

STRATEGIC PETROLEUM RESERVE

ENGINEERING CHANGE PROPOSAL

SUMMARY SHEET

CLASS I CHANGE

WR #

ECP NUMBER <small>SJ-M/O-4623</small> BUDGET SOURCE <input type="checkbox"/> SPR BLI <input type="checkbox"/> CONTRACTOR BASELINE <input type="checkbox"/> BCR <input type="checkbox"/> OTHER	TITLE Red Stick Pipeline -- Replace 88 feet of 36" mainline pipe. AUTHORITY <input checked="" type="checkbox"/> PCCB <input type="checkbox"/> ECC SCHEDULE <input type="checkbox"/> YES MILESTONE NUMBER CMCR NUMBER <input type="checkbox"/> NO																
TOTAL ESTIMATED COST OF CHANGE																	
<table style="width: 100%; border-collapse: collapse;"> <tr> <td></td> <td style="text-align: center;">FY 02</td> <td style="text-align: center;">FY</td> <td style="text-align: center;">FY</td> </tr> <tr> <td>DESIGN</td> <td style="text-align: center;">—</td> <td style="text-align: center;">—</td> <td style="text-align: center;">—</td> </tr> <tr> <td>CONSTRUCTION/M&O</td> <td style="text-align: center;"><u>250M</u></td> <td style="text-align: center;">—</td> <td style="text-align: center;">—</td> </tr> <tr> <td>TOTAL</td> <td style="text-align: center;"><u>250M</u></td> <td style="text-align: center;">—</td> <td style="text-align: center;">—</td> </tr> </table>			FY 02	FY	FY	DESIGN	—	—	—	CONSTRUCTION/M&O	<u>250M</u>	—	—	TOTAL	<u>250M</u>	—	—
	FY 02	FY	FY														
DESIGN	—	—	—														
CONSTRUCTION/M&O	<u>250M</u>	—	—														
TOTAL	<u>250M</u>	—	—														

PCCB / ECC SIGNATURES	DISPOSITION			COMMENTS CONDITIONS / LIMITATIONS
	C O N C U R	N O O N N C U R	D A T E	
DOE SENIOR SITE OFFICIAL <i>Concurred by Sarah S.</i>	<input checked="" type="checkbox"/>		2/26/02	
APM TECHNICAL ASSISTANCE <i>J. Williams for CT Dixon</i>	<input checked="" type="checkbox"/>		3-19-02	This ECP is not Unfunded Liability. Please provide data requested in 03/07/02 e-mail from J. Williams to J. Derise *DOE and Equillon agreed that this ECP does not include or result in unfunded liability to DOE. ** Should be no cost to DOE
APM SYSTEMS AND PROJECTS <i>Frank Gale</i>	<input checked="" type="checkbox"/>		3/19/02	
APM MAINTENANCE AND OPERATIONS <i>J. Williams</i>	<input checked="" type="checkbox"/>			
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

STRATEGIC PETROLEUM RESERVE

WR #

ENGINEERING CHANGE PROPOSAL

SJ-M/O-4623

ECP NUMBER

SJ - M/O - 4623

ECP TITLE

Red Stick Pipeline – Replace 88 feet of 36" mainline pipe.

PAGE 1 OF 1

CONTRACTOR CHANGE NO./REV.

INITIATED BY

Bill Pimley

DATE

1/10/02

SUBMITTED BY

Jill Derise

DATE

2/13/02

PRIORITY

EMERGENCY

URGENT

ROUTINE

ORG./CONTRACTOR

Equilon Pipeline

PHONE NO.

504-728-3581

ORG./CONTRACTOR

Equilon Pipeline

PHONE NO.

5047287366

VALUE ENGINEERING

VEP (MANDATORY)

VECP (VOLUNTARY)

DRAWDOWN CRITICAL

YES

NO

ROM ESTIMATE

\$ 250,000

DESCRIPTION:

PROBLEM / EXISTING CONFIGURATION

Smart Pig inspection of Red Stick Pipeline indicates this line has internal corrosion in the bottom of the pipeline. This repair work is a continuation of the existing repair program for the pipeline to assure its integrity.

PROPOSED SOLUTION / ENHANCEMENT

Cut out 88 feet of the 36" pipeline from station 1050+72 to station 1051+60 that contains 3 anomalies targeted for repair and replace with new pipe 0.312" wall thickness, Grade X52. Perform visual inspection of the pipe that is cut out and conduct a laboratory analysis, including burst testing and cyclic pressure testing, to gain a better understanding of the integrity of the pipeline due to the internal corrosion. The anomalies to be cut out are detailed in the attached file, but in summary two of the anomalies are greater than 50% deep and the third anomaly is adjacent to a girth weld. The GOM Region within Equilon has concerns with anomalies of this depth regardless of whether or not they fail B31G remaining strength pressure calculations due to some uncertainty of whether cleaning pigs and inhibitors are effective in deep pits.

REASON / JUSTIFICATION

Detailed inspection/analysis of the pipe will provide information to determine if additional smart pig repairs are needed. The work is not considered to be a Capital improvement and thus has no quantifiable life cycle cost estimate. However, if the repairs were done individually the total project would cost approximately \$150,000, as opposed to a single cutout repair with laboratory analysis and testing for the estimated cost of \$250,000.

CI'S AFFECTED

TECHNICAL ANALYSIS/RECOMMENDATION

IMPLEMENTATION METHOD

- SUBCONTRACT
- M&O LABOR (LOE)
- COMBINATION

ENGINEERING

Bill Pimley

DATE

1/10/02

DOE SSR

DATE

CONCUR

NONCONCUR

D-655

W:\E&C_STDS\FORMS\ECP.DOT

FEB 15 - 2002

STRATEGIC PETROLEUM RESERVE
ENGINEERING CHANGE PROPOSAL
CONFIGURATION CHANGE AFFECTED REPORT

WR #

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

ECP NO.	CONTRACTOR CHANGE NO.	REV.	CHANGE CLASSIFICATION <input type="checkbox"/> CLASS I <input type="checkbox"/> CLASS II
			PAGE 2 OF
FUNCTIONS AFFECTED		DOCUMENTS AFFECTED	
YES/NO	ITEM	YES/NO	ITEM
NO	LEVEL I <input checked="" type="checkbox"/> LEVEL II <input type="checkbox"/> CRITERIA		ELECTRICAL (cont'd)
NO	PERFORMANCE CRITERIA	NO	315 - CATHODIC PROTECTION
NO	RAM	NO	350 - STANDARDS
NO	INTERFACE CHARACTERISTICS		INSTRUMENTATION
NO	I/O POINTS	NO	401 - BLOCK DIAGRAM
NO	DOE LEVEL I, II, III SCHEDULES	NO	402 - LOOP DIAGRAMS
NO	GUARANTEES/DELIVERABLES	NO	403 - INSTRUMENT PLANS
NO	SAFETY/ENV/FP (CIRCLE ONE)	NO	404 - INSTRUMENT WIRING DIAGRAM
NO	SECURITY REQUIREMENTS	NO	409 - INSTRUMENT INDEX
NO	OPCS SOFTWARE	NO	450 - STANDARDS
NO	OPCS HARDWARE		MAPPING
NO	OPCS FIRMWARE	Yes	501 - ALIGNMENT SHEETS
NO	SETPOINTS/RANGES	NO	509 - PIPELINE DRWGS (MAINLINE VALVES, DRIPS, SCRAPER, TRAPS, ETC.)
NO	DIP SWITCH SETTINGS/JUMPERS	NO	550 - STANDARDS
NO	MASTER CI LIST		ARCHITECTUAL
NO	WELLHEAD CONFIGURATION	NO	720 - ELEVATIONS AND FLOOR PLANS
NO	SPARES/ROVISIONING REQUIREMENTS	NO	750 - STANDARDS
NO	GOVERNMENT FURNISHED EQUIPMENT		DOCUMENTATION
NO	ENERGY USAGE	NO	900 - RESERVED
NO	OPERATIONS MODESL	NO	901 - TECHNICAL/PERFORMANCE/DESIGN CRITERIA
YES	OTHER	NO	910 - DESIGN DESCRIPTION/BASIS
	DOCUMENTS AFFECTED	NO	911 - PROCESS SET POINT DOCUMENTS
YES/NO	ITEMS	NO	912 - EQUIPMENT LIST
	PIPING	NO	913 - MOV LIST
NO	101 - PROCESS FLOW DIAGRAMS	NO	915 - ELECTRICAL SAFETY
NO	102 - MECHANICAL FLOW DIAGRAMS	NO	920 - I/O DOCUMENT
NO	103 - PIPING AND INSTRUMENTATION DIAGRAMS (P&ID'S)	NO	930 - OPERATIONS MANUALS
NO	104 - UTILITY FLOW DIAGRAMS	NO	930 - MAINTENANCE MANUALS
NO	105 - GENERAL PIPING PLANS	NO	950 - STANDARD SPECIFICATIONS
NO	106 - AREA PLANS (MECHANICAL EQUIPMENT LOCATION)	NO	970 - TASK SPECIFICATIONS
NO	122 - WELL HEAD DRAWINGS	NO	990 - CONFIGURATION MANAGEMENT REPORTS/I.B.M.
NO	130 - VALVE LIST	COMENTS:	
NO	135 - LINE LIST		
NO	140 - PSV LIST		
NO	150 - STANDARDS		
	CIVIL/STRUCTURAL		
NO	201 - PLOT PLANS		
NO	202 - SITE WORK: GRADING (ROUGH & FINISH) DRAIN FENCING		
NO	210 - FOUNDATIONS: LOCATION PLANS		
NO	216 - MINES (WEEKS ISLAND ONLY)		
NO	250 - STANDARDS		
	ELECTRICAL		
NO	301 - AREA CLASSIFICATION		
NO	302 - ONE LINE DIAGRAMS		
NO	303 - SCHEMATIC DIAGRAMS		
NO	304 - POWER PLAND AND DETAILS		
NO	305 - LIGHTING PLAND AND DETAILS		
NO	307 - SUBSTATION PLANS AND DETAILS		
NO	308 - WIRING DIAGRAMS		
NO	310 - GROUNDING		
NO	311 - CONDUIT & CABLE SCHEDULES (INCLUDING INST.)		
NO	313 - MCC/SWITHC GEAR EVALUATION & SCHEDULE		
ENGINEERING	DATE	CONFIGURATION MANAGEMENT	DATE

STRATEGIC PETROLEUM RESERVE

ENGINEERING CHANGE PROPOSAL

SOFTWARE, HARDWARE, FIRMWARE CHANGE

WR #

CONTRACTOR CHANGE NUMBER	REVISION NUMBER	ECP NUMBER	PAGE
			3 OF

SOFTWARE CHANGE ANALYSIS	HARDWARE/SOFTWARE AFFECTED (NOTE: REDLINE CI BOM)

DISPOSITION OF PARTS

REWORK SITE COMPONENTS ONLY
 REWORK ALL SITE COMPONENTS
 COMPONENTS NOT AFFECTED
 OTHER (DESCRIBE)

COMPONENT COMPATIBILITY (LIST COMPONENTS SEPERATELY IF COMPATIBILITIES ARE DIFFERENT)

INTERCHANGEABLE
 DRAWDOWN COMPATIBLE
 NONCOMPATIBLE

OPCS SUPPORT ENGINEER DATE FUNCTIONAL MANAGER DATE

IMPLEMENTATION / TEST COMMENTS

WITNESSED BY	DATE
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TEST APPROVED BY	DATE	CHANGE RELEASE AUTHORITY	DATE
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NUMBER:
TITLE:

EXECUTIVE SUMMARY:

IMPLEMENTATION PLAN:

IMPLEMENTATION COST:

DESIGN:
CONSTRUCTION:

TOTAL:

LIFE CYCLE COST:

Inspection and repair of this pipeline will be done per API B31.4. Therefore a Life Cycle Cost Analysis is not required.

IMPACT SUMMARY:

LEVEL I, II, III CRITERIA:

CONTRACT COMPLETION DATES:

**CODES, REGULATIONS,
PERMITS, ETC.:**

GFE:

**SAFETY, ENVIRONMENTAL, FIRE
PROTECTION SYSTEMS, SECURITY:**

SCHEDULES:

Cut Out Plan for Red Stick 36"

WJP-1/10/02

REV: 1/10/02

- * Tap a 4" hole w/valve in pipeline at station no. 1051+30 (this will be cut out when the pipe is removed).
- * Install 1-36" polly pig at St. James.
- * Inject approx. 600 barrels of water (500 feet of pipe).
- * Install another 36" polly pig.
- * Pump oil from St. James until first pig passes block valve BC-6. Shut down pump at St. James.
- * Close block valve BC-6.
- * Inject 500,000 cubic feet of nitrogen from the down stream weldolet at block valve. (60 psi for 2.7 miles between block valves).
- * When first pig passes block valve BC-5, close block valve and shut down nitrogen injection (if still pumping).
- * Bleed nitrogen off through a frac tank that will be hard piped from the pipeline to the frac tank.
- * Once nitrogen is bled down, check for any residual oil, and pump out as necessary.
- * Cold cut line (will remove 88 feet of 36" pipe including the 4" tap).
- * Install pre-tested pipe in the line (0.312" wt, X-52). X-ray tie-in welds, coat and backfill. Mud plugs or spheres will be used. One half-inch (1/2") vent holes will be drilled and tapped behind the mud plugs/spheres. After tie-in of the new pipe, the vent holes will be repaired with full encirclement sleeves.
- * Open bleed valve on the upstream side of BC-5. Slowly open BC-6 while bleeding air at BC-5. Gravity feed the line from a tank at St. James if possible. When all air has been bled off, open valve BC-5.
- * Notify downstream locations of the polly pigs, water, nitrogen and mud plugs/spheres in the line and make the necessary arrangements to handle.
- * Return to normal operations.

Cut out 88' of 36" pipe on Red Stick Pipeline

Begin Cut-out
End Cut-out

Station 1050+72
Station 1051+60
88 feet

Anomalies to be cut out

Station No.	Nominal Wall Thickness	Measured Wall Thickness	Anomaly Depth	Remaining wall thick.	Anomaly Length	Stated MAOP	B31G Pressure	Type of Corrosion	%	Notes
1050+78	0.312	0.331	0.094	0.237	38	335	N/A	int	28%	metal loss adj. girth weld
1050+00	0.312	0.339	0.232	0.107	6.9	335	392	int	68%	metal loss
1051+34	0.312	0.339	0.197	0.142	3.2	335	506	int	58%	metal loss

In addition to the above anomalies, 2 previously installed repair sleeves will be removed.



22-141 50 SHEETS
 22-142 100 SHEETS
 22-144 200 SHEETS

Given Channel 950+15
 1050+77 1/2% ACROSS GW (20%)
 1051+00 65%
 1051+08 SLAB IN
 1051+20 SLAB OVERLAP
 1051+25 50%

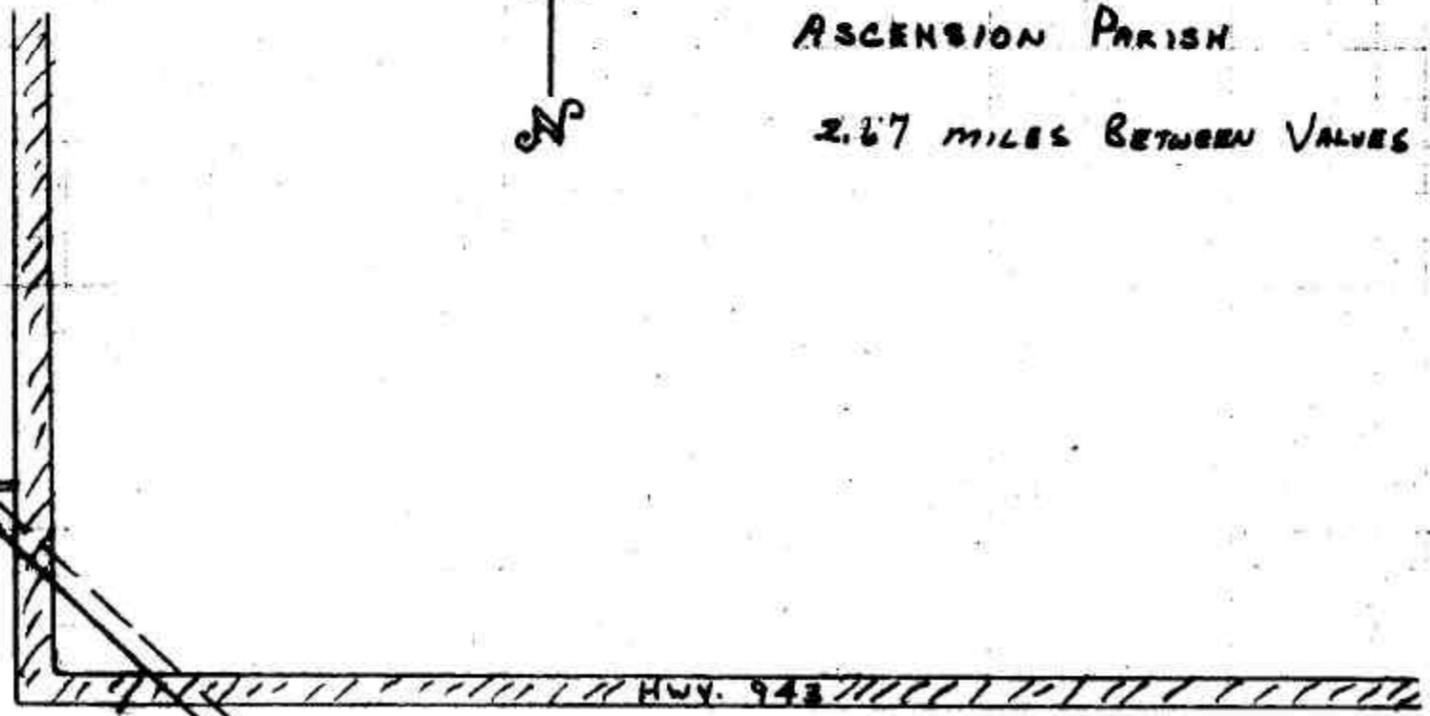


ASCENSION PARISH
 2.67 MILES BETWEEN VALVES

1055+76

1/2 1055+76
 5'

BC-6
 1091+36



RESTRICTION 21'

CLIP 05/10

ST. JAMES