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 AUTH. NAME AUTHOR AFFILIATION
 WHITE, L.D. Rochester Gas & Electric Corp.
 RECIP. NAME RECIPIENT AFFILIATION
 ZIEMANN, D.C. Operating Reactors Branch 2

SUBJECT: Responds to request for info re Tech Spec changes. Forwards
 dc single line diagram, maint procedures M-38.6 & 38.7,
 Revision 1 & aperture cards of drawings SS-241-041-045,
 w/oversize drawing. **- See DRAWINGS -**

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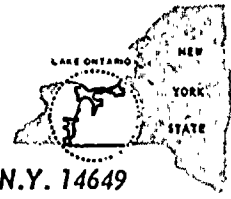
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LEON D. WHITE, JR.
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August 10, 1979

REGULATORY DOCKET FILE COPY

Director of Nuclear Reactor Regulation
Attention: Mr. Dennis L. Ziemann, Chief
Operating Reactors Branch No. 2
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Subject: Technical Specification Changes for the Inclusion of
Two 75 Amp Battery Chargers
R. E. Ginna Nuclear Power Plant
Docket No. 50-244

Dear Mr. Ziemann:

In response to a request for information from a member of the NRC Staff, Mr. Sang Rhew, the following letter and enclosures are submitted.

1. Three copies and one aperature card of the dc single line (33013-756) diagram showing all four battery chargers, the transfer switch and the ac safeguards sources are enclosed.
2. Maintenance procedures M-38.6 and M-38.7, Revision 1, are being enclosed. A review of these procedures will show that separation between the two safeguards trains, A and B, has been maintained on both the dc and the ac 480 volt systems, when the two 75 amp chargers are tied together. In 1979, Revision 1 of these two procedures was written to incorporate a key lock on the Battery Charger Tie Switch (1A1 to 1B1).
3. Aperature card copies of drawings SS-201-041 through 045 are enclosed. These drawings are the motor control center summary listings. A review of these listings will show that the MCC units referenced on the dc single line diagram are supplied as follows: MCC 1K is fed from MCC 1C, which is fed from safeguards bus 14, train A; and MCC 1J is fed from MCC 1D, which is fed from safeguards bus 16, train B.

I hope that the above information, drawings and procedures will answer all your questions pertaining to the "75 Amp Battery Charger" technical specification change.

*Acc 1
S 1/3*

L.D. White, Jr.
L. D. White, Jr.
8908200346

*Drawings To
Reg File (1cy)
J.J. Shea (2cys)
1 set of Aperature
Cards - J.J. Shea*

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GINNA STATION

CONTROLLED COPY NUMBER

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GINNA STATION
UNIT #1
COMPLETED

DATE :-

TIME :-

PROCEDURE NO. M-38.6 REV. NO. 1

1A BATTERY CHARGER MAINTENANCE OR REPAIR

TECHNICAL REVIEW

FORC 2/19/79

TR Schulz
Q/C REVIEW

2/23/79
DATE

APPROVED FOR USE

B. J. [Signature]
PLANT SUPERINTENDENT

2-24-79
DATE

QA ☒ NON-QA ☐ CATEGORY ☐

LIFETIME ☐ NONPERMANENT ☐

REVIEWED BY ☐ DATE ☐

THIS PROCEDURE CONTAINS 3 PAGES

REC. CENTRAL RECORDS DATE ☐

DISP. DATE ☐

M-38.61A BATTERY CHARGER MAINTENANCE OR REPAIR1.0 PURPOSE:

1.1 To provide the steps to maintain or repair the 1A battery charger.

2.0 REFERENCES:

2.1 Westinghouse Rectomatic Self-regulating Battery Charger Instruction Book, I.B. 20-300-05, November 1, 1966.

2.2 Westinghouse Electric Corporation Prints.

2.2.1 Schematic Diagram #3393D55.

2.2.2 Wiring Diagram #3393D56.

2.2.3 Power Supply Regulator With Current Limit Controller Schematic #880D771.

2.2.4 Power Supply Regulator With Current Limit Wiring Diagram #880D772.

3.0 INITIAL CONDITIONS:

3.1 This procedure maybe done at any Plant condition.

3.2 Recommended spare parts are available for repair if needed.

3.3 Battery charger maybe energized for tests required to perform trouble shooting and verification of service operability with proper safety precautions being observed. Steps in conjunction with this may be marked N/A.

3.4 The 1A1 battery charger is in service and capable of accepting rated charging capacity.

NOTE: The 1B1 battery charger maybe transferred to the 1A battery system if needed for additional charge capacity as covered by steps in instructions.

3.5 Notify QC personnel before work commences.

4.0 PRECAUTIONS:

4.1 Proper safety precautions shall be observed while taking test readings when the battery charger is in an energized state of operation.

2 The "A" and "B" battery systems are not to be tied together in any state of operation other than cold shutdown except when given direct permission by the Plant Superintendent.

- 4.3 The 1B1 battery charger maybe transferred to the 1A battery system as required by additional charging capacity desired or duration of 1A charger outage.
- 4.4 When completing instructions, steps are to be completed in exact order or damage to battery chargers will occur.
- 4.5 Holds shall be placed as required in accordance with procedure A-36.
- 4.6 Any replacement parts installed shall be requisitioned in accordance with procedure QC-801.

5.0 INSTRUCTIONS:

- 5.1 Permission has been received from the Shift Foreman to perform maintenance and/or repair of 1A battery charger. _____
- 5.2 If Steps 5.3 thru 5.6 are to be completed, notify the Control Operator that a battery charger failure alarm will be received. _____
- 5.2.1 Obtain key to padlock on Battery Charger Tie 1A1 to 1B1 switch in "A" Battery Room. _____
Shift Foreman Key Issue _____
- 5.3 Open the 1B1 battery charger 480 volt double throw disconnect (dual power feed from MCC 1J - normal feed and MCC 1K emergency feed) in the 1B battery room and place in the "Center - Off" Position. OFF _____
- 5.4 Open and hold swith #6 in the 1B battery main fuse cabinet - Section #2. HELD _____
- 5.5 Unlock padlock and close the 1A1 to 1B1 battery charger tie switch in the 1A battery room. CLOSED _____
- 5.6 Close the 1B1 battery charger 480 volt double throw disconnect (dual power feed from MCC 1J - normal feed and MCC 1K emergency feed) in the 1B battery room to the MCC 1K emergency feed. CLOSED _____
- NOTE: The current may have to be balanced between the 1A1 and 1B1 charger. (To be done by electrician).
- 5.7 Notify the Control Operator that a battery charger failure alarm will be received. _____
- 5.8 Open and hold the 480 volt AC circuit breaker for the 1A battery charger on MCC 1C position 4HH HELD _____
- 5.9 Open and hold the AC circuit breaker on the 1A battery charger. HELD _____
- 5.10 Open and hold switch #1 (1A battery charger) in the 1A battery main DC distribution panel - Section I. HELD _____
- 5.11 Shift Foreman will accept markup if required and log same in Hold Book. MARK UP RECEIVED _____

5.12

Perform maintenance and/or repair as necessary with Westinghouse Instruction Book IB-20-300-05 as guide line.

MAINTENANCE COMPLETE _____

.13

Release markup, if applicable.

MARKED OFF _____

5.14

Remove hold and turn switch #1 (1A battery charger) in the 1A battery main DC distribution panel - Section I to the "ON" position.

ON _____

5.15

Remove hold and turn the AC circuit breaker on the 1A battery charger to the "ON" position.

ON _____

5.16

Remove hold and turn the 480 volt AC circuit breaker for the 1A battery charger on MCC 1C position 4HH to the "ON" position.

ON _____

5.17

If Steps 5.18 thru 5.21 are to be completed, notify the Control Operator that a battery charger failure alarm will be received.

5.18

Open the 1B1 battery charger 480 volt double-throw disconnect (dual power feed from MCC 1J - normal feed and MCC 1K - emergency feed) in the 1B battery room and place in the "Center-Off" position.

OFF _____

5.19

Open the 1A1 to 1B1 battery charger tie switch in the 1A battery room and lock open.

LOCKED OPEN _____

5.19.1

Return key to Shift Foreman for padlock on Battery Charger Tie 1A1 to 1B1 switch in "A" Battery Room.

Key Received by Shift Foreman _____

5.20

Remove hold and turn switch #6 in the 1B battery main fuse cabinet - Section 2 to the "ON" position.

ON _____

5.21

Close the 1B1 battery charger 480 volt double-throw disconnect (dual power feed from MCC 1J - normal feed and MCC 1K - emergency feed) in the 1B battery room to the MCC 1J normal position.

CLOSED _____

NOTE: Charger currents may have to be balanced. (To be done by electrician).

5.22

Complete list of maintenance performed, purchase order number of parts used - if any and attach to procedure.

COMPLETED BY: _____

DATE COMPLETED: _____

QC ENGINEER: _____

ELECTRICIAN FOREMAN: _____

SHIFT FOREMAN: _____

PORC REVIEW DATE: _____

ROCHESTER GAS AND ELECTRIC CORPORATION

GINNA STATION

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DATE :-

TIME :-

PROCEDURE NO. M-38.7 REV. NO. 1

1B BATTERY CHARGER MAINTENANCE OR REPAIR

TECHNICAL REVIEW

FORC 2/19/79

TR Schulz
Q/C REVIEW

2/23/79
DATE

APPROVED FOR USE

Bruce A. Smith
PLANT SUPERINTENDENT

2-24-79
DATE

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LIFETIME _____ NONPERMANENT _____

REVIEWED BY _____ DATE _____

THIS PROCEDURE CONTAINS 3 PAGES

REC. CENTRAL RECORDS DATE _____

DISP. DATE _____

M-38.71B BATTERY CHARGER MAINTENANCE OR REPAIR1.0 PURPOSE:

1.1 To provide the steps to maintain or repair the 1B battery charger.

2.0 REFERENCES:

2.1 Westinghouse Rectomatic Self-regulating Battery Charger Instruction Book, I.B. 20-300-05, November 1, 1966.

2.2 Westinghouse Electric Corporation Prints.

2.2.1 Schematic Diagram #3393D55.

2.2.2 Wiring Diagram #3393D56.

2.2.3 Power Supply Regulator With Current Limit Controller Schematic #880D771.

2.2.4 Power Supply Regulator With Current Limit Wiring Diagram #880D772.

3.0 INITIAL CONDITIONS:

3.1 This procedure may be done at any Plant condition.

3.2 Recommended spare parts are available for repair if needed.

3.3 Battery charger may be energized for tests required to perform trouble shooting and verification of service operability with proper safety precautions being observed. Steps in conjunction with this may be marked N/A.

3.4 The 1B1 battery charger is in service and capable of accepting rated charging capacity.

NOTE: The 1A1 battery charge may be transferred to the 1B battery system if needed for additional charge capacity as covered by steps in instructions.

3.5 Notify QC personnel before work commences.

4.0 PRECAUTIONS:

4.1 Proper safety precautions shall be observed while taking test readings when the battery charger is in an energized state of operation.

4.2 The "A" and "B" battery systems are not to be tied together in any state of operation other than cold shutdown except when given direct permission by the Plant Superintendent.

- 4.3 The 1A1 battery charger may be transferred to the 1B battery system as required by additional charging capacity desired or duration of 1B charger outage.
- 4.4 When completing instructions, steps are to be completed in exact order or damage to battery chargers will occur.
- 4.5 Holds shall be placed as required in accordance with procedure A-36.
- 4.6 Any replacement parts installed shall be requisitioned in accordance with procedure QC-801.

5.0 INSTRUCTIONS:

- 5.1 Permission has been received from the Shift Foreman to perform maintenance and/or repair of 1B battery charger. _____
- 5.2 If Steps 5.3 thru 5.6 are to be completed, notify the Control Operator that a battery charger failure alarm will be received. _____
- 5.2.1 Obtain key to padlock on Battery Charger Tie 1A1 to 1B1 switch in "A" Battery Room. _____
- Shift Foreman Key Issue _____
- 5.3 Open the 1A1 battery charger 480 volt double throw disconnect (dual power feed from MCC 1K - normal feed and MCC 1J emergency feed) in the 1A battery room and place in the "Center - Off" Position. OFF _____
- 5.4 Open and hold switch #5 in the 1A battery main fuse cabinet - Section #2. HELD _____
- 5.5 Unlock padlock and close the 1A1 to 1B1 battery charger tie switch in the 1A battery room. CLOSED _____
- 5.6 Close the 1A1 battery charger 480 volt double throw disconnect (dual power feed from MCC 1K - normal feed and MCC 1J emergency feed) in the 1A battery room to the MCC 1J emergency feed. CLOSED _____
- NOTE: The current may have to be balanced between the 1A1 and 1B1 charger. (To be done by electrician).
- 5.7 Notify the Control Operator that a battery charger failure alarm will be received. _____
- 5.8 Open and hold the 480 volt AC circuit breaker for the 1B battery charger on MCC 1D position 4 MM. HELD _____
- 5.9 Open and hold the AC circuit breaker on the 1B battery charger. HELD _____
- 5.10 Open and hold switch #1 (1B battery charger) in the 1B battery main DC distribution panel - Section I. HELD _____
- 5.11 Shift Foreman will accept markup if required and log same in Hold Book. MARK UP RECEIVED _____

- 5.12 Perform maintenance and/or repair as necessary with Westinghouse Instruction Book 1B-20-300-05 as guide line.
NOTE: See precaution 4.6.

MAINTENANCE COMPLETE _____

- 5.13 Release markup, if applicable. MARKED OFF _____
- 5.14 Remove hold and turn switch #1 (1B battery charger) in the 1B battery main DC distribution panel - Section I to the "ON" position. ON _____
- 5.15 Remove hold and turn the AC circuit breaker on the 1B battery charger to the "ON" position. ON _____
- 5.16 Remove hold and turn the 480 volt AC circuit breaker for the 1B battery charger on MCC 1D position 4MM to the "ON" position. ON _____
- 5.17 If Steps 5.18 thru 5.21 are to be completed, notify the Control Operator that a battery charger failure alarm will be received. _____
- 5.18 Open the 1A1 battery charge, 480 volt double-throw disconnect (dual power feed from MCC 1K - normal feed and MCC 1J - emergency feed) in the 1A battery room and place in the "Center-Off" position. OFF _____
- 19 Open the 1A1 to 1B1 battery charger tie switch in the 1A battery room and lock open. LOCKED OPEN _____
- 5.19.1 Return key to Shift Foreman for padlock on battery charger Tie 1A1 to 1B1 switch in "A" Battery Room.
Key Received by Shift Foreman _____
- 5.20 Remove hold and turn switch #5 in the 1A battery main fuse cabinet - Section 2 to the "ON" position. ON _____
- 5.21 Close the 1A1 battery charger 480 volt double-throw disconnect (dual power feed from MCC 1K - normal feed and MCC 1J - emergency feed) in the 1A battery room to the MCC 1K normal position. CLOSED _____
- NOTE: Charger currents may have to be balanced. (To be done by electrician).
- 5.22 Complete list of maintenance performed, purchase order number of parts used - if any and attach to procedure. _____

COMPLETED BY: _____

DATE COMPLETED: _____

ELECTRICIAN FOREMAN: _____

SHIFT FOREMAN: _____

PORC REVIEW DATE: _____

1 AUX. BLDG. D.C. DIST. PNL. 1B1

SW NO	CIRCUIT	HP OR KW	FUSE CLIP	FUSE SIZE	WIRE SIZE
1	RECOMBINER CONT. PNL. 1B		30	30	10
2	REACTOR TRIP SWGR. BKR. 25/RTS 750/RTA		30	30	10
3	SPACE		60		
4	SPACE		60		
5	SPACE				
6	SPACE				

7 DIESEL GEN. 1B DIST. PNL.

SW NO	CIRCUIT	HP OR KW	FUSE CLIP	FUSE SIZE	WIRE SIZE
1	DIESEL 1B CONT. PNL. (NORM)		30	30	10
2	DIESEL 1A CONT. PNL. (EMERG)		30	30	10
3	SPACE		60		
4	SPACE		60		
5	SPACE				
6	SPACE				

2 CONTROL BD. PNL. 1B

SW NO	CIRCUIT	HP OR KW	FUSE CLIP	FUSE SIZE	WIRE SIZE
1	OCB 767		30	30	*10
2	CONT. BD. CTR. SECT. CIR.*2		30	30	*10
3	CONT. BD. RT. SECT. CIR.*2		30	30	*10
4	CONT. BD. RT. SECT. CIR.*3		30	30	*10
5	4 KV SWGR. BUS 11A U.V. RELAY		30	30	*10
6	SPACE		30	30	*10
7	U.V. RELAY CAB. 1A		30	30	*10
8	RACK RLTR-2		30	30	*10
9	RACK SIB 1		30	30	*10
10	RACK RA2		30	30	*10
11			30	30	*10
12	SPACE		30	30	*10
13	SPACE		30	30	*10
14	CIR. WATER PUMP TRIP		30	30	*10
15	CONT. BD. ANN. MODIF. DWG. 0-241-031 AVT. SAFEW		30	30	*12
16	CONDENSATE DEMINERALIZER CONTROL PNL. ANN. ANN.		30	30	*14
17	SPACE		30	30	*10
18	RCS OVERPRESSURIZATION		30	30	*10
19	SPACE		30	30	*10
20	SPACE		30	30	*10
21	SPACE		60	40	*8
22	SPACE		60	40	*8

8 CONTROL BOARD - PNL. 1A

SW NO	CIRCUIT	HP OR KW	FUSE CLIP	FUSE SIZE	WIRE SIZE
1	OCB 751		30	30	*10
2	MAIN TRANSF		30	30	*10
3	STA. SERV. TRANSF.*11		30	30	*10
4	STA. SERV. TRANSF.*12		30	30	*10
5	CONT. BD. ALARM SYSTEM		30	30	*10
6	CONT. BD. CTR. SECT. CIR.*1		30	30	*10
7	CONT. BD. RT. SECT. CIR.*1		30	30	*10
8	4 KV SWGR. BUS 11B U.V. RELAY		30	30	*10
9			30	30	*10
10	U.V. RELAY CAB. 1B		30	30	*10
11	RACK RLTR-1		30	30	*10
12	RACK SIA 1		30	30	*10
13	RACK RA2		30	30	*10
14	MO. 485 INVERTER (RACK 2A)		30	30	*12
15			30	30	*10
16			30	30	*10
17	CONDENSATE BOOSTER PUMPS RELAY PANEL AVC-5 (DWG. 0-241-205)		30	30	*14
18			30	30	*10
19			30	30	*10
20			30	30	*10
21			60	40	*8
22			60	40	*8

3 NO. 1B BATTERY-MAIN FUSE CABINET

SW NO	CIRCUIT	HP OR KW	FUSE CLIP	FUSE SIZE	WIRE SIZE
1	MAINS 1200A				2-500 MCM
2	*1A BATTERY CHARGER	200	175	4/0	2-500 MCM
3	MAIN DC DIST. PNL. 1B	600	600	2-350 MCM	2-500 MCM
4	NO. 1B BAT. MN. FUSE CAB. SECT. 1	600	600	2-350 MCM	2-500 MCM
5	TIE NO. 1A BATTERY FUSE CAB.	600	600	2-350 MCM	2-500 MCM
6	TURB. BLDG. D.C. DIST. PNL.	600	400	500 MCM	500 MCM
7	SCREEN HSE D.C. DIST. PNL. 1B	200	200	4/0	4/0
8	*1B1 BATTERY CHARGER	200	150	4/0	4/0
9	NO. 1B BAT. MN. FUSE CAB. SECT. 2			2-500 MCM	2-500 MCM

9 NO. 1A BATTERY-MAIN FUSE CABINET

SW NO	CIRCUIT	HP OR KW	FUSE CLIP	FUSE SIZE	WIRE SIZE
1	MAINS 1200A				2-500 MCM
2	*1A BATTERY CHARGER	200	175	4/0	2-500 MCM
3	MAIN DC DIST. PNL. 1A	600	600	2-350 MCM	2-500 MCM
4	NO. 1A BAT. MN. FUSE CAB. SECT. 1	600	600	2-350 MCM	2-500 MCM
5	TIE NO. 1B BATTERY FUSE CAB.	600	600	2-350 MCM	2-500 MCM
6	TURB. EMERG. BRG. OIL PUMP	50	600	500	2-4/0
7	*1A1 BATTERY CHARGER	200	150	4/0	4/0
8	SPACE		200		2-500 MCM
9	NO. 1A BAT. MN. FUSE CAB. SECT. 2			2-500 MCM	2-500 MCM

4 SCREEN HSE. D.C. DIST. PNL. 1A

SW NO	CIRCUIT	HP OR KW	FUSE CLIP	FUSE SIZE	WIRE SIZE
1	480V SWGR. BUS 17 (EMERG)		100	50	G
2	480V SWGR. BUS 1B (NORM)		100	50	G
3	SPACE		60		
4	SPACE		60		
5	SPACE				
6	SPACE				

10 AUX. BLDG. D.C. DIST. PNL. 1A

SW NO	CIRCUIT	HP OR KW	FUSE CLIP	FUSE SIZE	WIRE SIZE
1	MOTOR CONT. CTR. 1E		60	40	8
2	MOTOR CONT. CTR. 1C		60	40	8
3	SI PUMPS CONT. CAB.		60	10	10
4	480V SWGR. BUS 14 (NORM)		100	60	2
5	480V SWGR. BUS 1G (EMERG)		100	60	2
6	SPACE		100		
7	MAIN (LUGS ONLY) 200A				4/0

5 DIESEL GEN. 1A DIST. PNL.

SW NO	CIRCUIT	HP OR KW	FUSE CLIP	FUSE SIZE	WIRE SIZE
1	DIESEL 1A CONT. PNL. (NORM)		30	30	10
2	DIESEL 1B CONT. PNL. (EMERG)		30	30	10
3	SPACE		60		
4	SPACE		60		
5	SPACE				
6	SPACE				

11 MAIN DC. DIST. PNL. 1A

SW NO	CIRCUIT	HP OR KW	FUSE CLIP	FUSE SIZE	WIRE SIZE
1	DIESEL GEN 1A DIST. PANEL		60	60	G
2	MOTOR CONTROL CTR. 1B		60	40	8
3	MOTOR CONTROL CTR. 1H		60	40	8
4	ROD DRIVE M-G SET CONT. PNL.		60		10
5			60		
6	EXCITATION EQUIP. FEED		100	60	G
7	4KV SWGR. BKR. TEST CAB.		100	70	G
8	4KV SWGR. BUS 11A NORM. & 12B EMERG.		100	100	2
9	4KV SWGR. BUS 12A NORM. & 13B EMERG.		100	100	2
10	480V SWGR. BUS 13 NORM & 15 EMERG.		100	100	2
11	SCREEN HSE. DIST. PNL. 1A		100	100	2
12	TURB. DR. AUX. FW. PUMP ST. AD. VLV. 1A		100	60	G
13	ST. GEN. FW. PUMP 1A D.C. OIL PUMP		100	60	G
14	CONT. BD. - LEFT SECTION		100	100	2
15	INVERTER 1A		100		2
16			100		
17	SPACE		100		
18			100		
19	AUX. BLDG. DIST. PNL. 1A		200	200	4/0
20	MAIN (LUGS ONLY) 600A				2-350

6 AUX. BLDG. D.C. DIST. PNL. 1A1

SW NO	CIRCUIT	HP OR KW	FUSE CLIP	FUSE SIZE	WIRE SIZE
1	RECOMBINER CONT. PNL. 1A		30	30	10
2	DRUMMING STA. CONT. PNL.		30	30	10
3	REACTOR TRIP SWGR. UNIT		60		
4	REACTOR RECYCLE & WASTE DISPOSAL CONT. PNL.		30		10
5	SPACE				
6	SPACE				

12 AUX. BLDG. D.C. DIST. PNL. 1B

SW NO	CIRCUIT	HP OR KW	FUSE CLIP	FUSE SIZE	WIRE SIZE
1	AUX. BLDG. VENT. SYSTEM PNL. IND.		30	30	10
2	MOTOR CONT. CTR. 1D		60	40	8
3	GAS ANALYZER CONT. PNL. /BWP		30		10
4	480V SWGR. BUS 1G (NORM)		100	60	2
5	480V SWGR. BUS 14 (EMERG)		100	60	2
6	SPACE		100		
7	MAIN (LUGS ONLY) 200A				4/0

13 TURB. BLDG. D.C. DIST. PNL.

SW NO	CIRCUIT	HP OR KW	FUSE CLIP	FUSE SIZE	WIRE SIZE
1	SPACE		30	30	
2	V.C. EMERG. LIGHTING	15KW	30	30	10
3	HYDROGEN PNL.		60	40	8
4	MOTOR CONT. CTR. 1A (TURB. BLDG.)		60	40	8
5	MOTOR CONT. CTR. 1F (SERV. BLDG.)		60	40	8
6	WATER TREATING PNL.		60	40	8
7	METER STOP TEST BENCH		60	50	G
8	SPACE		60	15	
9	FIRE RELAY PNL.		60	40	8
10	ACCESS HATCH AIR COOLER PENET. TEMP. ALM. PNL.		20		12
11	NUCLEAR SAMPLE PNL.		30	30	10
12	AIR SIDE SEAL OIL BACKUP PUMP	10	100	100	2
13	TURB. DR. AUX. FW. DC. OIL PUMP	5	100	60	G
14	SPACE		100		
15	MAINS (LUGS ONLY) 400A				500 MCM

14 SCREEN HOUSE D.C. DIST. PNL. 1B

SW NO	CIRCUIT	HP OR KW	FUSE CLIP	FUSE SIZE	WIRE SIZE
1	TRAVELLING SCREEN CONT.		30	30	10
2	MOTOR CONT. CTR. 1G		60	40	8
3	SPACE		60		
4	CIRCULATING WATER PUMP 1A DISCH. VLV.	6.6	100	90	2
5	CIRCULATING WATER PUMP 1B DISCH. VLV.	6.6	100	90	2
6	480V SWGR. BUS 1B (EMERG)		100	60	G
7	480V SWGR. BUS 17 (NORM)		100	60	G
8	SPACE		100		
9	MAINS (LUGS ONLY) 200A				4/0

15 MAIN DC. DIST. PNL. 1B

SW NO	CIRCUIT	HP OR KW	FUSE CLIP	FUSE SIZE	WIRE SIZE
1	EMERG. LIGHTING CONT. FM. 1KW		30	30	10
2	FIRE PUMP ISOLATION VALVE		30	30	10
3	ROD DRIVE M-G SET CONTROL PANEL		60		10
4	MOTOR CONTROL CENTER 1U		60	40	8
5	MOTOR CONTROL CENTER 1X		60	40	8
6	TURB. DR. AUX. FW. PUMP DISC. VALVE	2.6	60	40	8
7	SPACE		60		
8	VBM 12BT1352		60	40	8
9	CONT. BD. - RIGHT SECTION		100	100	2
10	4KV SWGR. BUS 11B NORM. & 12B EMERG.		100	100	2
11	4KV SWGR. BUS 12B NORM. & 13B EMERG.		100	100	2
12	480V SWGR. BUS 15 NORM & 16 EMERG.		100	100	2
13	SPACE		100		
14	S.G. FW. PUMP 1B D.C. OIL PUMP	5	100	60	G
15	INVERTER 1B	7.5	100	100	2
16	DIESEL GEN. 1B DIST. PNL.		100	60	G
17	TURB. DR. AUX. FW. PUMP ST. 1B VLV. 1B	4	100	60	G
18	SPACE				
19	AUX. BLDG. D.C. DIST. PNL. 1B		200	200	4/0
20	MAINS (LUGS ONLY) 600A				2-350

NOTE-1 A GROUND DETECTOR IS INCLUDED IN EACH BATTERY CHARGER. THE GROUND DETECTOR ALARMS ONLY.

NOTE-2 CONTROL BOARDS DISTRIBUTION PANELS ARE MOUNTED INTERNALLY WITHIN THE MAIN CONTROL PANEL.

4 SCREEN HSE. DC. DIST. PNL. 1A

SW NO	CIRCUIT	HP OR KW	FUSE CLIP	FUSE SIZE	WIRE SIZE
1					
2					
3					
4					
5					
6					

5 DIESEL GEN 1A DIST. PNL.

SW NO	CIRCUIT	HP OR KW	FUSE CLIP	FUSE SIZE	WIRE SIZE
1					
2					
3					
4					
5					
6					

11 MAIN DC. DIST. PNL. 1A

SW NO	CIRCUIT	HP OR KW	FUSE CLIP	FUSE SIZE	WIRE SIZE
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					

10 AUX. BLDG. DC. DIST. PNL. 1A1

E222	1	2
E224	3	4
	5	6