTIMATE WORKSHEET

HARTSVILLE ALTERNATE

M.T.O. BY J.N. PRICED BY N.J. DATE AUG-15 SHEET 4 OF 4

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

UNIT/AREA <u>ALTERN. HARTSVILLE</u>	QUAN- TITY	UNIT	COST OR M/HR\$ PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
DESCRIPTION <u>STORAGE LIGHTING</u>			MATL	M/H	LAB \$		M/HR\$	DOLLARS	M/HR\$	DOLLARS	
CAPACITY <u>MRS FACILITY</u>											

ACCNT ELECTRICAL AREA-6

16500 ALTERN. HARTSVILLE
DRY WELL AREA LIGHTING

10.5 x 200 = 2100 x 3200 =
16 x 200 = 6,720,000 \$

BASE CASE STORAGE
6 x 200 = 1200 x 2350
1175 x 200 = 2,820,000 \$

DIFERENCE
3,900,000 \$

ADDITION TO BASE
\$ 798,250 x 3,700,000
10,500,000 296,490

10676 x 3900,000
10,500,000 3965

PARSONS

ESTIMATE WORKSHEET

HARTSVILLE ALTERNATE

M.T.O. BY J.J. PRICED BY J.J. DATE AUG-15 SHEET 6 OF 3
 JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE RDM CHECKED BY J.J.

UNIT/AREA		QUANTITY	UNIT	COST OR M/HR PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
DESCRIPTION	CAPACITY			MATL	M/H	LAB \$		M/HR	DOLLARS	M/HR	DOLLARS	
ACCNT	ELECTRICAL											
	AREA - 5											
16500	SECURITY LIGHTING (11-14)											
	1100 LIGHT 1000W HPS 277V HOLOPHANE # VFLDC12HP21W	140	E	671	3		93940			420		
	10 FT ROUND STEEL POLE	130	E	402	2		52260			260		
	DIRECT BARRIAL CABLE	14000	LF	2.5	.037		35000			518		
	1000 W. H. PRCES. SOD. LAMP	140	E	126	.1		17640			14		
	TRENCHING & BACK FILL	14000	LF	1.5	.1		21000			1400		
	CONCRETE FOUNDATION	130	E	50	.4		6500			520		
							226,340			3132		
BACK-UP ONLY												

PARSONS
ESTIMATE WORKSHEET

HARTSVILLE ALTERNATE

M.T.O. BY N.J. PRICED BY J.J. DATE AUG-15 SHEET 7 OF 7
 JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE ROM CHECKED BY [Signature]

UNIT/AREA	DESCRIPTION	CAPACITY	QUAN-TITY	UNIT	COST OR M/HR\$ PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
					MATL	M/H	LAB \$		M/HR\$	DOLLARS	M/HR\$	DOLLARS	
ACCNT	ELECTRICAL	AREA - 6											
16530	ALERN. HARTSVILLE GROUND'G												
	$10.5 \times 200 = 2100$ $16 \times 200 = 3200$ $(2 \times 200) \times (2.5 \times 200) \div 2 = 100,000$ $(2100 \times 3200) - 100,000 = 6,620,000$												
	ADDITION TO BASE												
	$6,620,000 - 2,820,000 = 3,800,000$												
							1.006099	23,180				534	
							1.001405						

HARTSVILLE ALTERNATE

PARSONS ESTIMATE WORKSHEET

M.T.O. BY <u>N.J.</u>		PRICED BY <u>J.J.</u>		DATE <u>AUG-15</u>				SHEET <u>8</u> OF <u> </u>				
JOB NO.: <u>6440-11</u>		CLIENT: <u>PNL-DOE</u>		TYPE OF ESTIMATE <u>ROM</u>				CHECKED BY <u> </u>				
UNIT/AREA <u>ALTERN. HARTSVILLE</u>		QUAN- TITY	UNIT	COST OR M/HR PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
DESCRIPTION <u>CATHODIC PROTECTION</u>				MATL	M/H	LAB \$		M/HR	DOLLARS	M/HR	DOLLARS	
CAPACITY <u>MRS FACILITY</u>												
ACCNT <u>ELECTRICAL AREA 6</u>												
<u>16600</u>	<u>CATHODIC PROTECTION</u> <u>DRY WELL AREA.</u>											
	<u>25 X 200 = 5000 sq</u>											
	<u>(1.75 + 1.75) X 200 = 700 sq</u>											
	<u>AREA 5000 X 700 =</u>	<u>3,500,000</u>	<u>sq</u>									
	<u>16,328 CADWELD X2</u>	<u>32,656</u>	<u>E</u>	<u>5</u>	<u>1</u>		<u>163,280</u>			<u>32,656</u>		
	<u>PIGTAIL # 2 GRND</u>	<u>16,328</u>	<u>E</u>	<u>10</u>	<u>1</u>		<u>163,280</u>			<u>16,328</u>		
	<u># 4/0 GRND GRID</u> <u>10' X 200'</u>	<u>21,800</u>	<u>LF</u>	<u>1.8</u>	<u>.056</u>		<u>39,240</u>			<u>785</u>		
	<u>TRENCH 21,800 X .5 X 1.5</u>	<u>606</u>	<u>P.Y.</u>	<u>6</u>	<u>.15</u>		<u>3640</u>			<u>91</u>		
	<u>BACK FILL 21,800'</u>	<u>606</u>	<u>P.Y.</u>	<u>35</u>	<u>.07</u>		<u>2120</u>			<u>42</u>		
	<u>GRND. WELL</u>	<u>100</u>	<u>E</u>	<u>50</u>	<u>.7</u>		<u>5000</u>			<u>400</u>		
	<u>TESTING POINT</u>	<u>100</u>	<u>E</u>	<u>50</u>	<u>2</u>		<u>5000</u>			<u>200</u>		
	<u>CATHODIC PROT. EQUIP.</u> <u>XFMR ETC--</u>	<u>1</u>	<u>LS</u>	<u>-</u>	<u>-</u>		<u>210,580</u>			<u>672</u>		
	<u>ENGINEERING FEE</u>						<u>260,000</u>			<u>-</u>		
	<u>TOTAL</u>						<u>852,140</u>			<u>51,174</u>		

HARTSVILLE ALTERNATE

PARSONS ESTIMATE WORKSHEET

M.T.O. BY J.J. PRICED BY J.J. DATE AUG-15 SHEET 9 OF 9
 JOB NO: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE RDM CHECKED BY Rcm/R

UNIT/AREA	DESCRIPTION	CAPACITY	ACCNT	QUAN-TITY	UNIT	COST OR M/HR\$ PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
						MATL	M/H	LAB \$		M/HR\$	DOLLARS	M/HR\$	DOLLARS	
	ELECTRICAL AREA			6										
16604	ALTERN. HARTSVILLE ALARM ZONE													
	$(54,25 \times 200) - (7400) =$													
	ADD TO BASE													
	$17,350 - 13,850 =$													
	3,500													
	USING BASE ESTIMATE													
	$533,400 \times 3500 = 169,720$													
	11,000													
	USING ONE TO THREE RATIO													
	$169,720 \div 4 = 42,430$													
	$42,430 \div 17,85 = 2,377 \text{ HRS}$													
	$169,720 - 42,430 = 127,290$													
									<u>127,290</u>				<u>2377</u>	

HARTSVILLE ALTERNATE

PARSONS ESTIMATE WORKSHEET

M.T.O. BY J.V. PRICED BY J.V. DATE AUG-13 SHEET 10 OF 10
 JOB NO.: 6440-11 CLIENT: LNL-DOE TYPE OF ESTIMATE ROM CHECKED BY Rem

UNIT/AREA	DESCRIPTION	CAPACITY	QUAN-TITY	UNIT	COST OR M/HR PER UNIT			MATERIAL EXPENSE	SUBCONTRACT			LABOR			TOTAL DOLLARS
					MATL	M/H	LAB \$		M/HR	DOLLARS	M/HR	DOLLARS			
ACCNT	INSTRUMENT. AREA-6														
16700	INSTRUMENTATION														
	ALTERN														
	DRY WELL INSTRUMENT.														
	DRY WELL $3256 \div 50 = 66$														
	TRENCHING $\frac{100}{100}$														
	13.5 X 200 = 2700 X 5'-0" X 5'-0" $\div 27$														
	2500	C.Y	6	.15			15,000							375	
	CONCR. DUCT 2700 X 5 X 2.5 $\div 27$														
	1250	C.Y	55	.5			68,750							625	
	BACKFILL 2500-1250														
	1250	C.Y	3.5	.07			4380							88	
	2" ϕ PVC. 2700 X 72														
	194,400	LF	0.76	.08			147,740							15552	
	FITTING & SUPPORT														
	25%	-	-	-			36,940							3888	
	WIRING 2000 X 6.5 50 PR SH														
	130,000	LF	9.727	.075			126,300							9250	
	3256 X 100. 1 PR SH														
	325,000	LF	.213	.008			69,225							2600	
	WIRING CONN. 3256 X 6														
	19536	E	1-	.25			19,540							4884	
	1" ϕ RGS. STUB-UPS. 1216 X 50														
	162800	LF	1.25	.1			203,500							16280	
	2" ϕ RGS 300 X 8														
	2400	LF	2.54	.18			6100							432	
	FITTING & SUPPORT 50%														
	-	-	-	-			104,800							8356	
	JUNCTIONS 3256 : 50														
	65	E	250	10			16,250							650	
	HANDHOLES														
	4	E	800	10			3200							40	
	AREN # 6														
	TOTAL														
							1,959,030							63520	

ESTIMATE WORKSHEET

HARTSVILLE ALTERNATE

M.T.O. BY N.J. PRICED BY J.V. DATE AUG-15 SHEET 11 OF 11

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

UNIT/AREA SF. HLW. RHTRU-STORAGE AREA
 DESCRIPTION MONITORING
 CAPACITY MRS FACILITY

ACCNT	DESCRIPTION	QUAN-TITY	UNIT	COST OR M/HR\$ PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB \$		M/HR\$	DOLLARS	M/HR\$	DOLLARS	
	<u>ELECTRICAL AREA # 6</u>											
<u>16900</u>	<u>INSTRUMENT WIRING</u>											
	<u>WIRING & DUCT BANK FOR MONITORING EQUIPM'T.</u>											
	<u>24x200 = 4800 L.F</u>											
	<u>TRENCHING 4800x1x4 @ 27</u>	<u>711</u>	<u>CY</u>	<u>6</u>	<u>.15</u>		<u>4270</u>			<u>107</u>		
	<u>CONC DUCT 4800x1x1 @ 27</u>	<u>178</u>	<u>CY</u>	<u>.5</u>	<u>.5</u>		<u>9790</u>			<u>89</u>		
	<u>BACKFILL 711-178</u>	<u>533</u>	<u>CY</u>	<u>3.5</u>	<u>.07</u>		<u>1870</u>			<u>38</u>		
	<u>3" PVC DUCT</u>	<u>4800</u>	<u>LF</u>	<u>1.6</u>	<u>.09</u>		<u>7680</u>			<u>432</u>		
	<u>FIT'G & SUPPORT 25%</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>		<u>1920</u>			<u>108</u>		
	<u>10 PR OF #14</u>	<u>4800</u>	<u>LF</u>	<u>2.99</u>	<u>.031</u>		<u>14370</u>			<u>149</u>		
	<u>STIPULATE EVERY 200' ON CAMERA</u>											
	<u>4800 ÷ 200 = 24 ea</u>											
	<u>1" RGS COND. 24x10</u>	<u>240</u>	<u>LF</u>	<u>1.2</u>	<u>.1</u>		<u>290</u>			<u>24</u>		
	<u>FIT'G & SUPPORT 50%</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>		<u>150</u>			<u>12</u>		
	<u>WIRE CONN. 26x3 =</u>	<u>78</u>	<u>E</u>	<u>1</u>	<u>.25</u>		<u>80</u>			<u>20</u>		
	<u>TESTING ALL</u>									<u>21</u>		
							<u>40,400</u>			<u>1000</u>		

PARSONS

ESTIMATE WORKSHEET

HARTSVILLE ALTERNATE CASE

M.T.O. BY ENGR. PRICED BY RUF DATE AUG 87 SHEET OF

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

UNIT/AREA	DESCRIPTION	CAPACITY	ACCNT	QUAN-TITY	UNIT	COST OR M/HR\$ PER UNIT			MATERIAL EXPENSE	SUBCONTRACT			LABOR			TOTAL DOLLARS		
						MATL	M/H	LAB \$		M/HR\$	DOLLARS	M/HR\$	DOLLARS					
	TOTAL SUMMARY AREA 7																	
	TOTAL BY DIVISION							16.65	7 433 000				157579	2 624 000			10 057 000	
	LABOR PRODUCTIVITY			85%									27808	463 000			463 000	
	S/TOTAL								7 433 000				185387	3 087 000			10 520 000	
	CONTRACTORS OH - PROFIT			26.5%													2 788 000	
	TOTAL AREA 7 W/OUT CONTINGENCY																13 308 000	

PARSONS

ESTIMATE WORKSHEET

HARTSVILLE - ALTERNATE CASE

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

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

UNIT/AREA	DESCRIPTION	CAPACITY	QUAN-TITY	UNIT	COST OR M/HR\$ PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS		
					MATL	M/H	LAB\$		M/HR\$	DOLLARS	M/HR\$	DOLLARS			
ACCNT	<u>SUMMARY AREA (S) #7</u>														
DIV 2	<u>SITE WORK</u>														
3	<u>CONCRETE</u>						<u>1608</u>	<u>11899000</u>			<u>10688</u>	<u>1715000</u>		<u>6214000</u>	
4	<u>MASONARY</u>						<u>1531</u>	<u>0</u>			<u>0</u>	<u>0</u>		<u>0</u>	
5	<u>METALS</u>						<u>1650</u>	<u>0</u>			<u>0</u>	<u>0</u>		<u>0</u>	
6	<u>WOOD & PLASTICS</u>						<u>1871</u>	<u>0</u>			<u>0</u>	<u>0</u>		<u>0</u>	
7	<u>THERMAL MOIST. PROTECTION</u>						<u>1650</u>	<u>0</u>			<u>0</u>	<u>0</u>		<u>0</u>	
8	<u>DOORS & WINDOWS</u>						<u>1630</u>	<u>0</u>			<u>0</u>	<u>0</u>		<u>0</u>	
9	<u>FINISHES</u>						<u>1631</u>	<u>0</u>			<u>0</u>	<u>0</u>		<u>0</u>	
10	<u>SPECIALTIES</u>						<u>1751</u>	<u>0</u>			<u>0</u>	<u>0</u>		<u>0</u>	
11	<u>EQUIPMENT</u>						<u>1871</u>	<u>0</u>			<u>0</u>	<u>0</u>		<u>0</u>	
12	<u>FURNISHINGS</u>						<u>1650</u>	<u>0</u>			<u>0</u>	<u>0</u>		<u>0</u>	
13	<u>SPECIAL CONSTRUCTION</u>						<u>1871</u>	<u>0</u>			<u>0</u>	<u>0</u>		<u>0</u>	
14	<u>CONVEYING. SYSTEMS</u>						<u>1871</u>	<u>0</u>			<u>0</u>	<u>0</u>		<u>0</u>	
15	<u>MECHANICAL SYSTEMS</u>						<u>1871</u>	<u>0</u>			<u>0</u>	<u>0</u>		<u>0</u>	
16	<u>ELECTRICAL</u>						<u>1705</u>	<u>2934000</u>			<u>52930</u>	<u>709000</u>		<u>3843000</u>	
17	<u>INSTRUMENTATION</u>						<u>1938</u>	<u>0</u>			<u>0</u>	<u>0</u>		<u>0</u>	
	<u>TOTAL</u>							<u>7433000</u>			<u>157519</u>	<u>2621000</u>		<u>10057000</u>	

HARTSVILLE ALTERNATE CASE

ESTIMATE WORKSHEET

M.T.O. BY JV PRICED BY JV DATE AUG-15 SHEET 1 OF 1
 JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE RPM CHECKED BY Ram/pt

UNIT/AREA	DESCRIPTION	CAPACITY	QUAN-TITY	UNIT	COST OR M/HR\$ PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
					MATL	M/H	LAB \$		M/HR\$	DOLLARS	M/HR\$	DOLLARS	
ACCNT	ELECTRIC.	AREA-7											
	SUMMARY												
	16350	HIGH PWR OVERHEAD LINE						2,786,500				48,490	
	16700	PHONE TRUNK LINES						147,000 ✓				2490 ✓	
								2,933,500				50,930	
								USE 2,933,500					