

**STRATEGIC PETROLEUM RESERVE
ENGINEERING CHANGE PROPOSAL
CLASS I CHANGE**

SUMMARY SHEET

ECP NUMBER <i>SS-M/0-4631</i>		TITLE Purchase New Legs and Sleeves for Tank 1 at Sugarland	
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	
SCHEDULE <input type="checkbox"/> YES MILESTONE NUMBER _____ CMCR NUMBER _____ <input checked="" type="checkbox"/> NO		TOTAL ESTIMATED COST OF CHANGE FY 99 FY 00 DESIGN CONSTRUCTION \$115,260 TOTAL \$115,260	
PCCB/ECC SIGNATURES		DISPOSITION	
		COMMENTS CONDITIONS/LIMITATIONS	
<i>APM Manager and Senior Site Official</i> <i>Michael Merrill</i>		C O N C U R <input checked="" type="checkbox"/>	N O N C U R <input type="checkbox"/>
APM TECHNICAL ASSURANCE		<input checked="" type="checkbox"/>	3/17/04
APM SYSTEMS AND PROJECTS		<input checked="" type="checkbox"/>	16 3/12 2004
APM MAINTENANCE AND OPERATIONS		<input checked="" type="checkbox"/>	3/14/04
DEPUTY PROJECT MANAGER			
DOE CMO			
PROJECT MANAGER			
DEPUTY ASSISTANT SECRETARY - SPR			
PCCB/ECC ACTION			
<input checked="" type="checkbox"/> FULL APPROVAL <input type="checkbox"/> CONDITIONAL/LIMITED APPROVAL <input type="checkbox"/> DISAPPROVAL			

Need Baseline Drawings ECN'd

Completed 1999

STRATEGIC PETROLEUM RESERVE
ENGINEERING CHANGE PROPOSAL

ECP NUMBER SJ-M/O-4631	ECP TITLE Purchase New Legs and Sleeves for Tank 1 at Sugarland	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"/> VECP (VOLUNTARY)	DRAWDOWN CRITICAL <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
		ROM ESTIMATE \$ 115,260

DESCRIPTION:
PROBLEM / EXISTING CONFIGURATION
This ECP is being submitted as documentation of work that was done at Sugarland in 1999. The legs and leg sleeves on Tank 1 were corroded and required replacement. 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. Purchased sleeves, but will install in conjunction with Tank 1 API 653 internal inspection/repair project. See attached drawings.

Installation costs were:		<u>Materials</u>	<u>Installation</u>	<u>Total</u>
Tank 1	204 legs	\$35,700	\$44,880	\$80,580
Tank 1	204 sleeves	\$34,680	\$	\$34,680
		\$70,380	\$44,880	\$115,260

[Reference Shell AFE 349085]

REASON/JUSTIFICATION
The replacement of the tank legs and sleeves 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 and sleeves 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-4631</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. SJ-M/0-4631	CONTRACTOR CHANGE NO.	REV.	CHANGE CLASSIFICATION <input checked="" type="checkbox"/> CLASS I <input type="checkbox"/> CLASS II
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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
		PIPING			930 - OPERATION AND MAINTENANCE MANUALS
		101 - PROCESS FLOW DIAGRAMS			950 - STANDARD SPECIFICATIONS
		102 - MECHANICAL FLOW DIAGRAMS			970 - TASK SPECIFICATIONS
		103 - PIPING AND INSTRUMENTATION DIAGRAMS (P&ID'S)			990 - CONFIGURATION MANAGEMENT REPORTS 1.B.O.M
		104 - UTILITY FLOW DIAGRAMS			999 - RESERVED
		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			

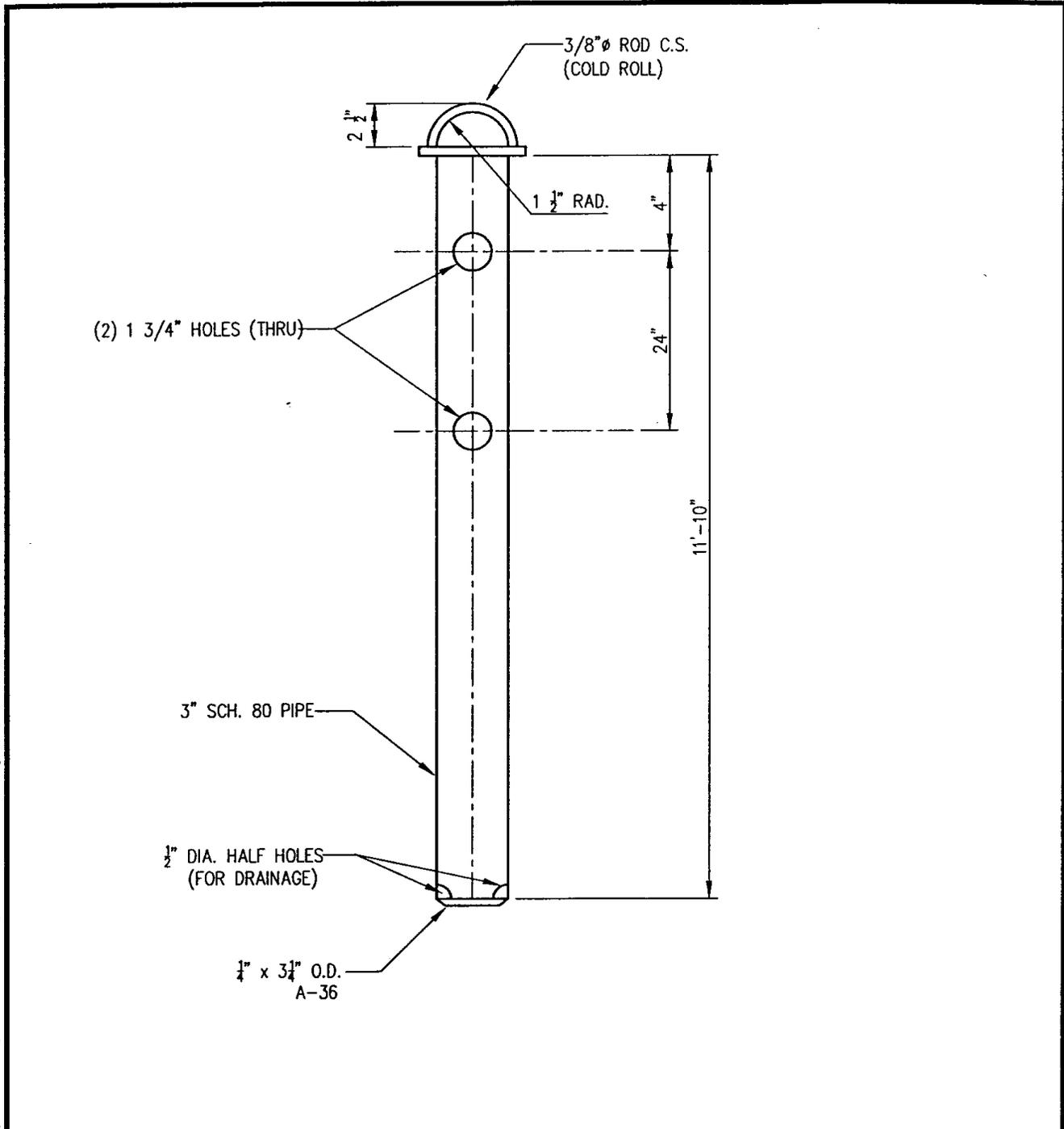
COMMENTS: x1

DATE

**ENGINEERING CHANGE PROPOSAL
LIFE CYCLE COST FORM**

ECP NUMBER: <p align="center" style="font-size: 1.2em;">SJ-M/o-4631</p>	ECP TITLE: <p align="center">Purchase New Legs and Sleeves for Tank 1 at Sugarland</p>						
EXECUTIVE SUMMARY: This ECP is being submitted as documentation of work that was done at Sugarland in 1999. The legs and leg sleeves on Tank 1 were corroded and required replacement. A second pin and pin hole was installed in the sleeve for added strength.							
IMPLEMENTATION PLAN: Purchased 204 legs, re-drilled sleeve pins, and installed the new legs. Legs are 3" O.D. x 12' long Schedule 80 steel with end caps. Purchased 204 sleeves, but will install in conjunction with Tank 1 API 653 internal inspection/repair project.							
IMPLEMENTATION COST: <table style="width:100%; margin-top: 10px;"> <tr> <td style="width:40%;">DESIGN:</td> <td></td> </tr> <tr> <td>CONSTRUCTION:</td> <td align="right">\$115,260</td> </tr> <tr> <td>TOTAL:</td> <td align="right">\$115,260</td> </tr> </table>		DESIGN:		CONSTRUCTION:	\$115,260	TOTAL:	\$115,260
DESIGN:							
CONSTRUCTION:	\$115,260						
TOTAL:	\$115,260						
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 and sleeves with those 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: Purchased and installed legs in 1999. Purchased sleeves in 1999, but will install in conjunction with Tank 1 API 653 project.						

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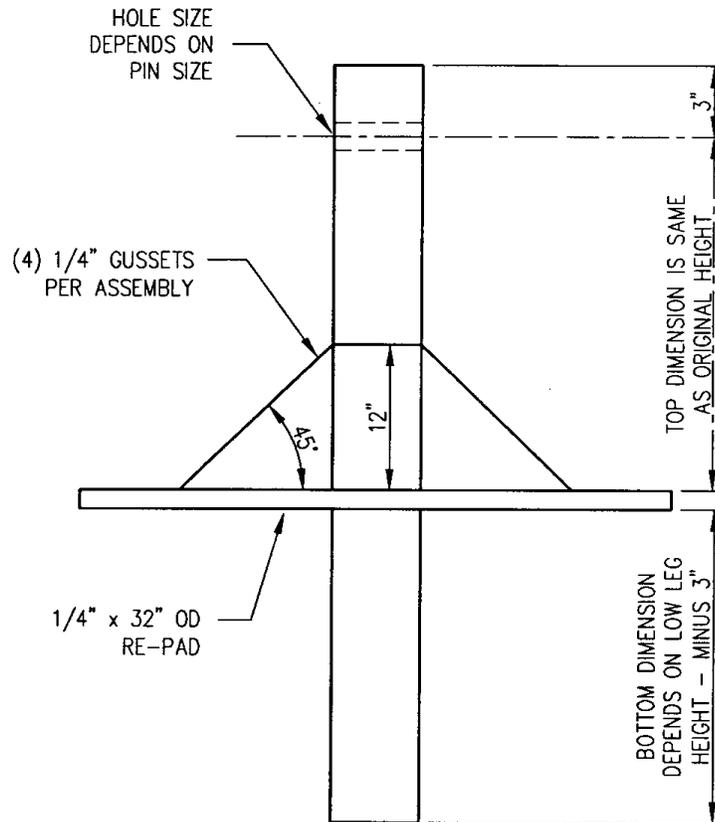
NOTE:
 COMPLETED ASSYMBLYS TO BE HOT DIP GALVANIZED
 ZINC COATING TO AVERAGE (3) OZ. PER SQUARE FOOT.

REV	DATE	DESCRIPTION OF REVISION	ES NO.	BY	APP

TANK 1 SUGARLAND ROOF SUPPORT LEGS TOTAL OF 205 LEGS			
DATE	12/11/02	12_11_02_001	REV.
DRAWN	WTL		00

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NOTE:

PIPE SIZE OF SLEEVE DEPENDS ON PIPE SIZE OF LEG - SCH. 40.

REV	DATE	DESCRIPTION OF REVISION	ES NO.	BY	APP

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TANK 1 SUGARLAND ROOF SUPPORT LEG SLEEVES TOTAL OF 205 LEGS			
DATE	12/11/02	12_11_02_002	REV.
DRAWN	WTL		00