



CONTACT NUMBER	VALVE POSITION		FUNCTION
	FULL OPEN	FULL CLOSED	
LS1			BY-PASS CKT
LS2			SPARE
LS3			IND LIGHT
LS4			OPEN LIMIT
LS5			BY-PASS CKT
LS6			SPARE
LS7			IND LIGHT
LS8			SPARE
LS9			SPARE
LS10			SPARE
LS11			SPARE
LS12			SPARE
LS13			SPARE
LS14			SPARE
LS15			SPARE
LS16			SPARE

(NOTES 3 & 4 (CONTACTS LS9-LS12) CAN BE SET AT VALVE POSITION FULL OPEN, FULL CLOSED, OR ANY POSITION IN BETWEEN AS INDICATED BY POINTS A & B)

LEGEND:

- TS17 - CLOSING TORQUE SWITCH INTERRUPTS CONTROL CIRCUIT IF MECHANICAL OVERLOAD OCCURS DURING CLOSING CYCLE OR VALVE IS FULLY CLOSED
- TS18 - OPENING TORQUE SWITCH INTERRUPTS CONTROL CIRCUIT IF MECHANICAL OVERLOAD OCCURS DURING OPENING CYCLE

PUMP VALVE & CONTROL TABULATION		INDICATOR LAMPS		LOCATION
REF DESIG	DESCRIPTION	SWITCH	RED	
E91-1007	NO VALVE INBOARD STEAM SUPPLY LINE ISOL	51	X	X
E91-1008	NO VALVE OUTBOARD STEAM SUPPLY LINE ISOL	52	X	X
E91-1009	NO VALVE STEAM TO TURBINE	53	X	X
E91-1010	NO VALVE PUMP SUCTION FROM CHDS STORAGE TANK	54	X	X
E91-1011	NO VALVE RCIC INJECTION SHUTOFF	55	X	X
E91-1012	NO VALVE PUMP DISCHARGE	56	X	X
E91-1013	NO VALVE TEST COV TO CHDS STORAGE TANK	57	X	X
E91-1014	NO VALVE RCIC TURBINE COOLING WATER SUPPLY	58	X	X
E91-1015	NO VALVE MIN FLOW TO SUPPLY POOL	59	X	X
E91-1016	NO VALVE PUMP SUCTION FROM SUPPLY POOL	60	X	X
E91-1017	AD VALVE (INBOARD) STEAM LINE DRAIN ISOL	51A	X	X
E91-1018	AD VALVE CHDS PUMP DISCH ISOL (INBOARD)	51A	X	X
E91-1019	AD VALVE STEAM LINE CHDS DRAIN ISOL	51B	X	X
E91-1020	BAROMETRIC CHDS CONDENSATE PUMP	51C	X	X
E91-1021	BAROMETRIC CONDENSER VACUUM PUMP	51D	X	X
E91-1022	AUTO ISOLATION SIGNAL RESET	51E	X	X
E91-1023	TURBINE TRIP	51F	X	X
E91-1024	RCIC INITIATION SIGNAL RESET	51G	X	X
E91-1025	REACTOR HIGH WATER LEVEL SIGNAL RESET	51H	X	X
E91-1026	MANUAL STEAM ISOLATION	51I	X	X
E91-1027	NO VALVE TURBINE EXH TO SUPPLY POOL	52	X	X
E91-1028	AUTO ISOLATION SIGNAL RESET	52A	X	X
E91-1029	TURBINE TRIP AND THROTTLING VALVE	52B	X	X
E91-1030	AD VALVE (OUTBOARD) STEAM LINE DRAIN ISOL	51B	X	X
E91-1031	AD VALVE CHDS PUMP DISCH ISOL (OUTBOARD)	51B	X	X
E91-1032	MANUAL INITIATION	52	X	X
E91-1033	RCIC DIV 1 MOV IN TEST	53	X	X
E91-1034	RCIC DIV 2 MOV IN TEST	54	X	X
E91-1035	NO VALVE TURB EXHAUST VAC BKR	530	X	X
E91-1036	NO VALVE VAC PUMP DISCH TO SUPPLY POOL	524	X	X
E91-1037	NO VALVE TURB EXHAUST VAC BKR	529	X	X
E91-1038	AD VALVE WARM-UP LINE ISOLATION	531	X	X
E91-1039	RCIC DIV 1 OUT OF SERVICE	528	X	X
E91-1040	RCIC DIV 2 OUT OF SERVICE	539	X	X

GENERAL ELECTRIC 791E421A

RCIC SYSTEM

FCF: 235A131AE 6/82 (E91-1040)

OVERALL REVISION 12

NOTES:

- SEE FIG. 1 FOR DC MOTOR CONTROL UNIT, CONNECTIONS TO BE SPECIFIED BY AE.
- SEE FIG. 2 FOR DC MOTOR CONTROL CENTER AND VALVE OPERATOR CIRCUIT CONNECTIONS.
- SUPPLIED WITH TURBINE E91-1002.
- SEAL-IN REQUIRED IN RUN MODE.
- INC. ADJ. TWO CONDUCTOR CABLE TO BE RUN IN FIELD UP TO PCCG TERMINATION CABINET.
- SEE FIG. 3 SH 9 FOR POWER DISTRIBUTION BUS.
- INTRA PANEL PROCESS INSTRUMENTATION (A-20MA) SIGNAL LEADS SHALL BE BUNDLED & ROUTED SEPARATELY FROM A.C. POWER WIRING.
- WIRE AND CABLEING SHALL BE PER REF. NO. 12.
- SWITCH & LIGHT CONTACTS SHALL BE ENCLOSED IN A METAL CONTAINER & WIRE SHALL BE RUN IN CONDUIT TO AN ENCLOSED TERMINAL BOX WITHIN PANEL.
- PROVIDE SEPARATE CIRCUIT FROM DISTRIBUTION PANEL FOR INVERTER.
- INDICATING LIGHTS ARE PER 1959/86 & SUPPLIED WITH PANEL UNLESS OTHERWISE NOTED.
- UNLESS OTHERWISE INDICATED, THE FOLLOWING REFERENCE DESIGNATIONS SHOWN ON THIS DIAGRAM ARE PREFIXED WITH E91-:

LEGEND:

REF DESIG	NAME	REF DESIG	NAME
CDX	CAPACITOR	RXX	RESISTOR
DSXX	FUSE	DSXX	INDICATING LIGHT
KXX	RELAY	DSXX	SIGNAL RESISTOR UNIT
SWX	SWITCH	CRX	DIODE
XX	PCCG LINE CODE (SEE LEGEND)		

LAMPS TO BE IN LAMP BOX LOCATED BELOW REGULAR MCC ANNUNCIATOR LEGEND AS SHOWN.

SWITCH TO BE LOCATED BELOW LAMP BOX.

SEE INDIVIDUAL VALVE CIRCUITS (BACK SHEETS) FOR APPLICATION TO REF. 16.

VALVE HAS ONLY 2 LIMITORQUE SWITCHES.

VALUES:

- ALL MOTOR OPERATED VALVES SHALL HAVE STATUS LIGHTS IN THE CONTROL ROOM AS FOLLOWS:
- RED ON FOR OPEN POSITION
- RED AND AMBER ON FOR INTERMEDIATE POSITION
- AMBER ON FOR CLOSED POSITION

VALVE MOTORS ARE TO BE PROVIDED WITH OVERLOAD TRIPS & ALARMS. IN ADDITION, VALVE MOTOR CIRCUITS ARE TO BE PROVIDED WITH SHORT CIRCUIT PROTECTIVE TRIPS.

ONE KEYLOCK SWITCH REQUIRED PER SYSTEM AND DIVISION. THE NUMBER OF 95 RELAYS IS BASED ON THE NUMBER OF MCC UNITS PER CABINET AND THE NUMBER OF SYSTEMS PER CABINET, I.E. ONE OR MORE RELAYS PER SYSTEM WITH CONF. 27 UTILIZATION AS FOLLOWS:

- ONE CONTACT PER MCC VALVE UNIT FOR OVERLOAD PROTECTION.
- ONE CONTACT PER 95 RELAY FOR ALARM LIGHT.

LIGHTS ARE JAY-EL MARK II WITH INTEGRAL TEST SWITCH, 120 VAC NEON LAMPS SUPPLIED WITH PANEL PER 1916/83.

BAROMETRIC CONDENSER VACUUM TANK CONDENSATE PUMP: WHEN WATER LEVEL REACHES PUMP START LEVEL, CLOSING WHEN WATER LEVEL REACHES HI-LEVEL, ALARM HI2 CLOSE: 12 OPENS WHEN WATER LEVEL FALLS TO 6" BELOW HI-LEVEL, ALARM HI2 OPENS WHEN THE WATER LEVEL IS 6" BELOW PUMP START LEVEL.

TO 95 RELAYS IF REQUIRED, IN OTHER MCC COMPARTMENTS CONTAINING STARTERS OR VALVES FROM THE SAME SYSTEM AND DIVISION.

SWITCH IS NOT PART OF LIMITORQUE VALVE CONTROL.

SEE BECHTEL DWG FOR INTERCONNECTION TO REMOTE SHUTDOWN PANEL.

ALL PCCG SUPPLIED CABLES ARE E91-1, UNLESS OTHERWISE SPECIFIED.

FIELD WIRING

TERMINAL BLOCKS AND WIRING WITHIN PANEL HI2-P616 (DIV. 2) CONNECTING TO PANEL HI2-P621 (DIV. 1) AND VICE VERSA, MUST BE SEPARATED BY A MINIMUM OF 6 INCHES FROM ALL OTHER DIV. 1 TERMINAL BLOCKS AND WIRING.

(NOTES CONTINUED AT ZONE L-11)

M.P.E. NOS.

REFERENCE DOCUMENTS

1. B21-1010 NUCLEAR BOILER P & ID
2. B21-1010 NUCLEAR BOILER P & ID
3. E91-1010 REACTOR CORE ISOLATION COOLING SYS. P & ID
4. E91-1010 REACTOR CORE ISOLATION COOLING SYS. P & ID
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UNCONTROLLED DOCUMENT

8856-M- E91-90(1)-73 74 15

SHIELDED TWISTED PAIR CABLEING IS SUPPLIED AS PART OF PCCG WIRING IN ANNUNCIATOR CIRCUIT. THE SHIELD ARE TO BE GROUNDED AT THE REMOTE ELECTRONICS.

ANNUNCIATOR TO ALARM ON OPENING CONTACT.

TO BE SPECIFIED AND SUPPLIED BY AE FOR UNIT #1 ONLY.

LINE CODES: NONE THIS SHEET

LAST USED: 174

APERTURE CARD

4-8-82

APED DRAWING REVIEW

COMMENTS AS CHECKED BELOW

NO COMMENTS

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FORWARDED BY DATE

REVIEWED BY DATE

BECHTEL JOB NO. 8856

San Francisco

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