STRATEGIC PETROLEUM RESERVE

ENGINEERING CHANGE PROPOSAL

SUMMARY SHEET
CLASS I CHANGE

ECP NUMBER	TITLE
SJ-M/O-4625	**Install Level Transmitters on Sumps**

BUDGET SOURCE	AUTHORITY
☐ SPR BLI ____ ☐ CONTRACTOR BASELINE ☐ BCR ☐ OTHER	☐ PCCB ☐ ECC

SCHEDULE	TOTAL ESTIMATED COST OF CHANGE	FY 04	FY	FY
☐ YES	DESIGN	$6,000	____	____
MILESTONE NUMBER ____	CONSTRUCTION/M&O	$15,000	____	____
CMCR NUMBER ____	TOTAL	$21,000	____	____
☐ NO				

PCCB / ECC SIGNATURES	DISPOSITION: CONCUR	NON CONCUR	DATE	COMMENTS CONDITIONS / LIMITATIONS
DOE SENIOR SITE OFFICIAL				
R. H. Kelley APM TECHNICAL ASSURANCE	✓		3/16/04	
Warren Foard APM SYSTEMS AND PROJECTS	✓		16 March 2004	
[illegible] APM MAINTENANCE AND OPERATIONS	✓		3/15/04	
Michael McCuller APM MANAGEMENT AND ADMINISTRATION	✓		3/17/04	
DEPUTY PROJECT MANAGER				
DOE CMO				
PROJECT MANAGER				
DEPUTY ASSISTANT SECRETARY -SPR				

PCCB / ECC ACTION

☑ FULL APPROVAL ☐ CONDITIONAL / LIMITED APPROVAL ☐ DISAPPROVAL

ENGINEERING CHANGE PROPOSAL
LIFE CYCLE COST FORM

ECP NUMBER:	ECP TITLE:
SJ-M/O-4625	Install Level Transmitters on Sumps

EXECUTIVE SUMMARY:
This document is being proposed for proposed instrumentation upgrades on each of the terminal sumps.

IMPLEMENTATION PLAN:
Purchase and install 3 Magnetrol "Eclipse" level transmitters 1 & 2Q of 2004.

IMPLEMENTATION COST:

DESIGN:	$6,000
CONSTRUCTION:	$15,000
TOTAL:	$21,000

LIFE CYCLE COST:
Each Magnetrol "Eclipse" Level Transmitters is considered a capital upgrade valued at $2,350.

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:

STRATEGIC PETROLEUM RESERVE

ENGINEERING CHANGE PROPOSAL

ECP NUMBER	ECP TITLE	PAGE 1 OF 4
SJ-M/O-4625	Install Level Transmitters on Sumps	

CONTRACTOR CHANGE NO. / REV.	INITIATED BY	DATE	SUBMITTED BY	DATE
	Robert Smith	12/10/03	Terry Coleman	12/10/03
PRIORITY	ORG / CONTRACTOR	PHONE NO.	ORG/CONTRACTOR	PHONE NO.
☐ EMERGENCY	Shell Pipeline Company LP	(504) 728-7157	Shell Pipeline Company LP	(504) 728-7366
☐ URGENT				
☒ ROUTINE				

VALUE ENGINEERING	DRAWDOWN CRITICAL	ROM ESTIMATE
☐ VEP (MANDATORY)	☐ YES	
☐ VECP (VOLUNTARY)	☒ NO	$ 21,000.

DESCRIPTION:

PROBLEM / EXISTING CONFIGURATION

The existing sumps are outfitted with a discrete level switch not designed for level measurement.

PROPOSED SOLUTION / ENHANCEMENT

Install a level-indicating transmitter on sumps T-7, T-8, and T-10. Each with networking to the local Operator Interface Workstation, and telemetry to the Houston Control Center. The transmitted signal shall serve as a redundant high-level alarm for local operations and the Control Center.

REASON/JUSTIFICATION

During power outages, the Sugarland facility instrumentation will provide measurement via battery backup, however the sump pumps are not powered by such systems, and therefore unable to run. By knowing the level of each sump beforehand - from either local Scada or the Control Center - operations can be better prepared to manage impending volumes into each sump during a power outage.

CI'S AFFECTED

TECHNICAL ANALYSIS/RECOMMENDATION

IMPLEMENTATION METHOD
- ☐ SUBCONTRACT
- ☐ M&O LABOR (LOE)
- ☐ COMBINATION

ENGINEERING	DATE	DOE SSR	DATE
			☐ CONCUR ☐ NONCONCUR

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	PAGE 2 OF ___
SJ-M/0-4625		0	☒ CLASS I ☐ CLASS II	

FUNCTIONS AFFECTED		DOCUMENTS AFFECTED	
YES/NO	ITEM	YES/NO	ITEM
NO	LEVEL I ☐ LEVEL II ☐ LEVEL III CRITERIA		ELECTRICAL (cont'd)
NO	PERFORMANCE CRITERIA	NO	308 - WIRING DIAGRAMS
NO	RAM	NO	310 - GROUNDING
NO	INTERFACE CHARACTERISTICS	NO	311 - CONDUIT & CABLE SCHEDULES (INCLUDING INST.)
NO	I/O POINTS	NO	313 - MCC/SWITCH GEAR ELEVATION & SCHEDULE
NO	DOE LEVEL I, II, III SCHEDULES	NO	315 - CATHODIC PROTECTION
NO	GUARANTEES/DELIVERABLES	NO	350 - STANDARDS
NO	SAFETY/ENV/FP (CIRCLE ONE)		INSTRUMENTATION
NO	SECURITY REQUIREMENTS	NO	401 - BLOCK DIAGRAM
NO	OPCS SOFTWARE	NO	402 - LOOP DIAGRAMS
NO	OPCS HARDWARE	NO	403 - INSTRUMENT PLANS AND DETAILS
NO	OPCS FIRMWARE	NO	404 - INSTRUMENT WIRING DIAGRAM
NO	SETPOINTS/RANGES	NO	409 - INSTRUMENT INDEX
NO	DIP SWITCH SETTINGS/JUMPERS	NO	450 - STANDARDS
NO	MASTER CI LIST		MAPPING
NO	WELLHEAD CONFIGURATION	NO	501 - ALIGNMENT SHEETS
NO	SPARES/PROVISIONING REQUIREMENTS	NO	509 - PIPELINE DRWGS (MAINLINE VALVES, DRIPS, SCRAPER, TRAPS, ETC.)
NO	GOVERNMENT FURNISHED EQUIPMENT	NO	550 - STANDARDS
NO	ENERGY USAGE		ARCHITECTURAL
NO	OPERATIONS MODELS	NO	720 - ELEVATIONS AND FLOOR PLANS
NO	OTHER	NO	750 - STANDARDS
	DOCUMENTS AFFECTED		DOCUMENTATION
	ITEMS	NO	900 - RESERVED
	PIPING	NO	901 - TECHNICAL/PERFORMANCE/DESIGN CRITERIA
NO	101 - PROCESS FLOW DIAGRAMS	NO	910 - DESIGN DESCRIPTION/BASIS
NO	102 - MECHANICAL FLOW DIAGRAMS	NO	911 - PROCESS SET POINT DOCUMENTS
~~NO~~ YES	103 - PIPING AND INSTRUMENTATION DIAGRAMS (P&ID'S)	NO	912 - EQUIPMENT LIST
NO	104 - UTILITY FLOW DIAGRAMS	NO	913 - MOV LIST
NO	105 - GENERAL PIPING PLANS	NO	915 - ELECTRICAL SAFETY
NO	106 - AREA PLANS (MECHANICAL EQUIPMENT LOCATION)	NO	920 - I/O DOCUMENT
NO	122 - WELL HEAD DRAWINGS	NO	930 - OPERATIONS MANUALS
NO	123 – WELL COMPLETION CONFIGURATION DRWGS	NO	930 - MAINTENANCE MANUALS
NO	130 - VALVE LIST	NO	950 - STANDARD SPECIFICATIONS
NO	135 - LINE LIST	NO	970 - TASK SPECIFICATIONS
NO	140 - PSV LIST	~~NO~~ YES	990 - CONFIGURATION MANAGEMENT REPORTS/I.B.O.M.
NO	150 - STANDARDS		
	CIVIL/STRUCTURAL	COMMENTS:	
NO	201 - PLOT PLANS	(107) M-15	
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 PLANS AND DETAILS		
NO	305 - LIGHTING PLANS AND DETAILS		
NO	307 - SUBSTATION PLANS AND DETAILS		
ENGINEERING	DATE	CONFIGURATION MANAGEMENT	DATE

STRATEGIC PETROLEUM RESERVE

ENGINEERING CHANGE PROPOSAL
SOFTWARE, HARDWARE, FIRMWARE CHANGE

CONTRACTOR CHANGE NUMBER	REVISION NUMBER	ECP NUMBER	
	0	SJ-M/O-4625	Page 3 of 4

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 SEPARATELY IF COMPATIBILITIES ARE DIFFERENT)

☐ INTERCHANGABLE ☐ DRAWDOWN COMPATIBLE ☐ NONCOMPATIBLE

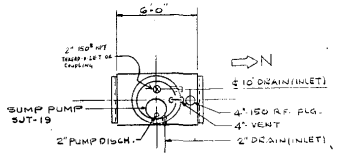
OPCS SUPPORT ENGINEER	DATE	FUNCTIONAL MANAGER	DATE

IMPLEMENTATION/TEST COMMENTS

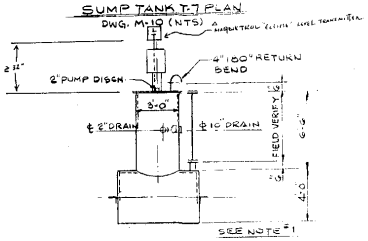
WITNESSED BY			DATE

TEST APPROVED BY	DATE	CHANGE RELEASE AUTHORITY	DATE

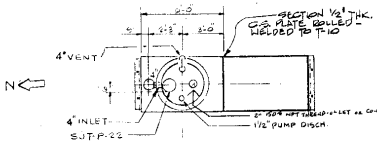
SUPERSEDES DRAWING				
DRAWING ID	TASK	REV	DATE	REMARKS
M-22	SJT-18	-	4-16-80	



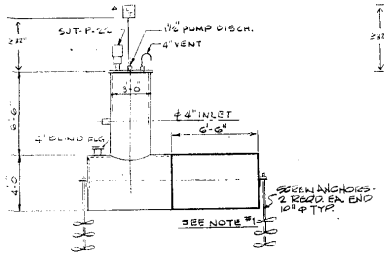
SUMP TANK T-7 PLAN
DWG. M-10 (NTS)



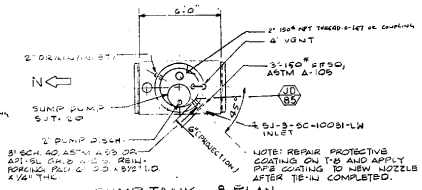
SUMP TANK T-7 ELEV.
(NOT TO SCALE)



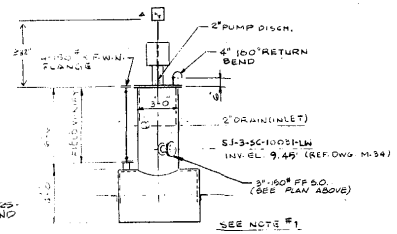
SUMP TANK T-10 PLAN
DWG. M-11 (NTS)



SUMP TANK T-10 ELEV.
(NOT TO SCALE)



SUMP TANK 8 PLAN
DWG. M-33 (NTS)



SUMP TANK T-8 ELEV.
(NOT TO SCALE)

NOTES
1- SEE WM-4A DWG. NO. 77-2354-84-1 FOR TANK DETAILS

REGISTRATION STAMP

DESIGNED BY:
DRAWN BY:
CHECKED BY:
PROJ. ENG.:
SUPERVISOR:
DATE:

WALK, HAYDEL & ASSOCIATES, INC.
ENGINEERS
NEW ORLEANS MOBILE BATON ROUGE

PROJECT NO.

○ AS BUILT				
□ REVISION				
○ CHANGE ORDER				
△ ADDENDUM	6	AS BUILT PER T-7	MCD	KB 3/19/97
		93-CEM-1820		DM

SUMP TANK T-7 T-8 & T-10
(MECHANICAL PACKAGE)
ST. JAMES TERMINAL
(ST. JAMES PARISH, LOUISIANA)

NON-CONTROLLED DRAWING
USE AT YOUR OWN RISK

FACILITY DEVELOPMENT AND CONSTRUCTION DIVISION
Strategic Petroleum Reserve

REV 6

PROJECT NUMBER
DISCIPLINE: MECHANICAL
DRAWING NUMBER: M-15
SHEET OF

D. Install Sump Level Transmitters

Problem / Existing Configuration

- The existing sumps have a discrete level switch, which do not provide level measurement.

Proposed Solution / Enhancement

- Install a level transmitter on sumps T-7, T-8, and T-10.
- Each will transmit level to the local Operator Work Station and the Houston Control Center.
- The device will serve as a redundant high-level alarm.

Reason / Justification

- Level indication will be provided during power outages due to battery backup.
- Sump level can be better managed to prevent overflows.