

**INTEGRAL
MONITORED RETRIEVABLE STORAGE (MRS)
FACILITY

CONCEPTUAL DESIGN REPORT**

VOLUME V BOOK IX – COST ESTIMATE

Prepared for

**UNITED STATES DEPARTMENT OF ENERGY
Richland Operations Office**

Report No. MRS 11

Contract No. DE-AC06-84RL 10436

September 1985

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

MASTER

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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				43,519
(2) BUILDINGS				0
BUILDING NO. <u>R&H Bldg 709,025</u> SQ. FT.				337,300
BUILDING NO. <u>Suppt. Bldgs</u> SQ. FT.				35,266
(3) OTHER (DETACHED) STRUCTURES <u>CHTRU Bldg.</u>				1,163
(4) SPECIAL FACILITIES AND INSTAL. <u>Storage Area</u>				26,693
(5) UTILITIES				4,453
(6) OPERATING EXPENSE CHARGES <u>NA</u>				0
(7) CONTRACT ADMINISTRATION <u>NA</u>				0
(8) <u>Construction Management</u>				45,240
SUBTOTAL				493,634
ESCALATION <u>NA</u> % @ <u>NA</u> YEARS				0
CONTINGENCY <u>Varies</u> %				103,566
TOTAL B				597,200
C. STANDARD EQUIPMENT				0
TOTAL C				0
D. TRANSFERRED CAPITAL PROP. OR EQUIPMENT <u>NA</u>				0
CURRENT ENR. COST INDEX	BUILDING _____	CONSTRUCTION _____		
TOTAL PROJECT ESTIMATE				\$ 690,200

PROPOSED FUNDS ALLOCATION	TYPE OF ESTIMATE:	REMARKS:																																			
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:60%;">FUNDS PURPOSE</th> <th style="width:20%;">OPER. CONTR.</th> <th style="width:20%;">DOE-RL</th> </tr> </thead> <tbody> <tr><td>ENGINEERING</td><td>_____</td><td>_____</td></tr> <tr><td>PROCUREMENT</td><td>_____</td><td>_____</td></tr> <tr><td>CONSTRUCTION</td><td>_____</td><td>_____</td></tr> <tr><td>ESCALATION</td><td>_____</td><td>_____</td></tr> <tr><td>CONTINGENCY</td><td>_____</td><td>_____</td></tr> <tr><td>TCP/YCE</td><td>_____</td><td>_____</td></tr> <tr><td>WASH. STATE TAX</td><td>_____</td><td>_____</td></tr> <tr><td>TOTAL</td><td>_____</td><td>_____</td></tr> </tbody> </table>	FUNDS PURPOSE	OPER. CONTR.	DOE-RL	ENGINEERING	_____	_____	PROCUREMENT	_____	_____	CONSTRUCTION	_____	_____	ESCALATION	_____	_____	CONTINGENCY	_____	_____	TCP/YCE	_____	_____	WASH. STATE TAX	_____	_____	TOTAL	_____	_____	<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:60%;">APPROVALS</th> <th style="width:40%;">DATE</th> </tr> </thead> <tbody> <tr> <td>ESTIMATING _____</td> <td>_____</td> </tr> <tr> <td>PROJECT MANAGER _____</td> <td>_____</td> </tr> <tr> <td>CLIENT ENGINEER _____</td> <td>_____</td> </tr> </tbody> </table>	APPROVALS	DATE	ESTIMATING _____	_____	PROJECT MANAGER _____	_____	CLIENT ENGINEER _____	_____	<p>(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</p>
FUNDS PURPOSE	OPER. CONTR.	DOE-RL																																			
ENGINEERING	_____	_____																																			
PROCUREMENT	_____	_____																																			
CONSTRUCTION	_____	_____																																			
ESCALATION	_____	_____																																			
CONTINGENCY	_____	_____																																			
TCP/YCE	_____	_____																																			
WASH. STATE TAX	_____	_____																																			
TOTAL	_____	_____																																			
APPROVALS	DATE																																				
ESTIMATING _____	_____																																				
PROJECT MANAGER _____	_____																																				
CLIENT ENGINEER _____	_____																																				
ESTIMATE SHEET _____ OF _____																																					

OAKRIDGE - BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY -		PRICED BY		DATE		SHEET		OF				
JOB NO.: 6440-11		CLIENT: DAB/PAU		TYPE OF ESTIMATE Rom		CHECKED BY						
UNIT/AREA		QUAN-TITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
DESCRIPTION				MATL	M/H	LAB \$		M/HRS	DOLLARS	M/HRS	DOLLARS	
CAPACITY												
ACCNT												
CONTINGENCY FACTORS												
R3H BUILDING (AREAS 1, 2, 3 & 4)		25%		337300	K							84320000
STORAGE (AREA 6)		15%		26693	K							4006000
SUPPORT BUILDING (PART AREA 5)				35266	K							
CUTRY "				1163	K							
UTILITIES "				4053	K							
IMPROVEMENTS TO LAND (" & AREA 7)				43519	K							
		10%		84401	K							8400000
SUB-TOTAL												96776000
CONSTRUCTION MANAGEMENT		15%		45240	K							6790000
TOTAL												103566000
ROUND OFF ADJUST												
USE												

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY <u>ENGINEERING</u>		PRICED BY <u>V. Mese</u>	DATE <u>Aug. 95</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						
UNIT/AREA	DESCRIPTION	QUAN. TITY	UNIT	COST OR M/HRS PER UNIT	MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS	
CAPACITY	ACCENT			MATL	M/H	LABS	M/HRS	DOLLARS	M/HRS	DOLLARS	
	<u>AREA #1-7</u>			<u>(WORK SHEET - REF ONLY)</u>							
<u>TOTAL SUMMARY WITHOUT CONTINGENCIES.</u>											
	<u>R&H BUILDING - AREA I</u>										<u>12,224,000</u>
	<u>II</u>										<u>2,326,000</u>
	<u>III</u>										<u>16,004,000</u>
	<u>IV</u>										<u>3,181,000</u>
<u>(B)(2) R&H</u>	<u>TOTAL R&H</u>										<u>33,735,000</u>
											<u>TOTAL w/o CONTINGENCY =</u>
<u>(B)(2)</u>	<u>SUPPORT BUILDINGS (PART OF AREAS)</u>			<u>26,935</u>	<u>+ PRODUCTIVITY (943) + O&M (7358)</u>						<u>35,266,000</u>
<u>(B)(3)</u>	<u>CHTRG (do)</u>			<u>893</u>	<u>+</u>		<u>(26)</u>		<u>(244)</u>		<u>1,163,000</u>
<u>(B)(4)</u>	<u>STORAGE AREA</u>										<u>26,693,000</u>
<u>(B)(5)</u>	<u>UTILITIES (PART OF AREAS)</u>			<u>3,308</u>	<u>+</u>		<u>(212)</u>		<u>(933)</u>		<u>4,453,000</u>
	<u>AREA 7 (SITE)</u>										<u>35,988,000</u>
	<u>7</u>										<u>7,531,000</u>
<u>(B)(1)</u>	<u>TOTAL IMPROV. TO LAND</u>										<u>43,519,000</u>
	<u>TOTAL</u>										<u>448,394,000</u>

BASE CASE - COLLEGE SITE

DIVISION	TITLE	AREA # 1	AREA # 2	AREA # 3	AREA # 4	AREA # 5	AREA # 6	AREA # 7	TOTAL
		LABOR MN	LABOR MN	LABOR MN	LABOR MN	LABOR MN	LABOR MN	LABOR MN	LABOR MN
2	SITE WORK	4711	106	5031	596	277207	112258	(1500)	469449
3	CONCRETE	233887	13636	546643	171627		46710		1072503
4	MASONRY				1301				1301
5	METALS	77574	65395	25262	41840				208071
6	WOOD / PLASTICS			746	377				743
7	THERMAL / MOIST PROTECTION			4121	26114				40265
8	DOORS / WINDOWS	7824		8707	2143				18674
9	FINISHES		6008	58490	19125				83623
10	SPECIALTIES			35	1616				1651
11	EQUIPMENT	73300	5785	54484	6119	16	38260		167904
12	FURNISHINGS				228				228
13	SPECIAL CONSTRUCTION			7690	9550		768		18008
14	CONVEYING SYSTEMS			9415	2695				12110
15	MECHANICAL	98543	182006	582957	119990				923496
16	ELECTRICAL	23533	7237	194520	61993	87872	24673	25340	235168
17	INSTRUMENTATION	8300		71812		1925			85037
	S/TOTAL	527672	280113	1580513	465464	367070	212669	94880	3525731
	CNTRX FACILITY					9080			9080
	SUPPORT FACILITIES					323845			323845
	UTILITIES					64133			64133
	TOTAL DIRECT MHS	527672	280113	1580513	465464	764084	212669	94880	3926395
	PRODUCTIVITY	93119	49832	278914	82101	139838	37530	16744	692718
	TOTAL MAN HOURS CONSTRUCTION	620791	329945	1859427	547605	897222	250199	111624	4681113

OAKRIDGE BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY ENGINEERING		PRICED BY V. MESEC		DATE Aug. 85		SHEET OF 					
JOB NO.: 6440-11		CLIENT:		TYPE OF ESTIMATE ROM.		CHECKED BY 9.5.15					
UNIT/AREA	DESCRIPTION	QUAN-TITY	UNIT	COST OR M/HR PER UNIT			SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB \$	M/HR	DOLLARS	M/HR	DOLLARS	
ACCNT	SUMMARY AREA #1										
	SUMMARY BY DIVISIONS										
	LABOR PRODUCTIVITY	85 %				17.10					
	S/TOTAL										
	SHIFT DIFFERENTIAL (\$10,616,000/2 * 11%)										
	S/TOTAL										
	CONTRACTORS OND-PROFIT	2.5 %									
	TOTAL AREA #1 w/out CONTINGENCY										

PARSONS

ESTIMATE WORKSHEET

OAKRIDGE 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 LM									
UNIT/AREA	DESCRIPTION	QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS	
CAPACITY				MATL	M/H	LAB \$		M/HRS	DOLLARS	M/HRS	DOLLARS		
ACCNT	Summary AREA (S) # 1												
DIV 2	SITE WORK						16⁰⁰	60000			4711	76000	676000
3	CONCRETE						15³⁰	9287000			233887	3595000	12882000
4	MASONARY						16⁵⁰	0			0	0	0
5	METALS						18⁰⁰	3525000			77574	1430000	4955000
6	WOOD & PLASTICS						16⁵⁰	0			0	0	0
7	THERMAL MOIST. PROTECTION						16⁵⁰	0			0	0	0
8	DOORS & WINDOWS						16⁵⁰	3792000			7824	129000	3921000
9	FINISHES						16³⁰	0			0	0	0
10	SPECIALTIES						17⁰⁰	0			0	0	0
11	EQUIPMENT						18⁷⁰	6147000			73300	1374000	61871000
12	FURNISHINGS						16⁵⁰	0			0	0	0
13	SPECIAL CONSTRUCTION.						18⁷⁰	0			0	0	0
14	CONVEYING SYSTEMS						18⁷⁰	0			0	0	0
15	MECHANICAL SYSTEMS						18⁷⁰	2982000			98543	1847000	4829000
16	ELECTRICAL						17⁰⁰	2539000			23533	420000	2959000
17	INSTRUMENTATION.						18³⁰	1407000			8300	153000	1560000
	TOTAL AREA # 1							84629000			527672	9020000	93653000

OAKRIDGE 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 ROW CHECKED BY km/15

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 Area #2</u>																
	<u>Summary By Divisions</u>																
	<u>LABOR PRODUCTIVITY</u>	<u>85%</u>							<u>17.71</u>	<u>12 231 000</u>				<u>280113</u>	<u>4 961 000</u>	<u>17 192 000</u>	
	<u>3/TOTAL</u>													<u>49025</u>	<u>875 000</u>	<u>875 000</u>	
	<u>SHIFT DIFFERENTIAL</u>	<u>(5826000 / 2 x 11%) =</u>															
	<u>3/TOTAL</u>									<u>12 231 000</u>				<u>329548</u>	<u>5 826 000</u>	<u>18 067 000</u>	
	<u>CONTRACTORS OHD - PROFIT</u>	<u>26.5%</u>															<u>4873 000</u>
	<u>TOTAL AREA #2 w/out CONTINGENCY</u>																<u>23 261 000</u>

OAK RIDGE BASE CASE

M.T.O. BY <u>ENGINEERING</u>		PRICED BY <u>V. MESEC</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>Fcm</u>						
UNIT/AREA <u>MRS FACILITY</u>		QUAN-TITY	UNIT	COST OR M/HR PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
DESCRIPTION <u>R&H. BLDG</u>				MATL	M/H	LAB \$		M/HR	DOLLARS	M/HR	DOLLARS	
CAPACITY												
ACCNT												
	<u>Summary AREA (S)</u>											
	<u># 2</u>											
<u>DIV 2</u>	<u>SITE WORK</u>					<u>16⁰⁸</u>	<u>5000</u>			<u>106.</u>	<u>2000</u>	<u>7000</u>
<u>3</u>	<u>CONCRETE</u>	<u>15880</u>	<u>CY</u>			<u>1937</u>	<u>3011000</u>			<u>73636</u>	<u>1132000</u>	<u>4143000</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>1290</u>	<u>TN</u>			<u>1844</u>	<u>3444000</u>			<u>65395</u>	<u>1206000</u>	<u>4650000</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>16⁵⁰</u>	<u>0</u>			<u>0</u>	<u>0</u>	<u>0</u>
<u>9</u>	<u>FINISHES</u>					<u>16³⁴</u>	<u>117000</u>			<u>608</u>	<u>98000</u>	<u>215000</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>2156000</u>			<u>5725</u>	<u>107000</u>	<u>2262000</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>1870</u>	<u>0</u>			<u>0</u>	<u>0</u>	<u>0</u>
<u>14</u>	<u>CONVEYING. SYSTEMS</u>					<u>1870</u>	<u>0</u>			<u>0</u>	<u>0</u>	<u>0</u>
<u>15</u>	<u>MECHANICAL SYSTEMS</u>					<u>1874</u>	<u>2373000</u>			<u>121006</u>	<u>2226000</u>	<u>4659000</u>
<u>16</u>	<u>ELECTRICAL</u>					<u>1775</u>	<u>1126000</u>			<u>7237</u>	<u>136000</u>	<u>1256000</u>
<u>17</u>	<u>INSTRUMENTATION.</u>					<u>1838</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>44961000</u>	<u>17192000</u>

OAKRIDGE BASE CASE

PARSONS ESTIMATE WORKSHEET

M.T.O. BY ENGINEERING PRICED BY V. NIESEC DATE Aug 85 SHEET OF
 JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE COM. CHECKED BY LUE LLS

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 # 3</u>													
	<u>Summary By Divisions</u>													
	<u>Labor Productivity</u>			<u>85%</u>										
	<u>S/TOTAL</u>													
	<u>SHIFT DIFFERENTIAL (32193000 / 2 x 11%)</u>													
	<u>S/TOTAL</u>													
	<u>Contractors OHD Profit</u>			<u>26.5%</u>										
	<u>TOTAL Cost Area # 3 w/out Contingency</u>													

ESTIMATE WORKSHEET

OAKRIDGE BASE CASE

M.T.O. BY ENGINEERING		PRICED BY V. MESEL		DATE AUG. 85		SHEET 1 OF 1						
JOB NO.: 6440-11		CLIENT DOE/PNL		TYPE OF ESTIMATE ROM.		CHECKED BY 105						
UNIT/AREA MRS FACILITY		QUAN-TITY	UNIT	COST OR M/HRS PER UNIT			SUBCONTRACT		LABOR		TOTAL DOLLARS	
DESCRIPTION R&H BLDG				MATL	M/H	LAB \$	M/HRS	DOLLARS	M/HRS	DOLLARS		
CAPACITY												
ACCNT	Summary AREA (S)											
	# 3											
DIV 2	SITE WORK											
3	CONCRETE	96941	3Y		15³³	1462000			54643	8462000	29004000	
4	MASONARY				16³⁰	0			0	0	0	
5	METALS	165	TN		18⁰⁰	766000			23262	469000	1195000	
6	WOOD & PLASTICS				16⁵⁰	1000			346	6000	7000	
7	THERMAL MOIST. PROTECTION				16⁵⁰	707000			14121	233000	940000	
8	DOORS & WINDOWS				16⁵⁰	4331000			8707	144000	4475000	
9	FINISHES				16³³	765000			58490	935000	1980000	
10	SPECIALTIES				17⁰¹	10000			35	1000	11000	
11	EQUIPMENT				18⁰⁰	19519000			54484	1021000	20540000	
12	FURNISHINGS				16⁵⁰	0			0	0	0	
13	SPECIAL CONSTRUCTION.				18⁰⁰	3430000			7690	144000	3574000	
14	CONVEYING. SYSTEMS				18⁰⁰	837000			9415	176000	1013000	
15	MECHANICAL SYSTEMS				18⁰⁰	26706000			582957	10925000	37631000	
16	ELECTRICAL				17⁰⁰	5704000			194520	3472000	9176000	
17	INSTRUMENTATION.	1	LOT		18⁰⁰	10150000			74812	1375000	11525000	
TOTAL						93313000			1580510	27364000	120677000	

OAK RIDGE BASE CASE

M.T.O. BY <i>ENGINEERING</i>		PRICED BY <i>V. M. BEE</i>		DATE <i>Aug 85</i>		SHEET <i> </i> OF <i> </i>											
JOB NO.: <i>6440-11</i>		CLIENT: <i>DOE/PNL</i>		TYPE OF ESTIMATE <i>ROM</i>		CHECKED BY <i>P. S. T. 116</i>											
UNIT/AREA <i>MIS FACILITY</i>		QUAN- TITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE		SUBCONTRACT		LABOR		TOTAL DOLLARS				
DESCRIPTION <i>RSH BLDG.</i>				MATL	M/H	LAB \$			M/HRS	DOLLARS	M/HRS	DOLLARS					
CAPACITY																	
ACCNT																	
<i>Summary Area # 4</i>																	
<i>Summary By Divisions</i>																	
<i>LABOR PRODUCTIVITY (BASE HOURS)</i>		<i>85%</i>		<i>17.10</i>													
<i>S/TOTAL</i>						<i>15 267 000</i>				<i>4 664 64</i>		<i>7 960 000</i>		<i>23 227 000</i>			
<i>SHIFT DIFFERENTIAL</i>												<i>8 214 1</i>		<i>1 405 000</i>		<i>1 405 000</i>	
<i>(* 936 500 / 2 x 11%) =</i>																	
<i>S/TOTAL</i>						<i>15 267 000</i>				<i>5 476 05</i>		<i>9 365 000</i>		<i>24 632 000</i>			
<i>S/TOTAL</i>						<i>16 267 000</i>				<i>5 476 05</i>		<i>9 880 000</i>		<i>25 147 000</i>			
<i>CONTRACTORS OMD/PFIT</i>		<i>26.5%</i>														<i>6 664 000</i>	
<i>TOTAL COST AREA # 4 w/OOUT CONTINGENCY</i>																<i>31 811 000</i>	

PARSONS

ESTIMATE WORKSHEET

OAK RIDE BASE CASE

M.T.O. BY ENGINEERING		PRICED BY V. MESEL		DATE AUG. 85		SHEET _____ OF _____					
JOB NO.: 6440-11		CLIENT: DOE/PNL		TYPE OF ESTIMATE COM.		CHECKED BY [Signature]					
UNIT/AREA	DESCRIPTION	QUAN-TITY	UNIT	COST OR M/HR'S PER UNIT			SUBCONTRACT		LABOR		TOTAL DOLLARS
CAPACITY				MATL	M/H	LAB \$	M/HR'S	DOLLARS	M/HR'S	DOLLARS	
ACCNT	Summary AREA (5) # 4										
DIV 2	SITE WORK					16⁰⁰					
3	CONCRETE	22860	CY			153⁷⁷	3304000		171677	2638000	5982000
4	MASONARY					16⁵⁰	13000		1301	21000	34000
5	METALS	1533	TU			18⁰⁰	2264000		41840	772000	3036000
6	WOOD & PLASTICS					16⁵⁰	2000		397	7000	9000
7	THERMAL MOIST. PROTECTION					16⁵⁰	1461000		26144	431000	1592000
8	DOORS & WINDOWS					16⁵⁰	243000		243	3500	278000
9	FINISHES					16³⁷	293000		19125	372000	605000
10	SPECIALTIES					17⁰⁰	161000		1616	28000	189000
11	EQUIPMENT					18⁷⁴	972000		6119	115000	1087000
12	FURNISHINGS					16⁵⁰	239000		328	5000	244000
13	SPECIAL CONSTRUCTION					18⁷⁴	856000		9550	179000	1035000
14	CONVEYING. SYSTEMS					18⁷⁴	657000		2695	51000	708000
15	MECHANICAL SYSTEMS					18⁷⁴	3197000		119990	2249000	5446000
16	ELECTRICAL					17⁰⁰	1826000		61993	1107000	2933000
17	INSTRUMENTATION					18³⁸	INCLUDED IN AREA 3		0	0	0
	TOTAL AREA #4						15267000		465466	7960000	23227000

VAN N. 107E

PARSONS

BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY <i>ENGINEERING</i>		PRICED BY <i>Messac/DK Δ</i>	DATE <i>Aug 85</i>	SHEET <i> </i> OF <i> </i>										
JOB NO.: <i>6440-11</i>		CLIENT: <i>DOE/PNL</i>	TYPE OF ESTIMATE <i>Ret.</i>		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	<i>TOTAL Summary Area #5</i>													
	<i>AREA # 5</i>													<i>35 988 000</i>
	<i>CENTRU FACILITY</i>													<i>1 163 000</i>
	<i>SUPPORT FACILITIES</i>													<i>35 266 000</i>
	<i>UTILITIES</i>													<i>4 530 000</i>
	<i>TOTAL AREA 5</i>													<i>76 870 000</i>

ESTIMATE WORKSHEET

OAKRIDGE 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 RO/Rcm

UNIT/AREA	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	
DESCRIPTION <u>MRS FACILITY</u>											
CAPACITY											
ACCNT											
<u>SUMMARY AREA # 5</u>											
<u>SUMMARY BY DIVISIONS</u>						<u>16.52</u>	<u>21 317 000</u>		<u>367020</u>	<u>6 062 000</u>	<u>27 379 000</u>
<u>LABOR PRODUCTIVITY</u>	<u>85%</u>								<u>64768</u>	<u>1 070 000</u>	<u>1 070 000</u>
<u>S/TOTAL</u>							<u>21 317 000</u>		<u>431788</u>	<u>7 132 000</u>	<u>28 449 000</u>
<u>CONTRACTORS OH - PROFIT</u>	<u>26.5%</u>										<u>7 539 000</u>
<u>TOTAL COST AREA # 5 W/OUT CONTINGENCY</u>											<u>35 988 000</u>

DOORIDGE

PARSONS ESTIMATE WORKSHEET

M.T.O. BY V. MIESKE - BASE CASE PRICED BY V. MIESKE DATE Aug. 85 SHEET OF
 JOB NO.: 6440-11 CLIENT: DOE/PNL 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			
<u>Summary CHTRM FACILITY</u>															
	<u>TOTAL DIRECT COST</u>								<u>23000</u>			<u>9086</u>	<u>15000</u>		<u>873000</u>
	<u>LABOR Productivity</u>			<u>85%</u>								<u>1603</u>	<u>26000</u>		<u>26000</u>
	<u>S/TOTAL</u>								<u>23000</u>			<u>10689</u>	<u>17000</u>		<u>919000</u>
	<u>CONTRACTORS OH-PROFIT</u>			<u>26.5%</u>											<u>201000</u>
	<u>TOTAL CHTRM PRG. w/out CONTINGENCY</u>														<u>1163000</u>

ESTIMATE WORKSHEET

BASE CASE

M.T.O. BY <i>ENGINEERING</i>		PRICED BY <i>V. Messer / M. D.</i>	DATE <i>July 85</i>	SHEET <i> </i> OF <i> </i>										
JOB NO.: <i>6440-11</i>		CLIENT: <i>DOE/PNL</i>	TYPE OF ESTIMATE <i>ROW</i>		CHECKED BY									
UNIT/AREA	DESCRIPTION	QUAN-TITY	UNIT	COST OR M/HR\$ PER UNIT			MATERIAL EXPENSE		SUBCONTRACT		LABOR		TOTAL DOLLARS	
CAPACITY	ACCNT			MATL	M/H	LAB \$		M/HR\$	DOLLARS	M/HR\$	DOLLARS			
	<i>Summary Support Facilities</i>													
	<i>TOTAL DIRECT COST</i>					<i>16.5</i>	<i>21,591,000</i>			<i>323845</i>	<i>5344000</i>	<i>26935000</i>		
	<i>LABOR PRODUCTIVITY</i>	<i>85%</i>								<i>57149</i>	<i>773000</i>	<i>943000</i>		
	<i>S/TOTAL</i>						<i>21,591,000</i>			<i>380994</i>	<i>6257000</i>	<i>27,878,000</i>		
	<i>CONTRACTORS O&EP</i>	<i>26.5%</i>											<i>7,388,000</i>	
	<i>TOTAL COST SUPPORT FACILITIES WITHOUT CONTINGENCY</i>												<i>35,266,000</i>	

OAKRIDGE

PARSONS

ESTIMATE WORKSHEET

-- 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 [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	
MRS FACILITY AREA # 5												
SUMMARY UTILITIES												
TOTAL DIRECT COST					10%		2,106,000			64433	1,202,000	3,308,000
LABOR PRODUCTIVITY	85%									11318	212,000	212,000
S/TOTAL							2,106,000			75451	1,414,000	3,520,000
CONTRACTORS ON'D PROFIT	26.7%											933,000
TOTAL COST UTILITIES w/out CONTINGENCY												4,453,000

ESTIMATE WORKSHEET

CARRIDGE BASE CASE

M.T.O. BY <u>ENGINEERING</u>		PRICED BY <u>V. NIESEC</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>RSM</u>					
UNIT/AREA <u>MRS FACILITY</u>		QUAN-TITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE		SUBCONTRACT		LABOR		TOTAL DOLLARS	
DESCRIPTION				MATL	M/H	LAB \$			M/HRS	DOLLARS	M/HRS	DOLLARS		
CAPACITY														
ACCNT	<u>SUMMARY AREA (5) #5</u>													
<u>DIV 2</u>	<u>SITE WORK</u>													
	<u>3 CONCRETE</u>				<u>1608</u>		<u>15 780 000</u>				<u>277207</u>	<u>4 458 000</u>	<u>20 238 000</u>	
	<u>4 MASONARY</u>				<u>1537</u>		<u>0</u>				<u>0</u>	<u>0</u>	<u>0</u>	
	<u>5 METALS</u>				<u>1650</u>		<u>0</u>				<u>0</u>	<u>0</u>	<u>0</u>	
	<u>6 WOOD & PLASTICS</u>				<u>1894</u>		<u>0</u>				<u>0</u>	<u>0</u>	<u>0</u>	
	<u>7 THERMAL MOIST. PROTECTION</u>				<u>1830</u>		<u>0</u>				<u>0</u>	<u>0</u>	<u>0</u>	
	<u>8 DOORS & WINDOWS</u>				<u>1630</u>		<u>0</u>				<u>0</u>	<u>0</u>	<u>0</u>	
	<u>9 FINISHES</u>				<u>1630</u>		<u>0</u>				<u>0</u>	<u>0</u>	<u>0</u>	
	<u>10 SPECIALTIES</u>				<u>1761</u>		<u>0</u>				<u>0</u>	<u>0</u>	<u>0</u>	
	<u>11 EQUIPMENT</u>				<u>1874</u>		<u>21 000</u>				<u>16</u>	<u>300 456</u>	<u>21 000</u>	
	<u>12 FURNISHINGS</u>				<u>1650</u>		<u>0</u>				<u>0</u>	<u>0</u>	<u>0</u>	
	<u>13 SPECIAL CONSTRUCTION</u>				<u>1874</u>		<u>0</u>				<u>0</u>	<u>0</u>	<u>0</u>	
	<u>14 CONVEYING. SYSTEMS</u>				<u>1874</u>		<u>0</u>				<u>0</u>	<u>0</u>	<u>0</u>	
	<u>15 MECHANICAL SYSTEMS</u>				<u>1874</u>		<u>0</u>				<u>0</u>	<u>0</u>	<u>0</u>	
	<u>16 ELECTRICAL</u>				<u>1785</u>		<u>5 317 000</u>				<u>87872</u>	<u>1 569 000</u>	<u>6 886 000</u>	
	<u>17 INSTRUMENTATION</u>				<u>1838</u>		<u>199 000</u>				<u>1925</u>	<u>35 000</u>	<u>234 000</u>	
	<u>TOTAL</u>						<u>21 317 000</u>				<u>867020</u>	<u>6 061 800</u>	<u>27 579 000</u>	
											<u>458</u>	<u>6 062 000</u>		

ESTIMATE WORKSHEET

OAKRIDGE - BASE CASE

M.T.O. BY ENGR.		PRICED BY RUF		DATE AUG. '85		SHEET _____ OF _____					
JOB NO.: C440-11		CLIENT: DOE / PNL		TYPE OF ESTIMATE ROM		CHECKED BY					
UNIT/AREA	DESCRIPTION	QUAN-TITY	UNIT	COST OR M/HR\$ PER UNIT			SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB \$	M/HR\$	DOLLARS	M/HR\$	DOLLARS	
ACCNT	SITE WORK AREA #5										
	TOTAL AREA #5 SITEWORK (CLINCH RIVER - BASE CASE)						20350000			318560	
	DELETE - EARTHWORK (CLINCH RIVER - BASE CASE)						(14538600)			(207433)	
	ADD - EARTHWORK (OAKRIDGE - BASE CASE)						9960300			166072	
	TOTAL - AREA #5 SITEWORK						15779700			277207	
				USE			15780000				

PARSONS
ESTIMATE WORKSHEET

OAKRIDGE - BASE CASE

M.T.O. BY ENCL.		PRICED BY RIF		DATE AUG. '85		SHEET ___ OF ___					
JOB NO. G440-11		CLIENT DOE/PNL		TYPE OF ESTIMATE ROM		CHECKED BY					
UNIT/AREA	DESCRIPTION	QUANTITY	UNIT	COST OR M/HRS PER UNIT			SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LABS	M/HRS	DOLLARS	M/HRS	DOLLARS	
ACCNT											
DIV. 2	SITWORK AREA #5										
2200	EARTHWORK										
10	FINE GRADING - EARTH (MACH)		AC	1878	48.						
11	EXCAVATION INCL. HAULING - EARTH	2679400	CY	1.09	.01		2710	550		26794	
12	EMBANKMENT - COMPACTED FILL	2151400	CY	1.10	.02		2366	540		43028	
13	ROCK EXCAV. & HAUL - BLASTING	875000	CY	4.50	.10		3937	500		87500	
14	ROCK EXCAV. & HAUL - RIPPABLE	437500	CY	1.70	.02		743	750		8750	
15	ROCK EMBANKMENT - COMP - HAUL	0	CY	1.00	.008						
16	CRUSHING & SCREENING & HAULING	0	CY	2.00	.016						
17	DIKE (EARTH FILL) POND	0	CY	1.10	.02						
18	EARTH FILL AT EXISTING TUNNEL & PIRES	0	CY	1.10	.02						
19	EXCAVATION AT PONDS	0	CY	1.09	.01						
	IMPACT	0	CY								
	SUB TOTAL						9148	3110		166012	
							9168	3110			

PARSONS

ESTIMATE WORKSHEET

OAKRIDGE BASE CASE

M.T.O. BY		PRICED BY		DATE				SHEET				OF		
JOB NO.:		CLIENT:		TYPE OF ESTIMATE				CHECKED BY						
UNIT/AREA		QUANTITY	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														
DY. II	SUMMARY	AREA 5												
11950	EQUIPMENT	(SAME AS CLINCH RIVER BASE CASE)					21,000				160			

PARSONS

ESTIMATE WORKSHEET

DAKRIDGE BASE

M.T.O. BY <u>JJ</u>		PRICED BY <u>JJ</u>		DATE <u>AUG-15</u>		SHEET <u>6</u> OF <u> </u>					
JOB NO.: <u>6440-11</u>		CLIENT: <u>PVL-DOE</u>		TYPE OF ESTIMATE <u>ROM</u>		CHECKED BY <u>REM</u>					
UNIT/AREA <u>ALL</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											
ACCNT											
<u>ELECTRIC. AREA-5</u>											
<u>SUMMARY</u>											
<u>16110</u>	<u>161 KV. DUCT BANK</u>					<u>260230</u>				<u>3564</u>	
<u>16350</u>	<u>DEMOLITION EXIST PWR LINE</u>					<u>25000</u>				<u>4025</u>	
<u>16500</u>	<u>STREET & AREA LIGHTING</u>					<u>532170</u>				<u>7117</u>	
<u>16500</u>	<u>SECURITY LIGHTING</u>					<u>149470</u>				<u>2068</u>	
<u>16530</u>	<u>AREA GROUNDING</u>					<u>37330</u>				<u>860</u>	
<u>16604</u>	<u>ALARM ZONE</u>					<u>447330</u>				<u>8354</u>	
						<u>1,451,530</u>			<u>25988</u>		
<u>16400</u>	<u>MAIN SUBSTATION (CLINCH RIVER)</u>					<u>881,480</u>				<u>1220</u>	
<u>16110</u>	<u>5KV FEEDERS</u>	"	"			<u>2,063,760</u>				<u>44679</u>	
<u>16110</u>	<u>OUTDOOR CONTROL WIRING</u>	"	"			<u>132,580</u>				<u>2749</u>	
<u>16110</u>	<u>MTR FEEDER</u>	"	"			<u>84,960</u>				<u>1264</u>	
<u>16700</u>	<u>PHONE TRUNK LINE</u>	"	"			<u>89,000</u>				<u>2720</u>	
<u>16400</u>	<u>SUPPORT BLDG XFMRS ETC.</u>	"	"			<u>194,890</u>				<u>933</u>	
<u>16700</u>	<u>RADIO</u>	"	"			<u>193,820</u>				<u>820</u>	
<u>16700</u>	<u>RADIO</u>	"	"			<u>74,880</u>				<u>437</u>	
<u>16900</u>	<u>OUTSIDE INSTRUM. WIRING</u>	"	"			<u>150,000</u>				<u>7062</u>	
						<u>3,865,070</u>			<u>61884</u>		
						<u>5,316,600</u>			<u>87,872</u>		
						<u>USE</u>			<u>5,317,000</u>		

OAKRIDGE BASE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY <u>J.V.</u>		PRICED BY <u>J.V.</u>		DATE <u>AUG-15</u>			SHEET <u>7</u> OF <u>7</u>					
JOB NO.: <u>6440-11</u>		CLIENT: <u>PNL-DOE</u>		TYPE OF ESTIMATE <u>ROM</u>			CHECKED BY <u>Roon</u>					
UNIT/AREA <u>BASE OAKRIDGE</u>		QUAN- TITY	UNIT	COST OR M/HR\$ PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
DESCRIPTION <u>DUCT BANK 161 KV POWER</u>				MATL	M/H	LAB \$		M/HR\$	DOLLARS	M/HR\$	DOLLARS	
CAPACITY <u>MRS FACILITY</u>												
ACCNT												
<u>ELECTRICAL AREA-5</u>												
<u>16110</u>	<u>161 KV DUCT BANK</u>											
	<u>EXCAV. 2875 x 1.3 x 3.5</u>	<u>485</u>	<u>CY</u>	<u>6</u>	<u>.15</u>		<u>2910</u>			<u>73</u>		
	<u>CONCRETE 2875 x 1.3 x 1.3</u>	<u>185</u>	<u>CY</u>	<u>55</u>	<u>.5</u>		<u>10180</u>			<u>93</u>		
	<u>BACKFILL 485-185 = 300</u>	<u>300</u>	<u>CY</u>	<u>3.5</u>	<u>.07</u>		<u>1050</u>			<u>21</u>		
	<u>6" φ PVC. 2875 x 3 =</u>	<u>8625</u>	<u>LF</u>	<u>4.1</u>	<u>.2</u>		<u>35360</u>			<u>1725</u>		
	<u>FITTING & SUPPORT 25%</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>		<u>8840</u>			<u>431</u>		
	<u>OIL FILLED CABLE 2875 x 3 x 1.05</u>	<u>9060</u>	<u>LF</u>	<u>20.86</u>	<u>.1</u>		<u>188990</u>			<u>906</u>		
	<u>ALARM SYSTEM</u>	<u>1</u>	<u>LS</u>	<u>800</u>	<u>30</u>		<u>800</u>			<u>30</u>		
	<u>TERMINATION</u>	<u>16</u>	<u>E</u>	<u>20</u>	<u>5.1</u>		<u>320</u>			<u>83</u>		
	<u>GRND 4/0 2875 x 1 x 1.05</u>	<u>3020</u>	<u>LF</u>	<u>3.9</u>	<u>.063</u>		<u>11780</u>			<u>190</u>		
	<u>TESTING</u>						<u>-</u>			<u>12</u>		
							<u>260,230</u>			<u>3504</u>		

OAKRIDGE BASE

M.T.O. BY <u>J.J.</u>		PRICED BY <u>J.J.</u>		DATE <u>AUG-13</u>				SHEET <u>9</u> OF <u> </u>				
JOB NO.: <u>6440-11</u>		CLIENT: <u>PNL-DOE</u>		TYPE OF ESTIMATE <u>ROM</u>				CHECKED BY <u>RCM</u>				
UNIT/AREA	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	
ACCNT												
	<u>ELECTRICAL AREA</u>	<u>5</u>										
<u>16,500</u>	<u>STREET & AREA LIGHTING</u>											
	<u>10" x 200 = 2000 x 3500 =</u>	<u>7,000,000</u>										
	<u>175 x 200</u>											
	<u>798,250 x 7,000,000 =</u>						<u>533,70</u>			<u>7117</u>		
	<u>10,500,000</u>											
	<u>10676 x 7,000,000 =</u>											
	<u>10,500,000</u>											

PARSONS

DAK RIDGE BASE

ESTIMATE WORKSHEET

M.T.O. BY <u>JJ</u>		PRICED BY <u>JJ</u>		DATE <u>AUG-15</u>			SHEET <u>10</u> OF <u> </u>					
JOB NO.: <u>6440-11</u>		CLIENT: <u>PNL-DOE</u>		TYPE OF ESTIMATE <u>ROM</u>			CHECKED BY <u>FCM</u>					
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												
ACCN#												
ELECTRICAL AREA-5												
16500	SECURITY LIGHTING											
	<u>226340 X 7,000,000</u>						149,470				2068	
	<u>10,600,000</u>											
	<u>3132 X 7,000,000</u>											
	<u>10,600,000</u>											

OAKRIDGE BASE

M.T.O. BY <u>N.J.</u>		PRICED BY <u>J.J.</u>		DATE <u>AUG-15</u>				SHEET <u>11</u> OF <u> </u>				
JOB NO.: <u>6440-11</u>		CLIENT: <u>PNI-DOE</u>		TYPE OF ESTIMATE <u>ROM</u>				CHECKED BY <u>Rcm</u>				
UNIT/AREA <u>BASE OAKRIDGE</u>		QUAN-TITY	UNIT	COST OR M/HR\$ PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
DESCRIPTION <u>GROUND'G GRID</u>				MATL	M/H	LAB \$		M/HR\$	DOLLARS	M/HR\$	DOLLARS	
CAPACITY												
ACCNT												
<u>ELECTRICAL AREA-5</u>												
<u>16530</u>	<u>BASE OAKRIDGE GRND'G</u>											
	<u>18 X 200 = 3600 X 1700 =</u>	<u>6,120,000</u>										
	<u>8.5 X 102 =</u>											
					<u># -006099</u>		<u>37,330</u>				<u>860</u>	
					<u>HRS -0001405</u>							

PARSONS

ESTIMATE WORKSHEET

OAKRIDE BASE

M.T.O. BY		PRICED BY		DATE		SHEET					
N.J.		N.J.		AUG-15		12 OF					
JOB NO.:		CLIENT:		TYPE OF ESTIMATE		CHECKED BY					
6440-11		PNL-DOE		ROM		Kra					
UNIT/AREA		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											
ACCNT	ELECTRICAL AREA	5									
16604	ALARM ZONE										
$32.25 \times 200 = 6450 \text{ LF}$ USING THE PREVIOUS ESTIM.											
11,000 LF FOR \$ 533,400 THE PRICE OF THE BASE											
$\frac{533400 \times 6450}{11,000} = \$ 312,770$											
USING ONE TO THREE RATIO											
$312,770 \div 4 = \$ 78,190$											
$78,190 \div 17.85 = 4380 \text{ HRS}$											
$312,770 - 78,190 = 234,580$											
							447,330		8354		

M.T.O. BY CMW/BAH PRICED BY _____ DATE AUG 85 SHEET 1 OF 4

JOB NO.: 6440-11 CLIENT: PAL/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>R/FH BUILDING</u>														
	<u>ONSITE BAL OF PLANT</u>														
<u>DV.17</u>	<u>INSTRUMENTATION AREA 5</u>														
	<u>SUMMARY</u>														
<u>1712</u>	<u>ANALYZERS</u>			<u>1</u>	<u>LOT</u>				<u>124600</u>				<u>500</u>		
<u>1714</u>	<u>MISCELLANEOUS INSTRUMENTS</u>			<u>1</u>	<u>LOT</u>				<u>60000</u>				<u>1000</u>		
<u>1718</u>	<u>INSTRUMENT INSTALLATION MATERIAL</u>			<u>1</u>	<u>LOT</u>				<u>7000</u>				<u>225</u>		
<u>1719</u>	<u>CALIBRATION</u>			<u>1</u>	<u>LOT</u>								<u>200</u>		
	<u>SUBTOTAL</u>								<u>193600</u>				<u>1925</u>		
	<u>INLAND FREIGHT ALLOWANCE @ 3%</u>			<u>1</u>	<u>LOT</u>				<u>5400</u>						
	<u>TOTAL</u>								<u>199000</u>				<u>1925</u>		

DAK RIDGE BASE CASE

M.T.O. BY _____ PRICED BY _____ DATE Aug 87 SHEET _____ OF _____

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

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

CHTRU FACILITY
(SAME AS CLINGH RIVER BASE CASE)

743,000

9086

OAK RIDGE
BASE CASE

PARSONS
ESTIMATE WORKSHEET

M.T.O. BY ENGINEERING PRICED BY V. Messer / J. D. Δ DATE Aug 85 SHEET 1 OF 2
 JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROF 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	Summary		AREA	SF	CF	VOLUME						LABOR RATE @ 9/65/HR			
	SUPPORT FACILITIES														
	ADMIN BUILDING		19100	SF	286500		1505800					32420		535900	
	FIRE STATION		9000	SF	150660		1672800					13027		214900	
	SECURITY BUILDING		9800	SF	122500		1499000					25354		418300	
	MAIN GATE - BADGE HOUSE		1500	SF	21300		153700					4291		70800	
	GATE HOUSE & INSPECT STATION		1200	SF	27800		408000					8765		144600	
	ROOF CANOPY		10310	SF											
	PROTECTED AREA GATE STATION		6470	SF	168673		1384500					23980		395700	
	VEHICLE MAINTENANCE BLDG		17710	SF	456584		1015500					20900		344800	
	SITE SERVICES BUILDING		75450	SF	2347380		8590000					58806		1622000	
	WAREHOUSE		38750	SF	968750		1107000					24432		4031000	
	HELIPORT		1	EA			20600					355		5800	

ESTIMATE WORKSHEET

BASE CASE

M.T.O. BY <u>ENGINEERING</u>		PRICED BY <u>V. Messer</u>		DATE <u>Aug 85</u>		SHEET <u>2</u> OF <u>2</u>					
JOB NO.: <u>6440-11</u>		CLIENT: <u>DOE/PNL</u>		TYPE OF ESTIMATE <u>ROT</u>		CHECKED BY					
UNIT/AREA <u>MRS FACILITY</u>		QUAN-TITY	UNIT	COST OR M/HR PER UNIT			SUBCONTRACT		LABOR		TOTAL DOLLARS
DESCRIPTION <u>ON SITE BLDG OF PLANT</u>				MATL	M/H	LAB \$	M/HR	DOLLARS	M/HR	DOLLARS	
CAPACITY <u>AREA 5</u>											
ACCNT	<u>Summary</u>	<u>AREA</u>	<u>SF</u>	<u>CF</u>	<u>VOLUME</u>						
	<u>STANDBY GENERATOR BLDG</u>	<u>11750</u>	<u>SF</u>	<u>400.000</u>		<u>2523600</u>			<u>29152</u>	<u>481000</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>345600</u>		<u>1394400</u>			<u>33403</u>	<u>551100</u>	
	<u>TOTAL DIRECT COST (2985)</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>

ESTIMATE WORKSHEET

BASE CASE

M.T.O. BY <i>ENGINEERING</i>		PRICED BY <i>Messac/PLA</i>		DATE <i>Aug 85</i>		SHEET _____ OF _____							
JOB NO: <i>6440-11</i>		CLIENT: <i>DOE/PNL</i>		TYPE OF ESTIMATE <i>RCM</i>		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		
<i>TOTAL SUMMARY AREA 6</i>													
<i>TOTAL BY DIVISIONS-</i>													
<i>LABOR PRODUCTIVITY-</i>	<i>85%</i>												
<i>S/TOTAL</i>													
<i>CONTR ON/CP</i>	<i>26 1/2%</i>												
<i>TOTAL</i>													

ESTIMATE WORKSHEET

ONK RIDGE 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 _____											
UNIT/AREA	DESCRIPTION	QUAN-TITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE		SUBCONTRACT		LABOR		TOTAL DOLLARS		
CAPACITY				MATL	M/H	LAB \$			M/HRS	DOLLARS	M/HRS	DOLLARS			
ACCNT	Summary AREA (S)														
DIV 2	SITE WORK					1608		8036000			112258	1825000		9841000	
3	CONCRETE					1531		1773000			46710	718000		2491000	
4	MASONARY					1650									
5	METALS					1800									
6	WOOD & PLASTICS					450									
7	THERMAL MOIST. PROTECTION					1650									
8	DOORS & WINDOWS					1650									
9	FINISHES					1632									
10	SPECIALTIES					1741									
11	EQUIPMENT					1870		5812000			28260	530000		6342000	
12	FURNISHINGS					1650									
13	SPECIAL CONSTRUCTION					1870		24000			768	14000		38000	
14	CONVEYING. SYSTEMS					1870									
15	MECHANICAL SYSTEMS					1870									
16	ELECTRICAL					1705		1330000			24670	440000		1770000	
17	INSTRUMENTATION					1838									
	S/TOTAL							16915000			212669	3507000		20482000	

ESTIMATE WORKSHEET

BASE CASE

M.T.O. BY		PRICED BY		DATE		SHEET		OF			
ENGINEERING		V. Messer		AUG 85							
JOB NO.: 6440-11		CLIENT: DOE/PNL		TYPE OF ESTIMATE		CHECKED BY					
UNIT/AREA		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											
ACCNT											
212	SITE WORK AREA #6										
	SUMMARY										
2100	CLEARING Pg 1					133930				3192	
2200	EARTHWORK 2					6643000				89251	
2220	TRENCH & BACKFILL 4					368610				10911	
2500	SITE DRAINAGE 7					88490				1937	
2577	MEMBRANE LWER 8					1750				125	
2600	ROADS & PAVING 9					589340				3971	
2700	SITE IMPROVEMENTS 10					204700				2790	
2800	LANDSCAPING 12					640				81	
TOTAL AREA 6 SITE WORK						8036290					
						USE				112258	

ESTIMATE WORKSHEET

BASE CASE

M.T.O. BY <i>ENGINEERING</i>		PRICED BY <i>V. MESSER</i>	DATE <i>AUG 85</i>	SHEET <i> </i> OF <i> </i>								
JOB NO.: <i>6440-11</i>		CLIENT: <i>DOE/IDL</i>	TYPE OF ESTIMATE <i>FCM</i>		CHECKED BY							
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												
<i>DIV 3</i>	<i>CONCRETE AREA 6</i>											
<i>3341</i>	<i>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>1685940</i>			<i>43344</i>		
	<i>STRUCTS-CONCRETE CAT I</i>	<i>440</i>	<i>CY</i>	<i>163</i>	<i>6.8</i>		<i>71720</i>			<i>2992</i>		
	<i>1330 X 13</i>											
	<i>1/2" S/S LINER W/ WELSON STDS</i>	<i>793</i>	<i>SF</i>	<i>11.0</i>	<i>0.51</i>		<i>8060</i>			<i>374</i>		
	<i>2200 SF X 13</i>											
<i>3341</i>	<i>SUB TOTAL</i>						<i>1773220</i>					
	<i>USE</i>						<i>1773000</i>			<i>4670</i>		

ESTIMATE WORKSHEET

CARRIDGE BASE CASE

M.T.O. BY		PRICED BY	DATE <i>AUG 85</i>			SHEET ____ OF ____															
JOB NO.: <i>6440-11</i>		CLIENT: <i>DOE/PNL</i>	TYPE OF ESTIMATE <i>ROM</i>			CHECKED BY <i>RM</i>															
UNIT/AREA <i>MRS FACILITY</i>		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																					
ACCNT	<i>DIV. 11</i>	<i>SUMMARY</i>																			
		<i>AREA 6</i>																			
	<i>11866</i>	<i>EQUIPMENT</i>																			
		<i>(SAME AS CLINCH RIVER BASE CASE)</i>																			

OAKRIDGE BASE CASE

PARSONS ESTIMATE WORKSHEET

M.T.O. BY <u>JJ</u>		PRICED BY <u>JJ</u>		DATE <u>AUG-15</u>				SHEET <u>1</u> OF <u> </u>						
JOB NO.: <u>8440-11</u>		CLIENT: <u>PNL-DOE</u>		TYPE OF ESTIMATE <u>RQM</u>				CHECKED BY <u>ECM</u>						
UNIT/AREA		QUAN-TITY	UNIT	COST OR M/HR\$ PER UNIT			MATERIAL EXPENSE			SUBCONTRACT		LABOR		TOTAL DOLLARS
DESCRIPTION				M/HR\$	M/HR\$	LAB\$	M/HR\$	DOLLARS	M/HR\$	DOLLARS	M/HR\$	DOLLARS		
CAPACITY		MATERIAL											LABOR	
ACCNT		MATERIAL		LABOR		SUBCONTRACT		LABOR						
<u>ELECTRIC. AREA-6</u>														
<u>SUMMARY</u>														
<u>16400</u>	<u>SERVICE DISTRIBUTION</u>						<u>242,000</u>					<u>1190</u>		
<u>16500</u>	<u>STORAGE & STREET LIGHTING</u>						<u>273,690</u>					<u>3,660</u>		
<u>16500</u>	<u>SECURITY LIGHTING</u>						<u>76,870</u>					<u>1,064</u>		
<u>16580</u>	<u>AREA GROUNDING</u>						<u>21,080</u>					<u>478</u>		
<u>16604</u>	<u>ALARM ZONE</u>						<u>214,570</u>					<u>4,007</u>		
<u>16900</u>	<u>INSTRUMENT</u>						<u>502,000</u>					<u>14,274</u>		
			<u>SAY</u>				<u>1,330,000</u>					<u>24,673</u>		

OAKRIDGE BASE CASE

M.T.O. BY		PRICED BY		DATE				SHEET					
J.J		J.J		AUG-15				3 OF					
JOB NO.		CLIENT		TYPE OF ESTIMATE				CHECKED BY					
6440-11		PNC-DOE		ROM				km					
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													
	ELECTRICAL AREA - 6												
16500	STORAGE FACILITY LIGHTING												
	9 x 200 = 1800 x 2000 =		3,600,000				273,670				3660		
	10 x 200 =												
	798,250 x 3,600,000												
	10,500,000												
	10676 x 3,600,000												
	10,500,000												

OAKRIDGE BASE CASE

PARSONS ESTIMATE WORKSHEET

M.T.O. BY <u>JJ</u>		PRICED BY <u>JV</u>		DATE <u>AUG-15</u>				SHEET <u>4</u> OF <u> </u>					
JOB NO.: <u>6440-11</u>		CLIENT: <u>PNC-DOE</u>		TYPE OF ESTIMATE <u>ROM</u>				CHECKED BY <u>ROM</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>ELECTRICAL AREA - 6</u>													
<u>16500</u>	<u>SECURITY LIGHTING</u>												
	<u>226,340 x 3,600,000</u>						<u>76870</u>				<u>1064</u>		
	<u>10,600,000</u>												
	<u>3132 x 3,600,000</u>												
	<u>10,600,000</u>												

ESTIMATE WORKSHEET

OAKRIDGE BASE CASE

M.T.O. BY		PRICED BY		DATE		SHEET							
J.V.		J.V.		AUG-15		5 OF							
JOB NO.		CLIENT		TYPE OF ESTIMATE		CHECKED BY							
6440-11		PNL-DOE		RCM		COM							
UNIT/AREA		QUAN- TITY	UNT	COST OR M/HR			SUBCONTRACT		LABOR		TOTAL DOLLARS		
DESCRIPTION				PER UNIT			EXPENSE		M/HR			DOLLARS	
CAPACITY				MATL	M/H	LAB \$							
ACCNT													
		ELECTRICAL AREA - C											
16550		BASE OAKRIDGE GRND'G											
		10x200 = 2000 x 1700 =		3,400,000		# .006099		21,080		478			
		8.5x200 = 1700				HRS .0001405							

DAKRIDE BASE CASE

PARSONS ESTIMATE WORKSHEET

M.T.O. BY <u>J.V.</u>		PRICED BY <u>J.V.</u>		DATE <u>AUG-15</u>				SHEET <u>6</u> OF <u>6</u>					
JOB NO.: <u>6440-11</u>		CLIENT: <u>PNL-DOE</u>		TYPE OF ESTIMATE <u>ROM</u>				CHECKED BY <u>Umm</u>					
UNIT/AREA <u>STORAGE CASE</u>		QUAN-TITY	UNIT	COST OR M/HR'S PER UNIT			MATERIAL EXPENSE		SUBCONTRACT		LABOR		TOTAL DOLLARS
DESCRIPTION <u>ALARM ZONE</u>				MATL	M/H	LAB \$	M/HR'S	DOLLARS	M/HR'S	DOLLARS			
CAPACITY													
ACCNT													
<u>ELECTRICAL AREA - 6</u>													
<u>16604 ALARM ZONE</u>													
<u>29.5 x 200 =</u>		<u>5900 LF</u>											
<u>USING THE PREVIOUS ESTIM.</u>													
<u>11,000 LF FOR \$ 533,400 -</u>													
<u>THE PRICE OF BASE</u>													
<u>$\frac{533,400 \times 5900}{11,000} = \\$ 286,100$</u>													
<u>USING ONE TO THREE RATIO +</u>													
<u>$286,100 \div 4 = 71,525$</u>													
<u>$\\$ 71,525 \div 17.85 = 4007 \text{ Hrs}$</u>													
<u>$286,100 - 71,530 = \\$ 214,570$</u>													
							<u>214,570</u>						
									<u>4007</u>				

PARSONS
ESTIMATE WORKSHEET

CARRIDGE BASE CASE

M.T.O. BY		PRICED BY	DATE			SHEET		OF										
JOB NO.: <i>6840-11</i>		CLIENT: <i>DDTPNL</i>	TYPE OF ESTIMATE <i>ROM</i>			CHECKED BY <i>REM</i>												
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						
	<i>TOTAL SUMMARY AREA 7</i>																	
	<i>TOTAL BY DIVISION</i>																	
	<i>LABOR PRODUCTIVITY</i>	<i>85%</i>																
	<i>S/TOTAL</i>																	
	<i>CONTRACTORS OH & PROFIT</i>																	
	<i>TOTAL AREA 7 w/ CONTINGENCY</i>																	

ESTIMATE WORKSHEET

OAKRIDGE 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 **R.M.**

UNIT/AREA		QUANTITY	UNIT	COST OR M/HR PER UNIT			MATERIAL EXPENSE		SUBCONTRACT		LABOR		TOTAL DOLLARS			
DESCRIPTION				MATERIAL	M/H	LAB \$	M/HR	DOLLARS	M/HR	DOLLARS	M/HR	DOLLARS	M/HR	DOLLARS	M/HR	DOLLARS
CAPACITY																
ACCNT	SUMMARY AREA (5) #1															
DIV 2	SITE WORK															
	3	CONCRETE				1608	3	117 000			6940	1 118 000	4 225 000			
	4	MASONARY				1537		0			0	0	0			
	5	METALS				1650		0			0	0	0			
	6	WOOD & PLASTICS				1804		0			0	0	0			
	7	THERMAL MOIST. PROTECTION				1650		0			0	0	0			
	8	DOORS & WINDOWS				1650		0			0	0	0			
	9	FINISHES				1632		0			0	0	0			
	10	SPECIALTIES				1741		0			0	0	0			
	11	EQUIPMENT				1874		0			0	0	0			
	12	FURNISHINGS				1650		0			0	0	0			
	13	SPECIAL CONSTRUCTION				1874		0			0	0	0			
	14	CONVEYING. SYSTEMS				1874		0			0	0	0			
	15	MECHANICAL SYSTEMS				1874		0			0	0	0			
	16	ELECTRICAL				1785		989 000			25340	452 000	1 441 000			
	17	INSTRUMENTATION				1838		0			0	0	0			
		TOTAL						4 106 000			94 890	1 570 000	5 676 000			

ESTIMATE WORKSHEET

QUARRIDGE BASE CASE

M.T.O. BY		PRICED BY		DATE		SHEET					
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			SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB \$	M/HR	DOLLARS	M/HR	DOLLARS	
ACCNT											
DIV 2	SUMMARY		AREA #7								
2100	CLEARING						26180			624	
2200	EARTHWORK						1277200			19946	
2220	TRENCHING & BACKFILL						68610			1104	
2520	DRAINAGE PIPE						43010			545	
2550	SITE UTILITIES						198000			10800	
2600	ROADS & PAVING						67810			780	
2800	LANDSCAPING						859050			22914	
2860	TUNNELS & BRIDGES						571370			12827	
DIV 2	TOTAL SITEWORK		AREA #7				3117200			69510	
							LSE 3117000				

AREA #7
BASE CASE

PARSONS
ESTIMATE WORKSHEET

M.T.O. BY ENGR.		PRICED BY RUF		DATE AUG. '85			SHEET 1 OF 1				
JOB NO.: G440-11		CLIENT: DOE/PAL		TYPE OF ESTIMATE ROM			CHECKED BY RUM				
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											
Div. 2	SITEWORK AREA #7										
2010	SUBSURFACE										
2100	CLEARING										
2102	CLEARING AND GRUBBING										
	26	AC	1007	44		26180			624		
2110	DEMOLITION										
	1	LOT	LS	LS		-			-		
2100	TOTAL CLEARING										
						26180			624		

DRD #7
BASE CASE

PARSONS
ESTIMATE WORKSHEET

M.T.O. BY <u>OML</u>		PRICED BY <u>RUF</u>		DATE <u>AUG. '85</u>				SHEET <u>2</u> OF <u> </u>					
JOB NO.: <u>G440-11</u>		CLIENT: <u>DBE / PNL</u>		TYPE OF ESTIMATE <u>ROM</u>				CHECKED BY <u>DEM</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</u>												
<u>2200 EARTHWORK</u>													
<u>10</u>	<u>FINE GRADING - EARTH (MACH)</u>	<u>0</u>	<u>AC</u>	<u>1878</u>	<u>48</u>								
<u>11</u>	<u>EXCAVATION INCL. HAULING - EARTH</u>	<u>481081</u>	<u>CY</u>	<u>1.09</u>	<u>.01</u>		<u>524400</u>				<u>4811</u>		
<u>12</u>	<u>EMBANKMENT - COMPACTED FILL</u>	<u>131577</u>	<u>CY</u>	<u>1.10</u>	<u>.02</u>		<u>144700</u>				<u>2632</u>		
<u>13</u>	<u>ROCK EXCAV. & HAUL - BLASTING</u>	<u>113662</u>	<u>CY</u>	<u>4.50</u>	<u>.10</u>		<u>511500</u>				<u>11266</u>		
<u>14</u>	<u>ROCK EXCAV. & HAUL - RIPPABLE</u>	<u>56831</u>	<u>CY</u>	<u>1.70</u>	<u>.02</u>		<u>96600</u>				<u>1137</u>		
<u>15</u>	<u>ROCK EMBANKMENT - COMP - HAUL</u>	<u>0</u>	<u>CY</u>	<u>1.00</u>	<u>.008</u>								
<u>16</u>	<u>CRUSHING & SCREENING & HAULING</u>	<u>0</u>	<u>CY</u>	<u>2.00</u>	<u>.016</u>								
<u>17</u>	<u>DIKE (EARTH FILL) POND</u>	<u>0</u>	<u>CY</u>	<u>1.10</u>	<u>.02</u>								
<u>18</u>	<u>EARTH FILL AT EXISTING TUNNEL & DIKES</u>	<u>0</u>	<u>CY</u>	<u>1.10</u>	<u>.02</u>								
<u>19</u>	<u>EXCAVATION AT PONDS</u>	<u>0</u>	<u>CY</u>	<u>1.09</u>	<u>.01</u>								
<u>2200</u>	<u>TOTAL EARTHWORK</u>						<u>1277300</u>				<u>19946</u>		

OAK RIDGE
 AREA # 7
 BASE CASE

PARSONS
 ESTIMATE WORKSHEET

M.T.O. BY ENGR.		PRICED BY	DATE			SHEET		OF			
JOB NO.: G400-11		CLIENT: DOE/PNL	TYPE OF ESTIMATE			CHECKED BY					
UNIT/AREA		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											
DIV 2	SITWORK										
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						
22.1	1 FT PREP. FOR FOUNDATIONS	0	CY	6.00	.15						
22.2	2 " " " "	0	CY	6.00	.15						
22.5	VARIOUS " " ELEC. POWER LINES	0	CY	6.00	.15						
22.6	6 FT " " PIPE, DRAINS, ETC	4850	CY	6.00	.15		29,100			728	
2220	SUB TOTAL TRENCHING						29,100			728	
	TRANS To SHT 4										

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>4</u> OF <u> </u>						
JOB NO.: <u>6440-11</u>		CLIENT: <u>VOE/PNL</u>		TYPE OF ESTIMATE <u>ROM</u>				CHECKED BY <u>rom</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														
ACCNT														
<u>DIV. 2</u>	<u>SITWORK</u>													
<u>2223</u>	<u>BACKFILL</u>	<u>0</u>	<u>Cy</u>	<u>3.48</u>	<u>.07</u>									
<u>24</u>	<u>GRAVEL BEDDING</u>	<u>2835</u>	<u>Cy</u>	<u>13.51</u>	<u>.09</u>		<u>38300</u>				<u>255</u>			
<u>25</u>	<u>SHORING- EARTH TRENCH WALLS</u>	<u>2015</u>	<u>SF</u>	<u>0.60</u>	<u>.06</u>		<u>1210</u>				<u>121</u>			
	<u>SAND (PONDS)</u>	<u>0</u>	<u>Cy</u>	<u>17.40</u>	<u>.05</u>									
	<u>TRENCHING 3/4" FM SHT 3</u>						<u>29100</u>				<u>728</u>			
<u>2220</u>	<u>TOTAL TRENCHING & BACKFILL</u>						<u>68610</u>				<u>1104</u>			

AREA #7
BASE CASE

PARSONS
ESTIMATE WORKSHEET

M.T.O. BY <u>ENGL.</u>		PRICED BY <u>RUF</u>		DATE <u>AUG. '85</u>		SHEET <u>5</u> OF <u> </u>					
JOB NO.: <u>GW10-11</u>		CLIENT: <u>DOB/PNL</u>		TYPE OF ESTIMATE <u>ROM</u>		CHECKED BY <u> </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											
<u>ACCNT</u>											
<u>DIV. 2</u>	<u>SITWORK</u>										
<u>1620</u>	<u>DRAINAGE PIPE</u>										
<u>1922</u>	<u>CORRUGATED METAL PIPE</u>										
<u>2520.15</u>	<u>15" DIA</u>	<u>0</u>	<u>LF</u>	<u>8.00</u>	<u>.14</u>						
<u>.18</u>	<u>18"</u>	<u>0</u>		<u>9.30</u>	<u>.15</u>						
<u>.21</u>	<u>21"</u>	<u>0</u>		<u>13.20</u>	<u>.18</u>						
<u>.24</u>	<u>24"</u>	<u>0</u>		<u>15.10</u>	<u>.18</u>						
<u>.30</u>	<u>30"</u>	<u>0</u>		<u>18.50</u>	<u>.24</u>						
<u>.36</u>	<u>36"</u>	<u>50</u>		<u>29.40</u>	<u>.47</u>		<u>1470</u>		<u>24</u>		
<u>.42</u>	<u>42"</u>	<u>0</u>		<u>37.10</u>	<u>.56</u>						
<u>.48</u>	<u>48"</u>	<u>100</u>		<u>41.80</u>	<u>.96</u>		<u>4180</u>		<u>56</u>		
<u>.60</u>	<u>60"</u>	<u>480</u>		<u>65.00</u>	<u>.75</u>		<u>31200</u>		<u>360</u>		
<u>.36</u>	<u>36" PERFORATED</u>	<u>0</u>		<u>32.00</u>	<u>.50</u>						
<u>2520</u>	<u>SUB TOTAL CORR METAL PIPE</u>						<u>36850</u>		<u>440</u>		
	<u>TRANS TO SHT 6</u>										

AREA #7
BASE CASE

PARSONS
ESTIMATE WORKSHEET

M.T.O. BY ENR.		PRICED BY KUF			DATE AUG. '85			SHEET 6 OF 6			
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			SUBCONTRACT		LABOR		TOTAL DOLLARS
DESCRIPTION SITE LOCATION				MATL	M/H	LAB \$	M/HRS	DOLLARS	M/HRS	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" DIA.	0	EA	58.00	1.7						
.21	21" DIA.	0	EA	68.00	2.0						
.24	24" DIA.	0	EA	103.00	2.2						
.30	30" DIA.	0	EA	127.00	2.3						
.36	36" DIA.	2	EA	184.00	2.8		370		6		
.42	42" DIA.	0	EA	215.00	3.5						
.48	48" DIA.	4	EA	248.00	4.7		990		19		
.60	60" DIA.	16	EA	300.00	5.0		4800		80		
2524	PVC PERFORATED PIPE										
2524.6	6" DIA	0	LF	1.40	0.06						
.8	8" DIA	0	LF	2.00	0.07						
	COAR METAL PIPE S/T FM SHT 5						36	850		440	
2520	TOTAL DRAINAGE PIPE						43	910		545	

AREA ↓ 1
BASE CASE

PARSONS
ESTIMATE WORKSHEET

M.T.O. BY ENCL.		PRICED BY RUF		DATE AUG. '85		SHEET 7 OF					
JOB NO.: GUILD-11		CLIENT: PMS/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 SITE LOCATION				MATL	M/H	LAB \$	M/HRS	DOLLARS	M/HRS	DOLLARS	
CAPACITY											
ACCNT											
DN. 2	SITWORK										
2550	SITE UTILITIES										
2551	WATER SYSTEM										
2551.0	4" PVC PIPE	0	LF	3.50	.33						
.6	6"	0	LF	5.50	.5						
.8	8"	0	LF	9.50	.55						
.10	10"	0	LF	13.50	.6						
.12	12"	0	LF	25.50	.7						
2551.99	CS FITTINGS (25% OF PVC)	1	LOT								
2552.6	6" CAST IRON PIPE	0	LF	10.50	.8						
.8	8" DUCTILE IRON CEMENT LINED	12000	LF	15.50	.9		180 000			10800	
.9	FITTINGS - 10%		LOT				18 000				
2555.6	6" GATE VALVES	0	EA.	180.	10.						
.8	8"	0	EA.	300.	12.						
.10	10"	0	EA.	700.	15.						
.12	12"	0	EA.	1000.	20.						
2556	VALVE BOXES	0	EA.	15.	5.0						
2557	POST INDICATOR	0	EA.	190.	6.0						
2558	CONC. THRUST BLOCKS	0	CY	55.	0.5						
2559	FIRE HYDRANTS	0	EA.	500.	20.						
2550	TOTAL SITE UTILITIES						198 000			10800	

AREA #7
BASE CASE

PARSONS
ESTIMATE WORKSHEET

M.T.O. BY ENCL.		PRICED BY LUF		DATE AUG 1985		SHEET 8 OF					
JOB NO.: 6440-11		CLIENT: DOB/PNL		TYPE OF ESTIMATE ROM 35%		CHECKED BY RCM					
UNIT/AREA MRS FACILITY		QUAN-TITY	UNIT	COST OR M/HR PER UNIT			SUBCONTRACT		LABOR		TOTAL DOLLARS
DESCRIPTIONS Site Location -				MATL	M/H	LAB \$	M/HR	DOLLARS	M/HR	DOLLARS	
CAPACITY AREA -											
ACCNT											
DVZ	SITE WORK										
2600	ROADS & PAVING										
2612	ASPHALT CONC PAVING										
2612.03	3" THK	7333	SY	4.85	.06	35200		440			
2612.05	5" THK		SY	8.7	.09						
2613	CONCRETE PAVING										
2613.04	4" THK		SY	7.0	.05						
.08	8" }		SY	15.0	.07						
.09	9" }		SY	15.20	.07						
2613.12	12" THK		SY	19.20	.09						
2614	CRUSHED ROCK (GRAVEL) PAVING										
2614.2	2" THK		SY	15.0	.06						
.12	12" }		SY	1.80	.01						
.13	13" }		SY	5.0	.02						
2614.15	15" THK		SY	5.50	.03						
2615.09	9" GRAVEL BASE		SY	3.80	.02						
2615.12	12" THK GRAVEL BASE		SY	4.05	.02						
	13" } GRAVEL BASE		SY	5.50	.03						
2616	SUBBASE - COMPACTED GRAVEL										
2616.06	6" THK	11000	SY	2.50	.01	27500		110			
	12" THK		SY	9.20	.02						
2617	SUBGRADE PREP										
2617.06	6" (SEE 2241)	11550	SY	.36	.01	4160		116			
2617.12	12" (")		SY	.63	.01						
2600	SUB TOTAL ROADS & PAVING					66860		666			

AREA #7
BASE CASE

PARSONS
ESTIMATE WORKSHEET

M.T.O. BY AGL PRICED BY RWF DATE AUG 1985 SHEET 9 OF

JOB NO.: 6440-11 CLIENT: DOG/PHL TYPE OF ESTIMATE ROM 35% CHECKED BY RCM

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 DUV 2	SITE WORK												
	ROADS & PAVING (CONT)												
2618	CONC CURBS			LF	540	.21							
2619	CONC CURB & GUTTER			LF	625	.42							
2620	CONC STAIRS			CY	120	16.9							
2622	PAVEMENT STRIPING		11000	LF	.06	.01		660			110		
2623	PAVEMENT MARKINGS			SY	945	.72							
2626	SIGNS		6	EA	48	.79		290			4		
2628	PRECAST CONC BUMPERS												
2628.4	4 FT			EA	12	.33							
.8	8 FT			EA	24	.41							
2628.12	12 FT			EA	36	.50							
	ROADS & PAVING ST FM SHT 8												
								66860			666		
2600	TOTAL ROADS & PAVING												
								67810			780		

AREA #7
BASE CASE

PARSONS
ESTIMATE WORKSHEET

M.T.O. BY ENGL. PRICED BY RUF DATE AUG 1985 SHEET 10 OF 10
 JOB NO.: 6440-11 CLIENT: DOB/PHL TYPE OF ESTIMATE ROM 35% CHECKED BY PCM

UNIT/AREA		QUAN- TITY	UNIT	COST OR M/HR PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
DESCRIPTION SITE LOCATION - CAPACITY AREA -				MATL	M/H	LAB \$		M/HR	DOLLARS	M/HR	DOLLARS	
ACCNT DIU 2	SITE WORK											
2800	LANDSCAPING		SY	9.45	.28							
2801	LANDSCAPING & IRRIGATION GRASS SEEDING		SY	10.00	.36							
			SY	0.06	.001							
2850	RAILROAD WORK											
2851	RAIL - SINGLE	36500	LF	10.75	.42		392 380				15330	
2852	TIES	10950	EA	16.35	.53		179 030				5804	
2853	BALLAST	12674	CY	13.95	.06		176 800				760	
2854	SUB BALLAST	5386	CY	13.19	.05		70 720				269	
2855	SUB GRADE PREP 6"	48667	SY	.36	.01		17 520				487	
2856	SWITCH	0	EA	1210	26.0							
2857	RAIL CROSSING (RAIL)	2	EA	1130	132.0		22 600				264	
2858	RAIL CROSSING (ROAD) 9'-0" WDM	0	LF	30.00	3.0							
2859	WHEEL STOPS	0	EA	250	2.0							
2800	TOTAL LANDSCAPING						859 050				22914	

AREA #7
BASE CASE

PARSONS
ESTIMATE WORKSHEET

M.T.O. BY ENGL-		PRICED BY RUF		DATE AUG. 1985				SHEET 14 OF 11				
JOB NO.: G410-11		CLIENT: DOE		TYPE OF ESTIMATE Rom				CHECKED BY Rom				
UNIT/AREA MRS FACILITIES		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												
ACCNT	SITE WORK											
2860	TUNNELS & BRIDGES											
	CORR. METAL PIPE, PEAR SHAPE, 90'SPAN X 31'2R	120	LF	2500	6		300 000			720		
	EXCAVATION (ROCK)	0	CY	31.05	1.5							
	EXCAVATION (EARTH)	0	CY	1.09	0.01							
	GRAVEL BEDDING	9350	CY	13.51	0.09		126 320			842		
	CONC. CRIB WALL	4800	SF	15.	0.30		72 000			1440		
	ASPHALT CONCRETE, 6" THK	960	SY	7.26	0.09		6 970			86		
	GUARD RAILS	400	LF	6.00	0.05		2 400			20		
	DEMOLISH & DISPOSE (AC PAVEMENT)		SY	1.02	0.14							
	TEMPORARY DETOUR											
	FILL (EARTH)	0	CY	1.10	0.02							
	AGGREGATE BASE, 12" THK	7750	SY	2.20	0.07		17 050			543		
	ASPHALT CONCRETE, 5" THK	6550	SY	7.26	0.09		47 550			590		
	SUBGRADE PREP, 6" THK	8550	SY	0.36	0.01		3 080			86		
	TRAFFIC CONTROL	1	LOT	2000	8500		2000			8500		
2860	TOTAL TUNNELS & BRIDGES											
							577 370			12 827		

PARSONS

ESTIMATE WORKSHEET

OAKRIDGE BASE

M.T.O. BY JJ		PRICED BY JJ		DATE AUG-15		SHEET 1 OF								
JOB NO.: 6440-11		CLIENT: PNL-DOE		TYPE OF ESTIMATE RCM		CHECKED BY RCM								
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													
16300	161KV O.HEAD PWR LINE								842,210					22,900
16700	PHONE TRUNK LINE								147,000					2440
									989,000					25,340
									SAY =					

OAKRIDGE BASE

PARSONS ESTIMATE WORKSHEET

M.T.O. BY <u>J.J.</u>		PRICED BY <u>J.J.</u>		DATE <u>AUG-15</u>		SHEET <u>2</u> OF <u> </u>							
JOB NO.: <u>6440-11</u>		CLIENT: <u>PNL-DOE</u>		TYPE OF ESTIMATE <u>RDM</u>		CHECKED BY <u>JSM</u>							
UNIT/AREA <u>BASE OAKRIDGE</u>		QUAN-TITY	UNIT	COST OR M/HR\$ PER UNIT			MATERIAL EXPENSE		SUBCONTRACT		LABOR		TOTAL DOLLARS
DESCRIPTION <u>OVERHEAD POWER LINE 161 KV</u>				MATL	M/H	LAB\$	M/HR\$	DOLLARS	M/HR\$	DOLLARS			
CAPACITY <u>MRS FACILITY</u>													
ACCNT													
<u>ELECTRICAL AREA-7</u>													
<u>16300</u>	<u>161 KV POWER O.H. LINE</u>												
	<u>26,600 ÷ 800 = TOWER</u>	<u>35</u>	<u>E</u>	<u>5000</u>	<u>160</u>		<u>175000</u>					<u>5600</u>	
	<u>INSULATORS 38EA PER TOWER</u>	<u>1330</u>	<u>E</u>	<u>21.15</u>	<u>.15</u>		<u>28260</u>					<u>200</u>	
	<u>CABLE 26,600 X 1.15 X 9</u>	<u>275,300</u>	<u>LF</u>	<u>1.822</u>	<u>.05</u>		<u>501,600</u>					<u>13765</u>	
	<u>GRND 26,600 X 1.15 X 2</u>	<u>61,200</u>	<u>LF</u>	<u>.25814</u>	<u>.011</u>		<u>15,800</u>					<u>673</u>	
	<u>TRENCH TOWER FOUNDATION</u>												
	<u>35 X 4 = 140 X 1.81 CY = 260 CY</u>												
	<u>20% PIER</u>	<u>52</u>	<u>CY</u>	<u>234</u>	<u>7</u>		<u>12170</u>					<u>364</u>	
	<u>80% PAD</u>	<u>208</u>	<u>CY</u>	<u>72</u>	<u>3</u>		<u>14980</u>					<u>624</u>	
	<u>GUY ASSEMBLY</u>	<u>10</u>	<u>E</u>	<u>670</u>	<u>77</u>		<u>6700</u>					<u>970</u>	
	<u>SUSPENSION CLAMPS 35 X 3</u>	<u>105</u>	<u>E</u>	<u>8.15</u>	<u>.20</u>		<u>860</u>					<u>21</u>	
	<u>STRAIN CLAMPS 35 X 3</u>	<u>105</u>	<u>E</u>	<u>6.10</u>	<u>.20</u>		<u>640</u>					<u>21</u>	
	<u>Δ CABLE SPACER 26,600 X 1.15 ÷ 100 X 3</u>	<u>920</u>	<u>E</u>	<u>10</u>	<u>.33</u>		<u>9200</u>					<u>304</u>	
	<u>TAP TO EXIST LINES HOV</u>	<u>4</u>	<u>E</u>	<u>5000</u>	<u>60</u>		<u>20000</u>					<u>240</u>	
	<u>TIE TO EXIST SUB STATION</u>	<u>3</u>	<u>E</u>	<u>5000</u>	<u>60</u>		<u>15000</u>					<u>180</u>	
	<u>POTHEAD COND'T ETC</u>	<u>6</u>	<u>E</u>	<u>7000</u>	<u>20</u>		<u>42000</u>					<u>120</u>	
	<u>TESTING</u>						<u>-</u>					<u>18</u>	
							<u>842210</u>			<u>22,900</u>			

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 % 20 %	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				38,191
(2) BUILDINGS				0
BUILDING NO. <u>R&H Bldg</u> <u>709,025</u> SQ. FT.				337,300
BUILDING NO. <u>Suppt. Bldgs</u> SQ. FT.				35,248
(3) OTHER (DETACHED) STRUCTURES <u>CHTRU Bldg.</u>				1,163
(4) SPECIAL FACILITIES AND INSTAL. <u>Storage Area</u>				112,561
(5) UTILITIES				3,360
(6) OPERATING EXPENSE CHARGES <u>NA</u>				0
(7) CONTRACT ADMINISTRATION <u>NA</u>				0
(8) <u>Construction Management</u>				45,240
SUBTOTAL				573,063
ESCALATION <u>NA</u> % @ <u>NA</u> YEARS				0
CONTINGENCY <u>Varies</u> %				115,797
TOTAL B				688,860
C. STANDARD EQUIPMENT				0
TOTAL C				0
D. TRANSFERRED CAPITAL PROP. OR EQUIPMENT <u>NA</u>				0
CURRENT ENR. COST INDEX	BUILDING _____	CONSTRUCTION _____	TOTAL PROJECT ESTIMATE \$ <u>781,860</u>	

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	_____	_____	PROJECT MANAGER	_____	
TCP/TCE	_____	_____	CLIENT ENGINEER	_____	
WASH. STATE TAX	_____	_____			
TOTAL	_____	_____			

OAKRIDGE - ALTERNATE CASE

PARSONS
ESTIMATE WORKSHEET

M.T.O. BY -		PRICED BY			DATE <u>AUG. 85</u>			SHEET ____ OF ____					
JOB NO.: <u>6440-11</u>		CLIENT: <u>DB/PAU</u>			TYPE OF ESTIMATE <u>ROM</u>			CHECKED BY					
UNIT/AREA		QUAN- TITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE		SUBCONTRACT		LABOR		TOTAL DOLLARS
DESCRIPTION <u>MRS FACILITY</u>				MATL	M/H	LAB \$			M/HRS	DOLLARS	M/HRS	DOLLARS	
CAPACITY													
ACCNT													
<u>CONTINGENCY FACTORS</u>													
<u>R3 H BUILDING (AREAS 1, 2, 3 & 4)</u>		<u>25%</u>		<u>337300</u>	<u>K</u>								<u>84 320 000</u>
<u>STORAGE (AREA 6)</u>		<u>15%</u>		<u>112 561</u>	<u>K</u>								<u>16 884 000</u>
<u>SUPPORT BUILDING (PART AREA 5)</u>				<u>35 248</u>	<u>K</u>								
<u>CHTRU " "</u>				<u>1 163</u>	<u>K</u>								
<u>UTILITIES " "</u>				<u>3 360</u>	<u>K</u>								
<u>IMPROVEMENTS TO LAND (" & AREA 7)</u>				<u>38 191</u>	<u>K</u>								
		<u>10%</u>		<u>71 962</u>	<u>K</u>								<u>7 800 000</u>
<u>SUB-TOTAL</u>													<u>109 014 000</u>
<u>CONSTRUCTION MANAGEMENT</u>		<u>15%</u>		<u>45 240</u>	<u>K</u>								<u>6 786 000</u>
<u>TOTAL</u>													<u>115 800 000</u>
<u>ROUND OFF ADJUST</u>													<u>(3 000)</u>
<u>USE</u>													<u>115 797 000</u>

PARSONS
ESTIMATE WORKSHEET

OAKRIDGE. ALTERNATE CASE

M.T.O. BY		PRICED BY		DATE				SHEET				OF					
JOB NO: 6440-11		CLIENT: DOE/PTL		TYPE OF ESTIMATE				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																
	K & H BUILDING - AREA 1																
																	121 224 000
																	23 261 000
																	161 004 000
																	31 811 000
	<hr/>																
	K & H																
																	337 300 000
	SUPPORT BUILDING (PART OF AREA 5)																
	CHTRU							26922 +	PRODUCTIVITY (942)	+	OH & P (1384)						35 248 000
	STORAGE	(AREA 6)						893	(76)		(244)						1 168 000
	UTILITIES	(PART OF AREA 5)						2912	(144)		(704)						112 561 000
	<hr/>																
	AREA 5 SITE																
																	30 660 000
																	7 531 000
	TOTAL IMPROVE TO LAND																
																	38 191 000
	<hr/>																
	TOTAL																
																	571 823 000

ALTERNATE CASE - OAKRIDGE SITE

DIVISION	TITLE	AREA # 1	AREA # 2	AREA # 3	AREA # 4	AREA # 5	AREA # 6	AREA # 7	TOTAL
		LABOR MN	LABOR MN	LABOR MN	LABOR MN	LABOR MN	LABOR MN	LABOR MN	LABOR MN
2	SITE WORK	4711	106	5031	596	206263	974768	69540	1281005
3	CONCRETE	237887	73686	546643	171627				1025793
4	MASONRY				1301				1301
5	METALS	77674	65995	23262	41040				208071
6	WOOD/PLASTICS			346	397				743
7	THERMAL/MOIST PROTECTION			14121	26104				40225
8	DOORS/WINDOWS	7824		8707	2443				18674
9	FINISHES		6008	58490	1925				83623
10	SPECIALTIES			35	166				1651
11	EQUIPMENT	73300	5725	54084	6119	11	2010		141609
12	FURNISHINGS				328				328
13	SPECIAL CONSTRUCTION			740	950		768		16008
14	CONVEYING SYSTEMS			9415	2695				12110
15	MECHANICAL	98543	12206	582957	119990				923496
16	ELECTRICAL	23533	7237	194520	6499	82377	118907	25740	507947
17	INSTRUMENTATION	8300		74812		1925			85037
S/TOTAL		527672	280113	1580513	465064	810566	1090493	94880	4349701
CENTRO FACILITY						9086			9086
SUPPORT FACILITIES						323507			323507
UTILITIES						43381			43381
TOTAL DIRECT MHRs		527672	280113	1580513	465064	866500	1090493	94880	4725615
PRODUCTIVITY		93119	49435	278914	82101	121154	192440	67044	833947
TOTAL MHR HOURS CONSTRUCTION		620791	329548	1859427	547605	807644	1282933	111624	5559622

ALTERNATE CASE - OAKRIDGE SITE

DIVISION	TITLE	AREA #1	AREA #2	AREA #3	AREA #4	AREA #5	AREA #6	AREA #7	TOTAL	CONSTR. MAT.	TOTAL CONSTR.
		TOTAL MBL #	TOTAL MBL #	TOTAL MBL #	TOTAL MBL #	TOTAL MBL #	TOTAL MBL #	TOTAL MBL #	(x 1000)		
		(x 1000)	(x 1000)	(x 1000)	(x 1000)	(x 1000)	(x 1000)	(x 1000)			
2	SITE WORK	616	7	666	19	16269	73087	4235	94989		
3	CONCRETE	12882	4113	28004	5982				51011		
4	MASONRY				31				31		
5	METALS	4955	4650	1195	3036				13836		
6	WOOD / PLASTICS			7	9				6		
7	THERMAL / NOISE PROTECTION			910	1992				2592		
8	DOORS / WINDOWS	3921		4475	278				8674		
9	FINISHES		216	1920	605				2741		
10	SPECIALTIES			11	189				200		
11	EQUIPMENT	61871	2262	20540	1087	21	7377		93158		
12	FURNISHINGS				244				244		
13	SPECIAL CONSTRUCTION			3571	1035		38		4644		
14	CONVEYING SYSTEMS			1019	708				1727		
15	MECHANICAL	4829	4659	37631	5046				62965		
16	ELECTRICAL	2959	1256	9176	2933	6805	5308	1141	29912		
17	INSTRUMENTATION	1560		11525		234			13319		
	S/TOTAL	93653	17192	120677	23227	29329	85850	5676	367204		
	PRODUCTIVITY ON LABOR	1692	875	4829	1105	2020	3131	217	14129		
	SHIFT DIFFERENTIAL	584	321	1770	515	-			3190		
	S/TOTAL	95829	18388	127276	25147	25309	68781	5953	386923		
	CNTRN FACILITY					893			893		
	SUPPORT FACILITIES					26922			26922		
	UTILITIES					2512			2512		
	TOTAL DIRECT COST	95829	18388	127276	25147	55676	68781	5953	417750		
	CONTRACTOR ON PROFIT	25375	4873	33728	6664	11755	23560	1578	110573		
	S/TOTAL	121204	23261	161004	31811	70431	112341	7531	528323	45240	572063
	CONTINGENCY	30308	5816	90253	7953	7044	16884	253	109011	6786	115797
	TOTAL	151532	29077	201257	39764	77475	129225	8284	637334	52026	689660

OAK RIDGE ALTERNATE CASE ESTIMATE WORKSHEET

M.T.O. BY		PRICED BY		DATE		SHEET		OF						
ENGINEERING		V. MESEC		AUG 85										
JOB NO.:		CLIENT:		TYPE OF ESTIMATE		CHECKED BY								
6440-11				ROM.		9515								
UNIT/AREA	DESCRIPTION	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				
ACCNT	SUMMARY AREA #1													
	SUMMARY BY DIVISIONS													
	LABOR PRODUCTIVITY	85 %				17.0						93119	1592000	1592000
	S/TOTAL						84629000					620791	10616000	95245000
	SHIFT DIFFERENTIAL (\$10,616,000/2 x 11%)												580000	580000
	S/TOTAL						84629000					620791	11200000	95829000
	CONTRACTORS OHD-PROFIT		26.5 %											25395000
	TOTAL AREA #1 w/out CONTINGENCY													121224000

ESTIMATE WORKSHEET

OAKRIDGE 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 Am						
UNIT/AREA MRS FACILITY		QUAN-TITY	UNIT	COST OR M/HRS PER UNIT			SUBCONTRACT		LABOR		TOTAL DOLLARS	
DESCRIPTION L & H BUILDING				MATL	M/H	LAB \$	M/HRS	DOLLARS	M/HRS	DOLLARS		
CAPACITY												
ACCNT	Summary AREA (5)											
	# 1											
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											

OAKRIDGE ALTERNATE CASE

M.T.O. BY <i>ENGINEERING</i>		PRICED BY <i>VM</i>		DATE <i>AUG. 85</i>		SHEET <i>17</i> OF <i>15</i>							
JOB NO.: <i>6440-11</i>		CLIENT: <i>DOE/PNL</i>		TYPE OF ESTIMATE <i>ROM</i>		CHECKED BY <i>Kam/15</i>							
UNIT/AREA	DESCRIPTION	QUANTITY	UNIT	COST OR M/HR PER UNIT			SUBCONTRACT		LABOR		TOTAL DOLLARS		
CAPACITY	ACCNT			MATL	M/H	LAB \$	M/HR	DOLLARS	M/HR	DOLLARS			
		<i>Summary Area #2</i>											
		<i>Summary By Divisions</i>											
		<i>LABOR PRODUCTIVITY</i>	<i>85%</i>				<i>17.71</i>	<i>12 231 000</i>			<i>28013</i>	<i>4961 000</i>	<i>17 192 000</i>
		<i>3/TOTAL</i>									<i>49025</i>	<i>875 000</i>	<i>875 000</i>
		<i>SHIFT DIFFERENTIAL (5826000/2 x 11%) =</i>										<i>321 000</i>	<i>321 000</i>
		<i>3/TOTAL</i>						<i>12 231 000</i>			<i>329548</i>	<i>5826 000</i>	<i>18 067 000</i>
		<i>CONTRACTORS OHD - PROFIT</i>	<i>26.5%</i>										<i>4873 000</i>
		<i>TOTAL AREA #2 w/out CONTINGENCY</i>											
													<i>23 261 000</i>

ESTIMATE WORKSHEET

CARRIDGE 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 Fcm.							
UNIT/AREA	DESCRIPTION	QUAN-TITY	UNIT	COST OR M/HR\$ PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS	
CAPACITY	ACCNT			MATL	M/H	LAB \$		M/HR\$	DOLLARS	M/HR\$	DOLLARS		
	SUMMARY AREA (S)												
	# 2												
DIV 2	SITE WORK												
3	CONCRETE	15880	CY				16.08	5000			106.	2000	7000
4	MASONRY						16.37	3011000			7366	1132000	4143000
5	METALS	1290	TN				16.50	0			0	0	0
6	WOOD & PLASTICS						18.49	3444000			65395	1206000	4650000
7	THERMAL MOIST. PROTECTION						16.50	0			0	0	0
8	DOORS & WINDOWS						16.50	0			0	0	0
9	FINISHES						16.30	117000			608	98000	215000
10	SPECIALTIES						17.61	0			0	0	0
11	EQUIPMENT						18.74	2155000			5725	107000	2262000
12	FURNISHINGS						16.50	0			0	0	0
13	SPECIAL CONSTRUCTION.						18.74	0			0	0	0
14	CONVEYING. SYSTEMS						18.74	0			0	0	0
15	MECHANICAL SYSTEMS						18.74	2373000			122006	2286000	4659000
16	ELECTRICAL						17.85	1126000			7237	130000	1856000
17	INSTRUMENTATION.						18.38	0			0	0	0
	TOTAL AREA 2							12231000			280113	4961000	17192000

M.T.O. BY <i>ENGINEERING</i>		PRICED BY <i>V. NIBSEC</i>		DATE <i>Aug 85</i>		SHEET <i> </i> OF <i> </i>								
JOB NO.: <i>6440-11</i>		CLIENT: <i>DOE/PNL</i>		TYPE OF ESTIMATE <i>ROM</i>		CHECKED BY <i>LUE LRS</i>								
UNIT/AREA <i>MRS FACILITY</i>		QUAN-TITY	UNIT	COST OR M/HR\$ PER UNIT			MATERIAL EXPENSE		SUBCONTRACT		LABOR		TOTAL DOLLARS	
DESCRIPTION <i>RSH. BLDG.</i>				MATL	M/H	LAB \$	M/HR\$	DOLLARS	M/HR\$	DOLLARS				
CAPACITY														
ACCNT														
	<i>SUMMARY AREA # 3</i>													
	<i>SUMMARY BY DIVISIONS</i>													
	<i>LABOR PRODUCTIVITY</i>	<i>85%</i>												
	<i>S/TOTAL</i>					<i>17.31</i>	<i>93 313 000</i>					<i>1580513</i>	<i>27364000</i>	<i>120 677 000</i>
	<i>SHIFT DIFFERENTIAL (32193000 / 2 x 11%)</i>												<i>1770000</i>	<i>1770000</i>
	<i>S/TOTAL</i>												<i>33963000</i>	<i>127 276 000</i>
	<i>CONTRACTORS OHD PROFIT.</i>	<i>26.5%</i>												<i>33728000</i>
	<i>TOTAL COST AREA # 3 w/out CONTINGENCY</i>													<i>161 004 000</i>

OAK RIDGE ALTERNATE CASE ESTIMATE WORKSHEET

M.T.O. BY ENGINEERING		PRICED BY V. MESEC		DATE Aug. 85		SHEET _____ OF _____						
JOB NO.: 6440-11		CLIENT DOE/PNL		TYPE OF ESTIMATE ROM.		CHECKED BY als						
UNIT/AREA MRS FACILITY		QUAN-TITY	UNIT	COST OR M/HRS PER UNIT			SUBCONTRACT		LABOR		TOTAL DOLLARS	
DESCRIPTION R&H BLDG				MATL	M/H	LAB \$	M/HRS	DOLLARS	M/HRS	DOLLARS		
CAPACITY												
ACCNT												
	SUMMARY AREA (S)											
	# 3											
DN 2	SITE WORK					16⁰⁸	585000			5031	81000	666000
3	CONCRETE	96941	3Y	-	153⁷		14602000			546443	8462000	29004000
4	MASONRY			-	16⁵⁰		0			0	0	0
5	METALS	165	TN	✓	18⁰⁰		766000			23262	409000	1195000
6	WOOD & PLASTICS			-	16⁵⁰		1000			346	6000	7000
7	THERMAL MOIST. PROTECTION			-	16⁵⁰		707000			14121	233000	940000
8	DOORS & WINDOWS			-	16⁵⁰		4331000			8707	144000	4475000
9	FINISHES			-	16³⁰		765000			58490	755000	1980000
10	SPECIALTIES			-	17⁰¹		10000			35	1000	11000
11	EQUIPMENT			✓	18⁰⁰		19519000			54484	1021000	20540000
12	FURNISHINGS			-	16⁵⁰		0			0	0	0
13	SPECIAL CONSTRUCTION			-	18⁰⁰		3430000			7690	144000	3514000
14	CONVEYING. SYSTEMS			-	18⁰⁰		837000			9415	176000	1013000
15	MECHANICAL SYSTEMS			-	18⁰⁰		26706000			582957	10925000	37631000
16	ELECTRICAL			-	17⁰⁰		5704000			194520	3472000	9176000
17	INSTRUMENTATION	1	LOT	-	18⁰⁰		1015000			74812	1375000	21525000
	TOTAL						93313000			132053	27341000	120677000

OARIDGE ALTERNATE CASE

M.T.O. BY <i>ENGINEERING</i>		PRICED BY <i>V.M.B.C.</i>		DATE <i>Aug. 85</i>		SHEET <i>1</i> OF <i>16</i>						
JOB NO.: <i>6440-11</i>		CLIENT: <i>DOE/PNL</i>		TYPE OF ESTIMATE <i>ROM</i>		CHECKED BY <i>R.S.T.L.</i>						
UNIT/AREA <i>MCS FACILITY</i>		QUAN- TITY	UNIT	COST OR M/HRS PER UNIT			SUBCONTRACT		LABOR		TOTAL DOLLARS	
DESCRIPTION <i>RSH. BLDG.</i>				MATL	M/H	LAB \$	M/HRS	DOLLARS	M/HRS	DOLLARS		
CAPACITY												
ACCNT												
<i>Summary Area # 4</i>												
<i>Summary By Divisions</i>												
<i>LABOR PRODUCTIVITY (BASE HOURS)</i>				<i>85%</i>	<i>17.10</i>							
<i>5/TOTAL</i>												
<i>SHIFT DIFFERENTIAL (*9365000 / 2 x 11%) =</i>												
<i>3/TOTAL</i>												
<i>CONTRACTORS OHD/P&FIT 26.5%</i>												
<i>TOTAL COST AREA # 4 w/out Contingency</i>												

PARSONS

CARRIDGE NUCLEAR CASE ESTIMATE WORKSHEET

M.T.O. BY ENGINEERING PRICED BY V. MESEL DATE AUG. 85 SHEET OF
 JOB NO.: 6440-11 CLIENT DOE/PNL TYPE OF ESTIMATE ROM. 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	
	Summary Area (5) # 4													
DIV 2	SITE WORK													
3	CONCRETE			27860	CY			1537	3 800 000			171677	2 638 000	5 982 000
4	MASONARY							1650	13 000			1301	21 000	34 000
5	METALS			1553	TN			1800	2 264 000			41 840	772 000	3 036 000
6	WOOD & PLASTICS							1650	2 000			397	7 000	9 000
7	THERMAL MOIST. PROTECTAN							1650	1 161 000			26 144	431 000	1 592 000
8	DOORS & WINDOWS							1650	2 43 000			2 143	35 000	2 78 000
9	FINISHES							1650	2 23 000			19 125	372 000	605 000
10	SPECIALTIES							1700	1 61 000			1606	28 000	1 89 000
11	EQUIPMENT							1800	9 12 000			6 119	115 000	1 087 000
12	FURNISHINGS							1650	2 39 000			528	5 000	2 44 000
13	SPECIAL CONSTRUCTION							1800	8 56 000			9 550	1 79 000	1 035 000
14	CONVEYING SYSTEMS							1800	6 57 000			2 695	51 000	7 08 000
15	MECHANICAL SYSTEMS							1800	3 197 000			11 990	2 219 000	5 046 000
16	ELECTRICAL							1700	1 826 000			6 993	1 67 000	2 933 000
17	INSTRUMENTATION							1800	INCLUDED IN AREA 3					
	TOTAL AREA #4								15 267 000			465 460	7 965 000	23 227 000

OAKRIDGE ALTERNATE CASE

M.T.O. BY		PRICED BY		DATE		SHEET		OF								
JOB NO.: 6440-11		CLIENT: DOE/PNL		TYPE OF ESTIMATE		RDM		CHECKED BY Rm								
UNIT/AREA	DESCRIPTION	CAPACITY	QUAN-TITY	UNIT	COST OR M/HRS PER UNIT			SUBCONTRACT			LABOR			TOTAL DOLLARS		
					MATL	M/H	LAB \$	M/HRS	DOLLARS	M/HRS	DOLLARS					
ACCNT	TOTAL SUMMARY AREA 5															
	AREA 5															
	CENTRU															
	SUPPORT FACILITIES															
	UTILITIES															
	TOTAL AREA 5 w/o CONTINGENCY															

20 660 000
 1 163 000
 35 248 000
 3 360 000
 70 431 000

PARSONS
ESTIMATE WORKSHEET

CAKRIIDGE ALTERNATE CASE

M.T.O. BY		PRICED BY		DATE		SHEET		OF					
JOB NO.: <i>6440-11</i>		CLIENT: <i>DOE/PNL</i>		TYPE OF ESTIMATE		<i>ROM</i>		CHECKED BY <i>R M</i>					
UNIT/AREA	DESCRIPTION	CAPACITY	QUAN-TITY	UNIT	COST OR M/HR\$ PER UNIT			SUBCONTRACT		LABOR		TOTAL DOLLARS	
					MATL	M/H	LAB \$	M/HR\$	DOLLARS	M/HR\$	DOLLARS		
ACCNT	<i>SUMMARY AREA #5</i>												
	<i>SUMMARY BY DIVISIONS</i>						<i>16.5%</i>	<i>18 185 000</i>			<i>310571</i>	<i>5 144 000</i>	<i>23 329 000</i>
	<i>LABOR PRODUCTIVITY</i>		<i>85%</i>								<i>54807</i>	<i>908 000</i>	<i>908 000</i>
	<i>S/TOTAL</i>							<i>18 185 000</i>			<i>365378</i>	<i>6 052 000</i>	<i>24 237 000</i>
	<i>CONTRACTORS OH- PROFIT</i>		<i>20.5%</i>										<i>6 423 000</i>
	<i>TOTAL AREA 5 w/o CONTINGENCY</i>												<i>30 660 000</i>

OAKRIDGE - DETERMINE

M.T.O. BY		PRICED BY		DATE				SHEET				OF		
JOB NO.: GWD-11		CLIENT: DOE/PNL		TYPE OF ESTIMATE ROM				CHECKED BY em						
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														
SUMMARY CHTRU FACILITY														
TOTAL DIRECT COST														
LABOR PRODUCTIVITY		85%												
s/TOTAL														
CONTRACTORS OH - PROFIT														
TOTAL - CHTRU FAC. W/O CONTINGENCY														

OPKRIDGE - ALTERNATE

ESTIMATE WORKSHEET

M.T.O. BY		PRICED BY		DATE		SHEET		OF				
JOB NO.		CLIENT		TYPE OF ESTIMATE		CHECKED BY						
UNIT/AREA		QUAN-TITY	UNIT	COST OR M/HRS PER UNIT			SUBCONTRACT		LABOR		TOTAL DOLLARS	
DESCRIPTION				MATL	M/H	LAB \$	M/HRS	DOLLARS	M/HRS	DOLLARS		
CAPACITY												
ACCNT												
SUMMARY												
SUPPORT FACILITIES -												
TOTAL DIRECT COST				16.50	21 584 000			523507	5 338 000	26 922 000		
LABOR PRODUCTIVITY		85%						57089	942 000	942 000		
S/TOTAL					21 584 000			380596	6 280 000	27 864 000		
CONTRACTORS O/L - PROFIT										7 384 000		
TOTAL SUPPORT FACILITIES w/o CONTINGENCY										35 248 000		

OAKRIDGE ALTERNATE

M.T.O. BY		PRICED BY		DATE				SHEET				OF		
JOB NO.		CLIENT:		TYPE OF ESTIMATE				CHECKED BY						
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														
SUMMARY														
UTILITIES:-														
TOTAL DIRECT COST					16.75		1699000			143381	813000	2512000		
LABOR PRODUCTIVITY		85%												
Σ/TOTAL							1699000			51036	967000	2656000		
CONTRACTORS OH- PROFIT												104000		
TOTAL COST "UTILITIES" w/o Contingency												3360000		

PARSONS

ESTIMATE WORKSHEET

OKRIDGE ALTERNATE CASE

M.T.O. BY ENGINEERING		PRICED BY V. MIESEC		DATE AUG. 85		SHEET		OF																
JOB NO.: 6440-11		CLIENT DOE/PNL		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				MATL	M/H	LAB \$			M/HR\$	DOLLARS	M/HR\$	DOLLARS												
CAPACITY																								
ACCNT																								
Summary AREA (3) 5																								
DIV 2	SITE WORK			1608			12	631	000			226253	3	638	000	16	269	000						
3	CONCRETE			1537																				
4	MASONARY			1650																				
5	METALS			1894																				
6	WOOD & PLASTICS			1650																				
7	THERMAL MOIST. PROTECTION			1650																				
8	DOORS & WINDOWS			1650																				
9	FINISHES			1632																				
10	SPECIALTIES			1741																				
11	EQUIPMENT			1874					21	000			16					21	000					
12	FURNISHINGS			1650																				
13	SPECIAL CONSTRUCTION			1874																				
14	CONVEYING. SYSTEMS			1874																				
15	MECHANICAL SYSTEMS			1874																				
16	ELECTRICAL			1785					5	334	000			82	377		1	471	000	6	805	000		
17	INSTRUMENTATION			1838					1	99	000			1	925			35	000			23	490	
TOTAL									18	185	000			31	057		5	144	000			23	329	000

5.6

ESTIMATE WORKSHEET

OAKRIDGE ALTERNATE CASE

M.T.O. BY		PRICED BY		DATE			SHEET		OF					
JOB NO.: 6440-11		CLIENT: DOE/PNL		TYPE OF ESTIMATE			CHECKED BY		2EM					
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	SUMMARY AREA 5													
DIV 2	SITEWORK													
	TOTAL SITEWORK (GLINCH RIVER ALTERNATE CASE)													
							21 458 000				205015			
	DELETE EARTHWORK (GLINCH RIVER ALTERNATE CASE)													
							15 708 000				190 443			
	ADD EARTHWORK (OAKRIDGE ALTERNATE CASE)													
							6 881 000				111681			
	TOTAL													
							12 691 000				226753			

PARSONS

ESTIMATE WORKSHEET

OAKRIDGE - ALTERNATE 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					
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	LAB \$			M/HRS	DOLLARS	M/HRS	DOLLARS	
CAPACITY													
ACCNT DIV. 2		SITEWORK AREA #5											
2200 EARTHWORK													
10	FINE GRADING - EARTH (MACH)		0	AC	1878	48.							
11	EXCAVATION INCL. HAULING - EARTH		1855500	CY	1.09	.01		2022500				18555	
12	EMBANKMENT - COMPACTED FILL		1948279	CY	1.10	.02		2143100				38966	
13	ROCK EXCAV. & HAUL - BLASTING		482667	CY	4.50	.10		2172000				48267	
14	ROCK EXCAV. & HAUL - RIPPABLE		244333	CY	1.70	.02		440300				4827	
15	ROCK EMBANKMENT - COMP - HAUL		133225	CY	1.00	.008		133200				1066	
16	CRUSHING & SCREENING & HAULING		0	CY	2.00	.016							
17	DIKE (EARTH FILL) POND		0	CY	1.10	.02							
18	EARTH FILL AT EXISTING TUNNEL PIRES		0	CY	1.10	.02							
19	EXCAVATION AT PONDS		0	CY	1.09	.01							
	IMPACT		0	CY									
SUB TOTAL								6881100				11681	
								6881000					

PARSONS

ESTIMATE WORKSHEET

OAKRIDGE ALTERNATE

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					
UNIT/AREA MRS FACILITY		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													
AV. 16	ELECTRIC.	AREA-5											
	SUMMARY												
16100	TOTAL ELECTRICAL												
	(SAME AS CLINCH RIVER ALTERNATE CASE)						5344000				82377		

**PARSONS
ESTIMATE WORKSHEET**

CRK RIDGE ALTERNATE CASE

M.T.O. BY <i>CON/BN</i>		PRICED BY <i>BH</i>		DATE <i>AUG 85</i>				SHEET <i>1</i> OF <i>4</i>				
JOB NO.: <i>6440-11</i>		CLIENT: <i>PUL/DOE</i>		TYPE OF ESTIMATE <i>ROM</i>				CHECKED BY <i>D/120</i>				
UNIT/AREA <i>RSH BUILDING</i>		QUAN- TITY	UNIT	COST OR M/HR\$ PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
DESCRIPTION <i>ON-SITE CAL OF PLANT</i>				MATL	M/H	LAB \$		M/HR\$	DOLLARS	M/HR\$	DOLLARS	
CAPACITY												
ACCNT												
<i>DY.17 INSTRUMENTATION AREA 5</i>												
<i>SUMMARY</i>												
<i>1712</i>	<i>ANALYZERS</i>	<i>1</i>	<i>LOT</i>				<i>12400</i>			<i>500</i>		
<i>1714</i>	<i>MISCELLANEOUS INSTRUMENTS</i>	<i>1</i>	<i>LOT</i>				<i>6000</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>193000</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>		

PARSLINS

ESTIMATE WORKSHEET

OAK RIDGE

ALTERNATE
CASE

M.T.O. BY ESTG. / ENGRG.		PRICED BY KUF	DATE AUG 85			SHEET ___ OF ___					
JOB NO.: GWD-11		CLIENT: DOE / PNL	TYPE OF ESTIMATE ROM			CHECKED BY [Signature]					
UNIT/AREA	MRS FACILITIES	QUAN- TITY	UNIT	COST OR M/HR PER UNIT			SUBCONTRACT		LABOR		TOTAL DOLLARS
DESCRIPTION	ON SITE @ PLANT			MATL	M/H	LAB \$	M/HR	DOLLARS	M/HR	DOLLARS	
CAPACITY	ACCNT										
SUMMARY AREA 5		AREA		VOLUME							
		(SF)		(CF)							
CHTRU STORAGE FACILITY		2400	SF	58000		713500			9086		
FROM RA ESTIMATE											
2Q 1984 TO 2Q 1985 LABORS									9086	149700	
= 1.04276 x 713500						743500					
				USE		743500			15000	893000	

PRCA #5
ALTERNATE CASE

ESTIMATE WORKSHEET

M.T.O. BY ESTG/ENGRG.		PRICED BY RUF	DATE AUG '85			SHEET 1 OF 2								
JOB NO: GHW - 11		CLIENT: DOE/PNL	TYPE OF ESTIMATE ROM			CHECKED BY LG								
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	SUMMARY AREA #5	AREA		VOLUME										
		(SF)		(CF)										
	SUPPORT FACILITIES													
	ADMINISTRATION BUILDING	19100	SF	226500			1505800			32420		535900		2041700
	FIRE STATION	9000	"	150660			1672800			13027		214700		1887700
	SECURITY BUILDING	9800	"	122500			1299000			25854		418300		1712300
	MAIN GATE - BRIDGE HOUSE	1500	"	27300			153700			4291		70800		224500
	GATEHOUSE AND INSPECTION STATION	1200	"	27800			408000			8765		144600		552600
	ROOF CANOPY	10310	"											
	PROTECTED AREA GATE STATION	6470	"	168673			1384500			23980		395700		1780200
	VEHICLE MAINTENANCE BLDG.	17710	"	456564			1015500			20900		344900		1360400
	SITE SERVICES BUILDING	75450	"	2347380			8590000			98306		1672000		10212000
	WAREHOUSE	38750	"	968750			1102000			24432		408100		1505100

AREA #5
ALTERNATE CASE

ESTIMATE WORKSHEET

M.T.O. BY ESTG/ENG LG		PRICED BY RUF	DATE AUG. '85			SHEET 2 OF 2								
JOB NO.: 6440-11		CLIENT: DOE/PNL	TYPE OF ESTIMATE ROM			CHECKED BY [Signature]								
UNIT/AREA	MRS FACILITIES	QUAN-TITY	UNIT	COST OR M/HR\$ PER UNIT			MATERIAL EXPENSE		SUBCONTRACT		LABOR		TOTAL DOLLARS	
DESCRIPTION	ON SITE BALANCE OF PLANT			MATL	M/H	LAB \$	M/HR\$	DOLLARS	M/HR\$	DOLLARS				
CAPACITY	ACCNT			VOLUME (CF)										
	SUMMARY AREA #5	AREA (SF)												
	SUPPORT FACILITIES													
	HELIPORT	1	EA.	-		20600			355	5800			26400	
	STAND-BY GENERATOR BLDG.	11250	SF	405000		2523600			29152	481000			3004600	
	WATER TREATMENT FACILITY	1360	"	20400		175300			2063	34000			209300	
	SEWAGE TREATMENT FACILITY	3840	"	57600		338500			7059	116400			454900	
	STEAM GENERATOR BUILDING	9600	"	345000		1394400			32403	551100			1945500	
	TOTL. (2985)					21583700			322507	5338900			26922200	
				USE		21584000				5338000			26922000	

AREA # 5
ALTERNATE CASE

PARSONS
ESTIMATE WORKSHEET

M.T.O. BY <u>ENGR.</u>		PRICED BY <u>RUF</u>		DATE <u>AUG. '89</u>			SHEET <u>1</u> OF <u>1</u>						
JOB NO.: <u>0440-11</u>		CLIENT: <u>DOE/PNL</u>		TYPE OF ESTIMATE <u>ROM</u>			CHECKED BY <u>RO</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													
ACNT													
	<u>SUMMARY AREA #5</u>												
	<u>UTILITIES</u>												
<u>2560</u>	<u>PROCESS SEWER SYSTEM</u>						<u>188 000</u>			<u>4824</u>			
<u>2565</u>	<u>WATER SYSTEM</u>						<u>317 500</u>			<u>2120</u>			
<u>2566</u>	<u>OILY SEWER SYSTEM</u>						<u>42890</u>			<u>1627</u>			
<u>2576</u>	<u>DIESEL FUEL SYSTEM</u>						<u>282 500</u>			<u>7116</u>			
<u>2580</u>	<u>NATURAL GAS SYSTEM</u>						<u>209 090</u>			<u>11458</u>			
<u>2582</u>	<u>COOLING TOWER</u>						<u>658 630</u>			<u>16236</u>			
	<u>TOTAL</u>						<u>1698 510</u>			<u>43381</u>			
							<u>US\$ 1 699 000</u>						

ESTIMATE WORKSHEET

062102 ALTERNATE CASE

M.T.O. BY ENGR.		PRICED BY RUF		DATE AUG. '85		SHEET ___ OF ___						
JOB NO.: GUND - 11		CLIENT: OCS / PNL		TYPE OF ESTIMATE ROM		CHECKED BY						
UNIT/AREA MRS FACILITY		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												
ACCNT	UTILITIES AREA # 5											
1560	PROCESS SEWER SYSTEM											
2560.01	PIERGLASS PIPE 6"Ø	3940	LF	15.	.4		59100				1576	
.02	" " 8"Ø	885	"	23.	.6		20260				531	
.03	CLEAN-OUTS	2	EA.	250.	14		500				28	
.05	SPECIAL EQUIPMENT	1	LOT				26900				89	
.04	{ PACKAGE TREATMENT PLANT EQUIP.	1	LOT				61500				2000	
	{ INTERCOM. PIPING & INSTAL.	30%					18150				600	
TOTAL DIRECT COST							188110				4821	
						USE	188000					

ESTIMATE WORKSHEET

OAKRIDGE ALTERNATE CASE

M.T.O. BY ENGR.		PRICED BY RUP		DATE AUG. 85		SHEET _____ OF _____						
JOB NO.: GWD-11		CLIENT: DOE / PAL		TYPE OF ESTIMATE ROM		CHECKED BY						
UNIT/AREA NRS FACILITY		QUAN-TITY	UNIT	COST OR M/HRS PER UNIT			SUBCONTRACT		LABOR		TOTAL DOLLARS	
DESCRIPTION				MATL	M/H	LAB \$	MATERIAL EXPENSE	M/HR	DOLLARS	M/HR	DOLLARS	
CAPACITY												
ACCT												
	UTILITIES	AREA #5										
2505	WATER STORAGE											
	WATER STORAGE TANK		EA.				175,000			500		
	INSULATION FOR TANK		LT				15,000			200		
	FOUNDATION		EA.				10,000			700		
	TANK HEATER		EA.				40,000			200		
	INTERCONN. PIPING & INSTAL.	30%					67,500			470		
	ELECTRICAL		LOT				10,000			100		
	AREA PIPING w/ CIVIL DIV. 2 (ACCT. 2562)											
2505	TOTAL						317,500			2180		

ESTIMATE WORKSHEET

- CORKIN'GE ALTERNATE CASE

M.T.O. BY ENGR.		PRICED BY RUF		DATE AUG. 85		SHEET _____ OF _____						
JOB NO.: G440-11		CLIENT: DOB/PAL		TYPE OF ESTIMATE ROM		CHECKED BY						
UNIT/AREA MRS FACILITY		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												
ACCNT												
	UTILITIES AREA #5											
2506	ONLY SEWER SYSTEM											
	ONLY SEWER COLLECTION TANK											
		452	1	EA.				6500			26	
		453	1	↓				3000			16	
		454	1	↓				2400			16	
		455	1	↓				2000			16	
	4" Ø ONLY SEWER C.S. STD/W		1450	LF	11-	.65		15950			985	
	10" Ø PVC OUTFALL LINE		1000	LF	13-	.60		13000			600	
2506	TOTAL							42850			1667	

PARSONS
ESTIMATE WORKSHEET

042R1006 ALTERNATE CASE

M.T.O. BY <u>ENGR.</u>		PRICED BY <u>RUP</u>		DATE <u>AUG. 85</u>		SHEET _____ OF _____							
JOB NO.: <u>G440-11</u>		CLIENT: <u>DBI/PAL</u>		TYPE OF ESTIMATE <u>KOM</u>		CHECKED BY _____							
UNIT/AREA <u>MRS FACILITY</u>		QUAN-TITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE		SUBCONTRACT		LABOR		TOTAL DOLLARS
DESCRIPTION				MATL	M/H	LAB\$	M/HRS	DOLLARS	M/HRS	DOLLARS			
CAPACITY													
ACCNT													
	<u>UTILITIES AREA #5</u>												
<u>2576</u>	<u>DIESEL FUEL SYSTEM</u>												
	<u>FOUNDATIONS</u>	<u>1</u>	<u>LOT</u>					<u>128400</u>				<u>1600</u>	
	<u>PIPING :-</u>												
	<u>F.O. TO BUDGS</u>		<u>LF</u>	<u>2.75</u>	<u>.35</u>			<u>3300</u>				<u>470</u>	
	<u>1" Ø</u>	<u>1200</u>											
	<u>1/2"</u>	<u>320</u>		<u>2.50</u>	<u>.30</u>			<u>800</u>				<u>96</u>	
	<u>1/2"</u>	<u>790</u>		<u>3.00</u>	<u>.25</u>			<u>2370</u>				<u>277</u>	
	<u>2"</u>	<u>640</u>		<u>4-</u>	<u>.40</u>			<u>2560</u>				<u>286</u>	
	<u>3"</u>	<u>2540</u>		<u>5-</u>	<u>.48</u>			<u>12700</u>				<u>1219</u>	
	<u>TANKS</u>	<u>2</u>	<u>EA.</u>					<u>123300</u>				<u>3025</u>	
	<u>(501 + 502 = 32463 #/EA.</u>												
	<u>MATL = \$2.97/#</u>												
	<u>LAB (MID + EXECT) = 30 HR/T</u>												
	<u>PUMPS</u>	<u>1</u>	<u>LOT</u>					<u>7940</u>				<u>124</u>	
	<u>FILTER</u>	<u>1</u>	<u>LOT</u>					<u>1120</u>				<u>15</u>	
<u>2576</u>	<u>TOTAL</u>							<u>282510</u>				<u>7116</u>	
					<u>LAB</u>			<u>282510</u>					

PARSONS
ESTIMATE WORKSHEET

DARKIDGE - ALTERNATE CASE

M.T.O. BY ENGR.		PRICED BY RUF			DATE AUG. '85			SHEET _____ OF _____				
JOB NO.: G440-11		CLIENT: DOE/PAL			TYPE OF ESTIMATE RDM			CHECKED BY				
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	UTILITIES AREA #5											
2580	NATURAL GAS SYSTEM											
2580	NATURAL GAS FACILITY (Vol. V Book VII - 5.5.7, 5.5.48)	1	WT				5720			2760		
	PIPING CTD/W											
2580.01	1" φ	0	LF									
.05	1 1/2" φ	530	}	3.92	.14		1590			212		
.02	2" φ	695		4-	.14		2540			254		
.03	3" φ	1155		6-	.148		5780			554		
.02	4" φ	2520		11-	.166		27120			1638		
.06	6" φ	1050		25-	.80		26180			840		
.04	CS PIPES CTD/W	2000	LF	11-	.65		88000			5100		
2580	TOTAL						89090			11458		

ORRIDGE

ALTERNATE CASE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY		PRICED BY		DATE			SHEET		OF		
JOB NO.: GUUD-11		CLIENT: DOE		DATE AUG. 85			SHEET 11		OF 11		
UNIT/AREA		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											
ACCNT											
UTILITIES											
25B2	COOLING TOWER										
	FOUNDATION:	304	CY			24000			1600		
	COOLING TOWERS	1	SET			5192			5192		
	MECHANICAL - (PUMPS, TANKS, ETC.)	23	EA.			17000			1636		
	PIPING - OUTSIDE BUILDING	1	LOT			133500			3650		
	PIPING - INSIDE BUILDING	1760	LF			56800			4750		
	ELECTRICAL - CHEM BLDG.	1	LOT			930			58		
	INSTRUMENTATION	1	LOT			20000			200		
	COOLING TOWER CHEM. BLDG.	400	SF			40000			1200		
25B2	TOTAL - DIRECT COST					658690			16206		

OOK RIDGE ALTERNATE CASE

PARSONS 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								
UNIT/AREA	DESCRIPTION	QUANTITY	UNIT	COST OR M/HR PER UNIT			MATERIAL EXPENSE		SUBCONTRACT		LABOR		TOTAL DOLLARS
CAPACITY				MATL	M/H	LAB \$		M/HR	DOLLARS	M/HR	DOLLARS		
	Summary AREA (S)	6											
DIV 2	SITE WORK					1608		57413000			974768	15674000	73087000
3	CONCRETE					1537							
4	MASONARY					1650							
5	METALS					1874							
6	WOOD & PLASTICS					450							
7	THERMAL MOIST. PROTECTION					1650							
8	DOORS & WINDOWS					1650							
9	FINISHES					1632							
10	SPECIALTIES					1761							
11	EQUIPMENT					1874		7339000		2210	38000	7377000	
12	FURNISHINGS					1650							
13	SPECIAL CONSTRUCTION					1874		24000		768	14000	38000	
14	CONVEYING. SYSTEMS					1874							
15	MECHANICAL SYSTEMS					1874							
16	ELECTRICAL					1785		3332000		112947	2016000	5348000	
17	INSTRUMENTATION					1838							
	TOTAL					1672		68108000		1090493	17742000	85850000	

PARSONS
ESTIMATE WORKSHEET

ALT CASE

M.T.O. BY *ENG* PRICED BY *MESSE/CAN* 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	<i>DIV 2</i>	<i>SITE WORK AREA 6</i>												
		<i>Summary.</i>												
	<i>2100</i>	<i>CLEARING</i>						<i>281 900</i>				<i>6720</i>		
	<i>2200</i>	<i>EARTHWORK</i>						<i>24 821 750</i>				<i>300 948</i>		
	<i>2220</i>	<i>TRENCHING & BACKFILLING</i>						<i>258 560</i>				<i>743</i>		
	<i>2500</i>	<i>SITE DRAINAGE</i>						<i>188 750</i>				<i>2991</i>		
	<i>2600</i>	<i>ROADS & PAVING</i>						<i>3102 000</i>				<i>11388</i>		
	<i>2700</i>	<i>SITE IMPROVEMENTS</i>						<i>280 700</i>				<i>3530</i>		
	<i>2745</i>	<i>DRYWELLS</i>						<i>28 466 000</i>				<i>639 886</i>		
	<i>2800</i>	<i>LANDSCAPING</i>						<i>72 900</i>				<i>162</i>		
		<i>S/TOTAL</i>						<i>57 412 650</i>				<i>974 708</i>		
		<i>USE</i>						<i>57 413 000</i>						

ESTIMATE WORKSHEET

OAKRIDGE - ALTERNATE CASE

M.T.O. BY		PRICED BY		DATE		SHEET		OF							
ENGR.		RUF		AUG. '85											
JOB NO.		CLIENT		TYPE OF ESTIMATE		CHECKED BY									
6440-11		DDE / PNL		ROM											
UNIT/AREA		QUANTITY	UNIT	COST OR M/HR PER UNIT			MATERIAL EXPENSE		SUBCONTRACT		LABOR		TOTAL DOLLARS		
DESCRIPTION				MATL	M/H	LABS	M/HR	DOLLARS	M/HR	DOLLARS					
CAPACITY															
ACCNT															
DIV. 2		SITWORK AREA #6													
2200		EARTHWORK													
10	FINE GRADING - EARTH (MACH)		AC	1878	48-										
11	EXCAVATION INCL. HAULING - EARTH		CY	2453000	1.09	.01	2673	800			24530				
12	EMBANKMENT - COMPACTED FILL		CY	2949208	1.10	.02	3244	100			58984				
13	ROCK EXCAV. & HAUL - BLASTING		CY	718133	4.50	.10	3231	600			71813				
14	ROCK EXCAV. & HAUL - RIPPABLE		CY	359067	1.70	.02	610	400			7181				
15	ROCK EMBANKMENT - COMP - HAUL		CY	2725730	1.00	.008	2725	700			21806				
16	CRUSHING & SCREENING & HAULING		CY		2.00	.016									
17	PIKE (EARTH FILL) POND		CY		1.10	.02									
18	EARTH FILL AT EXISTING TUNNEL & PIKES		CY		1.10	.02									
19A	EXCAVATION AT PONDS		CY		1.09	.01									
19B	IMPORT		CY	870262	1.00	.01	870	300			8703				
SUB TOTAL							13255	900			193017				
							13256	000							

OXFORD - ALTERNATE CASE

ESTIMATE WORKSHEET

M.T.O. BY ENGR.		PRICED BY RUF		DATE AUG. '85		SHEET ____ OF ____					
JOB NO.: GWD- 11		CLIENT: DOE/PNL		TYPE OF ESTIMATE ROM		CHECKED BY					
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											
DIV. 2	SITE WORK										
2795	DRYWELL HOLE (FILL)										
.1	HOLE DRILLING 26"φ	60300	LF	8.	.3						
.2	42"φ	11800	LF	16.50	.5						
.3	48"φ	1500	LF	21.	.7						
2795	DRYWELL HOLE (ROCK)										
.	HOLE DRILLING										
.1	26"φ	25800	LF	16.	.5						
.2	42"φ	5000	LF	21.	1.1						
.3	48"φ	600	LF	42.	1.4						
2795.5	DISPOSAL - EARTH/ROCK FROM HOLE	18700	CY	2.69	.05						
2795.6	DRYWELL HOLE LINER 16"φ	84100	LF	164	4.5						
.7	30"φ	16400	LF	435	6.5						
.8	36"φ	2100	LF	625	7.5						
2795.9	DRYWELL LINER GROUT	11040	CY	55	.9						
2795.10	EXCAV. & DISPOSAL - FOR CONC. COLLAR	11000	CY	4.5	.1						
2795.11	REINF. CONC. FOR COLLARS - CAT. I	10000	CY	188.	3.0						
	S/TOTAL FOR 5000 HOLES										
	ADJUST TO 5000MTU	9%									
	SUB TOTAL FOR 5000MTU										

PARSONS

ESTIMATE WORKSHEET

CARLISLE AUTOMATE CASE

M.T.O. BY		PRICED BY		DATE				SHEET				OF	
JOB NO.: 6440-11		CLIENT: DOE/PNL		TYPE OF ESTIMATE: Rom				CHECKED BY: Rom					
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. 11	EQUIPMENT AREA & C												
	SUMMARY.												
11866	CRANE & HANDLING EQUIPMENT FOR DEWELL LINER						7169000			1450			
11866	CONTAMINATION BARRIER						110400			560			
							7339400			2010			
						USE	7339000						

CAKRIDGE 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					
UNIT/AREA DRY WELL STORAGE		QUAN-TITY	UNIT	COST OR M/HR PER UNIT			MATERIAL EXPENSE		SUBCONTRACT		LABOR		TOTAL DOLLARS
DESCRIPTION SWGR & XMRS 53-05				MATL	M/H	LAB \$	M/HR	DOLLARS	M/HR	DOLLARS			
CAPACITY MRS FACILITY													
ACCNT													
ELECTRIC AREA 6 (ALTERNATE)													
16400	OUTDOOR SUBSTATION 53-05												
	AIR INTER. SW.	2	E	7870	45		15740				90		
	500 KVA XEMRS	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		

OAKRIDGE ALTERNATE

PARSONS
ESTIMATE WORKSHEET

M.T.O. BY <i>Ruf</i>		PRICED BY <i>Ruf</i>		DATE <i>Aug. 85</i>				SHEET <i>3</i> OF <i> </i>				
JOB NO.: <i>610-11</i>		CLIENT: <i>POE</i>		TYPE OF ESTIMATE <i>ROM</i>				CHECKED BY <i>rom</i>				
UNIT/AREA <i>NBS FACILITIES</i>		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												
<i>DIV 16 ELECTRICAL AREA #6</i>												
<i>16400 SUBSTATIONS: ENDORSAL</i>												
<i>#05-1</i>		<i>1600</i>	<i>SF</i>									
<i>PAD 1'-0" THK</i>		<i>60</i>	<i>CY</i>	<i>519</i>	<i>3</i>		<i>31140</i>			<i>180</i>		
<i>BULK (PREPAB)</i>		<i>1600</i>	<i>SF</i>	<i>50</i>	<i>.1</i>		<i>80000</i>			<i>160</i>		
<i>EARTHWORK</i>		<i>ALLOW</i>		<i>1000</i>	<i>50</i>		<i>1000</i>			<i>50</i>		
<i>#05-2</i>		<i>800</i>	<i>SF</i>									
<i>PAD 1'-0" THK</i>		<i>30</i>	<i>CY</i>	<i>519</i>	<i>3</i>		<i>15570</i>			<i>90</i>		
<i>BULK (PREPAB)</i>		<i>800</i>	<i>SF</i>	<i>50</i>	<i>.1</i>		<i>40000</i>			<i>80</i>		
<i>EARTHWORK</i>		<i>ALLOW</i>		<i>500</i>	<i>20</i>		<i>500</i>			<i>20</i>		
<i>TRANSF. PM</i>		<i>2</i>	<i>EA</i>									
<i>FOUNDATION</i>		<i>20</i>	<i>CY</i>	<i>504</i>	<i>6.8</i>		<i>10080</i>			<i>136</i>		
<i>EARTHWORK</i>		<i>ALLOW</i>		<i>500</i>	<i>20</i>		<i>500</i>			<i>20</i>		
<i>TOTAL DIRECT COST</i>							<i>178190</i>			<i>736</i>		
<i>REFERENCE</i>												
<i>BACK-UP</i>												
<i>OAK</i>												

OAKRIDGE ALTERNATE

M.T.O. BY J.J.		PRICED BY J.J.		DATE AUG-15				SHEET 4 OF				
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	ELECTRICAL AREA - 6											
16,500	<u>STREET & AREA LIGHTING</u>											
	26.5 x 200 = 5300 x 1600 =	8,480,000										
	8 x 200 = 1600											
	DEDUCT CASK STORAGE											
	8,480,000 - 3,600,000 =	4,880,000										
	<u>798,250 x 4,880,000 =</u>						371,000			4962		
	10,500,000											
	<u>10676 x 4,880,000 =</u>											
	10,500,000											

OAKRIDGE ALTERNATE

ESTIMATE WORKSHEET

M.T.O. BY JJ		PRICED BY JJ		DATE AUG-15				SHEET 5 OF					
JOB NO.: 6440-11		CLIENT: PNL-DOE		TYPE OF ESTIMATE ROM				CHECKED BY RCM					
UNIT/AREA	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		
CAPACITY	ACCNT												
	ELECTRIC. AREA-6												
16500	SECURITY LIGHTING												
	$226,340 \times 4,880,000 =$						104200				1442		
	$10,600,000$												
	$3132 \times 4,880,000 =$												
	$10,600,000$												

OAKRIDGE ALTERNATE

M.T.O. BY		PRICED BY		DATE			SHEET		OF					
J.J.		N.J.		AUG-15			6		OF					
JOB NO.		CLIENT		TYPE OF ESTIMATE			CHECKED BY							
6440-11		PNL-DOE		ROM			E.M.							
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	ALTERN. OAKRIDGE GROUND'G													
	26 x 200 = 5200 x 1400 =		7,280,000											
	7 x 200 = 1400													
	DEDUCT OUT CASK GRND 3,400,000													
	DIFFERENCE ARCA		3,880,000					23,660			545			

OAKRIDGE ALTERNATE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY <u>J.J.</u>		PRICED BY <u>J.J.</u>		DATE <u>AUG-15</u>				SHEET <u>7</u> OF <u>7</u>								
JOB NO.: <u>6440-11</u>		CLIENT: <u>PNL-DOE</u>		TYPE OF ESTIMATE <u>ROM</u>				CHECKED BY <u>[Signature]</u>								
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/HR	DOLLARS	M/HR	DOLLARS				
	ALTERN. OAKRIDGE	CATHODIC PROTECTION	MRS FACILITY													
		ELECTRICAL AREA 6														
16600	CATHODIC PROTECTION	DRY WELL AREA.														
		25 x 200 = 5000 ϕ														
		(1.75 + 1.75) x 200 = 700 ϕ														
		AREA 5000 x 700 = 3,500,000 ϕ														
	16,328	CADWELD X2		32,656	E	5	1		163,280					32,656		
		PIG TAIL # 2 GRND		16,328	E	10	1		163,280					16,328		
		# 4/0 GRND GRID														
		1" ϕ 20'		21,800	LF	1.8	.056		392,400					785		
		TRENCH 21800 x .5 x 1.5		606	P.Y.	6	.15		3640					91		
		BACK FILL 21800'		606	P.Y.	35	.07		2120					42		
		GRND. WELL		100	E	50	1		5000					400		
		TESTING POINT		100	E	50	2		5000					200		
		CATHODIC PROT. EQUIP.		1	LS	-	-		210,580					672		
		XFMR ETC--														
		ENGINEERING FEE							266,000					-		
		TOTAL							852,140					51,174		

OAKRIDGE ALTERNATE

M.T.O. BY <u>N.J.</u>		PRICED BY <u>J.V.</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 OAKRIDGE AU AREA</u>		QUAN- TITY	UNIT	COST OR M/HR\$ PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
DESCRIPTION <u>ALARM ZONE</u>				MATL	M/H	LAB \$		M/HR\$	DOLLARS	M/HR\$	DOLLARS	
ACCNT												
	ELECTRIC. AREA # 6											
16604	ALTERN. ALARM ZONE											
	93.5 x 200 =	18,700	LF									
	USING PREVIOUS ESTIMATE											
	11,000 LF = \$ 533,400											
	THE PRICE OF THE BASE											
	$\frac{533,400 \times 18,700}{11,000} = \$ 906,780$											
	USING ONE TO THREE RATIO											
	$906,780 \div 4 = \$ 226,700$											
	$226,700 \div 17.85 = 12,700$ HRS											
	$906,780 - 226,700 = \$ 680,080$											
	● FULL ALTERN. TOTAL											
							680,080				12,700	
	DIFFER BASE TO ALTERN.											
	$680,080 - 447,330 = \$ 232,750$											
	$12,700 - 9354 = 3,346$											
							\$ 232,750				3,346	

OARRIDGE ALTERNATE

PARSONS ESTIMATE WORKSHEET

M.T.O. BY <i>J.V.</i>		PRICED BY <i>J.V.</i>		DATE <i>AUG-13</i>		SHEET <i>9</i> OF <i>10</i>					
JOB NO.: <i>6440-11</i>		CLIENT: <i>INL-DCE</i>		TYPE OF ESTIMATE <i>ROM</i>		CHECKED BY <i>ROM</i>					
UNIT/AREA <i>ALTERN. OAK RIDGE</i>		QUANTITY	UNIT	COST OR M/HR PER UNIT			SUBCONTRACT		LABOR		TOTAL DOLLARS
DESCRIPTION <i>DRY WELL INSTRUMENTATION</i>				MATL	M/H	LAB \$	MATERIAL EXPENSE	M/HR	DOLLARS	M/HR	
CAPACITY <i>MRS FACILITY</i>											
ACCNT											
	<i>INSTRUMENT AREA-6</i>										
<i>16700</i>	<i>INSTRUMENTATION</i>										
	<i>ALTERN. CLINCH RIVER</i>										
	<i>DRY WELL INSTRUMENT</i>										
	<i>ca</i>										
	<i>DRY WELL 3256 ÷ 50 = 66</i>										
	<i>TRENCHING ^{100%}</i>										
	<i>13.5 x 200 = 2700 x 5'-0" x 5'-0" ÷ 27</i>										
	<i>2500</i>	<i>C.Y.</i>	<i>6</i>	<i>.15</i>		<i>15,000</i>				<i>375</i>	
	<i>CONCR. DUCT 2700 x 8 x 2.5 ÷ 27</i>										
	<i>1250</i>	<i>C.Y.</i>	<i>55</i>	<i>.5</i>		<i>68,750</i>				<i>625</i>	
	<i>BACKFILL 2500-1250</i>										
	<i>1250</i>	<i>C.Y.</i>	<i>3.5</i>	<i>.07</i>		<i>4380</i>				<i>88</i>	
	<i>2" φ PVC 2700 x 72</i>										
	<i>194,400</i>	<i>LF</i>	<i>0.76</i>	<i>.08</i>		<i>147,740</i>				<i>15552</i>	
	<i>FITTING & SUPPORT 25%</i>										
	<i>25%</i>					<i>36,940</i>				<i>3888</i>	
	<i>WIRING 2000 x 65 50 PR SH</i>										
	<i>130,000</i>	<i>LF</i>	<i>9.727</i>	<i>.075</i>		<i>126,360</i>				<i>9750</i>	
	<i>3256 x 100 1 PR SH</i>										
	<i>325,000</i>	<i>LF</i>	<i>.213</i>	<i>.008</i>		<i>69,225</i>				<i>2600</i>	
	<i>WIRING CONN. 3256 x 6</i>										
	<i>19536</i>	<i>E</i>	<i>1-</i>	<i>.25</i>		<i>19540</i>				<i>4884</i>	
	<i>1" φ RGS STUB-UPS 3256 x 50</i>										
	<i>162800</i>	<i>LF</i>	<i>1.23</i>	<i>.1</i>		<i>203500</i>				<i>16280</i>	
	<i>2" φ RGS 300 x 8</i>										
	<i>2400</i>	<i>LF</i>	<i>2.54</i>	<i>.18</i>		<i>6100</i>				<i>432</i>	
	<i>FITTING & SUPPORT 50%</i>										
	<i>-</i>					<i>104800</i>				<i>8352</i>	
	<i>J. BOXES 3256 ÷ 50</i>										
	<i>65</i>	<i>E</i>	<i>250</i>	<i>10</i>		<i>16250</i>				<i>650</i>	
	<i>HANDHOLES</i>										
	<i>4</i>	<i>E</i>	<i>800</i>	<i>10</i>		<i>3200</i>				<i>40</i>	
	<i>ARCH # 6 TOTAL</i>										
						<i>1,959,030</i>				<i>63520</i>	

OAKRIDGE ALTERNATE

ESTIMATE WORKSHEET

M.T.O. BY		PRICED BY		DATE			SHEET				
N.J.		J.J.		AUG-15			10 OF				
JOB NO.:		CLIENT:		TYPE OF ESTIMATE			CHECKED BY				
6440-11		PNL-DOE		ROM			CM				
UNIT/AREA		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		MRS FACILITY									
ACCNT		ELECTRICAL AREA # 6									
16900		INSTRUMENT WIRING									
		WIRING & DUCT BANK FOR MONITORING EQUIP'T.									
		24x200 = 4800 L.F. 0									
		TRENCHING 4800x1x4 #27	711	CY	6	.15	4270			107	
		CONCA DUCT 4800x1x1 #27	178	CY	55	.5	9790			89	
		BACKFILL 711-178	533	CY	3.5	.07	1870			38	
		3" PVC DUCT	4800	LF	1.6	.09	7680			432	
		FIT'G & SUPPORT 25%	-	-	-	-	1920			108	
		10 PR OF #14	4800	LF	2.99	.031	14350			149	
		STIPULATE EVERY 200' ON CAMERA									
		4800 ÷ 200 = 24 ea									
		1" RGS COND. 24x10	240	LF	1.2	.1	290			24	
		FIT'G & SUPPORT 50%	-	-	-	-	150			12	
		WIRE CONN. 26x3 =	78	E	1	.25	80			20	
		TESTING ALL								21	
							40,400			1000	

ESTIMATE WORKSHEET

OAKRIDGE-ALTERNATE CASE

M.T.O. BY		PRICED BY		DATE		SHEET		OF						
JOB NO.: 6440-11		CLIENT: DDE/PNL		TYPE OF ESTIMATE: ROM		DATE: AUG 85		CHECKED BY: [Signature]						
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														
	TOTAL SUMMARY AREA 7													
	TOTAL BY DIVISION													
						16.55		4 106 000				94880	1 570 000	5 676 000
												16744	277 000	277 000
								4 106 000				111624	1 847 000	5 953 000
														1 570 000
														7 531 000
	TOTAL AREA 7 w/o CONTINGENCY													

ESTIMATE WORKSHEET

OAKRIDGE-ALTERNATE CASE

M.T.O. BY <i>ENGINEERING</i>		PRICED BY <i>V. MESEK</i>	DATE <i>AUG. 85</i>	SHEET <i> </i> OF <i> </i>										
JOB NO. <i>6440-11</i>		CLIENT <i>DOE/PNL</i>	TYPE OF ESTIMATE <i>ROM.</i>	CHECKED BY <i>KCM</i>										
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	<i>Summary AREA (3) #1</i>													
<i>DIV 2</i>	<i>SITE WORK</i>					<i>1608</i>		<i>3 117 000</i>			<i>64540</i>	<i>1 118 000</i>		<i>4 235 000</i>
<i>3</i>	<i>CONCRETE</i>					<i>1531</i>		<i>0</i>			<i>0</i>	<i>0</i>		<i>0</i>
<i>4</i>	<i>MASONARY</i>					<i>1650</i>		<i>0</i>			<i>0</i>	<i>0</i>		<i>0</i>
<i>5</i>	<i>METALS</i>					<i>1874</i>		<i>0</i>			<i>0</i>	<i>0</i>		<i>0</i>
<i>6</i>	<i>WOOD & PLASTICS</i>					<i>450</i>		<i>0</i>			<i>0</i>	<i>0</i>		<i>0</i>
<i>7</i>	<i>THERMAL MOIST. PROTECTION</i>					<i>1650</i>		<i>0</i>			<i>0</i>	<i>0</i>		<i>0</i>
<i>8</i>	<i>DOORS & WINDOWS</i>					<i>1600</i>		<i>0</i>			<i>0</i>	<i>0</i>		<i>0</i>
<i>9</i>	<i>FINISHES</i>					<i>1635</i>		<i>0</i>			<i>0</i>	<i>0</i>		<i>0</i>
<i>10</i>	<i>SPECIALTIES</i>					<i>1751</i>		<i>0</i>			<i>0</i>	<i>0</i>		<i>0</i>
<i>11</i>	<i>EQUIPMENT</i>					<i>1874</i>		<i>0</i>			<i>0</i>	<i>0</i>		<i>0</i>
<i>12</i>	<i>FURNISHINGS</i>					<i>1650</i>		<i>0</i>			<i>0</i>	<i>0</i>		<i>0</i>
<i>13</i>	<i>SPECIAL CONSTRUCTION</i>					<i>1874</i>		<i>0</i>			<i>0</i>	<i>0</i>		<i>0</i>
<i>14</i>	<i>CONVEYING. SYSTEMS</i>					<i>1874</i>		<i>0</i>			<i>0</i>	<i>0</i>		<i>0</i>
<i>15</i>	<i>MECHANICAL SYSTEMS</i>					<i>1874</i>		<i>0</i>			<i>0</i>	<i>0</i>		<i>0</i>
<i>16</i>	<i>ELECTRICAL</i>					<i>1785</i>		<i>989 000</i>			<i>25340</i>	<i>450 000</i>		<i>1 441 000</i>
<i>17</i>	<i>INSTRUMENTATION</i>					<i>1838</i>		<i>0</i>			<i>0</i>	<i>0</i>		<i>0</i>
	<i>TOTAL</i>							<i>4 106 000</i>			<i>94 890</i>	<i>1 570 000</i>		<i>5 676 000</i>

ESTIMATE WORKSHEET

M.T.O. BY		PRICED BY		DATE		SHEET							
JOB NO.: 6440-11		CLIENT: DOE/ENL		Aug 85		1 OF 1							
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	SUMMARY AREA #7												
2100	CLEARING							26180				624	
2200	EARTHWORK							1277200				19946	
2220	TRENCHING & BACKFILL							68610				1104	
2520	DRAINAGE PIPE							43010				545	
2550	SITE UTILITIES							178000				10800	
2600	ROADS & PAVING							67810				780	
2800	LANDSCAPING							859050				22914	
2860	TUNNELS & BRIDGES							577370				12827	
DIV 2	TOTAL SITEWORK AREA #7							3117200				69210	
								3117000					7.3

PARSONS

ESTIMATE WORKSHEET

OAKRIDGE ALTERNATE CASE

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 *[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	ELECTRIC.	AREA-7											
	SUMMARY												
16300	161KV O-HEAD PWR LINE							842,210				22,900	
16700	PHONE TRUNK LINE							147,000				2440	
								989,210				25,340	
								SMY =					