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CIC	DESCRIPTION	CT-PT RATIO (A-V)	RELAY DESCRIPTION: DEVICE NO ±	MFR	STYLE OR MODEL #	INSTR BOOK #	MFG CURVE TYPE	RANGE: TAPS	RANGE: INST	DESIGN SETTINGS: ø	TAP	P.U.	TIME LEVER	INST: TAP	INST: P.U.	TEST 1: MULT%	[illegible]	[illegible]
4160V SWG'R "IG"																		
EE-REL-IGS (51) A	IGS REL 51	1200/5	51	GE	IAC-53A	GEH-1788	GES-7002B	4-16	–	A	5	–	5	–	–	100	5A	[illegible]
B										B								
C										C								
EE-REL-IGE (50-51) A	IGE REL 50-51	1200/5	50/51	GE	IAC-53B	GEH-1788		4-16	40-160	A	5	–	5	–	50A	100	5A	[illegible]
B										B								
C										C								
EE-REL-IGE (50G)	IGE REL 50G	50/5	50G	SD	112XAX11G10	BUL-4512	–	–	–	–	[illegible]	–	–	–	–	–	1 VOLT	–
EE-REL-CSPIB (50-50-51) A	CSPIB REL 50-50-51	300/5	50/50/51	GE	IAC-66K	GEK-86722	GES-7004B	1.5-4.5	[illegible]	A	3.0	–	4	[illegible]	[illegible]	100	3.0A	[illegible]
C						GEI-44233	GES-7004	2.5-5.0	[illegible]	C	3.1						3.1A	[illegible]
EE-REL-CSPIB (50G)	CSPIB REL 50G	50/5	50G	SD	112XAX11G10	BUL-4512	–	–	–	–	[illegible]	–	–	–	–	–	1 VOLT	–
EE-REL-RHRPIC (50-50-51) A	RHRPIC REL 50-50-51	300/5	50/50/51	GE	IAC-66K	GEI-44233	GES-7004	2.5-5	[illegible]	A	3.1	–	4	[illegible]	[illegible]	100	3.1A	[illegible]
C										C								
EE-REL-RHRPIC (50G)	RHRPIC REL 50G	50/5	50G	SD	112XAX11G10	BUL-4512	–	–	–	–	[illegible]	–	–	–	–	–	1 VOLT	–
EE-REL-RHRPID (50-50-51) A	RHRPID REL 50-50-51	300/5	50/50/51	GE	IAC-66K	GEI-44233	GES-7004	2.5-5	[illegible]	A	3.1	–	4	[illegible]	[illegible]	100	3.1A	[illegible]
C										C								
EE-REL-RHRPID (50G)	RHRPID REL 50G	50/5	50G	SD	112XAX11G10	BUL-4512	–	–	–	–	[illegible]	–	–	–	–	–	1 VOLT	–
EE-REL-RSWPID (50-50-51) A	RSWPID REL 50-50-51	200/5	50/50/51	GE	IAC-66K	GEI-44233	GES-7004	2.5-5	[illegible]	A	3.5	–	3	[illegible]	[illegible]	100	3.5A	[illegible]
C										C								
EE-REL-RSWPID (50G)	RSWPID REL 50G	50/5	50G	SD	112XAX11G10	BUL-4512	–	–	–	–	[illegible]	–	–	–	–	–	1 VOLT	
EE-REL-RSWPIB (50-50-51) A	RSWPIB REL 50-50-51	200/5	50/50/51	GE	IAC-66K	GEI-44233	GES-7004	2.5-5	[illegible]	A	3.5	–	3	[illegible]	[illegible]	100	3.5A	[illegible]
C										C								
EE-REL-RSWPIB (50G)	RSWPIB REL 50G	50/5	50G	SD	112XAX11G10	BUL-4512	–	–	–	–	[illegible]	–	–	–	–	–	1 VOLT	
EE-REL-SWPID (50-50-51) A	SWPID REL 50-50-51	75/5	50/50/51	GE	IAC-66K	GEI-44233	GES-7004	2.5-5	[illegible]	A	3.1	–	3	[illegible]	[illegible]	100	3.1A	[illegible]
C										C								
EE-REL-SWPID (50G)	SWPID REL 50G	50/5	50G	SD	112XAX11G10	BUL-4512	–	–	–	–	[illegible]	–	–	–	–	–	1 VOLT	
EE-REL-SWPIB (50-50-51) A	SWPIB REL 50-50-51	75/5	50/50/51	GE	IAC-66K	GEI-44233	GES-7004	2.5-5	[illegible]	A	3.1	–	3	[illegible]	[illegible]	100	3.1A	[illegible]
C										C								
EE-REL-SWPIB (50G)	SWPIB REL 50G	50/5	50G	SD	112XAX11G10	BUL-4512	–	–	–	–	[illegible]	–	–	–	–	–	1 VOLT	
EE-REL-SSIG (50-51) A	SSIG REL 50-51	400/5	50/51	GE	IAC-53B	GEH-1788	GES-7002B	4-16	40-160	A	6	–	6	–	107A	100	6A	
C										C								
EE-REL-SSIG (50G)	SSIG REL 50G	50/5	50G	SD	112XAX11G10	BUL-4512	–	–	–	–	NOTE 5					–	1 VOLT	
EE-REL-IGE (32) B	O/P REL 32/IGE	[illegible]	32	BASLER	GEI-32	9-1563-00-990	–	[illegible]	[illegible]		–	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	
EE-REL-IGB (51) A	IGB REL 51	1200/5	51	GE	IAC-53A	GEH-1788	GES-7002B	4-16	–	A	5	–	5	–	–	100	5A	
B										B								
C										C								
4160V SWG'R UNDERVOLTAGE RELAYS																		
EE-REL-(27-ET4)	U/V 27-ET4	4200/120	27/ET4	ABB	TYPE 27N	IB7.4.1.7-7	[illegible]	70-120	–	–	[illegible]	121.15	5	–	–	[illegible]	[illegible]	
EE-REL-(27-ET2)	U/V 27-ET2		27/ET2	GE	IAV-54E	GEH-1768		55-140		–	82		1.5	–	–	100	82V	
EE-REL-(27-IG1)	U/V 27-IG1		27/IG1	GE							82		1.5				82V	
EE-REL-(27-IG2)	U/V 27-IG2		27/IG2	ABB	TYPE 27N	IB 7.4.7.1-7		60-110			[illegible]	111.4V	5	–	–	[illegible]	[illegible]	
EE-REL-(27-IGB1)	U/V 27-IGB1		27/IGB1	GE	IAV-54E	GEH-1768		55-140			82		2	–	–	100	82V	
EE-REL-(27-IGB2)	U/V 27-IGB2		27/IGB2	ABB	TYPE 27N	IB 7.4.7.1-7		60-110			[illegible]	111.4V	5	–	–	[illegible]	[illegible]	
EE-REL-(59-ET6)	U/V 59-ET6		59/ET6	ABB	TYPE 59N	IB 7.4.1.7-7		100-150	–	–	[illegible]	[illegible]	–			100	122V	

TOLERANCES FOR RELAYS

[illegible]

NOTES:

[illegible]

* TH

REVISIONS

NO.

FOR PREVIOUS REVISIONS, SEE SUPERSEDED CARDS.

REVISIONS BY N.P.P.D.

NO.	REVISIONS	DFT	CKD	APP	DATE
N26	PM 08213 (DCN 99-0253)	JRN	RHG	KG	10-22-01
N27	SAP ORDER 4171830 (DCN 02-0689)	RAC	RHG	KG	7-30-02
N28	CED 6008662 (DCN 02-0363)	RAC	RHG	KG	8-20-02
N29	CED 6008750 (DCN 02-0390)	JGC	RHG	KG	10-4-02
N30	RCR 2001-1015 (DCN 03-0145)	RAC	RHG	KG	8-27-03

SIGNIFICANT NUMBER

GROUP

J-2

SET POINTS (SECONDARY AMPS)											INST P.U.				DATE SETTINGS LAST CHANGED	REMARKS
EST 2			TEST 3				(FC) TEST 4 (FC)				TEST 5					
	SECS MIN	SECS MAX	MULT%		SECS MIN	SECS MAX	MULT%		SECS MIN	SECS MAX			MIN	MAX		
10A	6.94	7.00	400	20A	1.71	1.83	900	45A	.74	.82	–	–	–	–		
10A	6.94	7.00	400	20A	1.71	1.83	610	30.5A	1.04	1.14	–	50A	45	55		
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		
6.0A	34.41	35.85	400	12.0A	10.28	10.72	800	24.0A	10.25	11.77	STD HD	33m 4.4A	28.1 5.41	37.9 7.59		
6.2A				12.4A				24.8A								
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		
6.2A	34.41	35.85	400	12.4A	10.28	10.72	800	24.8A	10.25	11.77	STD HD	33m 4.4A	28.1 5.41	37.9 7.59		
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		
6.2A	34.41	35.85	400	12.4A	10.28	10.72	800	24.8A	10.25	11.77	STD HD	33m 4.4A	28.1 5.41	37.9 7.59		
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		
7.0A	24.45	25.55	400	14.0A	12.02	13.98	900	31.5A	6.51	7.49	STD HD	35m 7.5A	32.3 6.37	43.7 8.43		
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		
7.0A	24.45	25.55	400	14.0A	12.02	13.98	900	31.5A	6.51	7.49	STD HD	35m 7.5A	32.3 6.37	43.7 8.43		
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		
6.2A	24.05	25.95	400	12.4A	12.0	14.4	970	30A	6.22	7.17	STD HD	35m 7.94	32.7 5.86	40.3 7.94	4/93	
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		
6.2A	24.05	25.95	400	12.4A	12.0	14.4	970	30A	6.22	7.17	STD HD	35m 7.94	32.7 5.86	40.3 7.94	4/93	
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		
12A	8.27	9.13	400	24A	2.02	2.31	860	51.6A	.95	1.03	–	107A	96.3	117.7		
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		
	–	–	–	–	–	–	–	–	–	–	–	–	–	–		
10A	8.27	9.13	400	20A	2.02	2.31	1750	87.5A	.45	.71	–	–	–	–		
D.O. 110.85	9.755	9.251	–	–	–	–	–	–	–	–	–	–			7/02	
73.8V	4.51	5.24	80	65.6V	2.43	2.97	70	57.4V	1.8	2.2	–	–				②
	4.51	5.24			2.43	2.97		57.4V	1.8	2.2						②
D.O. 110.97	9.755	9.251	–	–	–	–	–	–	–	–						
73.8V	5.47	6.93	80	65.6V	2.34	2.24	70	57.4V	2.05	2.75						②
D.O. 110.97	9.755	9.251	–	–	–	–	–	–	–	–						
121.3	112.6	122.6	–	–	–	–	–	–	–	–	–	–			3/93	TEST 2 IS FOR RESET FUNCTION

ALL RELAY TESTS ARE ACCORDING TO MANUFACTURER'S INST BOOKLETS. IN ALL CASES, SET UP TESTING EQUIPMENT ACCORDING TO THE INST BOOKLET AND TEST WITH RECOMMENDED TEST POINTS ON THE E150 DRAWINGS. DESIGN SETTINGS GIVEN FOR IAC-TYPE RELAYS ARE SELECTED TO PROVIDE FOR CORRECT PERFORMANCE OF AND TO GIVE TEST READINGS AS LISTED FOR A NORMALLY OPERATING RELAY. IF COMPONENTS ARE AGING AND RELAY CANNOT BE ADJUSTED BY NORMAL PROCEDURES TO TEST VALUES LISTED, SETTINGS MAY BE FIELD MODIFIED AS NECESSARY TO ACHIEVE LISTED TEST VALUES.

ABBREVIATIONS:

P.U. – PICK UP
D.O. – DROP OUT
F.C. – FAULT CURRENT (OR HIGHEST CURRENT SEEN BY TIME DELAY ELEMENT.)
G.E. – GENERAL ELECTRIC
S.O. – STRUTHERS DUNN

AS BUILT
452001080

CADD DRAWING
DO NOT REVISE MANUALLY

NG GENERATED BY NPPD

DRAWN	DATE
RAC	11/6/97
CHECKED	DATE
APPROVED	DATE
FILMED	

BURNS & ROE*

NUCLEAR STATION
SETTINGS FOR
OV BUS "1G"

E150 SH 9

REVISION N30

CADD FILE: C0023609