STRATEGIC PETROLEUM RESERVE PROJECT PROPOSAL

(M&O CONTRACTOR FORM)

SITE(S) AFFECTED: SJ	
CONTRACTOR CHANGE NO.: 74-013	REV:
☒ ENGINEERING CHANGE:	
☐ OTHER: (ADMIN/NON-ENGR. CHNG)	
ECP NO.:	

SECTION 1 - SUMMARY INFORMATION

TITLE: EQUILON PIPELINE TO D.O.E. INTERFACE

SPONSOR: R. SMITH
ORG: EQUILON PIPELINE
PHONE: 225/836-3208

FUNDING/SCHEDULE IMPACT		RECOMMENDED RANK:
SOURCE	TOTAL ESTIMATED COST	SCHEDULING
☐ SPR BLI _____	FY ____ ____ ____	☐ NO IMPACT
☐ CONTRACTOR BASELINE	DESIGN ____ ____ ____	☐ NEW SCHEDULE REQ'D.
☐ GRM	CONSTRUCTION/ IMPLEMENTATION ____ ____ ____	☐ SCHEDULE CHANGE REQ'D.
☐ LE	TOTAL: ____ ____ ____	☐ MILESTONE _____
☐ MM		☐ CMCR NO _____
☐ OTHER _____		
☐ BCR		

AUTHORITY

☐ PCCB ☐ CLASS I
☐ ECC ☐ CLASS II
☐ CONTRACTOR

FINAL DISPOSITION

☐ APPROVE
☐ CONDITIONAL APPROVAL
☐ DISAPPROVE
☐ CANCEL

SECTION II - DYNMcDERMOTT REVIEW AND APPROVAL (CLASS II)

REVIEWERS (NAME/ORG.)	CONCURRENCE YES	CONCURRENCE NO	COMMENTS:
SITE MANAGER	☐	☒	Signature on file w/comments
SITE ENGINEER	☐	☐	
	☐	☐	
	☐	☐	
	☐	☐	
	☐	☐	
	☐	☐	
	☐	☐	
	☐	☐	
	☐	☐	
	☐	☐	

TRB CHAIRMAN	DATE	DISPOSITION	COMMENTS
M K Hughes	6/2/99	☑ CONCUR ☐ APPROVE ☐ DISAPP. ☐ CANCEL	On bards of attached E-mail Nicholson to Kahl of 4/8/99
GRM PROJECTS COORDINATOR	DATE	DISPOSITION ☐ CONCUR ☐ APPROVE ☐ DISAPP. ☐ CANCEL	

TRIMUNI DOT

STRATEGIC PETROLEUM RESERVE
PROJECT PROPOSAL

(M&O CONTRACTOR FORM)

SITE(S) AFFECTED: SJ
CONTRACTOR CHANGE NO.: 74-013 REV:
☐ ENGINEERING CHANGE:
☐ OTHER: (ADMIN/NON-ENGR. CHNG)
ECP NO.:

SECTION I - SUMMARY INFORMATION

TITLE: EQUILON PIPELINE TO D.O.E. INTERFACE

SPONSOR: R. SMITH
ORG.: EQUILON PIPELINE
PHONE: 225/836-3208

FUNDING/SCHEDULE IMPACT			RECOMMENDED RANK:
SOURCE	TOTAL ESTIMATED COST	SCHEDULING	AUTHORITY
☐ SPR BLI _____ ☐ CONTRACTOR BASELINE ☐ O&M ☐ LR ☐ M&I ☐ OTHER _____ ☐ BCR	FY ____ ____ ____ DESIGN ____ ____ ____ CONSTRUCTION/ IMPLEMENTATION ____ ____ ____ TOTAL: ____ ____ ____	☐ NO IMPACT ☐ NEW SCHEDULE REQ'D. ☐ SCHEDULE CHANGE REQ'D. ☐ MILESTONE _____ ☐ CMCR NO. _____	☐ PCCB ☐ CLASS I ☐ ECC ☐ CLASS II ☐ CONTRACTOR FINAL DISPOSITION ☐ APPROVE ☐ CONDITIONAL APPROVAL ☐ DISAPPROVE ☐ CANCEL

SECTION II - DYNMcDERMOTT REVIEW AND APPROVAL (CLASS II)

REVIEWERS (NAME/ORG.)	CONCURRENCE YES	NO	COMMENTS:
SITE MANAGER:	☐	☒	DM DOES NOT CONCUR W/ ECP for EQUILON
SITE ENGINEER:	☐	☐	to have control of BC20B, BC20R1,
	☐	☐	BC20R2
	☐	☐	
	☐	☐	
	☐	☐	
	☐	☐	
	☐	☐	
	☐	☐	
	☐	☐	
	☐	☐	

TRB CHAIRMAN	DATE	DISPOSITION	COMMENTS
		☐ CONCUR ☐ APPROVE ☐ DISAPP. ☐ CANCEL	
O&M PROJECTS COORDINATOR	**DATE**	**DISPOSITION**	
		☐ CONCUR ☐ APPROVE ☐ DISAPP. ☐ CANCEL	

TRBRMB.DOT

STRATEGIC PETROLEUM RESERVE

ENGINEERING CHANGE PROPOSAL

SUMMARY SHEET

CLASS I CHANGE

ECP NUMBER	TITLE
BC-M/O-3716	Equilon Pipeline to DOE Interface

BUDGET SOURCE

- ☐ SPR BLI _____
- ☐ CONTRACTOR BASELINE
- ☐ BCR
- ☒ OTHER Equilon

AUTHORITY

☑ PCCB ☐ ECC

SCHEDULE

- ☐ YES
  - MILESTONE NUMBER _____
  - CMCR NUMBER _____
- ☐ NO

TOTAL ESTIMATED COST OF CHANGE

	FY 99	FY	FY
DESIGN			
CONSTRUCTION / M&O	3,100		
TOTAL	$ 3,100		

PCCB / ECC SIGNATURES	DISPOSITION: CONCUR	DISPOSITION: NON CONCUR	DISPOSITION: DATE	COMMENTS CONDITIONS / LIMITATIONS
DOE SENIOR SITE OFFICIAL				
APM TECHNICAL ASSURANCE	✓		4/14	
APM SYSTEMS AND PROJECTS	X		4/13/99	
APM MAINTENANCE AND OPERATIONS	✓		4/13/99	
DEPUTY PROJECT MANAGER				
DOE CMO				4/13/99
PROJECT MANAGER				
DEPUTY ASSISTANT SECRETARY-SPR				

PCCB / ECC ACTION

☑ FULL APPROVAL ☐ CONDITIONAL / LIMITED APPROVAL ☐ DISAPPROVAL

D-658

STRATEGIC PETROLEUM RESERVE

WR #

ENGINEERING CHANGE PROPOSAL

SUMMARY SHEET

CLASS I CHANGE

ECP NUMBER	TITLE
BC-M/O-3716	Equilon Pipeline to D.O.E Interface

BUDGET SOURCE	AUTHORITY	
☐ SPR BLI		☐ PCCB ☐ ECC
☐ CONTRACTOR BASELINE	SCHEDULE	TOTAL ESTIMATED COST OF CHANGE
☐ HCR	☐ YES MILESTONE NUMBER CMCR NUMBER	DESIGN FY — FY — FY —
☐ OTHER	☐ NO	CONSTRUCTION/M&O — — —
		TOTAL — — —

PCCB / ECC SIGNATURES	DISPOSITION: CONCUR	DISPOSITION: NON CONCUR	DISPOSITION: DATE	COMMENTS CONDITIONS / LIMITATIONS
DOE SENIOR SITE OFFICIAL [signature]	✓		4/12/99	1. Meter count should not provide total batch quantity data to Equilon. 2. ESD will be by BC upon receipt of Equilon signal in BC Control Room.
APM TECHNICAL ASSURANCE				
APM SYSTEMS AND PROJECTS				
APM MAINTENANCE AND OPERATIONS				
DEPUTY PROJECT MANAGER				
DOE CMO				
PROJECT MANAGER				
DEPUTY ASSISTANT SECRETARY -SPR				

PCCB / ECC ACTION

☐ FULL APPROVAL ☐ CONDITIONAL / LIMITED APPROVAL ☐ DISAPPROVAL

WSEAC STDS\FORMS\ECP.DOT

[signature] DM/BC
4/13/99

STRATEGIC PETROLEUM RESERVE

WR #

ENGINEERING CHANGE PROPOSAL

ECP NUMBER	ECP TITLE	PAGE 1 OF 1
BC-M/O-3716	Equilon Pipeline to D.O.E. Interface	

CONTRACTOR CHANGE NO./REV.	INITIATED BY	DATE	SUBMITTED BY	DATE
	David A. Carrere	04/11/99	David A. Carrere	04/11/99
	ORG./CONTRACTOR	PHONE NO.	ORG./CONTRACTOR	PHONE NO.
	Equilon Pipeline	836-3216		

PRIORITY

- ☐ EMERGENCY
- ☒ URGENT
- ☐ ROUTINE

VALUE ENGINEERING	DRAWDOWN CRITICAL	ROM ESTIMATE
☐ VEP (MANDATORY)	☐ YES	$ 3,000
☐ VECP (VOLUNTARY)	☐ NO	

DESCRIPTION:

PROBLEM / EXISTING CONFIGURATION

Insufficient data and control available to perform safe and reliable pipeline operations to/from DOE's Strategic Petroleum Reserve Bayou Choctaw facility. Currently, no Supervisory Control And Data Acquisition (SCADA) information for pipeline deliveries or receipts is transmitted/received between DOE's Bayou Choctaw facility and Equilon's Control Center in Houston. In order to meet Equilon's minimum requirements for line integrity, the following data points are requested: TOTAL NET FLOW RATE - Analog (4-20ma) signal from DOE to Equilon ranged 0-24,000 bph; INDIVIDUAL NET METER COUNTS - Three pulsed signals (one per meter) from DOE to Equilon - one pulse per barrel; MAIN DELIVERY VALVE (BC20B) and KICKER VALVE (BC20R1 & BC20R2) STATUS - Two bit status for each valve from DOE to Equilon, valve states are as follows: 10 - Open, 01 - Closed, 11 - Travel, 00 - Error; ESD CONTROL - Dry contact signal from Equilon to DOE to initiate an automatic, controlled shutdown of the facility including closure of valves listed above.

PROPOSED SOLUTION / ENHANCEMENT

Equilon Pipeline Company will provide engineering, labor, and funds to install Belden M-1076A cabling from Equilon's Bayou Choctaw block-valve site to D.O.E.'s control building. The cabling configuration will allow for one analog signal from DOE's prover flow computer (Total Flow Rate), three discrete signals from DOE's meter panel (Individual Meter Counts), six discrete signals from DOE's DCS (Open/Close valve status for valves BC20B, BC20R1, BC20R2), and one "dry contact" discrete signal from Equilon's Control Building to DOE's DCS (ESD signal).

Please see attached Equilon drawing SD-33079-00 for details.

All work shall be performed in accordance with the National Electric Code and IEEE regulations and guidelines.

REASON / JUSTIFICATION

Equilon Pipeline Company is currently unable to ensure line integrity on the Redstick pipeline during batch movements between Sugarland and Bayou Choctaw. In addition, during receipts from DOE to the Redstick pipeline, there are currently no provisions for isolating the pipeline in the event of an emergency, i.e.- pipeline leak. As a prudent pipeline operator, Equilon requires the ability to shutdown the source of the incoming oil and isolate the pipeline in case of an emergency.

CI'S AFFECTED

TECHNCIAL ANALYSIS/RECOMMENDATION

IMPLEMENTATION METHOD

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

ENGINEERING	DATE	DOE SSR	DATE	
Robert J. Smith	04/11/99		4/12/99	☒ CONCUR w/comment ☐ NONCONCUR

D-655

STRATEGIC PETROLEUM RESERVE
ENGINEERING CHANGE PROPOSAL
SOFTWARE, HARDWARE, FIRMWARE CHANGE

CONTRACTOR CHANGE NUMBER	REVISION NUMBER	ECP NUMBER	PAGE
74-013			3 OF

SOFTWARE CHANGE ANALYSIS	HARDWARE/SOFTWARE AFFECTED (NOTE: REDLINE CI BOM)
This change will require hardware and software revisions to the FRSI DCS. In order to allow Equilon to status and control equipment connected to the site control system.	Software CI #'s 4-1.10.3.1

DISPOSITION OF PARTS

☐ REWORK SITE COMPONENTS ONLY ☐ REWORK ALL SITE COMPONENTS ☐ COMPONENTS NOT AFFECTED

☐ OTHER (DESCRIBE)

COMPONENT COMPATIBILITY (LIST COMPONENTS SEPARATELY IF COMPATIBILITY'S ARE DIFFERENT)

☐ INTERCHANGEABLE ☐ DRAWDOWN COMPATIBLE ☐ NONCOMPATIBLE

OPCS SUPPORT ENGINEER	DATE	FUNCTIONAL MANAGER	DATE
		Deborah S. Hajem	4/15/99

IMPLEMENTATION / TEST COMMENTS

WITNESSED BY			DATE
TEST APPROVED BY	DATE	CHANGE RELEASE AUTHORITY	DATE

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Item ID: 431192 (Current)

D-655

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
	74-013		☒ CLASS I ☐ CLASS II PAGE 2 OF

FUNCTIONS AFFECTED

YES/NO	ITEM
NO	LEVEL I ☐ LEVEL II ☐ CRITERIA
NO	PERFORMANCE CRITERIA
NO	RAM
~~NO~~ yes	INTERFACE CHARACTERISTICS
NO	I/O POINTS
NO	DOE LEVEL I, II, III SCHEDULES
NO	GUARANTEES/DELIVERABLES
NO	SAFETY/ENV/FP (CIRCLE ONE)
NO	SECURITY REQUIREMENTS
~~NO~~ yes	OPCS SOFTWARE
~~NO~~ yes	OPCS HARDWARE
NO	OPCS FIRMWARE
NO	SETPOINTS/RANGES
NO	DIP SWITCH SETTINGS/JUMPERS
NO	MASTER CI LIST
NO	WELLHEAD CONFIGURATION
NO	SPARES/PROVISIONING REQUIREMENTS
NO	GOVERNMENT FURNISHED EQUIPMENT
NO	ENERGY USAGE
NO	OPERATIONS MODELS
NO	OTHER
	DOCUMENTS AFFECTED
	ITEMS
	PIPING
NO	101 - PROCESS FLOW DIAGRAMS
NO	102 - MECHANICAL FLOW DIAGRAMS
NO	103 - PIPING AND INSTRUMENTATION DIAGRAMS (P&ID'S)
NO	104 - UTILITY FLOW DIAGRAMS
NO	105 - GENERAL PIPING PLANS
NO	106 - AREA PLANS (MECHANICAL EQUIPMENT LOCATION)
NO	122 - WELL HEAD DRAWINGS
NO	123 – WELL COMPLETION CONFIGURATION DRAWINGS
NO	130 - VALVE LIST
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 PLANS AND DETAILS
NO	305 - LIGHTING PLANS AND DETAILS
NO	307 - SUBSTATION PLANS AND DETAILS

DOCUMENTS AFFECTED

YES/NO	ITEM
	ELECTRICAL (cont'd)
NO	308 - WIRING DIAGRAMS
NO	310 - GROUNDING
NO	311 - CONDUIT & CABLE SCHEDULES (INCLUDING INST.)
NO	313 - MCC/SWITCH GEAR ELEVATION & SCHEDULE
NO	315 - CATHODIC PROTECTION
NO	350 - STANDARDS
	INSTRUMENTATION
~~NO~~ yes	401 - BLOCK DIAGRAM
~~NO~~ yes	402 - LOOP DIAGRAMS
~~NO~~ yes	403 - INSTRUMENT PLANS AND DETAILS
NO	404 - INSTRUMENT WIRING DIAGRAM
~~NO~~	409 - INSTRUMENT INDEX
NO	450 - STANDARDS
	MAPPING
NO	501 - ALIGNMENT SHEETS
NO	509 - PIPELINE DRWGS (MAINLINE VALVES, DRIPS, SCRAPER, TRAPS, ETC.)
NO	550 - STANDARDS
	ARCHITECTURAL
NO	720 - ELEVATIONS AND FLOOR PLANS
NO	750 - STANDARDS
	DOCUMENTATION
NO	900 - RESERVED
NO	901 - TECHNICAL/PERFORMANCE/DESIGN CRITERIA
~~NO~~ yes	910 - DESIGN DESCRIPTION/BASIS
NO	911 - PROCESS SET POINT DOCUMENTS
NO	912 - EQUIPMENT LIST
NO	913 - MOV LIST
NO	915 - ELECTRICAL SAFETY
NO	920 - I/O DOCUMENT
~~NO~~ yes	930 - OPERATIONS MANUALS
NO	930 - MAINTENANCE MANUALS
NO	950 - STANDARD SPECIFICATIONS
NO	970 - TASK SPECIFICATIONS
NO	990 - CONFIGURATION MANAGEMENT REPORTS/I.B.O.M.

COMMENTS:

ENGINEERING	DATE	CONFIGURATION MANAGEMENT	DATE
		[signature]	4/1/99

Dyn McDermott EH 4/6/99

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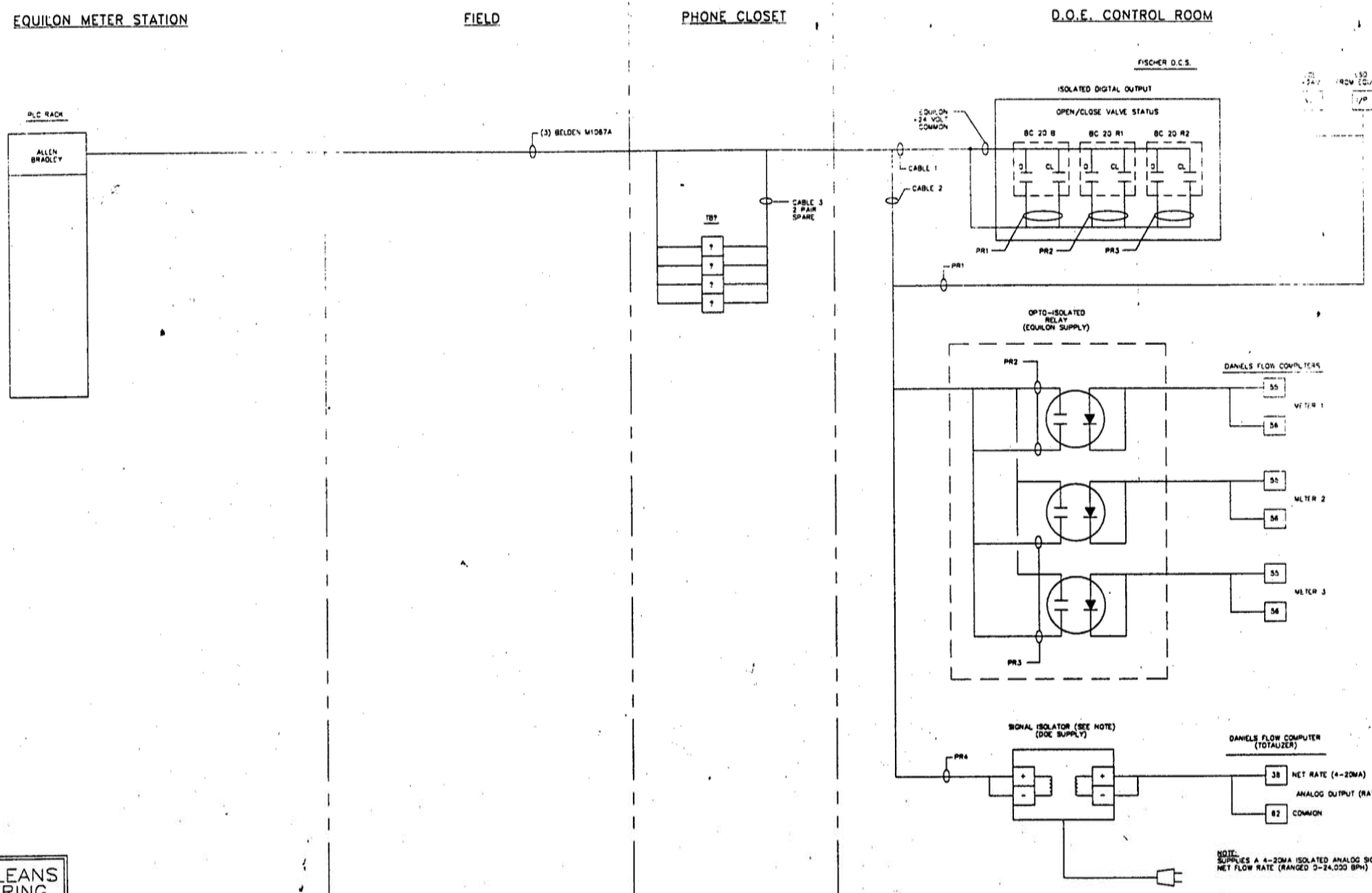

EW ORLEANS
ENGINEERING

DATE	DESCRIPTION OF REVISION	CE NO	BY	ELEC	MECH	APP	REV	DATE	DESCRIPTION OF REVISION	CE NO	BY	ELEC	MECH	APP
							00	04/08/99	FOR APPROVAL W/2					

RED STICK PIPELINE

EQUILON PIPELINE COMPANY LLC

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CONTROL PANEL SCHE
D.O.E. CONTROL RO
BAYOU CHOCTAW FA

SCALE	NONE	DATE	
DRAWN	Bill Lowry	4/99	SD