

LIST OF APPARATUS			
DEVICE NO.	TYPE	DESCRIPTION	OPER. BY
3	MC	MASTER RELAY	D.C.
4	32-CX2	MASTER CONTACTOR	D.C.
6	42-CX2	STARTING CONTACTOR	D.C.
8	NA	CONTROL POWER SWITCH	HAND
19	30CX	TRANSITION RELAY (START TO RUN)	D.C.
27	CV	A.C. UNDERVOLTAGE RELAY	A.C.
39X	31-CS2	FIELD REDUCING CONTACTOR (EXCITER)	D.C.
39Y	30CX	" " " (GENERATOR)	D.C.
39Z	30CX	" " " (REGULATOR CUT OUT)	D.C.
42	45FO	RUNNING BREAKER	D.C.
42X	30CX	" " AUX RELAY	D.C.
43	W	TRANSFER SWITCH	HAND
48	TD	INCOMPLETE SEQUENCE RELAY	D.C.
49A	TA-2	A.C. THERMAL RELAY (STARTING MOTOR)	A.C.
49B	TA-2	" " " (MAIN MOTOR)	A.C.
49X	MC	" " AUX. RELAY	D.C.
51	CO	A.C. OVERCURRENT RELAY	A.C.
51X	SC	" " AUX. RELAY	A.C.
52		A.C. LINE OIL CIRCUIT BREAKER	D.C.
52T		" " " " " TRIP COIL	D.C.
51-O		" " " " " CONTROL RELAY OP. COIL	D.C.
51-R		" " " " " " " REL. COIL	D.C.
59	CV	A.C. OVERVOLTAGE RELAY	A.C.
59Y	CV	" " AUX. RELAY	A.C.
84	CV	GENERATOR RELAY	A.C.
84X	MC	" AUX. RELAY	D.C.
86	MA	LOCKING OUT RELAY	D.C.
86X	SG	" " AUX. RELAY	D.C.
90	APIZ	VOLTAGE REGULATOR	A.C.

[illegible]

RES.	TYPE	LENGTH INCHES	OWMS	STYLE No.	REQ.
R3	S	10	1250	285455 -A	1
R4B				NEWARK	1
R27	CAGE		3,000	NEWARK	1
R39	S	10	100	204562-A	1
R42	S	10	700	301112-A	1
R42X	S	10	700	301112-A	1
R59	CAGE		10,000	NEWARK	1
R59Y	CAGE		10,000	NEWARK	1
R84	CAGE		7,000	NEWARK	1
R84X	S	10	2,500	275158-A	1
R92X	S	10	2,500	275158-A	1
RE	S	10	17	943767	2
RG	M	14	7.1	525180	2
RR	M	16	43	389079	1
RMR	S	10	4800	484263-A	1
R86X	S	10	4,800	484263-A	1
R151Y(S)	S	6	2,000	230019 -A	1
R151Y(T)	S	10	600	245120-A	1
R186				NEWARK	1
R186X	S	10	2,500	275158-A	1

RES.	TYPE	LENGTH INCHES	OHMS	STYLE NO.	REQ.
R243	S	10	4800	484263-A	3
R251				NEWARK	3
RGM	CAGE			NEWARK	3
RVM	CAGE		15100	NEWARK	1
R227X	CAGE		1200	NEWARK	3
R3A	S	10	2500	275158-A	1

7/2/38	2	E. J.			FOR INSTRUC. BOOK
12-21-37	1	J.W.		F.W.H.	FOR CONSTRUCTION
DATE	ISSUE	APPROVAL	REMARKS		

THE PENNSYLVANIA RAILROAD
EASTERN ELECTRIFICATION
SAFE HARBOR SUBSTATION
SIGNAL SCHEMATIC DIAGRAM
SHEET "D"
PHILADELPHIA, PENNA.
No. 1401D

W. S. Austin
ASST. MGR.-CHIEF OF MOTIVE POWER

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