EIS IDENT: ST-UP RGE DET OR CONT SYS — GENERAL ELECTRIC — 828E235AA

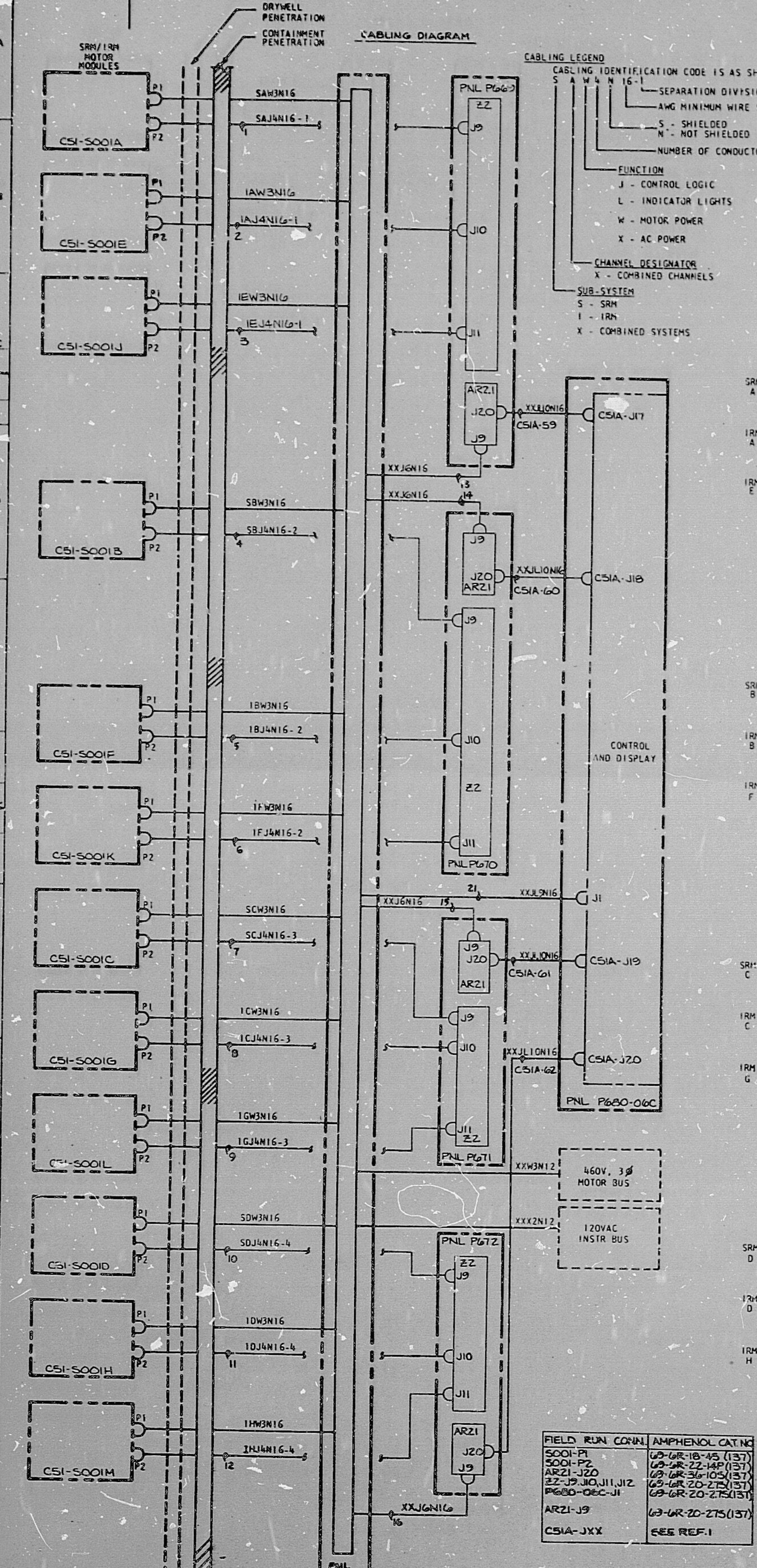
TITLE ELEM DIAG
START-UP RGE DET DRIVE CONT SYS
FIRST MADE FOR RIVER BEND 1&2 18N506804

OVERALL REVISION 7

SHEET	REV
1	7
2	7
3	7
4	7
5	7
6	7
7	4

FCF: 283X225AA G1&G2 (C51-1050)

NUCLEAR SAFETY RELATED



DRYWELL PENETRATION
CONTAINMENT PENETRATION
CABLING DIAGRAM
SRM/IRM MOTOR MODULES
CABLING LEGEND
CABLING IDENTIFICATION CODE IS AS SHOWN
S A W 4 N 16-1
SEPARATION DIVISION (IF ANY)
AWG MINIMUM WIRE SIZE
S - SHIELDED
N - NOT SHIELDED
NUMBER OF CONDUCTORS
FUNCTION
J - CONTROL LOGIC
L - INDICATOR LIGHTS
W - MOTOR POWER
X - AC POWER
CHANNEL DESIGNATOR
X - COMBINED CHANNELS
SUB-SYSTEM
S - SRM
I - IRM
X - COMBINED SYSTEMS
C51-S001A
C51-S001E
C51-S001J
C51-S001B
C51-S001F
C51-S001K
C51-S001C
C51-S001G
C51-S001L
C51-S001D
C51-S001H
C51-S001M
PNL P669
PNL P670
PNL P671
PNL P672
CONTROL AND DISPLAY
PNL P680-06C
460V, 3ϕ MOTOR BUS
120VAC INSTR BUS

FIELD RUN CONN.	AMPHENOL CAT. NO.
5001-P1	69-6R-18-45 (137)
5001-P2	69-6R-22-14P (137)
ARZ1-JZO	69-6R-36-10S (137)
ZZ-J9,J10,J11,J12	69-6R-20-27S (137)
P680-06C-J1	69-6R-20-27S (137)
ARZ1-J9	69-6R-20-27S (137)
C51A-JXX	SEE REF.1

GE TYPE CR2810 RELAY TABULATION

9—10	1—2	3—4	5—6	7—8	11—12	13—14
K1 SH.2	K4 SH.2 ▲	SP	IN BUS SH.2	IN BUS SH.2	IN BUS SH.2	S3 IND LT SH.2
K2 SH.2	K7A SH.2	K7C SH.4	K7E SH.3	K7J SH.3	K7G SH.4	K7L SH.4
K3 SH.2	K7B SH.3	K7D SH.4	K7F SH.3	K7K SH.3	K7H SH.4	K7M SH.4
K4 SH.2	K1 SH.2 ▲	SP	OUT BUS SH.2	OUT BUS SH.2	OUT BUS SH.2	S4 IND LT SH.2
K5 SH.2	K7A SH.2	K7C SH.4	K7E SH.3	K7J SH.3	K7G SH.4	K7L SH.4
K6 SH.2	K7B SH.3	K7D SH.4	K7F SH.3	K7K SH.3	K7H SH.4	K7M SH.4

▲ = CONTACT TO BE CONVERTED TO NORMALLY CLOSED POSITION

GE TYPE CR2810 RELAY TABULATION

9—10	1—2	3—4	5—6	7—8
K7A SH.2	MOT MODULE A SH.2	MOT MODULE A SH.2	MOT MODULE A SH.2	S3 & S4 IND LTS SH.2
K7B SH.3	MOT MODULE B SH.3	MOT MODULE B SH.3	MOT MODULE B SH.3	↕
K7C SH.4	MOT MODULE C SH.4	MOT MODULE C SH.4	MOT MODULE C SH.4	
K7D SH.4	MOT MODULE D SH.4	MOT MODULE D SH.4	MOT MODULE D SH.4	
K7E SH.3	MOT MODULE E SH.3	MOT MODULE E SH.3	MOT MODULE E SH.3	
K7F SH.3	MOT MODULE F SH.3	MOT MODULE F SH.3	MOT MODULE F SH.3	
K7G SH.4	MOT MODULE G SH.4	MOT MODULE G SH.4	MOT MODULE G SH.4	
K7H SH.4	MOT MODULE H SH.4	MOT MODULE H SH.4	MOT MODULE H SH.4	
K7J SH.3	MOT MODULE J SH.3	MOT MODULE J SH.3	MOT MODULE J SH.3	
K7K SH.3	MOT MODULE K SH.3	MOT MODULE K SH.3	MOT MODULE K SH.3	
K7L SH.4	MOT MODULE L SH.4	MOT MODULE L SH.4	MOT MODULE L SH.4	
K7M SH.4	MOT MODULE M SH.4	MOT MODULE M SH.4	MOT MODULE M SH.4	S3&S4 IND LTS SH.2

PANEL P669 AR21 (RELAY TABULATION)

		13—14	1 5 5		2 10 6		3 11 7		4 12 8	
SRM A	FULL OUT	K51 SH.2	SP	SP	DS1A SH.2	-	-	SEE SH.5	-	K7A SH.2
	FULL IN	K82 SH.2	SEE SH.5	-	DS1A SH.2	-	C51EC001 SH.2	----	-	K7A SH.2
IRM A	FULL OUT	K83 SH.5	SP	SP	DS2A SH.3	-	-	SEE SH.5	-	K7E SH.3
	FULL IN	K84 SH.5	—	SEE SH.5	DS2A SH.3	-	SP	SP	-	K7E SH.3
IRM E	FULL OUT	K85 SH.5	SP	SP	DS2E SH.3	-	-	SEE SH.5	-	K7J SH.3
	FULL IN	K86 SH.5	—	SEE SH.5	DS2E SH.3	-	SP	SP	-	K7J SH.3

PANEL P670 AR21 (RELAY TABULATION)

		13—14	1 9 5		2 10 6		3 11 7		4 12 8	
SRM B	FULL OUT	K81 SH.5	SP	SP	DS1B SH.3	-	-	SEE SH.5	-	K7B SH.3
	FULL IN	K82 SH.5	SEE SH.5	-	DS1B SH.3	-	C5IEC002 SH.3	----	-	K7B SH.3
IRM B	FULL OUT	K83 SH.5	SP	SP	DS2B SH.3	-	-	SEE SH.5	-	K7F SH.3
	FULL IN	K84 SH.5	—	SEE SH.5	DS2B SH.3	-	SP	SP	-	K7F SH.3
IRM F	FULL OUT	K85 SH.5	SP	SP	DS2F SH.3	-	-	SEE SH.5	-	K7K SH.3
	FULL IN	K86 SH.5	—	SEE SH.5	DS2F SH.3	-	SP	SP	-	K7K SH.3

PANEL P671 AR21 (RELAY TABULATION)

		13—14	1 9 5		2 10 6		3 11 7		4 12 8	
SRM C	FULL OUT	K81 SH.6	SP	SP	DS1C SH.4	-	-	SEE SH.6	-	K7C SH.4
	FULL IN	K82 SH.6	SEE SH.6	-	DS1C SH.4	-	C5IEC003 SH.4	----	-	K7C SH.4
IRM C	FULL OUT	K83 SH.6	SP	SP	DS2C SH.4	-	-	SEE SH.6	-	K7G SH.4
	FULL IN	K84 SH.6	—	SEE SH.6	DS2C SH.4	-	SP	SP	-	K7G SH.4
IRM G	FULL OUT	K85 SH.6	SP	SP	DS2G SH.4	-	-	SEE SH.6	-	K7L SH.4
	FULL IN	K86 SH.6	—	SEE SH.6	DS2G SH.4	-	SP	SP	-	K7L SH.4

PANEL P672 AR21 (RELAY TABULATION)

		13—14	1 9 5		2 10 6		3 11 7		4 12 8	
SRM D	FULL OUT	K81 SH.6	SP	SP	DS1D SH.4	-	-	SEE SH.6	-	K7D SH.4
	FULL IN	K82 SH.6	SEE SH.6	-	DS1D SH.4	-	C5IEC004 SH.4	----	-	K7D SH.4
IRM D	FULL OUT	K83 SH.6	SP	SP	DS2D SH.4	-	-	SEE SH.6	-	K7H SH.4
	FULL IN	K84 SH.6	—	SEE SH.6	DS2D SH.4	-	SP	SP	-	K7H SH.4
IRM H	FULL OUT	K85 SH.6	SP	SP	DS2H SH.4	-	-	SEE SH.6	-	K7M SH.4
	FULL IN	K86 SH.6	—	SEE SH.6	DS2H SH.4	-	SP	SP	-	K7M SH.4

PANEL P669 Z2 (RELAY TABULATION)

	13—14	1 9 5		2 10 6		3 11 7		4 12 8	
SRM A	K7 SH 2	--	SEE SH.5	K82 SH 2	-	SP	SP	SP	SP
IRM A	K18 SH.5	--	SEE SH 5	K84 SH.5	--	SP	SP	SP	SP
IRM E	K28 SH 5	--	SEE SH 5	K86 SH 5	--	SP	SP	SP	SP

PANEL P670 Z2 (RELAY TABULATION)

	13—14	1 9 5		2 10 6		3 11 7		4 12 8	
SRM B	K7 SH.5	-	SEE SH.5	K82 SH.5	-	SP	SP	SP	SP
IRM B	K18 SH.5	-	SEE SH.5	K84 SH.5	-	SP	SP	SP	SP
IRM F	K28 SH.5	-	SEE SH.5	K86 SH.5	-	SP	SP	SP	SP

PANEL P671 Z2 (RELAY TABULATION)

	13—14	1 9 5		2 10 6		3 11 7		4 12 8	
SRM C	K7 SH.6	-	SEE SH.6	K82 SH.6	-	SP	SP	SP	SP
IRM C	K18 SH.6	-	SEE SH.6	K84 SH.6	-	SP	SP	SP	SP
IRM G	K28 SH.6	-	SEE SH.6	K86 SH.6	-	SP	SP	SP	SP

PANEL P672 Z2 (RELAY TABULATION)

	13—14	1 9 5		2 10 6		3 11 7		4 12 8	
SRM D	K7 SH.6	-	SEE SH.6	K82 SH.6	-	SP	SP	SP	SP
IRM D	K18 SH.6	-	SEE SH.6	K84 SH.6	-	SP	SP	SP	SP
IRM H	K28 SH.6	-	SEE SH.6	K86 SH.6	-	SP	SP	SP	SP

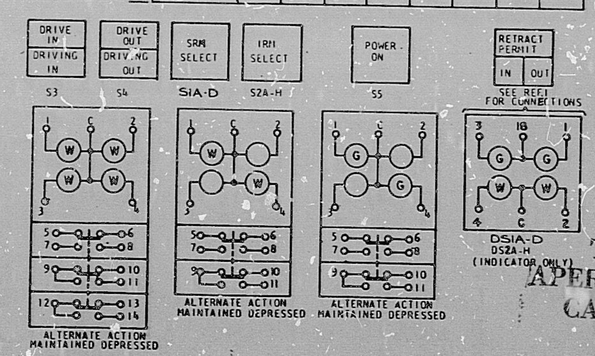


FIG. 1

INDEX

SH NO.	CONTENTS
1.	NOTES, REF DOC, SW DETAILS, RELAY TABS, CABLING DIAGRAM.
2.	SRM CHANNEL A TYPICAL COMPLETE CIRCUIT.
3.	SELECT CIRCUIT & MOTOR PWR DISTR - SRM CHAN B; IRM CHAN A,E,B,F
4.	SELECT CIRCUIT & MOTOR PWR DISTR - SRM CHAN C,D; IRM CHAN C,G,D,H
5.	POSITION SWITCHES & RELAYS - SRM CHAN B; RELAYS CONTACTS TO REF.1 - IRM CHAN A,E,B,F
6.	POSITION SWITCHES & RELAYS - SRM CHAN C,D; RELAY CONTACTS TO REF.1 - IRM CHAN C,G,D,H
7.	TERMINATION CABINET INTERFACE DEFINITION

NOTES:

1. UNLESS PART OF PNLS P669-P672 AND UNLESS OTHERWISE INDICATED, THE FOLLOWING REFERENCE DESIGNATIONS SHOWN ON THIS DIAGRAM ARE PREFIXED WITH C51C-

REFERENCE DESIGNATION	NAME
DSXX	INDICATOR LIGHT
FXX	FUSE
KXX	RELAY
SXX	SWITCH
TXX	TRANSFORMER

EQUIPMENT ON PANELS P669 THRU P672 NOT SHOWN ON ELEM DIAG DEVICE LIST

2. FOR IND LIGHT & SWITCH MARKING SEE FIG. 1
3. PREFIXES FOR PANEL DESIGNATORS ARE AS FOLLOWS: H13-P669, P670, P671, P672, P680; H22-P008
4. (△) LIMIT SWITCHES SHOWN BETWEEN LIMITS. LS1 OPERATES AT FULL OUT POSITION, AND LS4 OPERATES AT FULL IN POSITION.
5. DC POWER DISTRIBUTION FOR ARZ1 AND Z2 IS SHOWN ON REF. 1.
6. UNLESS OTHERWISE SHOWN ALL LINE CODE NO.S ARE PREFIXED WITH C51C-.
7. (△) TERMINATION CABINET INTERFACE DEFINITION SHOWN ON SHEET 7.
8. ERIS SIGNAL LOADING ON C51-1050 SYSTEM SHALL NOT EXCEED .005 VOLTS.
9. ALL ERIS SIGNAL WIRING SHALL BE PER REFERENCE 4 & 5.
10. ALL DIVISIONAL WIRING IDENTIFIED AS (DX) RECEIVES POWER FROM THE REACTOR PROTECTION SYSTEM (MPL C71) AND BELONGS TO THE APPROPRIATE RPS DIVISION. SEE GE DWG 828E531AA SH.1 (C71-1050) NOTE 26 FOR ADDITIONAL INFORMATION.

REFERENCE DOCUMENTS

1. C51-1070 — START UP RANGE NEUTRON MONITORING SYSTEM ELEMENTARY DIAGRAM (C51A).
2. 135B9896 — MOTOR MODULE CONN. DIAGRAM
3. C95-1050 — ERIS ELEMENTARY DIAGRAM
4. A62-4010 — SPECIAL WIRE AND CABLE SPEC.
5. A62-4050 — ELECTRICAL EQUIPMENT, SEPARATION FOR PROTECTION SYSTEMS.

LEGEND

- (E) EMERGENCY RESPONSE INFORMATION SYSTEMS (ERIS)
- MATCH NUMBER / ZONE / SHEET NUMBER
- MATCH CIRCLE (LAST NO. USED: 19)
- Y.XX INDICATES PGCC LINE CODE
- INDICATES MODULE OR CHASSIS GROUND
- INDICATES GROUND BUS
- (DX) CLASS 1E, DIV. X; NUCLEAR SAFETY RELATED; RPS NON-CLASS 1E POWER
- (AX) ASSOCIATED WITH AND TREATED AS CLASS 1E DIV. X; RPS NON-CLASS 1E POWER
- (N) NON-DIVISIONAL, NON-CLASS 1E

LINE CODES: 1-29

LAST LINE CODE USED: 2[illegible]

NJ06151 CHK'D BY: P. SHANNON

ADDED (DFZ) STATUS TO DOC. CAT. 3

D. DENHAM

8412190160

PDR RIDS