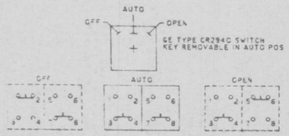
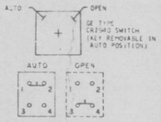




SWITCH DESIG	CONT	SH NO.
S58	1 - 2	13
	3 - 4	11
	5 - 6	11
	7 - 8	SP
S59	1 - 2	13
	3 - 4	11
	5 - 6	11
	7 - 8	SP
S510	1 - 2	13
	3 - 4	11
	5 - 6	11
	7 - 8	SP
S511	1 - 2	13
	3 - 4	11
	5 - 6	11
	7 - 8	SP
S515	1 - 2	13
	3 - 4	11
	5 - 6	11
	7 - 8	SP
S517	1 - 2	13
	3 - 4	11
	5 - 6	11
	7 - 8	SP
S518	1 - 2	13
	3 - 4	11
	5 - 6	11
	7 - 8	SP
S519	1 - 2	13
	3 - 4	11
	5 - 6	11
	7 - 8	SP
S520	1 - 2	13
	3 - 4	11
	5 - 6	11
	7 - 8	SP

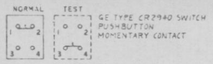
SWITCH DESIG	CONT	SH NO.
S521	1 - 2	13
	3 - 4	12
	5 - 6	12
	7 - 8	SP
S522	1 - 2	13
	3 - 4	12
	5 - 6	12
	7 - 8	SP
S523	1 - 2	13
	3 - 4	12
	5 - 6	12
	7 - 8	SP
S524	1 - 2	13
	3 - 4	2
	5 - 6	2
	7 - 8	SP
S525	1 - 2	13
	3 - 4	12
	5 - 6	12
	7 - 8	SP
S526	1 - 2	13
	3 - 4	12
	5 - 6	12
	7 - 8	SP
S527	1 - 2	13
	3 - 4	12
	5 - 6	12
	7 - 8	SP
S528	1 - 2	13
	3 - 4	12
	5 - 6	12
	7 - 8	SP
S529	1 - 2	13
	3 - 4	12
	5 - 6	12
	7 - 8	SP

SWITCH DESIG	CONT	SH NO.
S1A	1 - 2	SP
	3 - 4	9
S2A	1 - 2	SP
	3 - 4	9
S3A	1 - 2	SP
	3 - 4	9
S4A	1 - 2	SP
	3 - 4	9
S6A	1 - 2	SP
	3 - 4	9
S7A	1 - 2	SP
	3 - 4	9
S16A	1 - 2	SP
	3 - 4	9

SWITCH DESIG	CONT	SH NO.
S1B	1 - 2	SP
	3 - 4	10
S2B	1 - 2	SP
	3 - 4	10
S3B	1 - 2	SP
	3 - 4	10
S4B	1 - 2	SP
	3 - 4	10
S6B	1 - 2	SP
	3 - 4	10
S7B	1 - 2	SP
	3 - 4	10
S16B	1 - 2	SP
	3 - 4	10

SWITCH DESIG	CONT	SH NO.
S12A	1 - 2	5
	3 - 4	SP
	5 - 6	5
	7 - 8	SP

SWITCH DESIG	CONT	SH NO.
S12B	1 - 2	5
	3 - 4	SP
	5 - 6	5
	7 - 8	SP

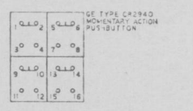


SWITCH DESIG	CONT	SH NO.
S36A	1 - 2	5
	3 - 4	SP

SWITCH DESIG	CONT	SH NO.
S36B	1 - 2	5
	3 - 4	SP

CONTACTS	COLLAR POSITION DISARMED N	DISARMED D	ARMED N	ARMED D
1A-1NO	0	1	0	1
1B-1NO	0	0	1	1
2B-2NO	0	1	1	1

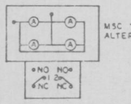
N = NORMAL
O = OPEN
D = DEPRESSED
X = CLOSED



SWITCH DESIG	CONT	SH NO.
S13A	1 - 2	5
	3 - 4	SP
	5 - 6	5
	7 - 8	SP
	9 - 10	5
	11 - 12	SP
	13 - 14	SP
	15 - 16	SP

SWITCH DESIG	CONT	SH NO.
S13B	1 - 2	5
	3 - 4	SP
	5 - 6	5
	7 - 8	SP
	9 - 10	5
	11 - 12	SP
	13 - 14	SP
	15 - 16	SP

SWITCH DESIG	CONT	SH NO.
S30A	1A-1NO	5
	1B-1NO	5
	2B-2NO	13
S30B	1A-1NO	5
	1B-1NO	5
	2B-2NO	14
S31A	1A-1NO	5
	1B-1NO	5
	2B-2NO	15
S31B	1A-1NO	5
	1B-1NO	5
	2B-2NO	14



SWITCH DESIG	CONT	SH NO
S37A	1NO-C	13
	1NC-C	SP
	2NO-C	13
	2NC-C	SP
S37B	1NO-C	14
	1NC-C	SP
	2NO-C	14
	2NC-C	SP

PRC
APERTURE
CARD

George Boghosian
Mike Schildroth
Ed Hubner
Julian Dacanay
Bob Colicchio
E. Michaelis
Jack Carey

NUCLEAR SAFETY RELATED
PER: 158/178AF GE (832-1060)

OVERALL REVISION 4

SHEET	SUMMARY
1	4
2	4
3	4
4	4
5	1
6	4
7	1
8	4
9	4
10	4
11	4
12	4
13	4
14	4
15	4

INDEX

SH.	CONTENTS
1	GENERAL INFO & SWITCH TABULATIONS
2,3	RELAY TABULATIONS
4	POWER DISTRIBUTION & THERMOCOUPLE IDENTIFICATION
5	RELAY LOGIC
6	RELAY/ANALOG CIRCUIT
7	RELAY/ANALOG CIRCUIT
8	RELAY/ANALOG CIRCUIT
9	ADS VALVES
10	ADS VALVES
11	SAFETY/RELIEF VALVES
12	SAFETY/RELIEF VALVES
13	ANNUNCIATORS
14	ANNUNCIATORS
15	COMPUTER INPUTS

NOTES:
1. UNLESS OTHERWISE NOTED ALL DEVICE NUMBERS SHALL BE PREFIXED WITH BZIC-

REF DESIG	VALVE	REF DESIG	VALVE
FXX	FUSE		
KXX	RELAY	ZXX	TRIP LOOP FILL
SXX	SWITCH		
JXX	JACK		
DSXX	INDICATOR LIGHTS		
ATXX	ISOLATOR		

2. ALL THERMOCOUPLES ARE COPPER CONSTANTAN, GROUNDED TYPE.
3. PINS 1 & 2 ARE ALSO 5 & 6 ARE JUMPERED IN TEST PLUG, REF 8.
4. SEE REF 9 FOR ISOLATOR POWER.
5. SEE REF 6 FOR DEVICE & WIRING SEPARATION REQUIREMENTS.
6. ALL VALVES HAVE THREE SOLENOID COILS 'A', 'B', & 'C'.
7. UNLESS OTHERWISE NOTED, ALL INDICATING LIGHTS ARE GE TYPE ET16 AND SUPPLIED WITH PANEL.
8. SEE REF 13 FOR REMOTE SHUTDOWN REQUIREMENTS.
9. LAMPS TO BE LOCATED BELOW ADS ANNUNCIATORS.
10. THESE LIGHTS ARE GE TYPE ET27 NEON WITH 91A RLBZ, 220K OHM RESISTOR AND CLEAR LENS CAP.
11. VALVES ARE MASTER SPECIALTY CO. DEVICES WITH 1 SIGNAL TEST SWITCH (120 VOLT AC) LAMPS & 2 ARE SUPPLIED WITH PANEL.
12. REFERS TO USE LOCKING SPRINGS.
13. LOADS ARE STEADY STATE MAXIMUM LOADS.
14. SEE NOTE 8 FOR ISOLATOR POWER.
15. ALARMS TO BE RETRANSMITTED TO SCP COMPUTER PER REF 13.
16. SOE POINTS TO BE RETRANSMITTED TO SCP COMPUTER PER REF 14 AND NSS COMPUTER PER REF 15.

PER GE LETTER NMP2-2671 DATED MAY 7, 1974, GE SHOULD PROVIDE MS 10H SERIES

REFERENCE DRAWINGS:

REF. NO.		
1.	822-1010	NUCLEAR BOILER P&ID.
2.	728-1030	NUCLEAR BOILER P&ID.
3.	136E3524	TEST SWITCH ASM.
4.	822-1012	SPECIAL WIRE & CABLE SPEC REV 2.
5.	151E679	NUCLEAR POWER PLANTS PROTECTION SYSTEMS.
6.	822-1050	SEPARATION FOR PROTECTION SYSTEMS ELECTRICAL EQUIP.
7.	822-1010	NUCLEAR BOILER SYSTEM P&ID DATA.
8.	122-1052	RESIDUAL HEAT REMOVAL SYS ELEM DIAG (E12A).
9.	821-1050	LOW PRESS. CORE SPRAY SYS ELEM DIAG (E21A).
10.	651-1050	HIGH CORE FLOW ECCS SYSTEM ELEM DIAG (E13A).
11.	551-1120	REMOTE SHUTDOWN SYSTEM ELEM DIAG (C49).
12.	822-1040	NUCLEAR BOILER P&ID DATA.
13.	SEE LOOP DIAGRAM 21HC3 PLANT COMPUTER I/O ALARM
14.	SEE LOOP DIAGRAM 22HC4 PLANT COMPUTER I/O SOE
15.	C91-4030 PROCESS COMPUTER I/O LIST

LEGEND:
- LOCATION USED ONLY WHEN NECESSARY FOR CLARITY
- XXXX — PART NUMBER OR TERMINAL NUMBER
- SYSTEM NUMBER OR TERMINAL BOARD IDENT
- MATCH NUMBER
- ZONE
- SHEET NUMBER
- MATCH CIRCLE
- XXX — INDICATES PLUG LINE CODE WHEN REQUIRED
- INDICATES CONNECTION TO GROUND BUS
- PROCESS COMPUTER INPUT
- DX — NUCLEAR SAFETY RELATED CLASS 1E X = DIV NO. (1E, 1,2,3 OR 4)
- N — NON SAFETY RELATED

LINE CODES: NONE THIS SH. LAST NO. USED = 220

NO.	REVISION	BY	DATE
0	ANC-1026		4-3-1937
1	NE37078 NE37088 NE37165		7-1-33 7-1-37 3-5-38
2	NE33378 CHKD BY [illegible]		7-8-38

SEE REVISION CONTINUATION

NUCLEAR BOILER SYSTEM — SAN JOSE — 2 SH 1

12 CHK'D BY W.BURT — 13 — CI

D

A 5225.16A

STONE & WEBSTER ENGINEERING CORPORATION
NINE MILE POINT NUCLEAR STATION - UNIT 2
NIAGARA MOHAWK POWER CORPORATION
J. O. 12177

MANUFACTURER'S DRAWING DATA FORM

- ✓ INSTRUCTIONS TO SUPPLIER (E2)
- ✓ COMMENTS AS NOTED
- APPROVED — AS DEFINED IN SPECIFICATION
- APPROVED AS REVISED
- RELEASED FOR FABRICATION
- RELEASED FOR MATERIAL PURCHASE

SUPPLIER TO RESUBMIT — QNTY:
- REVISED PRINTS
- REVISED MICROFILM APERTURE CARDS
- FOR REVIEW
- FOR RECORD
- NONE REQUIRED

NOTES:

NAME
RESP ENG. M. MEMMOTT (E1)
RESP DES ENG. B. RUSSELL (E1)

- ✓ INSTRUCTIONS TO DESIGN (E1)
- I-O INFORMATION ONLY
- P-L PRELIMINARY LAYOUT
- P-S PRODUCTION STUDIES
- ✓ R&C REVIEW AND COMMENT
- F-D FINAL DETAILS
- NEW NEW
- ✓ REV. REVISED

DATE TO DESIGN (C) 11-10-80 | REQUIRED RETURN DATE (E1)

(E1) ✓ FOR INFORMATION ONLY — RETURN TO SUPPLIER NOT REQUIRED

DESIGN ENGINEER'S DATE STAMP (D) IN: NOTED NOV 12 1980 B.Russell

INSTRUCTIONS TO DESIGN (CIRCLE) (E1): I-O P-L P-S R&C F-D NEW REV.

DESIGN GROUP ROUTING (D)

DESIGN ENGINEER'S DATE STAMP (D) OUT: NOTED NOV 20 1980 B.Russell

INITIALS OF SELECTED REVIEWERS: See Sepia

RESPONSIBLE ENGINEER'S DATE STAMP (E2) NOTED JAN 19 1981 J.Carey

ROUTE ✓		REQUIRED PRINT	REQUIRED MAC	RVW *
	ARCHITECTURE			
	CIVIL			
	CONCRETE			
	STEEL			
	BUILDING SERVICE			
	INSTRUMENT			
	MECHANICAL			
	PIPE SUPPORT			
	STRESS			
	MACHINE DESIGN/VESSEL			
	LIGHTING			
	MODEL SHOP			
	EXTENSION OFFICE			
	CONTROL			

3. SUPERSEDES S&W FILE NO. (E1) (25-34) (35-38): 0 0 0 7 5 1 2 0 1 0 1 8 C
REMARKS (C) (LIMIT TO 22 CHARACTERS & BLANKS) (53-74): See 9.21.3-001- T-1076
S&W EQUIP. I.D. CODE (E1) (25-36): 2 A D S
AREA DESIGNATION CODES (E1) (75-80): SH
2. MFR'S. DWG. NO. (C) (LIMIT TO 24 CHARACTERS & BLANKS) (37-60): 807E155TY Rev 3 Sh 1
MFR'S. NAME (C) (LIMIT TO 22 CHARACTERS & BLANKS) (61-80): General Electric
1. DATE REC'D (C): MONTH 11 DAY 07 YR 80 — SOE (31) — DWG TYPE (E1): C — MAX DAYS IN DESIGN (E1) (32-33): 10
FUNCTIONAL TITLE (E1) (LIMIT TO 44 CHARACTERS & BLANKS) (37-80): ELEM DIAG AUTO DEPRESS SYS SH 1 OF 15
DUP. S&W FILE NO. (E1) (11-20) (21-24): 0 0 0 7 5 1 2 0 0 1 0 1 8 0
JOB ORDER NO. 12177 00 (25-30)

NOTED NOV 12 1980 B.Russell — C.P.K. — S.R.

(C) PROJECT CLERK
(D) RESP. DESIGN ENGINEER
(E1) RESP. ENGINEER-ON DWG RECEIPT
(E2) RESP. ENGINEER-AFTER DWG REVIEW
MAC-MICROFILM APERTURE CARD
* RVW-REVIEWER INITIALS

(M) ATTACH TO MFR'S. DRAWING