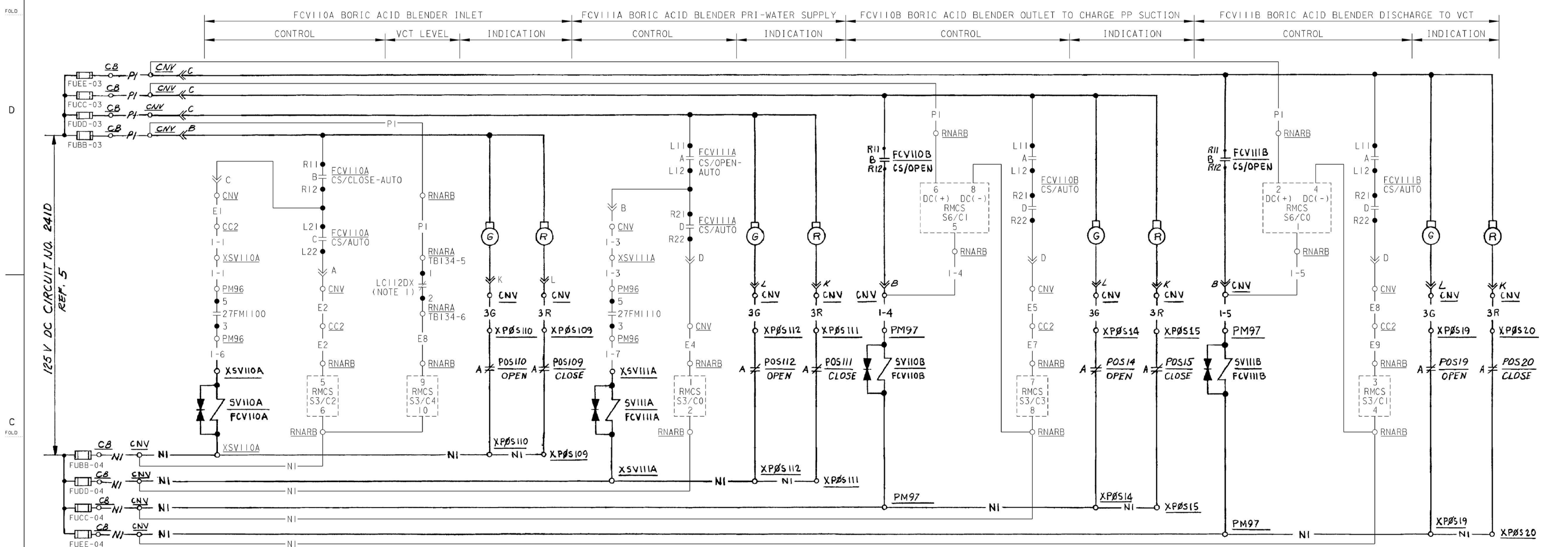
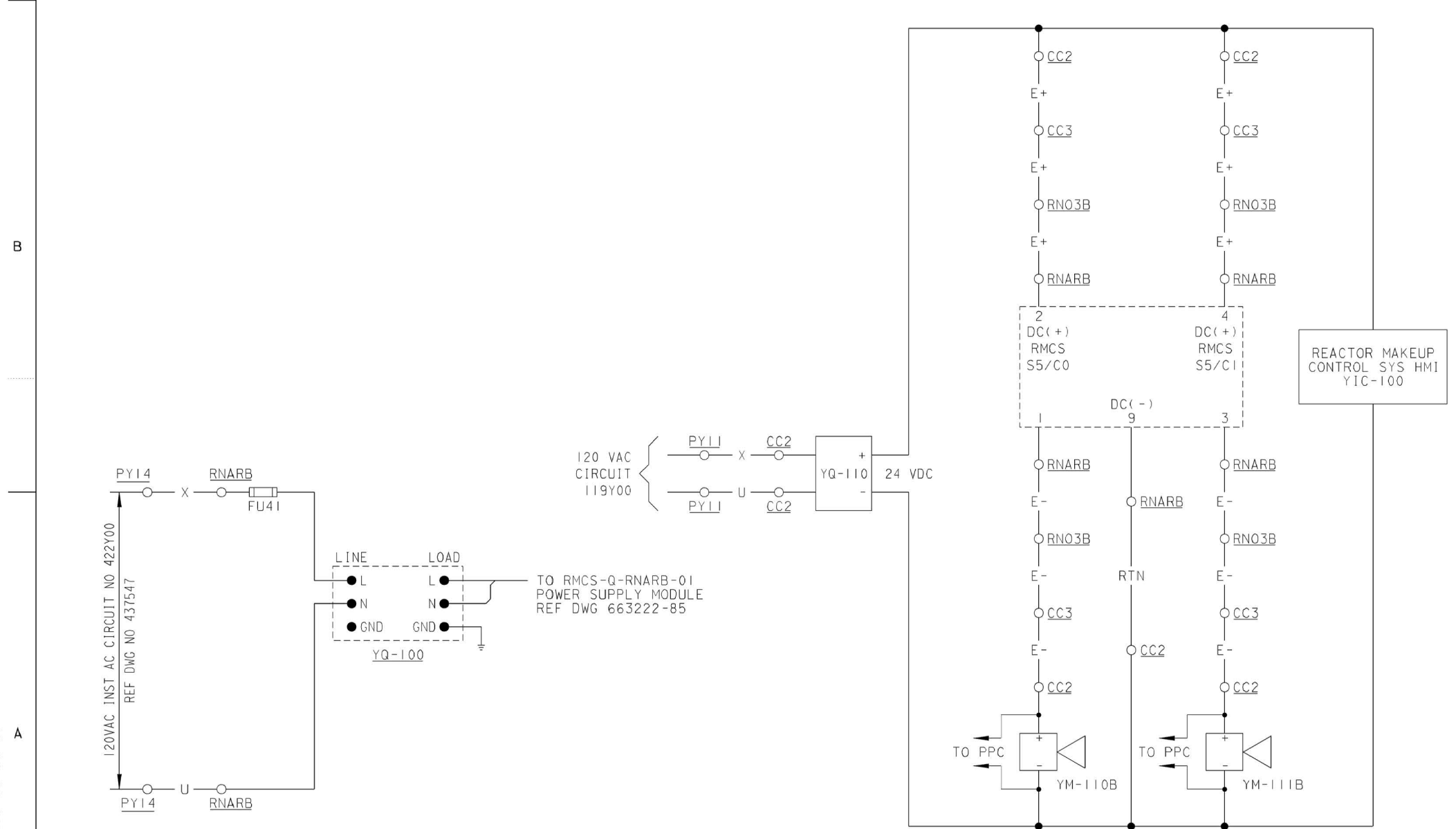




REACTOR COOLANT MAKE-UP SYSTEM CONTROL CIRCUIT



REACTOR COOLANT MAKE-UP SYSTEM VALVES



BORIC ACID AND DEMIN WATER BATCH INTEGRATOR TONE GENERATOR CIRCUIT

TABLE OF DEVICES

MANUF DEV NO	PC&E DEV NO	FUNCTION	RATING	HFG	TYPE	CAT DWG NO	REMARKS
	3MX4 3MX5	MAKEUP SYS AUX RELAYS	120VAC		W.E. AR	ARR880AR	
	LC112DX	VCT LEVEL CONTROLLER AUX RLY				663193-259	
	SV110A	SOLENOID VALVE FCV-110A	125VDC		ASCO	REF 11	
	SV111A	SOLENOID VALVE FCV-111A	125VDC		ASCO	REF 12	
	SV110B SV111B	SOLENOID VALVES					
	FCV110A	FLOW CONTROL VALVE FCV-110A	125VDC		CCI	REF 11	
	FCV111A	FLOW CONTROL VALVE FCV-111A	125VDC		CCI	REF 12	
	FCV110B FCV111B	FLOW CONTROL VALVE					
	POS---	VALVE POSITION SWITCHES					
	YM-110B	BORIC ACID BATCH INTEGRATOR TONE GENERATOR	24VDC		RTK DB5		
	YM-111B	PRIMARY WATER BATCH INTEGRATOR TONE GENERATOR	24VDC		RTK DB5		
	YQ-110	BORIC ACID BATCH INTEGRATOR 120VAC/24VDC PWB SUPPLY	120VAC		SOLA SDN	SDN-2.5-24-100	
	YQ-100	120VAC LINE FILTER	120VAC		CONTROL CONCEPTS	6012372-55	
	RMCS S3/C0	FCV111A CONTROL SW IN AUTO DI INTO RMCS PLC SLOT 3 /CHANNEL 0			ALLEN BRADLEY	REF 10	
	RMCS S3/C1	FCV111B CONTROL SW IN AUTO DI INTO RMCS PLC SLOT 3 /CHANNEL 1			ALLEN BRADLEY	REF 10	
	RMCS S3/C2	FCV110A CONTROL SW IN AUTO DI INTO RMCS PLC SLOT 4 /CHANNEL 2			ALLEN BRADLEY	REF 10	
	RMCS S3/C3	FCV110B CONTROL SW IN AUTO DI INTO RMCS PLC SLOT 3 /CHANNEL 3			ALLEN BRADLEY	REF 10	
	RMCS S3/C4	YCT LOW LEVEL 145-24% DI INTO RMCS PLC SLOT 4 /CHANNEL 4			ALLEN BRADLEY	REF 10	
	RMCS S4/C0	INTERLOCKS FOR BATP 11 & 12 (3MX5) DO FROM RMCS PLC SLOT 4 /CHANNEL 0			ALLEN BRADLEY	REF 10	
	RMCS S5/C1	START PRI WTR PP 11 & 12 (3MX4) DO FROM RMCS PLC SLOT 5 /CHANNEL 1			ALLEN BRADLEY	REF 10	
	RMCS S5/C0	PULSE OUTPUT FOR CHIME YM110B & PPC DO FROM RMCS PLC SLOT 5 /CHANNEL 0			ALLEN BRADLEY	REF 10	
	RMCS S5/C1	PULSE OUTPUT FOR CHIME YM111B & PPC DO FROM RMCS PLC SLOT 5 /CHANNEL 1			ALLEN BRADLEY	REF 10	
	RMCS S6/C0	ENERGIZE SV111B DO FROM RMCS PLC SLOT 6 /CHANNEL 0			ALLEN BRADLEY	REF 10	
	RMCS S6/C1	ENERGIZE SV110B DO FROM RMCS PLC SLOT 6 /CHANNEL 1			ALLEN BRADLEY	REF 10	
	27FM1100	FCV110A VLV CONTROLLER UV RLY	24VDC		OMRON	REF 11	
	27FM1110	FCV111A VLV CONTROLLER UV RLY	24VDC		OMRON	REF 12	

FUNCTION ABBREVIATIONS:

PLC-PROGRAMMABLE LOGIC CONTROLLER
DI-DIGITAL INPUT
DO-DIGITAL OUTPUT
RMCS-REACTOR MAKEUP CONTROL SYSTEM
BATP-BORIC ACID TRANSFER PUMP

NOTE:

1. BORIC ACID BATCH INTEGRATOR CONTACT CLOSED BELOW PRESET QUANTITY.

EQUIPMENT LOCATION NUMBERS

CC2 CONTROL CONSOLE - DEMINERALIZER & MAKE-UP WATER
CNV CONTROL BOARD - CHEMICAL & VOLUME CONTROL
RNARA RACK NUCLEAR - AUXILIARY RELAY CUBICLE A
RNARB RACK NUCLEAR - AUXILIARY RELAY CUBICLE B
XSV110A INSTRUMENT SV110A (LOCAL MOUNTED)
RNARB NUCLEAR RACK, AUXILIARY RELAY CUBICLE B
PM96 MECHANICAL PANEL 96

REFERENCE DRAWINGS

- DESCRIPTION OF ELECT. SCHEMATIC DIAG. SYMBOLS & CKT. DESIGNATIONS-DWG.#050003
- EQUIPMENT LOCATION NUMBERS-DWG.#101900
- PIPING SCHEMATIC - CHEMICAL & VOLUME CONTROL SYSTEM-DWG.#102008
- INSTRUMENT SCHEMATIC - MULTIVARIABLE INSTRUMENT SYSTEMS-DWG.#102036
- SINGLE LINE METER & RELAY-125 VDC-DWG.#145075
- SCHEMATIC DIAGRAM - CHEMICAL & VOLUME CONTROL SYSTEM-SHEET 2-DWG.#437597
- SINGLE LINE METER & RELAY DIAG. - INSTR. A.C. SYSTEM-DWG.#437549
- Ⓢ ELEMENTARY DIAGRAMS-REC.#663193
- MAIN ANNUNCIATOR SCHEMATIC-DWG.#501127
- MAKEUP BATCH INTEGRATOR FUNCTIONAL REQUIREMENTS-DWG.#663195-28
- CCI VENDOR MANUAL FOR FCV-110A-DWG.#6012372-61
- CCI VENDOR MANUAL FOR FCV-111A-DWG.#6012372-62

CONTACTS	POSITIONS			REMARKS
	CLOSE	AUTO	OPEN	
L11, L12 A	X			SPARE
R11, R12 B	X	X		THIS DWG
L21, L22 C		X	X	THIS DWG
R21, R22 D			X	SPARE

CONTROL SWITCH FCV110A
CS
USED AT LOCATION CNV
NO SPRING RETURN

CONTACTS	POSITIONS			REMARKS
	CLOSE	AUTO	OPEN	
L11, L12 A		X	X	THIS DWG
R11, R12 B			X	SPARE
L21, L22 C	X			SPARE
R21, R22 D	X	X		THIS DWG

CONTROL SWITCH FCV111A
CS
USED AT LOCATION CNV
NO SPRING RETURN

CONTACTS	POSITIONS			REMARKS
	CLOSE	AUTO	OPEN	
L11, L12 A		X	X	THIS DWG
R11, R12 B			X	THIS DWG
L21, L22 C	X			SPARE
R21, R22 D	X	X		THIS DWG

CONTROL SWITCH FCV110B
CS, FCV111B
CS
USED AT LOCATION CNV
NO SPRING RETURN.

CONTACT	POSITION	REMARKS	
		CLOSE	OPEN
-A	X	X	RED LT. RED LT.
-B	X		SPARE
-C		X	SPARE
-D	X		SPARE

VALVE CLOSE POSITION SWITCH

CONTACT	POSITION	REMARKS	
		CLOSE	OPEN
-A	X		GREEN LT.
-B	X		SPARE
-C	X		SPARE
-D		X	SPARE

VALVE OPEN POSITION SWITCH

KEY DWG. SECTION 4

VALVE NO's: FCV110A, FCV110B, FCV111A, FCV111B
UNIT 1

DATE 03-05-2014 D.D. LCB1 R.E. RxG2 J.V. FAZI P.E. N/A	REVISION DESCRIPTION REVISED PER DFT-7*2503	ELECTRICAL SCHEMATIC REACTOR COOLANT MAKE-UP CONTROL DIABLO CANYON POWER PLANT PACIFIC GAS AND ELECTRIC COMPANY SAN FRANCISCO, CALIFORNIA	DWG SCALE: BILL OF MATL: SUPDS: SUPSD BY: DRAWING 437596 SHEET 1 PAGE 0 REV 15
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