

**STRATEGIC PETROLEUM RESERVE
ENGINEERING CHANGE PROPOSAL**

SUMMARY SHEET

CLASS I CHANGE

ECP NUMBER SJ-M/O-4632 TITLE Replace and re-pin Legs on Tanks 3, 4, 5, & 6

BUDGET SOURCE <input type="checkbox"/> SPR BLI _____ <input type="checkbox"/> CONTRACTOR BASELINE <input type="checkbox"/> AUD <input type="checkbox"/> OTHER: Lease Contractor	AUTHORITY <input checked="" type="checkbox"/> PCCB <input type="checkbox"/> ECC
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SCHEDULE <input type="checkbox"/> YES MILESTONE NUMBER _____ CMCR NUMBER _____ <input checked="" type="checkbox"/> NO	TOTAL ESTIMATED COST OF CHANGE <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;"></td> <td align="center">FY 02</td> <td align="center">FY 03</td> </tr> <tr> <td>DESIGN</td> <td></td> <td></td> </tr> <tr> <td>CONSTRUCTION</td> <td></td> <td></td> </tr> <tr> <td>TOTAL</td> <td align="center" colspan="2">\$ 270,000</td> </tr> </table>		FY 02	FY 03	DESIGN			CONSTRUCTION			TOTAL	\$ 270,000	
	FY 02	FY 03											
DESIGN													
CONSTRUCTION													
TOTAL	\$ 270,000												

PCCB/ECC SIGNATURES	DISPOSITION	DATE	COMMENTS CONDITIONS/LIMITATIONS
<i>APM Management and Admin.</i> <i>Michael Micheli</i>	✓	3/17/04	Need baseline Design ECN's
<i>E. H. Kelley</i> APM TECHNICAL ASSURANCE	✓	4/16/04	
<i>Walter Lounsbury</i> APM SYSTEMS AND PROJECTS	✓	16 MAY 2004	
<i>Arnold Gellman</i> APM MAINTENANCE AND OPERATIONS	✓	3/15/04	
DEPUTY PROJECT MANAGER			
DOE CMO			
PROJECT MANAGER			
DEPUTY ASSISTANT SECRETARY - SPR			

PCCB/ECC ACTION

FULL APPROVAL
 CONDITIONAL/LIMITED APPROVAL
 DISAPPROVAL

completed 2000

STRATEGIC PETROLEUM RESERVE ENGINEERING CHANGE PROPOSAL

ECP NUMBER SJ-M/O-4632		ECP TITLE Replace and re-pin Legs on Tanks 3, 4, 5, & 6		PAGE 1 OF 4	
CONTRACTOR CHANGE NO. / REV.		INITIATED BY Doug Cloud	DATE 1/22/03	SUBMITTED BY Jill Derise	DATE 1/22/03
PRIORITY <input type="checkbox"/> EMERGENCY <input type="checkbox"/> URGENT <input checked="" type="checkbox"/> ROUTINE		ORG / CONTRACTOR Shell Pipeline Company LP	PHONE NO. (504) 728-7131	ORG/CONTRACTOR Shell Pipeline Company LP	PHONE NO. (504) 728-7366
VALUE ENGINEERING <input type="checkbox"/> VEP (MANDATORY) <input type="checkbox"/> VEP (VOLUNTARY)		DRAWDOWN CRITICAL <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		ROM ESTIMATE \$ <u>270,000</u>	

DESCRIPTION:
PROBLEM / EXISTING CONFIGURATION

This ECP is being submitted as documentation of work that was done at Sugarland in 2000. The legs and leg sleeves on Tanks 3, 4, 5, & 6 were corroded and required replacement and repair, respectively. A second pin and pin hole was installed in the sleeve for added strength.

PROPOSED SOLUTION / ENHANCEMENT

Purchased legs, re-drilled sleeve pins, and installed the new legs. Legs are 3" O.D. x 12' long Schedule 80 steel with end caps. See attached drawing.

Installation costs were:		<u>Materials</u>	<u>Installation</u>	<u>Total</u>
Tank 3	138 legs	\$24,150	\$30,360	\$54,510
Tank 4	138 legs	\$24,150	\$30,360	\$54,510
Tank 5	204 legs	\$35,700	\$44,880	\$80,580
Tank 6	<u>204 legs</u>	<u>\$35,700</u>	<u>\$44,880</u>	<u>\$80,580</u>
	684 legs	\$119,700	\$150,480	\$270,180

[Reference Shell AFE 349123]

REASON/JUSTIFICATION

The replacement of the tank legs was required to ensure the weight bearing capacity of the tank legs. The work was not considered to be a capital improvement (therefore not "unfunded liability") because the project entailed replacing legs of similar material and design.

CI'S AFFECTED

TECHNICAL ANALYSIS/RECOMMENDATION	IMPLEMENTATION METHOD <input type="checkbox"/> SUBCONTRACT <input type="checkbox"/> M&O LABOR (LOE) <input type="checkbox"/> COMBINATION
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ENGINEERING	DATE	DOE SSR	DATE	<input type="checkbox"/> CONCUR <input type="checkbox"/> NONCONCUR
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STRATEGIC PETROLEUM RESERVE

ENGINEERING CHANGE PROPOSAL SOFTWARE, HARDWARE, FIRMWARE CHANGE

CONTRACTOR CHANGE NUMBER	REVISION NUMBER	ECP NUMBER <i>SJ-M/O-4632</i>	Page 3 of 4
SOFTWARE CHANGE ANALYSIS		HARDWARE/SOFTWARE AFFECTED	
		(NOTE: REDLINE CI BOM)	
DISPOSITION OF PARTS			
<input type="checkbox"/> REWORK SITE COMPONENTS ONLY <input type="checkbox"/> REWORK ALL SITE COMPONENTS <input type="checkbox"/> COMPONENTS NOT AFFECTED <input type="checkbox"/> OTHER (DESCRIBE) _____			
COMPONENT COMPATIBILITY (LIST COMPONENTS SEPARATELY IF COMPATIBILITIES ARE DIFFERENT)			
<input type="checkbox"/> INTERCHANGABLE <input type="checkbox"/> DRAWDOWN COMPATIBLE <input type="checkbox"/> NONCOMPATIBLE			
OPCS SUPPORT ENGINEER	DATE	FUNCTIONAL MANAGER	DATE
IMPLEMENTATION/TEST COMMENTS			
WITNESSED BY			DATE
TEST APPROVED BY	DATE	CHANGE RELEASE AUTHORITY	DATE

**STRATEGIC PETROLEUM RESERVE
ENGINEERING CHANGE PROPOSAL
CONFIGURATION CHANGE AFFECTED REPORT**

TO BE COMPLETED BY TECHNICAL REVIEW PROCESS, ENGINEERING AND CONFIGURATION MANAGEMENT ORGANIZATION DEFINED PROCESS

ECP NO.

CONTRACTOR CHANGE NO

REV.

CHANGE CLASSIFICATION

ST-46-4632

CLASS I

CLASS II

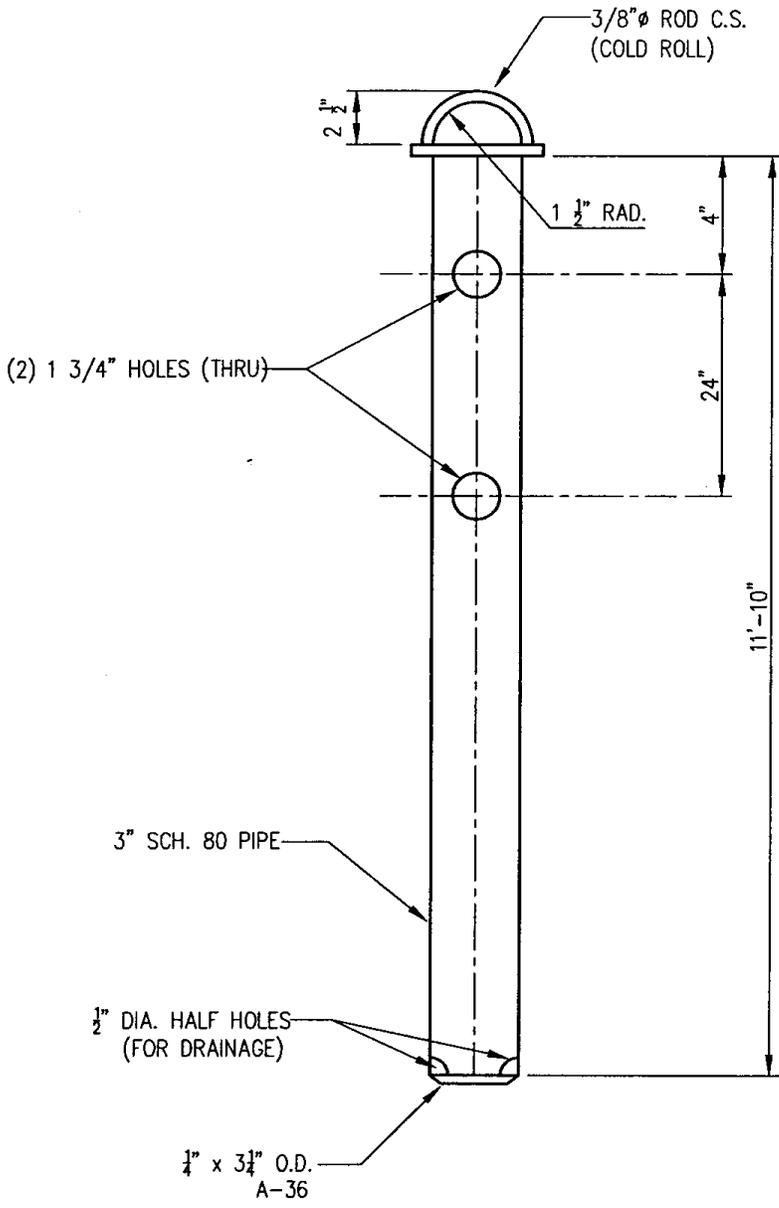
PAGE 4 OF 4

FUNCTIONS AFFECTED			DOCUMENTS AFFECTED		
Y	N	ITEM	Y	N	ITEM
		LEVEL 1 <input type="checkbox"/> II <input checked="" type="checkbox"/> III <input type="checkbox"/> CRITERIA			ELECTRICAL
		PERFORMANCE CRITERIA			315 - CATHODIC PROTECTION
		RAM			350 - STANDARDS
		INTERFACE CHARACTERISTICS			INSTRUMENTATION
		I/O POINTS			401 - BLOCK DIAGRAM
		DOE LEVEL I, II, III SCHEDULES			402 - LOOP DIAGRAMS
		GUARANTEES/DELIVERABLES			403 - INSTRUMENT PLANS AND DETAILS
		SAFETY/ENV/FP (CIRCLE ONE)			404 - INSTRUMENT WIRING DIAGRAM
		SECURITY REQUIREMENTS			409 - INSTRUMENT INDEX
		OPCS SOFTWARE			450 - STANDARDS
		OPCS HARDWARE			MAPPING
		OPCS FIRMWARE			501 - ALIGNMENT SHEETS
		RANGES/ I/O POINTS			509 - PIPELINE DWGS (MAINLINE VALVES, DRIPS, SCRAPER, TRAPS
		DIP SWITCH SETTINGS/JUMPERS			550 - STANDARDS
		MASTER CI LIST			ARCHITECTURAL
		WELLHEAD CONFIGURATION			720 - ELEVATIONS AND FLOOR PLANS
		SPARES/PROVISIONING REQUIREMENTS			750 - STANDARDS
		OPERATIONS MANUALS			DOCUMENTATION
		MAINTENANCE MANUALS			900 - RESERVED
		GOVERNMENT FURNISHED EQUIPMENT			901 - TECHNICAL/PERFORMANCE/DESIGN CRITERIA
		ENERGY USAGE			910 - DESIGN DESCRIPTION/BASIS
		VALUE ENG. (COST SAVINGS)			911 - PROCESS SET POINT DOCUMENTS
		OPERATIONS MODELS			912 - EQUIPMENT LIST
		OTHER			913 - MOV LIST
					915 - ELECTRICAL SAFETY
					920 - I/O DOCUMENT
					930 - OPERATION AND MAINTENANCE MANUALS
					950 - STANDARD SPECIFICATIONS
					970 - TASK SPECIFICATIONS
					990 - CONFIGURATION MANAGEMENT REPORTS 1.B.0.M
					999 - RESERVED
			COMMENTS:xn		
		101 - PROCESS FLOW DIAGRAMS			
		102 - MECHANICAL FLOW DIAGRAMS			
		103 - PIPING AND INSTRUMENTATION DIAGRAMS (P&ID'S)			
		104 - UTILITY FLOW DIAGRAMS			
		105 - GENERAL PIPING PLANS			
		106 - AREA PLANS (MECHANICAL EQUIPMENT LOCATION)			
		122 - WELLHEAD DRAWINGS			
		130 - VALVE LIST			
		135 - LINE LIST			
		140 - PSV LIST			
		150 - STANDARDS			
		CIVIL/STRUCTURAL			
		201 - PLOT PLANS			
		202 - SITE WORK, GRADING (ROUGH & FINISH DRAINAGE FENCING			
		210 - FOUNDATIONS: LOCATION PLANS			
		216 - MINES (WEEKS ISLAND ONLY)			
		250 - STANDARDS			
		ELECTRICAL			
		301 - AREA CLASSIFICATION			
		302 - ONE LINE DIAGRAMS			
		303 - SCHEMATIC DIAGRAMS			
		304 - POWER PLANS AND DETAILS			
		305 - LIGHTING PLANS AND DETAILS			
		307 - SUBSTATION PLANS AND DETAILS			
		308 - WIRING DIAGRAMS			
		310 - GROUNDING			
		311 - CONDUIT & CABLE SCHEDULES (INCLUDING INSTRUMENTS)			
		313 - MCC/SWITCH GEAR EVALUATION & SCHEDULE			
Engineering		DATE	CONFIGURATION MANAGEMENT		DATE

ENGINEERING CHANGE PROPOSAL LIFE CYCLE COST FORM

ECP NUMBER:	SJ-M/0-4632	ECP TITLE:	Replace and re-pin Legs on Tanks 3, 4, 5, & 6
EXECUTIVE SUMMARY:	This ECP is being submitted as documentation of work that was done at Sugarland in 2000. The legs and leg sleeves on Tanks 3, 4, 5, & 6 were corroded and required replacement and repair, respectively. A second pin and pin hole was installed in the sleeve for added strength.		
IMPLEMENTATION PLAN:	Purchased 684 legs, re-drilled sleeve pins, and installed the new legs. Legs are 3" O.D. x 12' long Schedule 80 steel with end caps.		
IMPLEMENTATION COST:	DESIGN:	CONSTRUCTION:	TOTAL: \$270,000.
LIFE CYCLE COST:	Not applicable. The work was not considered to be a capital improvement (therefore not "unfunded liability") because the project entailed replacing tank legs with new legs of similar material and design.		
IMPACT SUMMARY:			
LEVEL I, II, and III CRITERIA:	CONTRACT COMPLETION DATES:		
CODES, REGULATIONS, PERMITS, ETC.:	GOVERNMENT-FURNISHED EQUIPMENT:		
SAFETY, ENVIRONMENTAL, FIRE PROTECTION SYSTEMS, SECURITY:	SCHEDULE:		

WTL09Y 12/11/02 13:18 R:\MTDRAFT\DOUG_CLOUD\12_11_02_001.dwg -- DOUG_CLOUD



NOTE:

COMPLETED ASSYMBLYS TO BE HOT DIP GALVANIZED
 ZINC COATING TO AVERAGE (3) OZ. PER SQUARE FOOT.

REV	DATE	DESCRIPTION OF REVISION	ES NO.	BY	APP

TANK 1 SUGARLAND
 ROOF SUPPORT LEGS
 TOTAL OF 205 LEGS

THIS DOCUMENT IS CONFIDENTIAL AND IT SHALL NOT BE REPRODUCED OR
 REDISTRIBUTED WITHOUT PRIOR PERMISSION. NEITHER THE OPERATOR NOR THE OWNER
 MAKE ANY WARRANTY AS TO THE CORRECTNESS OR COMPLETENESS OF THE
 INFORMATION CONTAINED ON THIS DRAWING, AND THE USER ASSUMES ALL RISK OF
 LOSS TO PERSONS AND PROPERTY AS A RESULT OF RELIANCE THEREON.

DATE	12/11/02	12_11_02_001	REV.	00
DRAWN	WTL			