

# BALTIMORE GAS AND ELECTRIC COMPANY CUSTOMER OWNED SUBSTATION

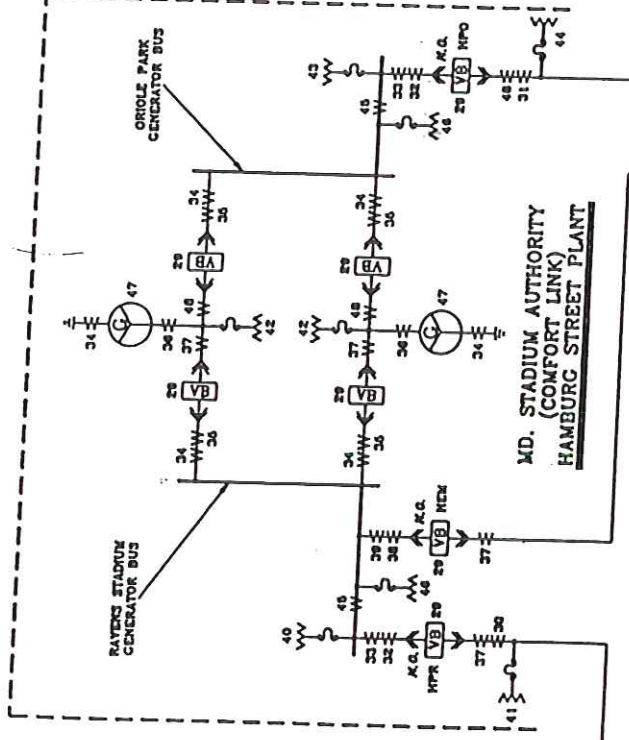
CUSTOMER: STATE OF MARYLAND  
MARYLAND STADIUM AUTHORITY  
ORIOLE PARK AT CAMDEN YARDS  
600 S. EUTAW STREET  
BALTIMORE, MD. 21230

DRAWING ID. NUMBER: 806-2  
SHEET 2 of 4  
REVISION Q-04/14/98

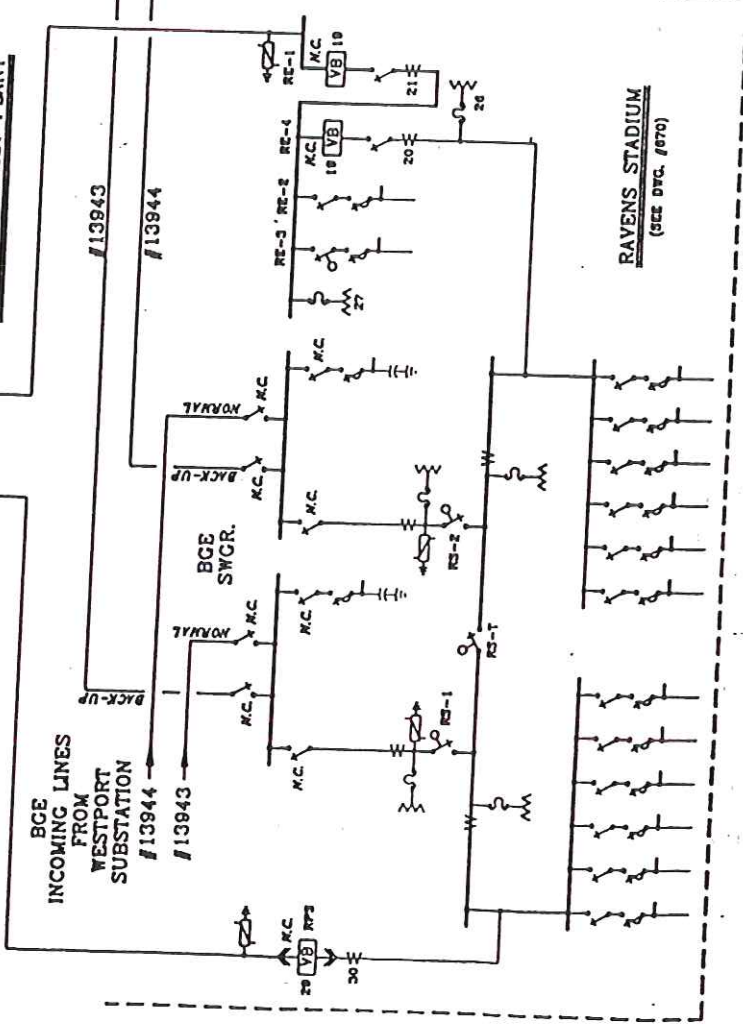
Q-04

Q-04

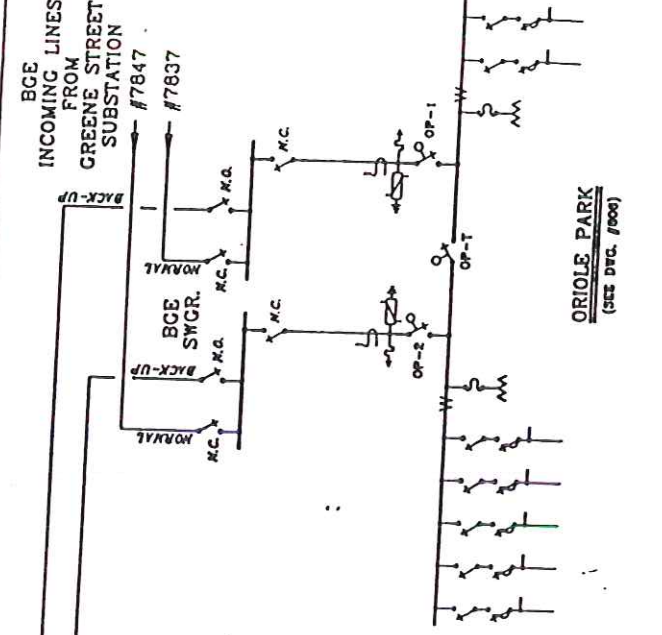
NOTE: 13KV CUSTOMER GENERATORS MAY OPERATE AT TIMES IN PARALLEL WITH BGE SYSTEM.



MD. STADIUM AUTHORITY  
(COMFORT LINK)  
HAMBURG STREET PLANT



RAVENS STADIUM  
(SEE DWG. #670)



ORIOLE PARK  
(SEE DWG. #606)

BGE  
INCOMING LINES  
FROM  
GREENE STREET  
SUBSTATION

BGE  
INCOMING LINES  
FROM  
WESTPORT  
SUBSTATION

# BALTIMORE GAS AND ELECTRIC COMPANY CUSTOMER OWNED SUBSTATION

CUSTOMER: STATE OF MARYLAND  
MARYLAND STADIUM AUTHORITY  
ORIOLE PARK AT CAMDEN YARDS  
600 S. EUTAW STREET  
BALTIMORE, MD. 21230

DRAWING ID. NUMBER: 806

SHEET 1 of 4

REVISION 4-08/07/98



R3D



*[Handwritten signature]*

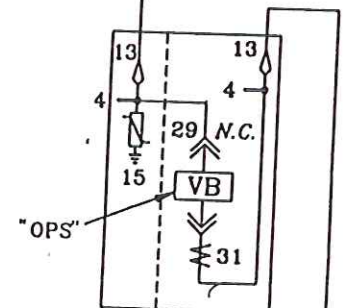
## INDOOR METAL ENCLOSED SWITCHGEAR

THRU BGE SWITCHGEAR  
AT RAVENS STADIUM  
FROM WESTPORT SUBSTATION  
(SEE DWG. #870)

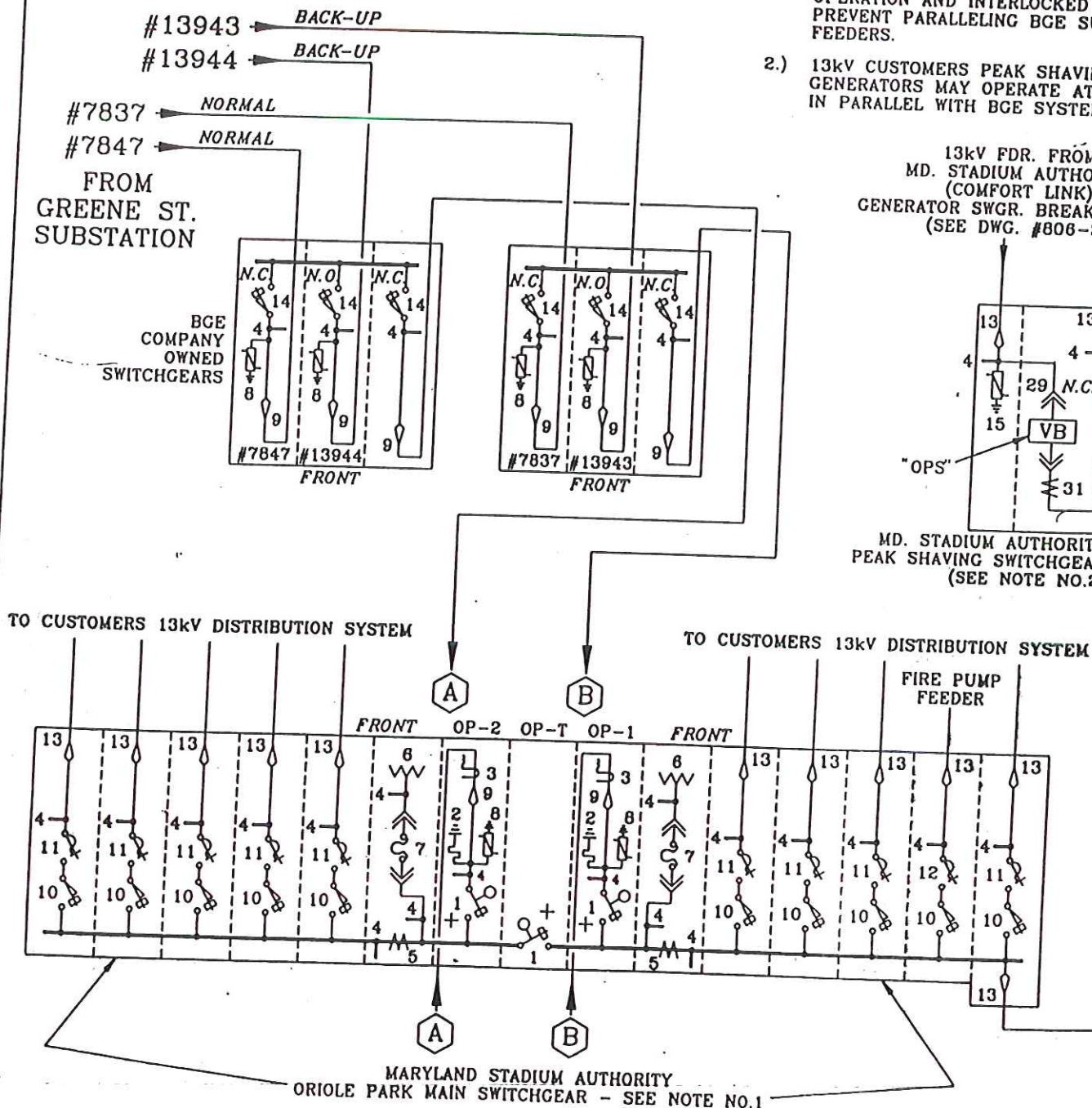
### NOTES:

- 1.) 13kV MAIN INCOMING AND BUS TIE LOAD INTERRUPTER SWITCHES (+) ARE EQUIPPED WITH AUTOMATIC TRANSFER OPERATION AND INTERLOCKED TO PREVENT PARALLELING BGE SUPPLY FEEDERS.
- 2.) 13kV CUSTOMERS PEAK SHAVING GENERATORS MAY OPERATE AT TIMES IN PARALLEL WITH BGE SYSTEM.

13kV FDR. FROM  
MD. STADIUM AUTHORITY  
(COMFORT LINK)  
GENERATOR SWGR. BREAKER "HPO"  
(SEE DWG. #806-2)



MD. STADIUM AUTHORITY  
PEAK SHAVING SWITCHGEAR  
(SEE NOTE NO.2)





# BALTIMORE GAS & ELECTRIC COMPANY

## CUSTOMER OWNED SUBSTATION

STATE OF MARYLAND  
MARYLAND STADIUM AUTHORITY  
ORIOLE PARK AT CAMDEN YARD  
600 S. EUTAW STREET  
BALTIMORE, MD 21230

CUSTOMER ID # 806  
SHEET 3 of 4

ITEM #	DESCRIPTION
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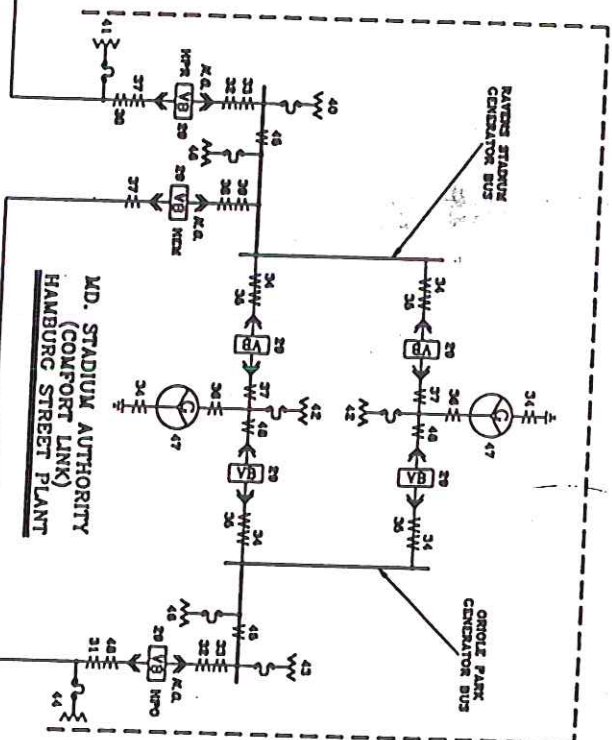
- |     |  |
|-----|--|
| 1.  | 1-LOAD INTERRUPTER SWITCH, S&C MINI-RUPTER, 13.8KV, 600A, 40KA, 95KV BIL, 3-POLE, MOTOR OPERATED.                          |
| 2.  | 3-VOLTAGE SENSOR, S&C, 14.4KV. (INCOMING VOLTAGE)  |
| 3.  | 3-CURRENT SENSOR, S&C, SET AT 480A. (OVERCURRENT BLOCKING)   |
| 4.  | 3-GROUNDING POINT.   |
| 5.  | 3-CURRENT TRANSF, GE JKM-110, 150:5A. (COMPANY METER)  |
| 6.  | 3-POTENTIAL TRANSF, GE JVM-5, 70:1V. (COMPANY METER)   |
| 7.  | 3-FUSE, GE EJ-1, 14.4KV, 1E AMP, SIZE B. (COMPANY METER)   |
| 8.  | 3-SURGE ARRESTER, 10KV MOV DISTRIBUTION CLASS (COMPANY OWNED)  |
| 9.  | 3-CABLE TERMINATION. (COMPANY OWNED)   |
| 10. | 1-LOAD INTERRUPTER SWITCH, S&C MINI-RUPTER, 13.8KV, 600A, 40KA, 95KV BIL, 3-POLE, MANUAL OPERATED.                         |
| 11. | 3-FUSE, S&C SM-5S, 13.8KV, 500MVA, 125E AMP REFILL.  |
| 12. | 3-FUSE, S&C SM-5S, 13.8KV, 500MVA, 65E AMP REFILL.   |
| 13. | 3-CABLE TERMINATION.   |
| 14. | 1-LOAD INTERRUPTER SWITCH, POWERCON PFI, 13.8KV, 1200A, 61KA, 95KV BIL, 3-POLE, MANUAL OPERATED. (COMPANY OWNED)           |
| 15. | 3-SURGE ARRESTER, 10KV, MOV DISTRIBUTION CLASS.  |
| 29. | 1-VACUUM CIRCUIT BREAKER ( <u>DRAWOUT MOUNTED</u> ), SIEMEN GMI, 13.8KV, 1200A, 60HZ, 500MVA, 3-POLE, 125VDC TRIP & CLOSE. |
| 30. | 3-CURRENT TRANSF, ABB SCR, C200, 1200/5A. (RAVENS STADIUM BKRS RPS/HPR PILOT WIRE TRIP)                                    |
| 31. | 3-CURRENT TRANSF, ABB SCR, C200, 1200/5A. (ORIOLE PARK BKRS RPO/HPO PILOT WIRE TRIP)                                       |
| 32. | 3-CURRENT TRANSF, ABB SCR, C200, 1200/5A. (OVERCURRENT & CURRENT BALANCE TRIP)   |
| 33. | 3-CURRENT TRANSF, ABB SCR, C50, 400/5A. (GENERATOR CONTROL)  |
| 34. | 3-CURRENT TRANSF, ABB SCR, C20, 200/5A. (GENERATOR DIFFERENTIAL TRIP)  |
| 35. | 3-CURRENT TRANSF, ABB SCR, C100, 600/5A. (GENERATOR OVERCURRENT TRIP)  |

# BALTIMORE GAS AND ELECTRIC COMPANY CUSTOMER OWNED SUBSTATION

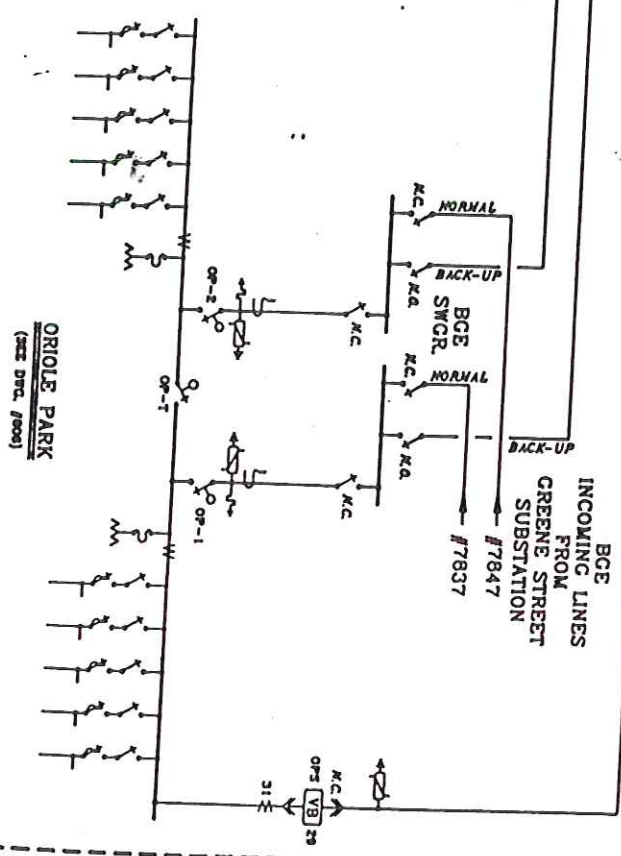
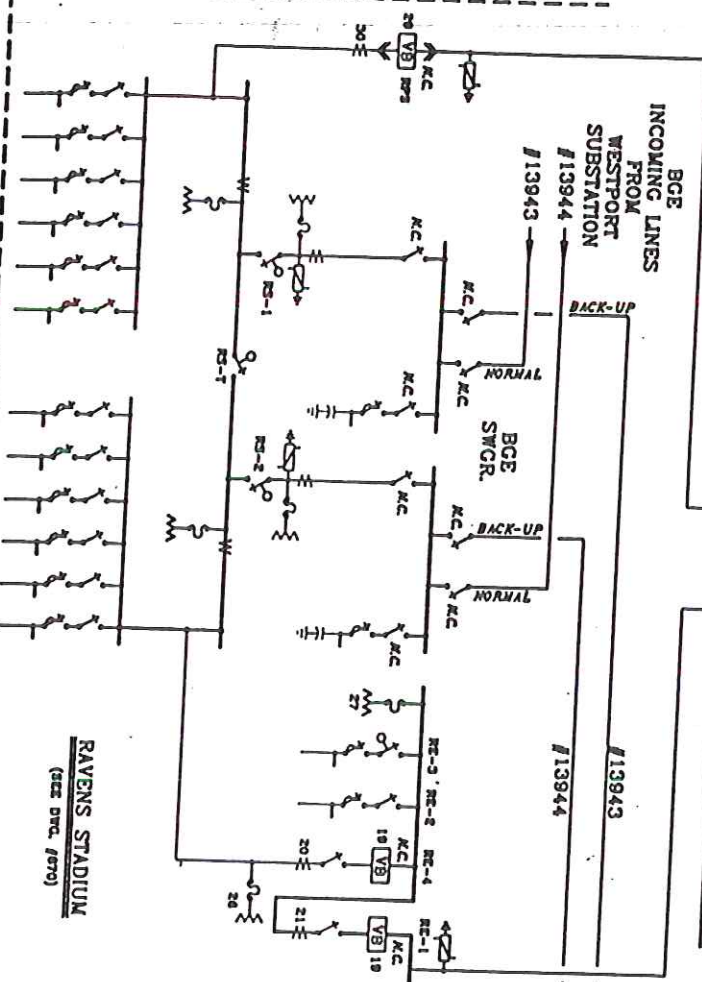
CUSTOMER: STATE OF MARYLAND  
MARYLAND STADIUM AUTHORITY  
ORIOLE PARK AT CAMDEN YARDS  
600 S. EUTAW STREET  
BALTIMORE, MD. 21230

DRAWING ID. NUMBER: 806-2  
SHEET 2 of 4  
REVISION 0-04/14/88

NOTE: 13KV CUSTOMER GENERATORS MAY OPERATE AT TIMES IN PARALLEL WITH BGE SYSTEM.



MD. STADIUM AUTHORITY  
(COMFORT LINK)  
HAMBURG STREET PLANT





# BALTIMORE GAS & ELECTRIC COMPANY

## CUSTOMER OWNED SUBSTATION

STATE OF MARYLAND  
MARYLAND STADIUM AUTHORITY  
ORIOLE PARK AT CAMDEN YARD  
600 S. EUTAW STREET  
BALTIMORE, MD 21230

CUSTOMER ID # 806  
SHEET 3 of 4

### ITEM #

### DESCRIPTION

1. 1-LOAD INTERRUPTER SWITCH, S&C MINI-RUPTER, 13.8KV, 600A, 40KA, 95KV BIL, 3-POLE, MOTOR OPERATED.
2. 3-VOLTAGE SENSOR, S&C, 14.4KV. (INCOMING VOLTAGE)
3. 3-CURRENT SENSOR, S&C, SET AT 480A. (OVERCURRENT BLOCKING)
4. 3-GROUNDING POINT.
5. 3-CURRENT TRANSF, GE JKM-110, 150:5A. (COMPANY METER)
6. 3-POTENTIAL TRANSF, GE JVM-5, 70:1V. (COMPANY METER)
7. 3-FUSE, GE EJ-1, 14.4KV, 1E AMP, SIZE B. (COMPANY METER)
8. 3-SURGE ARRESTER, 10KV MOV DISTRIBUTION CLASS (COMPANY OWNED)
9. 3-CABLE TERMINATION. (COMPANY OWNED)
10. 1-LOAD INTERRUPTER SWITCH, S&C MINI-RUPTER, 13.8KV, 600A, 40KA, 95KV BIL, 3-POLE, MANUAL OPERATED.
11. 3-FUSE, S&C SM-5S, 13.8KV, 500MVA, 125E AMP REFILL.
12. 3-FUSE, S&C SM-5S, 13.8KV, 500MVA, 65E AMP REFILL.
13. 3-CABLE TERMINATION.
14. 1-LOAD INTERRUPTER SWITCH, POWERCON PFI, 13.8KV, 1200A, 61KA, 95KV BIL, 3-POLE, MANUAL OPERATED. (COMPANY OWNED)
15. 3-SURGE ARRESTER, 10KV, MOV DISTRIBUTION CLASS.
29. 1-VACUUM CIRCUIT BREAKER (DRAWOUT MOUNTED), SIEMEN GMI, 13.8KV, 1200A, 60HZ, 500MVA, 3-POLE, 125VDC TRIP & CLOSE.
30. 3-CURRENT TRANSF, ABB SCR, C200, 1200/5A. (RAVENS STADIUM BKRS RPS/HPR PILOT WIRE TRIP)
31. 3-CURRENT TRANSF, ABB SCR, C200, 1200/5A. (ORIOLE PARK BKRS RPO/HPO PILOT WIRE TRIP)
32. 3-CURRENT TRANSF, ABB SCR, C200, 1200/5A. (OVERCURRENT & CURRENT BALANCE TRIP)
33. 3-CURRENT TRANSF, ABB SCR, C50, 400/5A. (GENERATOR CONTROL)
34. 3-CURRENT TRANSF, ABB SCR, C20, 200/5A. (GENERATOR DIFFERENTIAL TRIP)
35. 3-CURRENT TRANSF, ABB SCR, C100, 600/5A. (GENERATOR OVERCURRENT TRIP)

BALTIMORE GAS AND ELECTRIC COMPANY  
CUSTOMER OWNED SUBSTATION

CUSTOMER: STATE OF MARYLAND  
MARYLAND STADIUM AUTHORITY  
ORIOLE PARK AT CAMDEN YARDS  
600 S. EUTAW STREET  
BALTIMORE, MD. 21230

DRAWING ID. NUMBER: 806

SHEET 1 of 4

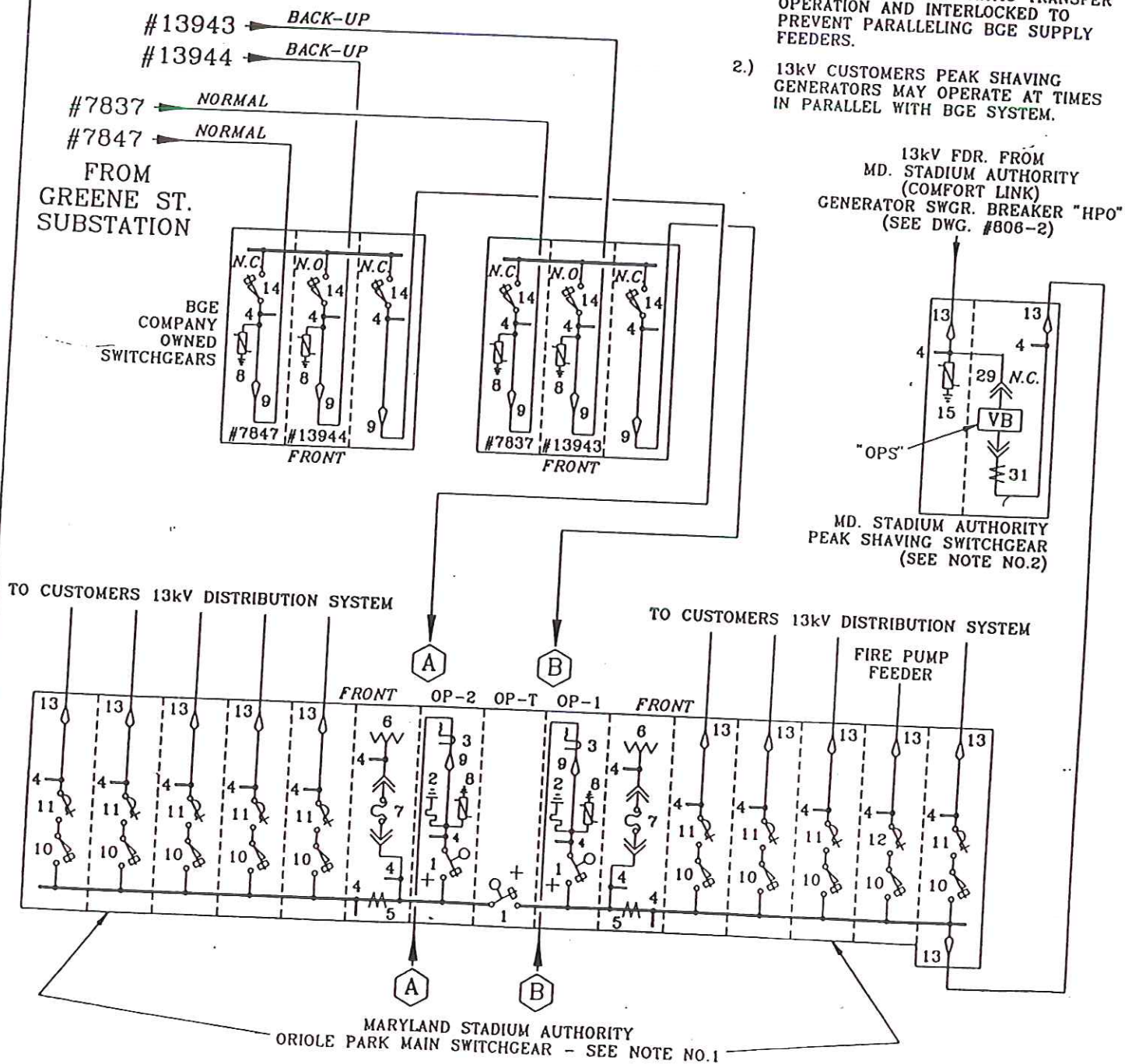
REVISION 4-08/07/98

# INDOOR METAL ENCLOSED SWITCHGEAR

THRU BGE SWITCHGEAR  
AT RAVENS STADIUM  
FROM WESTPORT SUBSTATION  
(SEE DWG. #870)

**NOTES:**

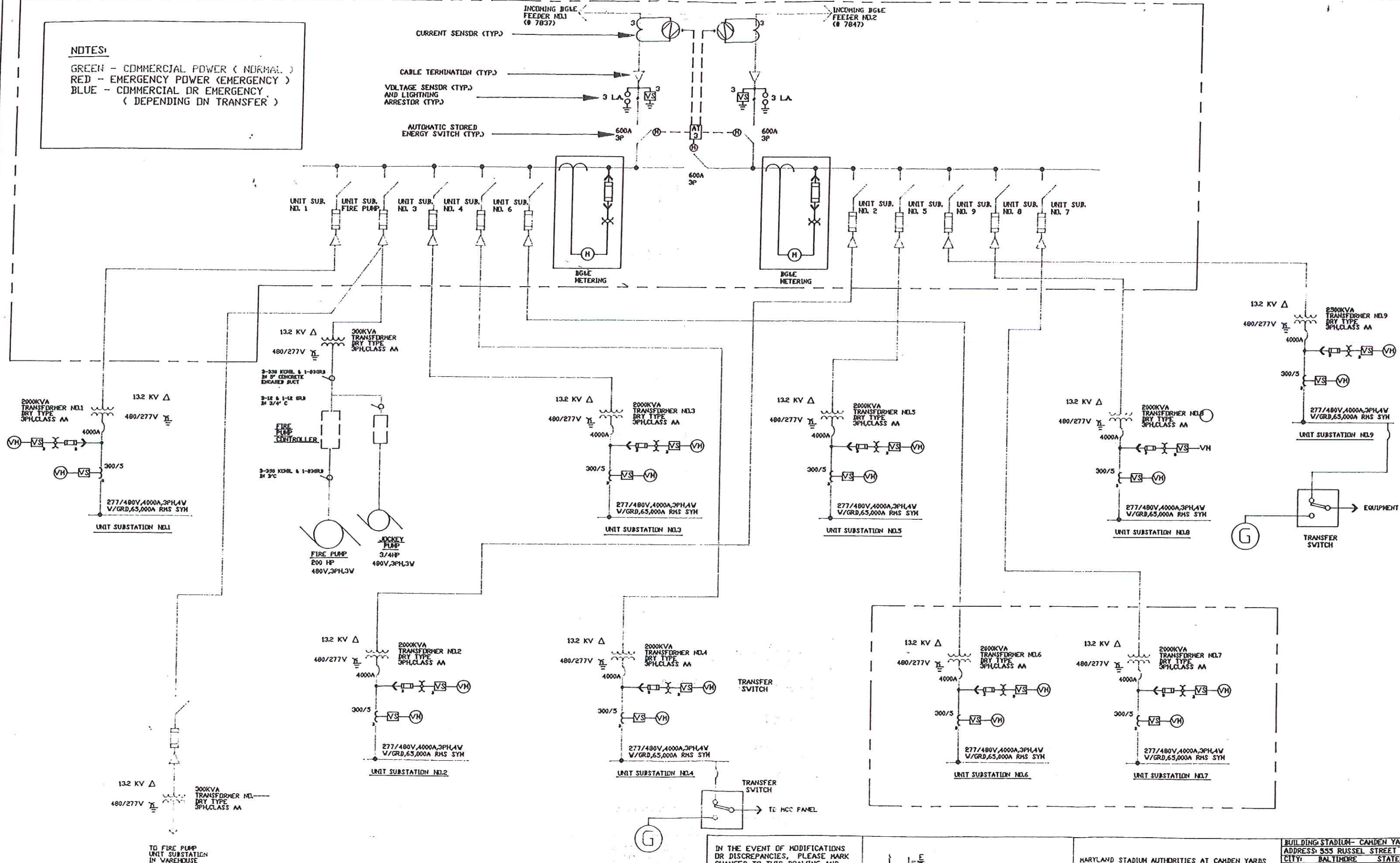
- 1.) 13KV MAIN INCOMING AND BUS TIE LOAD INTERRUPTER SWITCHES (+) ARE EQUIPPED WITH AUTOMATIC TRANSFER OPERATION AND INTERLOCKED TO PREVENT PARALLELING BGE SUPPLY FEEDERS.
- 2.) 13KV CUSTOMERS PEAK SHAVING GENERATORS MAY OPERATE AT TIMES IN PARALLEL WITH BGE SYSTEM.





# NOTES:

GREEN - COMMERCIAL POWER (NORMAL)  
 RED - EMERGENCY POWER (EMERGENCY)  
 BLUE - COMMERCIAL OR EMERGENCY  
 (DEENDING ON TRANSFER)

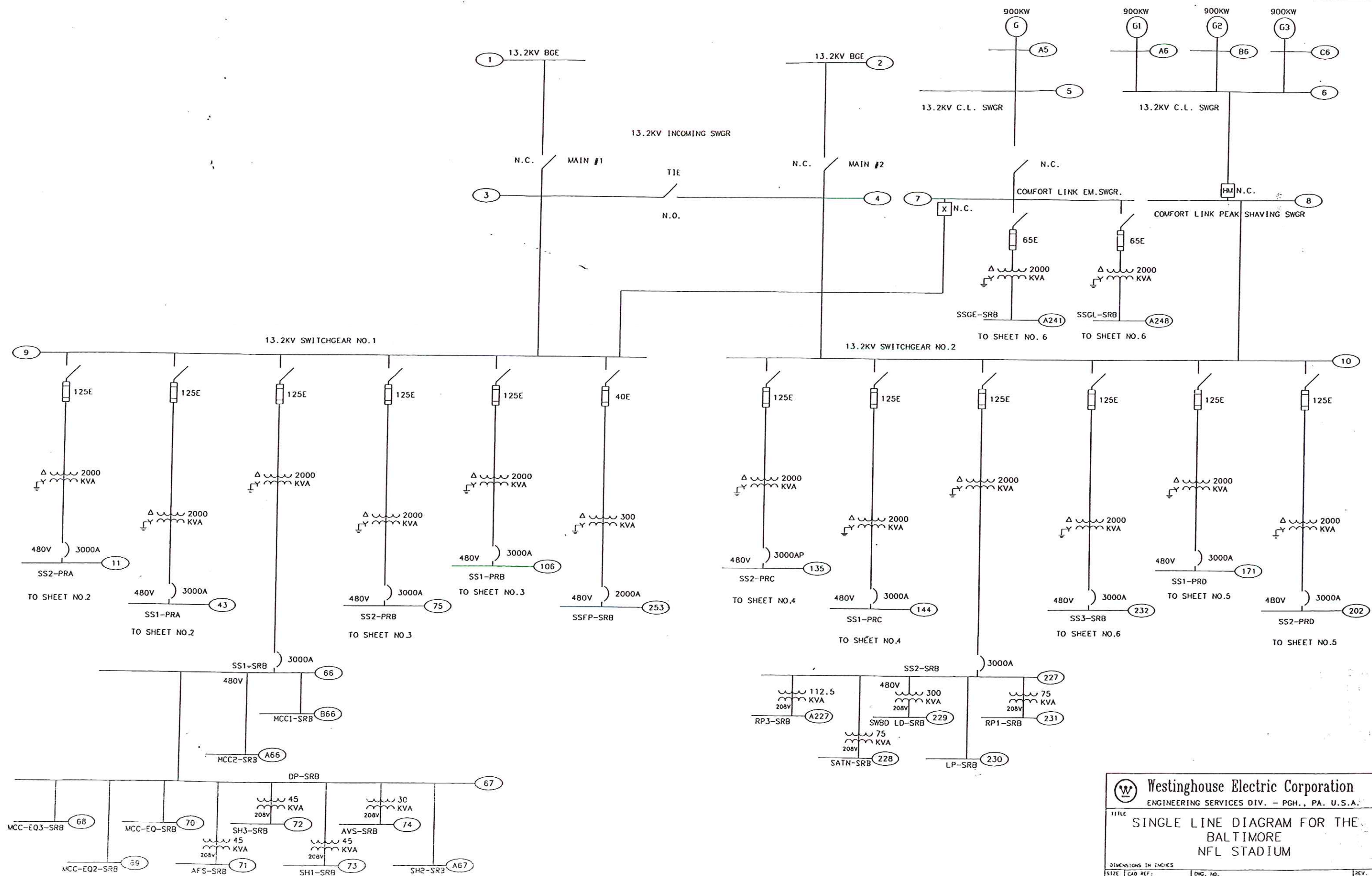


IN THE EVENT OF MODIFICATIONS  
 OR DISCREPANCIES, PLEASE MARK  
 CHANGES TO THIS DRAWING AND  
 FORWARD TO:  
 H & H TESTING, INC.  
 21 FENTANA LANE, SUITE 103  
 BALTIMORE, MD. 21237

$$I = \frac{E}{R}$$

MARYLAND STADIUM AUTHORITIES AT CAMDEN YARDS  
 ELECTRICAL ONE-LINE  
 PRIMARY DISTRIBUTION

BUILDING: STADIUM- CAMDEN YARDS  
 ADDRESS: 555 RUSSEL STREET  
 CITY: BALTIMORE STATE: MD  
 R.E. CODE:  
 DATE-DRAWN: 2-1-98  
 DRAWN BY: FRED RAAB  
 CHECKED BY: JOHN HETTCHEN  
 ISSUE:  
 PAGE: 1

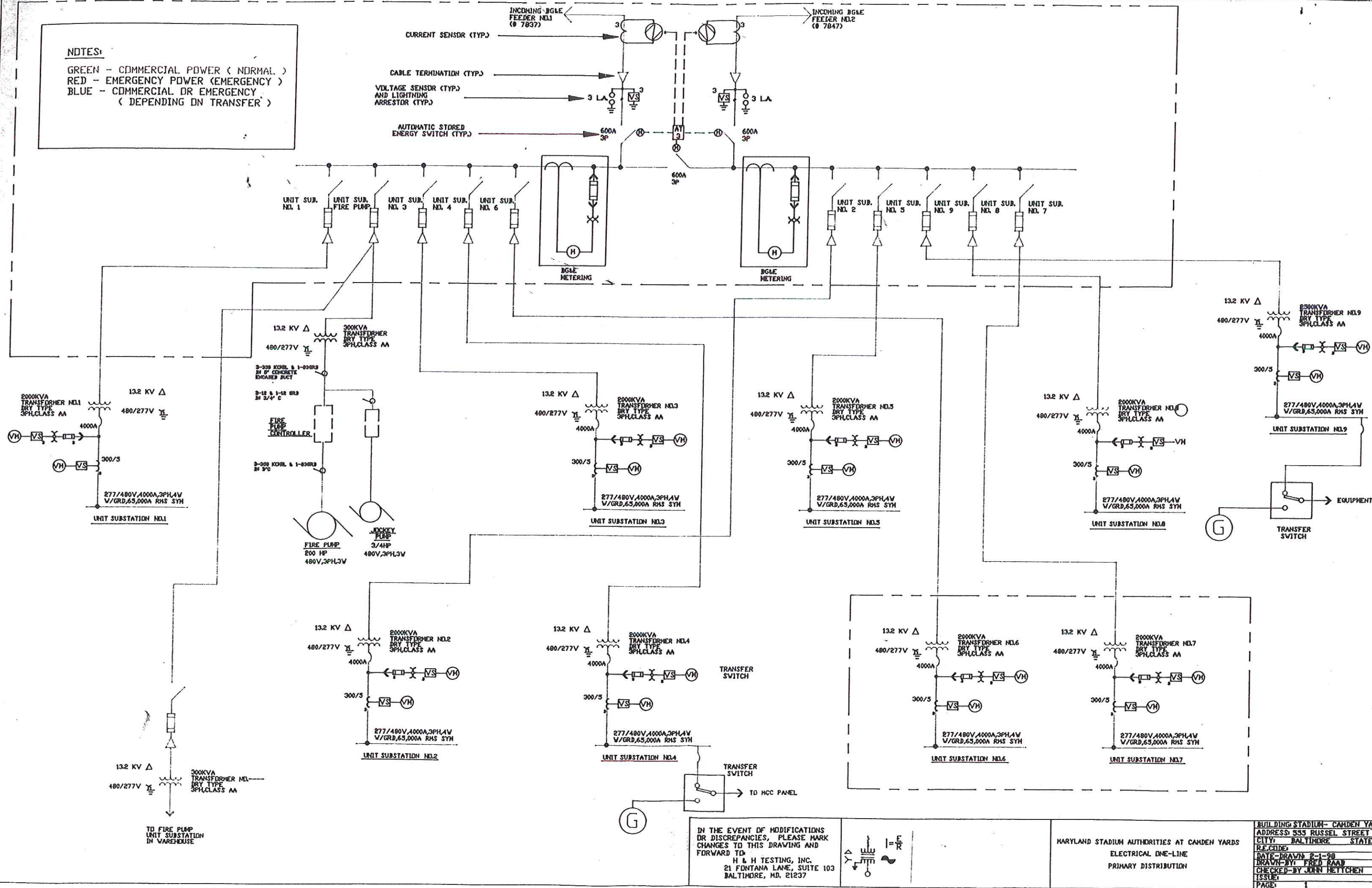


<b>Westinghouse Electric Corporation</b> ENGINEERING SERVICES DIV. - PGH., PA. U.S.A.			
TITLE <b>SINGLE LINE DIAGRAM FOR THE BALTIMORE NFL STADIUM</b>			
DIMENSIONS IN INCHES			
SIZE <b>B</b>	CAD REF: XXXXXXXX XX/XX/XX	DWG. NO. <b>HWW-030697-1</b>	REV. <b>0</b>
SCALE NTS		WESTINGHOUSE JOB NO. PGCNXXX SHEET 01 OF 01 SHEETS	



# NOTES:

GREEN - COMMERCIAL POWER (NORMAL)  
RED - EMERGENCY POWER (EMERGENCY)  
BLUE - COMMERCIAL OR EMERGENCY  
(DEENDING ON TRANSFER)



IN THE EVENT OF MODIFICATIONS  
OR DISCREPANCIES, PLEASE MARK  
CHANGES TO THIS DRAWING AND  
FORWARD TO:  
H & H TESTING, INC.  
21 FONTANA LANE, SUITE 103  
BALTIMORE, MD. 21237

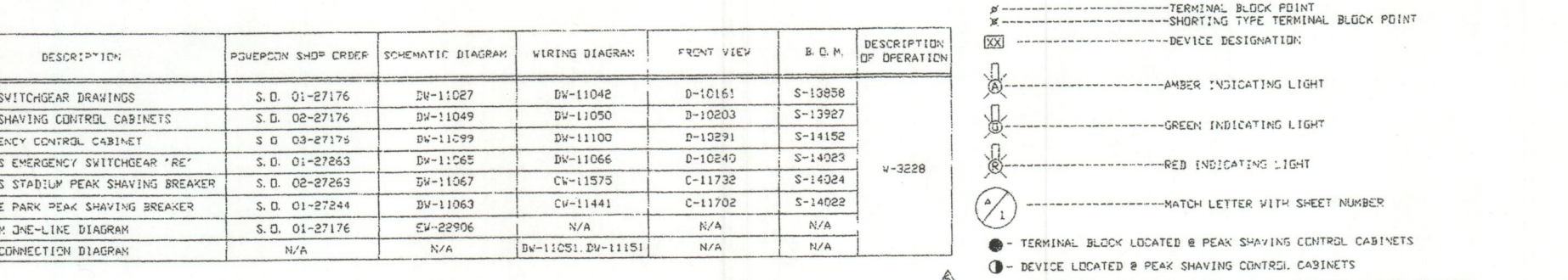
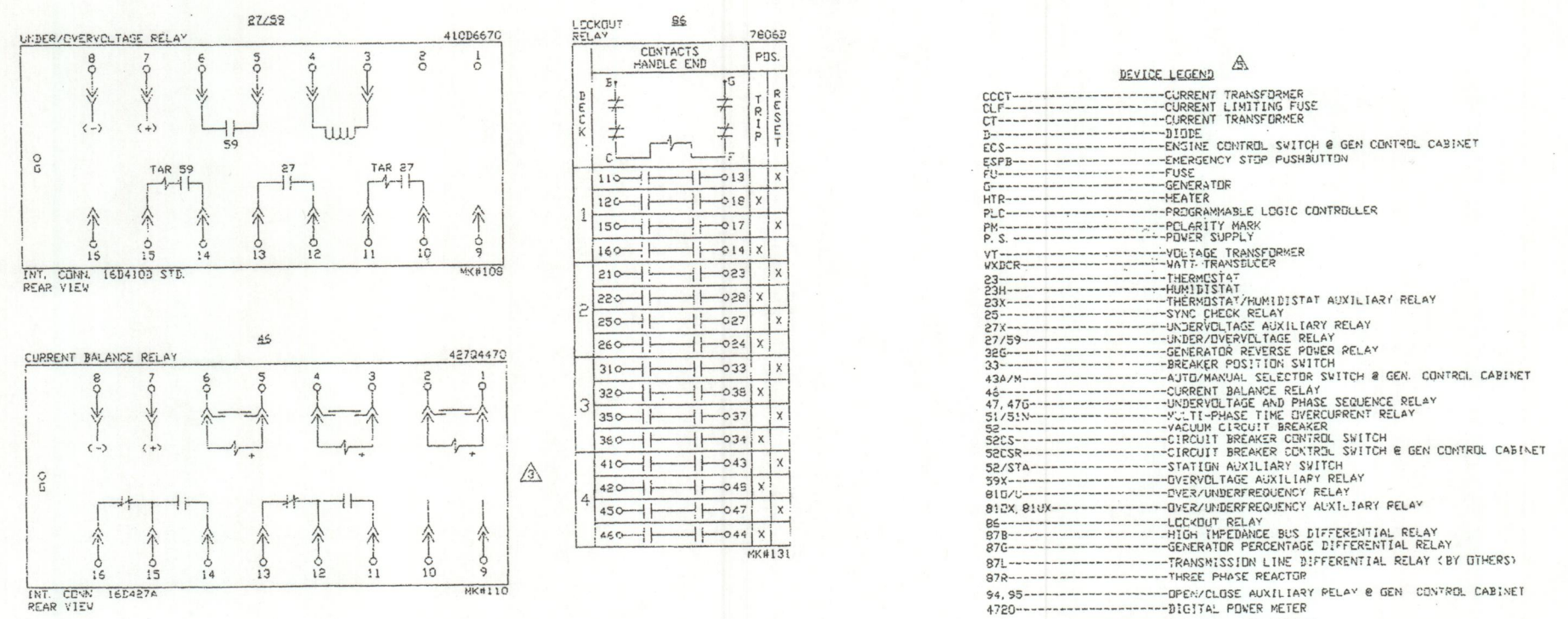
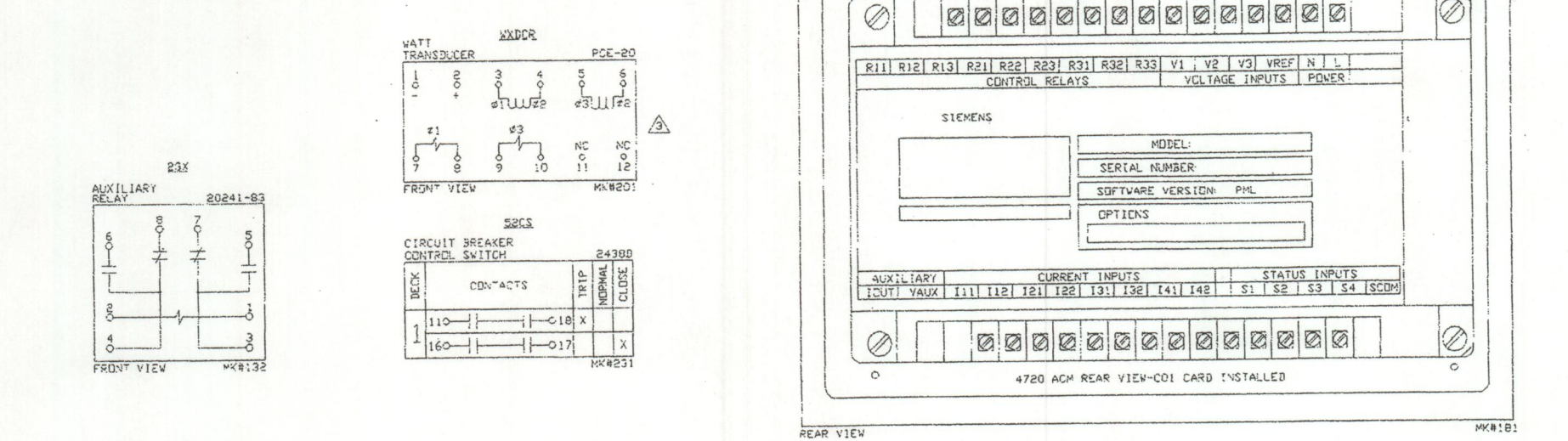
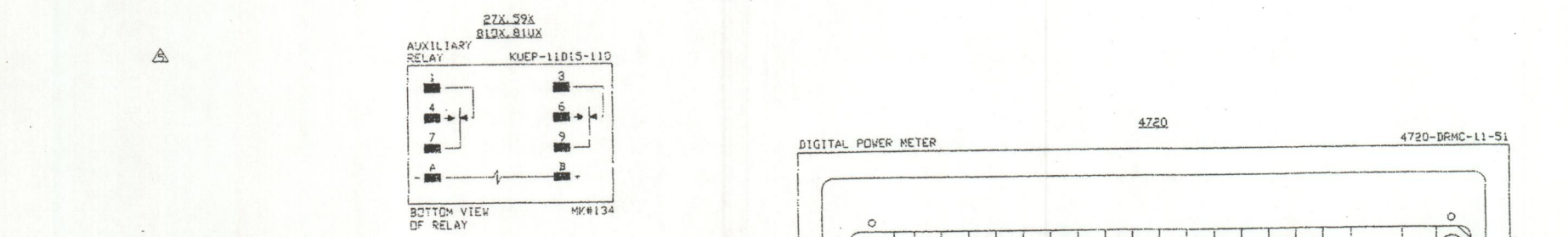
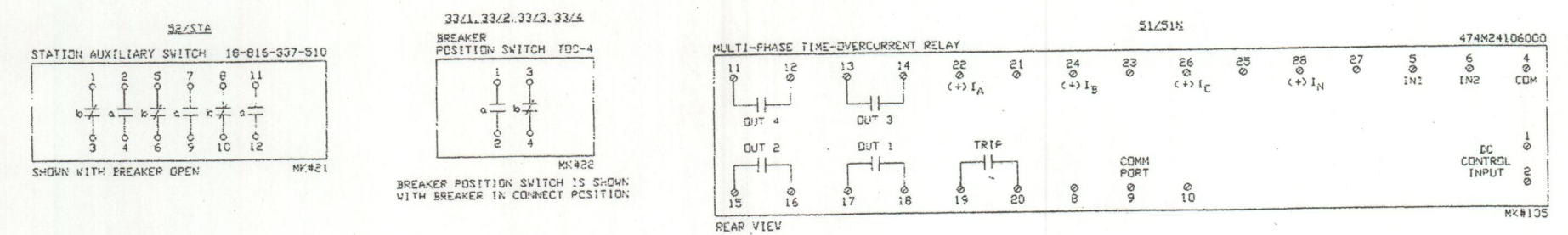
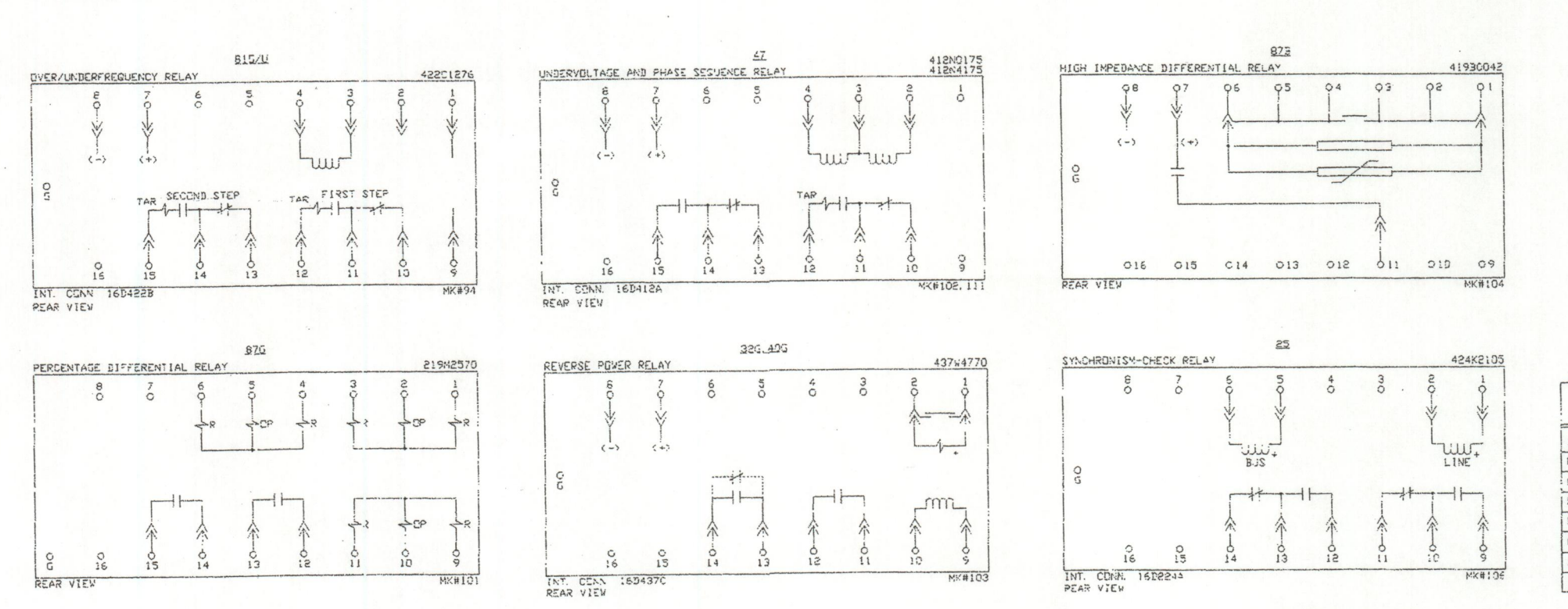
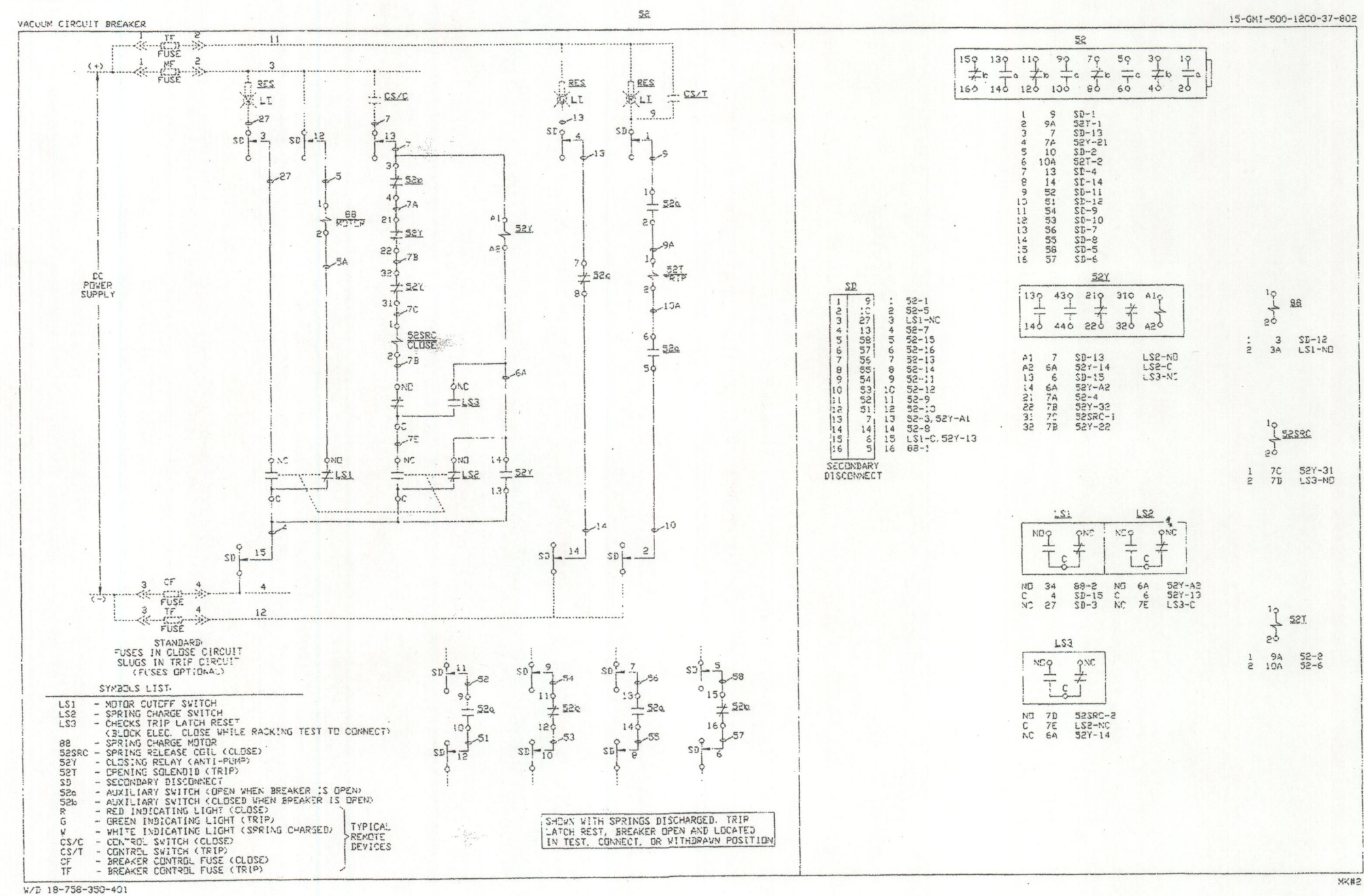
$$I = \frac{E}{R}$$

MARYLAND STADIUM AUTHORITIES AT CAMDEN YARDS  
ELECTRICAL ONE-LINE  
PRIMARY DISTRIBUTION

BUILDING: STADIUM - CAMDEN YARDS  
ADDRESS: 555 RUSSEL STREET  
CITY: BALTIMORE STATE: MD  
DATE-DRAWN: 2-1-98  
DRAWN BY: FRED RAAD  
CHECKED BY: JOHN HETTCHEN  
ISSUED:  
PAGE: 1



DW-11027



DEVICE DEVELOPMENT

DESCRIPTION	POWERCON SHOP ORDER	SCHEMATIC DIAGRAM	WIRING DIAGRAM	FRONT VIEW	B.O.P.	DESCRIPTION OF OPERATION
15KV SWITCHGEAR DRAWINGS	S.D. 01-27176	DW-11027	DW-11042	D-10161	S-13858	
PEAK SHAVING CONTROL CABINETS	S.D. 02-27176	DW-11049	DW-11050	D-10203	S-13927	
EMERGENCY CONTROL CABINET	S.D. 03-27176	DW-11099	DW-11100	D-10291	S-14152	
RAVENS EMERGENCY SWITCHGEAR 'RE'	S.D. 01-27263	DW-11065	DW-11066	D-10240	S-14083	
RAVENS STATION PEAK SHAVING BREAKER	S.D. 02-27263	DW-11067	CL-11575	C-11732	S-14024	
ORIGLE PARK PEAK SHAVING BREAKER	S.D. 01-27244	DW-11063	CV-11441	C-11702	S-14082	
SYSTEM ONE-LINE DIAGRAM	S.D. 01-27176	SV-22906	N/A	N/A	N/A	
INTERCONNECTION DIAGRAM	N/A	N/A	DW-11051, DW-11151	N/A	N/A	

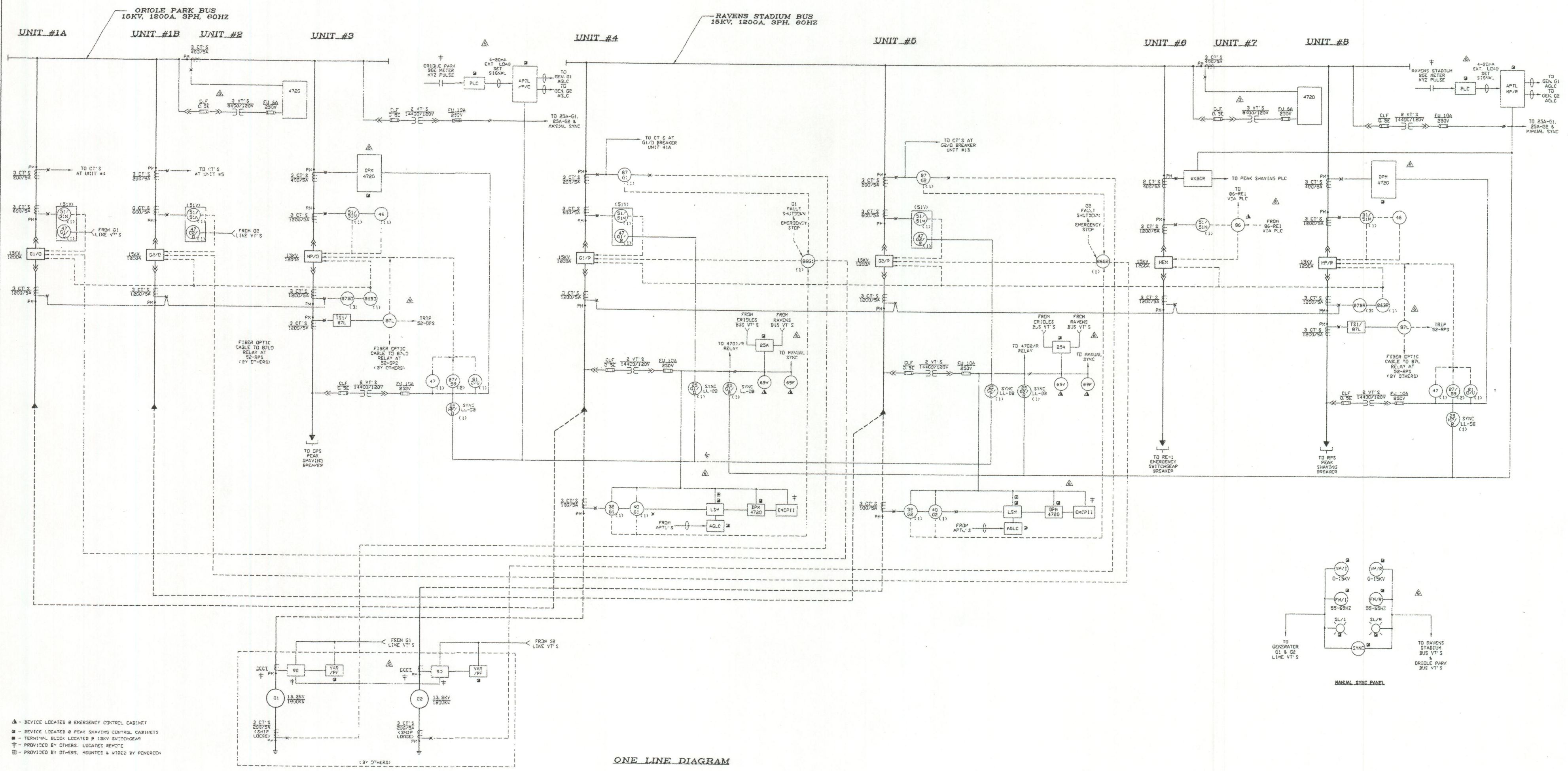
DESCRIPTION OF OPERATION	CUST. ALBAN ENGINE POWER SYSTEM
N/A	P.O. NO. 43036
SUMMARY	ENGR. ILYA HIEKIN DATE 12/1/97
S-13858	DATE 12/1/97
FRONT VIEW	CHKD. RAJ K. SHARMA DATE 12/19/97
D-10161	DATE 12/1/97
SCHEMATIC	APPD. ALEX GELFEN
DW-11027	DATE
WIRING DIAGRAM	APPD. DATE
DW-11042	DATE

TITLE: DEVICE DEVELOPMENT & LEGEND	
15KV METAL-CLAD SWITCHGEAR, RATED 13.2KV NOMINAL, 1200A, 3-PHASE, 3-WIRE, 60HZ, 95KV BIL, 500MVA	
STATION: MSA HAMBURG STREET GEN. PLANT	
LOCATION: BALTIMORE, MARYLAND	
SO#01-27176	DW-11027
REV. 6	

switchgear



DW-11027



REV	DESCRIPTION	DATE
1	ENGINEERING UPDATE	12/1/97
2	REVISIONS	12/1/97
3	REVISIONS	12/1/97
4	REVISIONS	12/1/97
5	REVISIONS	12/1/97
6	REVISIONS	12/1/97
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10	REVISIONS	12/1/97

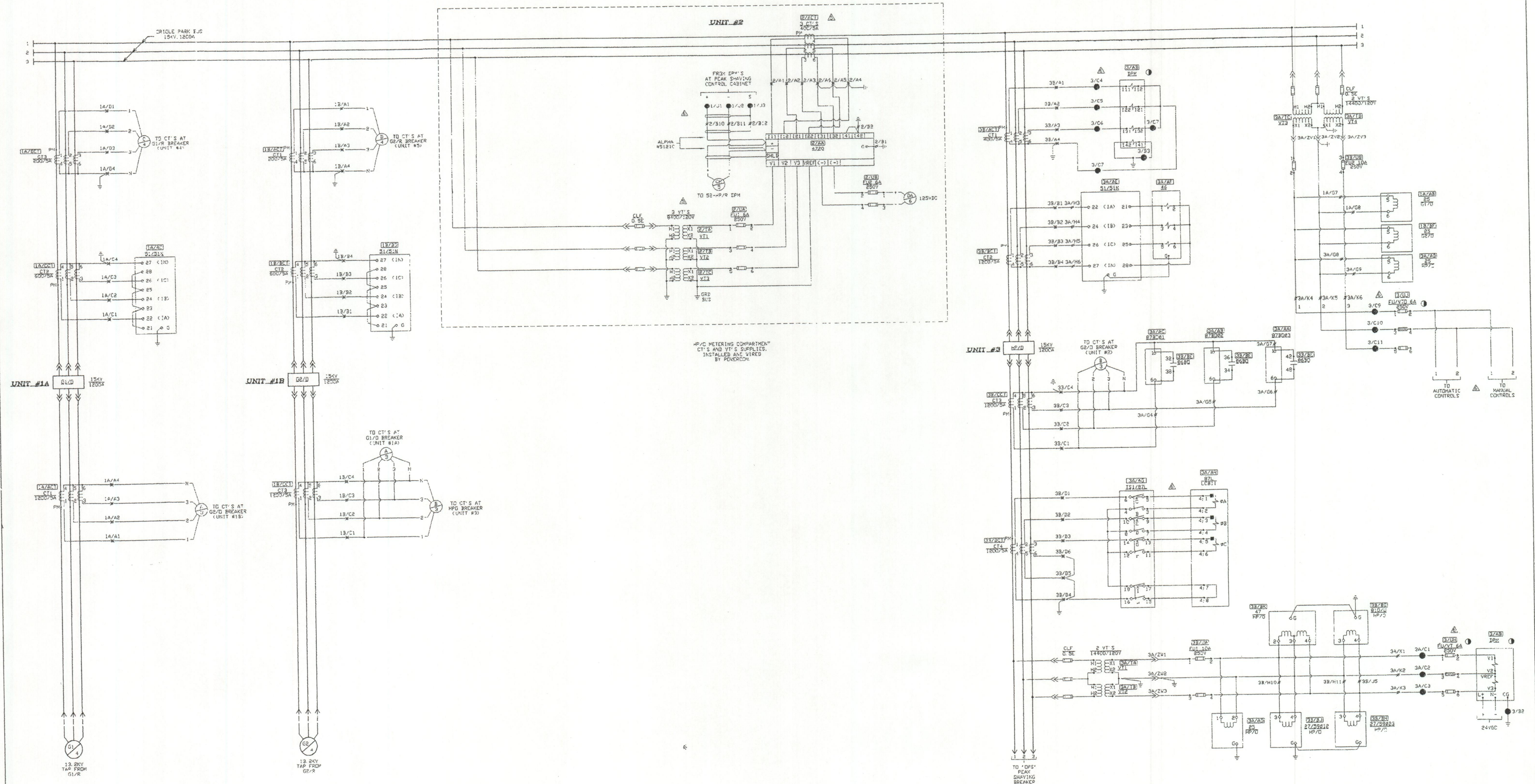
THIS DRAWING AND ALL PREVIOUS ISSUES ARE THE SOLE PROPERTY OF THE POWERCON CORPORATION OF SEVERN, MARYLAND. NEITHER RECEIPT OF SAID DRAWING, NOR POSSESSION THEREOF, IMPLIES OR TRANSFERS ANY RIGHTS, OR LICENSE TO USE THE DRAWINGS, OR THE SUBJECT MATTER, OR TECHNICAL INFORMATION SHOWN THEREON, OR ANY PART THEREOF. NEITHER THIS DRAWING NOR ANY INFORMATION CONTAINED THEREIN, MAY BE COPIED, REPRODUCED OR OTHERWISE USED WITHOUT FIRST OBTAINING WRITTEN AUTHORIZATION OF THE POWERCON CORPORATION. PRINTS ARE LOANED SUBJECT TO RETURN UPON DEMAND, AND THE EXPRESS CONDITION THAT THEY WILL NOT BE USED IN ANY WAY DETRIMENTAL TO THE POWERCON CORPORATION.

DESCRIPTION OF OPERATION	N/A
SUMMARY	S-13858
FRONT VIEW	D-10161
SCHEMATIC	DW-11027
WIRING DIAGRAM	DW-11042

CUST. ALBAN ENGINE POWER SYSTEM	P.O. NO. 43036
ENGR. ILYA HIEKIN	DATE 12/1/97
DRWN. DAVID HACHEY	DATE 12/1/97
CHKD. RAJ K. SHARMA	DATE 12/19/97
APPD. ALEX GELFEN	DATE 12/1/97
APPD.	DATE
APPD.	DATE

SHEET 2 OF 11	
Powercon Corp	
WEB SITE <a href="http://www.powerconcorp.com">http://www.powerconcorp.com</a>	
TITLE ONE LINE DIAGRAM	
15KV METAL-CLAD SWITCHGEAR, RATED 13.8KV NOMINAL, 1200A, 3-PHASE, 3-WIRE, 60HZ, 95KV RIL, 500MVA	
STATION MSA HAMBURG STREET GEN. PLANT	
LOCATION BALTIMORE, MARYLAND	
SO#01-27176	DW-11027
REV 6	





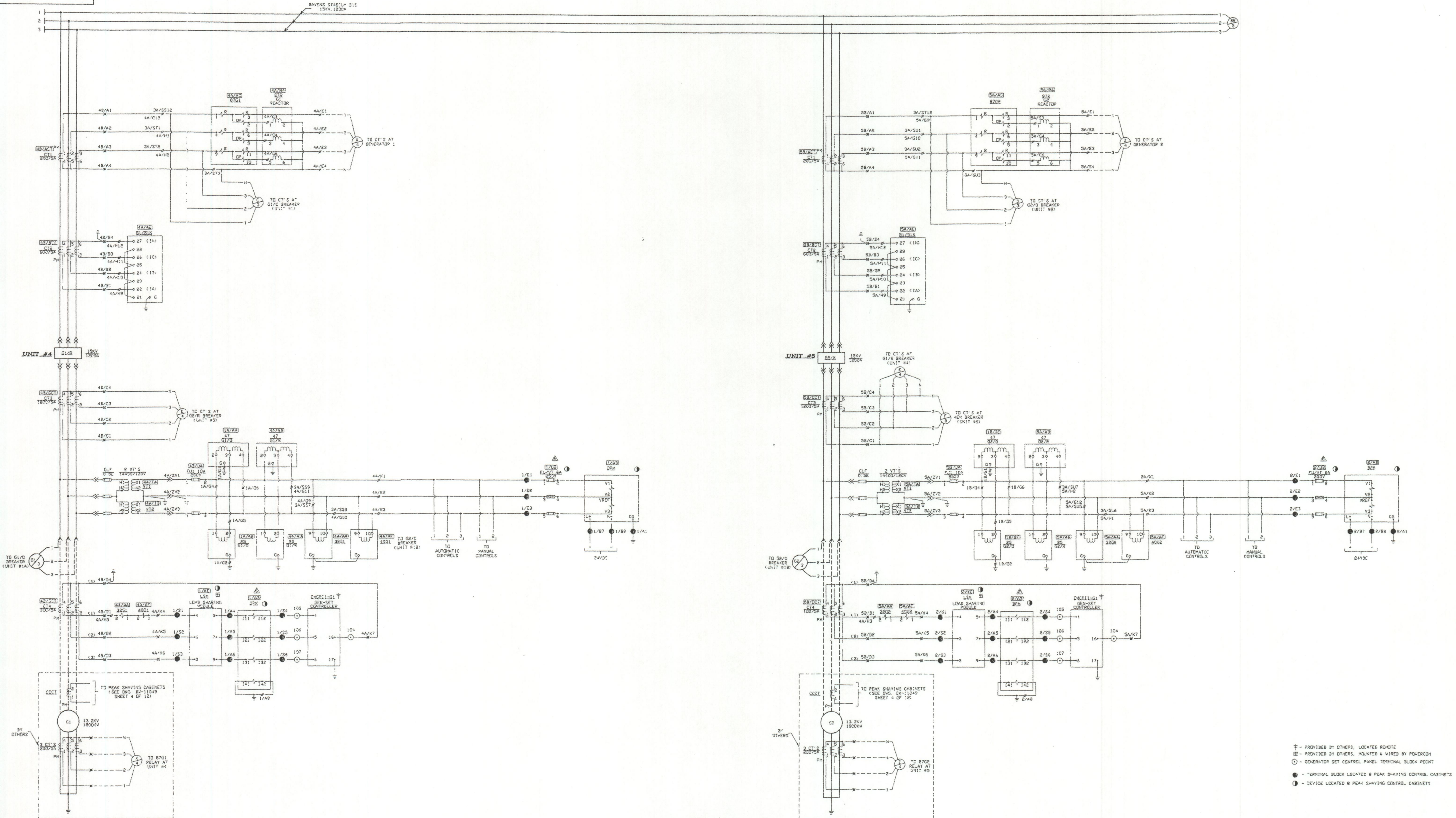
- TERMINAL BLOCK LOCATED @ PEAK SHAVING CONTROL CABINETS
- DEVICE LOCATED @ PEAK SHAVING CONTROL CABINETS

### THREE LINE DIAGRAM

<b>REVISIONS</b> 1. REV. PER ADDITIONAL 12/1/97 RKS/ST/A5 2. REV. PER 10/6/98 RKS/ST/A5 3. REV. PER ADDITION OF REVENUE METERING 1/30/99 RKS/ST/A5 4. REV. PER 2/10/99 RKS/ST/A5 5. REV. AS BUILT 2/10/99 RKS/ST/A5 6. REV. PER START-UP OF PEAK SHAVING AND PEAK SHAVING 11/10/98 RKS/ST/A5/AG	THIS DRAWING AND ALL PREVIOUS ISSUES ARE THE SOLE PROPERTY OF THE POWERCON CORPORATION OF SEVERN, MARYLAND. NEITHER RECEIPT OF SAID DRAWING, NOR POSSESSION THEREOF, IMPLIES OR TRANSFERS ANY RIGHTS OR LICENSE TO USE THE DRAWINGS, OR THE SUBJECT MATTER, DESIGN, OR TECHNICAL INFORMATION SHOWN THEREON, OR ANY PART THEREOF. NEITHER THIS DRAWING NOR ANY INFORMATION CONTAINED THEREIN, MAY BE COPIED, REPRODUCED OR OTHERWISE USED WITHOUT FIRST OBTAINING WRITTEN AUTHORIZATION OF THE POWERCON CORPORATION. PRINTS ARE LOANED SUBJECT TO RETURN UPON DEMAND, AND THE EXPRESS CONDITION THAT THEY WILL NOT BE USED IN ANY WAY DETRIMENTAL TO THE POWERCON CORPORATION.	<b>DESCRIPTION OF OPERATION</b> N/A <b>SUMMARY</b> S-13858 <b>FRONT VIEW</b> D-10161 <b>SCHEMATIC</b> DW-11027 <b>WIRING DIAGRAM</b> DW-11042	<b>CUST. ALBAN ENGINE POWER SYSTEM</b> P.O. NO. 43036 <b>ENGR.</b> ILYA -IEKIN <b>DATE</b> 12/1/97 <b>DRWN.</b> DAVID HACHEY <b>DATE</b> 12/1/97 <b>CRKD.</b> RAJ K SHARMA <b>DATE</b> 12/19/97 <b>APPD.</b> ALEX GELFEN <b>DATE</b> 12/1/97 <b>APPD.</b> <b>DATE</b>	<b>Powercon Corp</b> WEB SITE <a href="http://www.powerconcorp.com">http://www.powerconcorp.com</a> <b>TITLE</b> ORTLE PARK BUS THREE LINE DIAGRAM <b>15KV METAL-CLAD SWITCHGEAR, RATED 15.2KV NOMINAL, 1200A, 3-PHASE, 3-WIRE, 60HZ, 95KV BIL, 500MVA</b> <b>STATION</b> YSA HAMBURG STREET GEN. PLANT <b>LOCATION</b> BALTIMORE, MARYLAND <b>SO#01-27176 DW-11027</b> <b>REV.</b> 6
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DW-11027

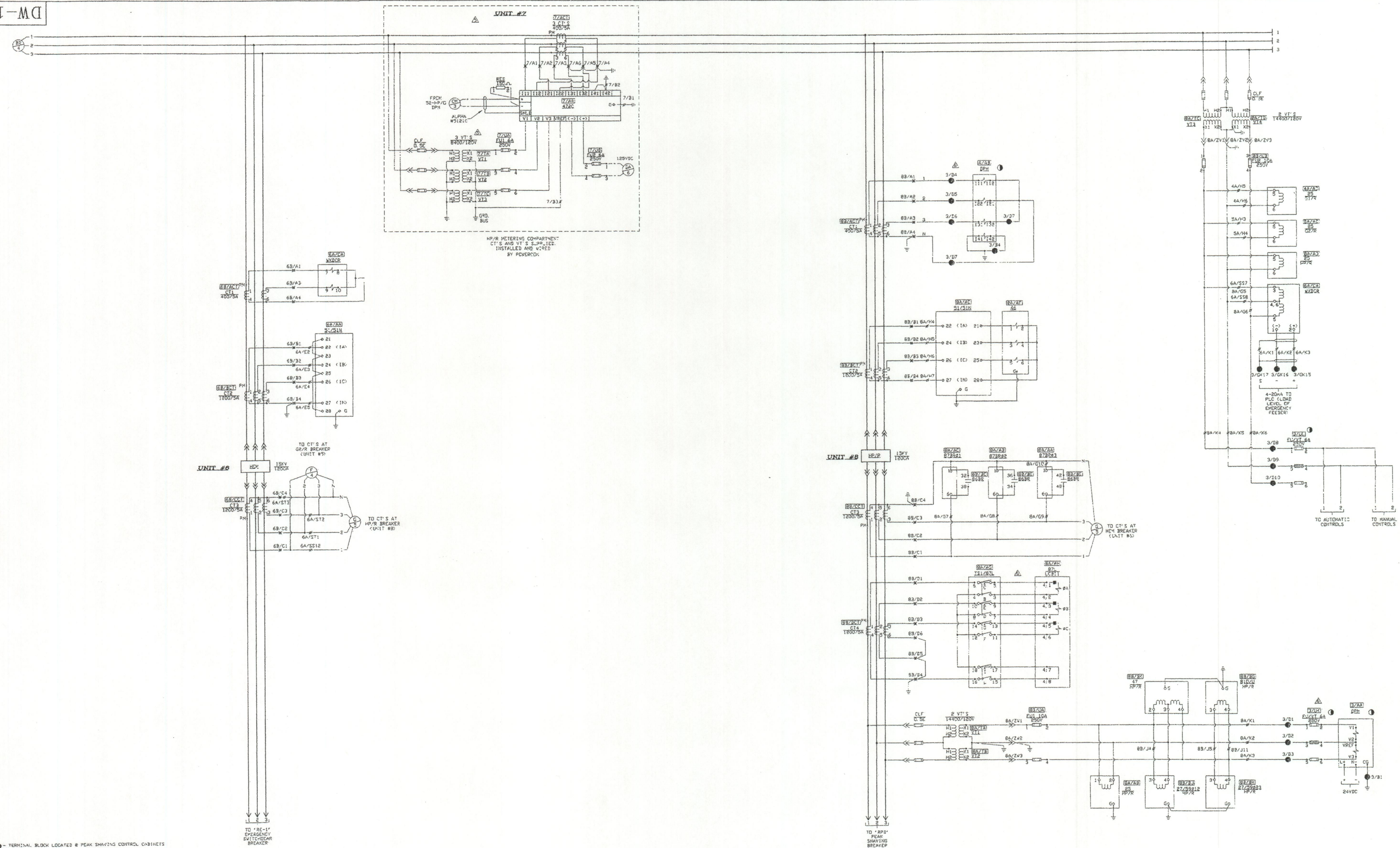


THREE LINE DIAGRAM

SHEET 4 OF 11

<p><b>REVISIONS</b></p> <p>1. REV. PER ELECTRICAL ENGINEER'S COMMENTS 12/17/97</p> <p>2. REV. PER ELECTRICAL ENGINEER'S COMMENTS 12/17/97</p> <p>3. REV. PER ELECTRICAL ENGINEER'S COMMENTS 12/17/97</p> <p>4. REV. PER ELECTRICAL ENGINEER'S COMMENTS 12/17/97</p> <p>5. REV. PER ELECTRICAL ENGINEER'S COMMENTS 12/17/97</p> <p>6. REV. PER ELECTRICAL ENGINEER'S COMMENTS 12/17/97</p> <p>7. REV. PER ELECTRICAL ENGINEER'S COMMENTS 12/17/97</p> <p>8. REV. PER ELECTRICAL ENGINEER'S COMMENTS 12/17/97</p> <p>9. REV. PER ELECTRICAL ENGINEER'S COMMENTS 12/17/97</p> <p>10. REV. PER ELECTRICAL ENGINEER'S COMMENTS 12/17/97</p>	<p>THIS DRAWING AND ALL PREVIOUS ISSUES ARE THE SOLE PROPERTY OF THE POWERCON CORPORATION OF SEVERN, MARYLAND. NEITHER RECEIPT OF SAID DRAWING, NOR POSSESSION THEREOF, CONVEYS OR TRANSFERS ANY RIGHTS OR LICENSE TO USE THE DRAWINGS, OR THE SUBJECT MATTER, DESIGN, OR TECHNICAL INFORMATION SHOWN THEREON, OR ANY PART THEREOF. NEITHER THIS DRAWING NOR ANY INFORMATION CONTAINED THEREIN, MAY BE COPIED, REPRODUCED OR OTHERWISE USED WITHOUT FIRST OBTAINING WRITTEN AUTHORIZATION OF THE POWERCON CORPORATION. PRINTS ARE LOANED SUBJECT TO RETURN UPON DEMAND, AND THE EXPRESS CONDITION THAT THEY WILL NOT BE USED IN ANY WAY DETRIMENTAL TO THE POWERCON CORPORATION.</p>	<p><b>DESCRIPTION OF OPERATION</b></p> <p>1. SUMMARY</p> <p>2. FRONT VIEW</p> <p>3. SCHEMATIC</p> <p>4. WIRING DIAGRAM</p> <p><b>CUST. ALBAN ENGINE POWER SYSTEM</b></p> <p>P.O. NO. 43036</p> <p>ENGR. ILYA HIEKIN DATE 12/1/97</p> <p>DRWN. DAVID HACHEY DATE 12/1/97</p> <p>CHKD. RAJ K. SHARMA DATE 12/1/97</p> <p>APPD. ALEX GELFEN DATE 12/1/97</p> <p>APPD. DATE</p> <p>APPD. DATE</p>	<p><b>Powercon Corp.</b></p> <p>WEB SITE <a href="http://www.powerconcorp.com">http://www.powerconcorp.com</a></p> <p><b>TITLE</b> RAVENS BUS THREE LINE DIAGRAM</p> <p>15KV METAL-CLAD SWITCHGEAR, RATED 13.2KV NOMINAL, 1200A, 3-PHASE, 3-WIRE, 60HZ, 95KV BIL, 500MVA</p> <p>STATION MSA HAMBURG STREET GEN. PLANT</p> <p>LOCATION BALTIMORE, MARYLAND</p> <p><b>SO#01-27176 DW-11027</b></p> <p>REV 5</p>
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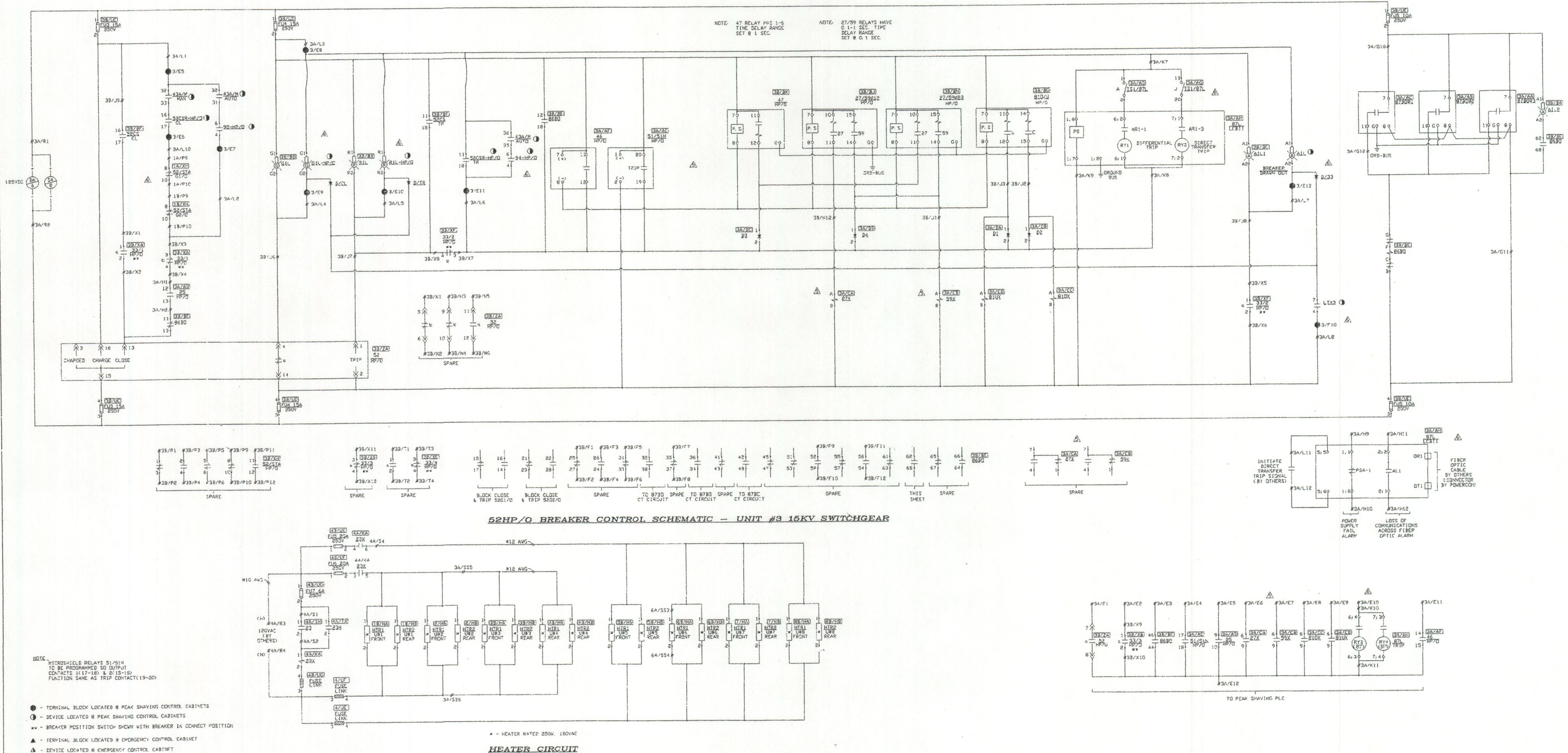


### THREE LINE DIAGRAM

SHEET 5 OF 11

[illegible]






REV	REVISIONS
1	REV. PER ELECTRICAL ENGINEERING UPDATE 12/17/97 RKS/ST/AG
2	REVISED PER M/D DESIGN 1/06/98 RKS/1B/AG
3	REVISED PER M/D DESIGN 1/06/98 RKS/1B/AG
4	REVISED PER M/D DESIGN 1/30/98 RKS/1B/AG
5	REV. AS BUILT 03/25/98 1H/1P/AG
6	REV. PER START-UP AND COMMISSIONING 11/06/98 RKS/1B/AMH/AG

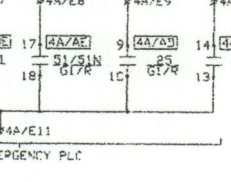
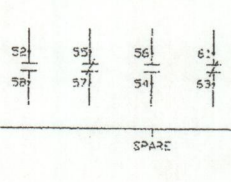
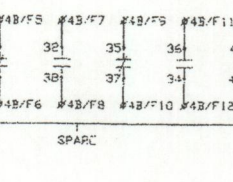
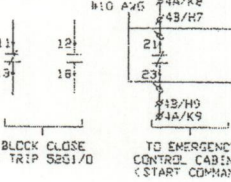
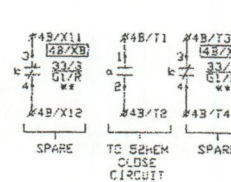
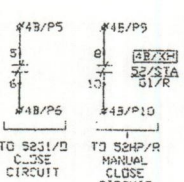
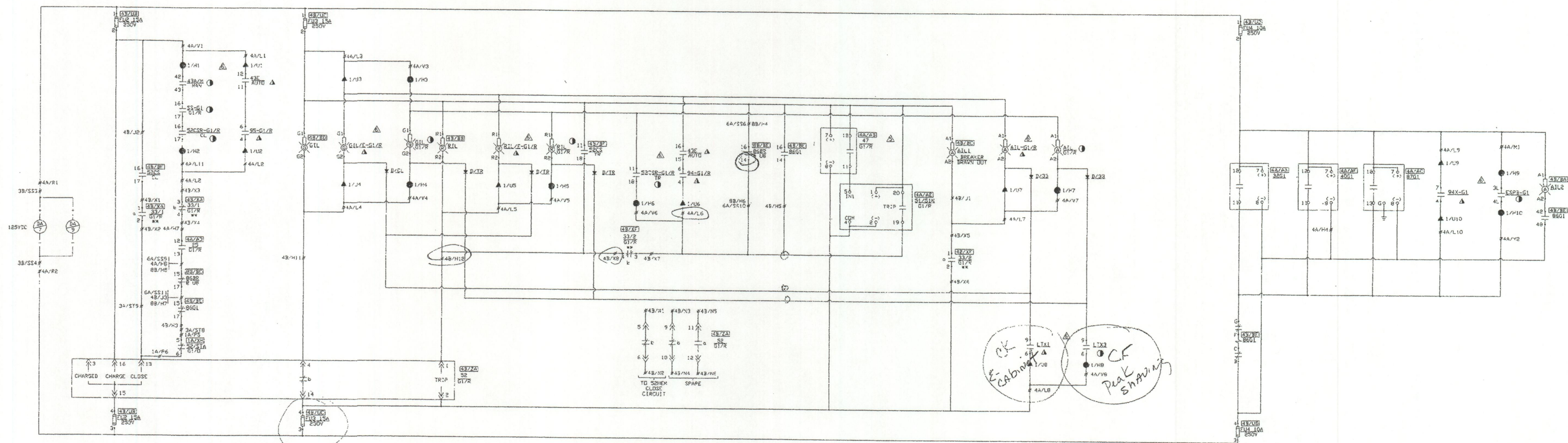
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DESCRIPTION OF OPERATION
N/A
SUMMARY
S-13858
FRONT VIEW
D-10161
SCHEMATIC
DW-11027
WIRING DIAGRAM
LW-11042

CUST. ALBAN ENGINE POWER SYSTEM	
P.O. NO. 43036	
ENGR. ILYA HIEKIN	DATE 12/1/97
DRWN. DAVID HACHEY	DATE 12/1/97
CHKD. RAJ K. SHARMA	DATE 12/19/97
APPD. ALEX GELFEN	DATE 12/1/97
APPD.	DATE
APPD.	DATE

	
WEB SITE <a href="http://www.powerconcorp.com">http://www.powerconcorp.com</a>	
TITLE 52HP/40 SCHEMATIC DIAGRAM & HEATER CIRCUIT 15KV METAL-CLAD SWITCHGEAR, RATED 13.8KV NOMINAL, 1200A, 3-PHASE 3-WIRE, 60HZ, 95KV BIL, 500MVA	
STATION MSA HANBURG STREET GEN PLANT	
LOCATION BALTIMORE, MARYLAND	
SO#01-27176	DW-11027
	REV 6





NOTE: MICROSHIELD RELAYS (S1/S2) TO BE PROGRAMMED TO BUYP/ CONTACTS 1 (17-18) AND 8 (19-16) FUNCTION SAME AS TRIP CONTACT (14-15)

● - TERMINAL BLOCK LOCATED @ PEAK SHAVING CONTROL CABINETS

○ - DEVICE LOCATED @ PEAK SHAVING CONTROL CABINETS

▲ - TERMINAL BLOCK LOCATED @ EMERGENCY CONTROL CABINET

△ - DEVICE LOCATED @ EMERGENCY CONTROL CABINET

W - BREAKER POSITION SWITCH SHOWN WITH BREAKER IN CONTACT POSITION

52Q1/R BREAKER CONTROL SCHEMATIC - UNIT #4 15KV SWITCHGEAR

REV	DESCRIPTION	DATE
1	REVISED PER ADDITIONAL ENGINEERING UPDATE	12/17/97
2	REVISED PER ADDITIONAL ENGINEERING UPDATE	12/17/97
3	REVISED PER ADDITIONAL ENGINEERING UPDATE	12/17/97
4	REVISED PER ADDITIONAL ENGINEERING UPDATE	12/17/97
5	REVISED PER ADDITIONAL ENGINEERING UPDATE	12/17/97
6	REVISED PER ADDITIONAL ENGINEERING UPDATE	12/17/97
7	REVISED PER ADDITIONAL ENGINEERING UPDATE	12/17/97
8	REVISED PER ADDITIONAL ENGINEERING UPDATE	12/17/97
9	REVISED PER ADDITIONAL ENGINEERING UPDATE	12/17/97
10	REVISED PER ADDITIONAL ENGINEERING UPDATE	12/17/97

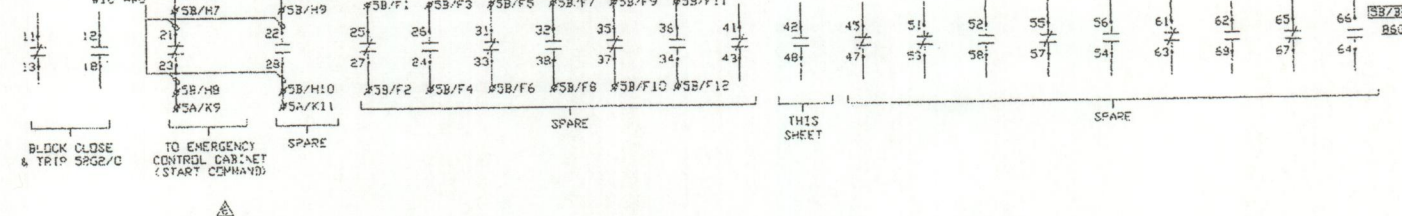
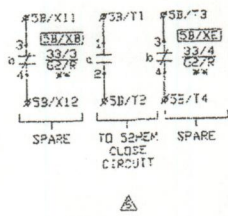
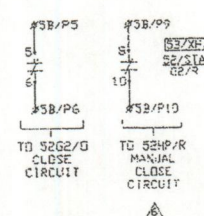
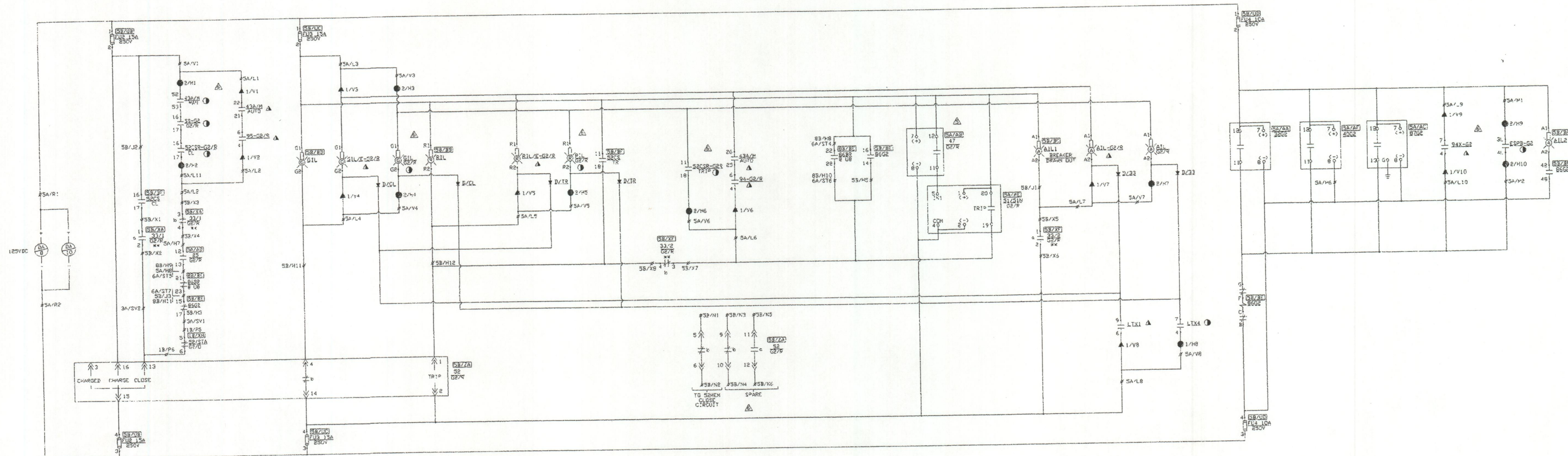
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DESCRIPTION OF OPERATION	N/A
SUMMARY	S-13858
FRONT VIEW	D-10161
SCHEMATIC	DW-11027
WIRING DIAGRAM	DW-11042

CUST. ALBAN ENGINE POWER SYSTEM	P.O. NO. 43036
ENGR. ILYA HIEKIN	DATE 12/1/97
DRWN. DAVID HACHEY	DATE 12/1/97
CHKD. RAJ K. SHARMA	DATE 12/19/97
APPD. ALEX GELFEN	DATE 12/1/97
APPD.	DATE
APPD.	DATE

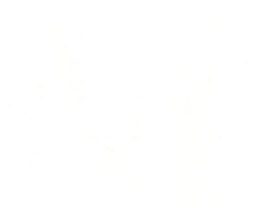
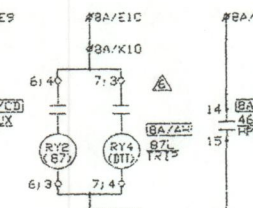
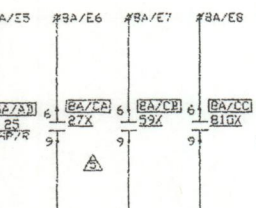
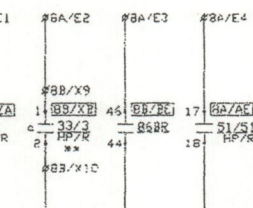
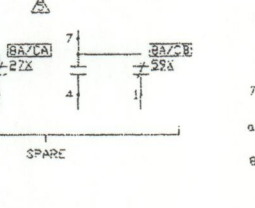
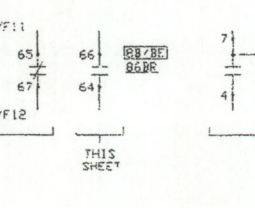
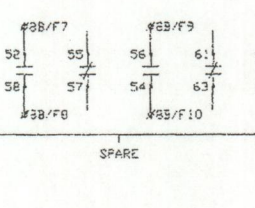
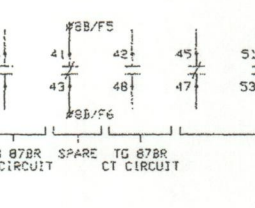
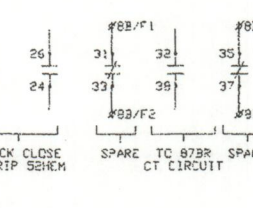
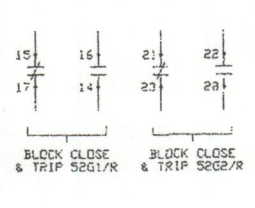
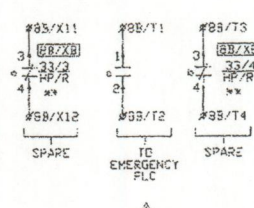
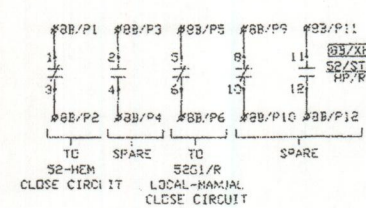
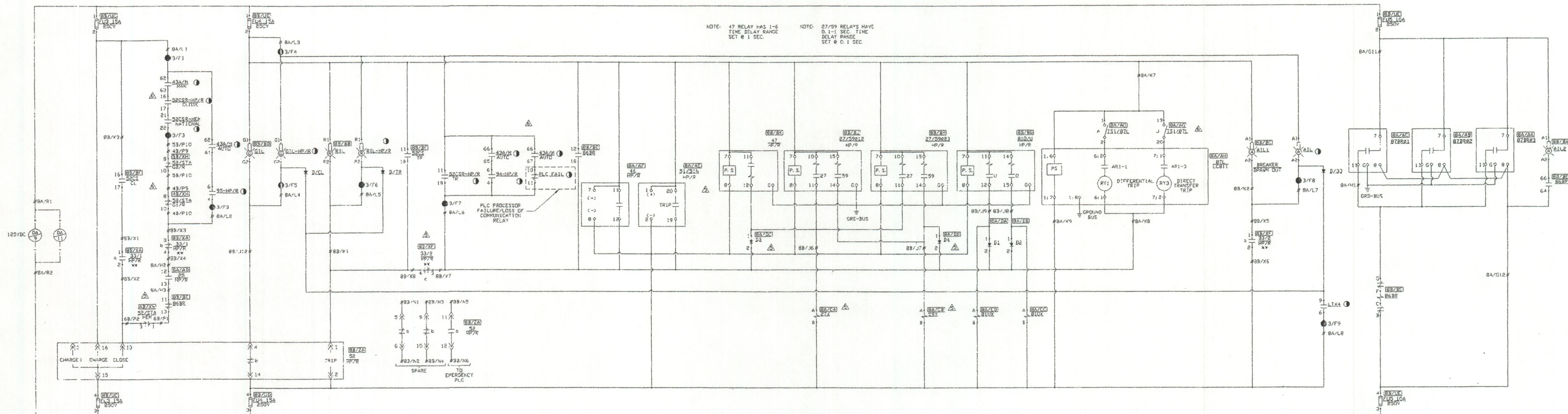
TITLE 52Q1/R & 52Q2/R SCHEMATIC DIAGRAM	15KV METAL-CLAD SWITCHGEAR, RATED 15.2KV NOMINAL, 1200A, 3-PHASE, 3-WIRE, 60HZ, 95KV BIL, 500MVA
STATION NSA HAMBURG STREET GEN. PLANT	LOCATION BALTIMORE, MARYLAND
SO#01-27176	DW-11027
REV. 6	







DW-11027



52HP/R BREAKER CONTROL SCHEMATIC - UNIT #B 15KV SWITCHGEAR

NOTES:  
MICROSHIELD RELAYS 51/51M  
TO BE REPROGRAMMED TO OUTPUT  
CONTACTS 1517-1518 & 1519-1520  
FUNCTIONS ARE AS TRIP CONTACTS (15-20)

- ▲ - TERMINAL BLOCK LOCATED @ EMERGENCY CONTROL CABINET
- △ - DEVICE LOCATED @ EMERGENCY CONTROL CABINET
- - TERMINAL BLOCK LOCATED @ GENERATOR PARALLELING CONTROL PANEL
- - DEVICE LOCATED @ GENERATOR PARALLELING CONTROL PANEL
- - BREAKER POSITION SWITCH SHOWN WITH BREAKER IN CONTACT POSITION

REVISIONS	DESCRIPTION	DATE	BY	CHKD
1	REVISED PER ADDITION OF 15KV SWITCHGEAR	12/17/97	RKS/ST/AG	
2	REVISED PER ADDITION OF 15KV SWITCHGEAR	12/17/97	RKS/ST/AG	
3	REVISED PER ADDITION OF 15KV SWITCHGEAR	12/17/97	RKS/ST/AG	
4	REVISED PER ADDITION OF 15KV SWITCHGEAR	12/17/97	RKS/ST/AG	
5	REVISED PER ADDITION OF 15KV SWITCHGEAR	12/17/97	RKS/ST/AG	
6	REVISED PER ADDITION OF 15KV SWITCHGEAR	12/17/97	RKS/ST/AG	
7	REVISED PER ADDITION OF 15KV SWITCHGEAR	12/17/97	RKS/ST/AG	
8	REVISED PER ADDITION OF 15KV SWITCHGEAR	12/17/97	RKS/ST/AG	
9	REVISED PER ADDITION OF 15KV SWITCHGEAR	12/17/97	RKS/ST/AG	
10	REVISED PER ADDITION OF 15KV SWITCHGEAR	12/17/97	RKS/ST/AG	

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DESCRIPTION OF OPERATION	CUST. ALBAN ENGINE POWER SYSTEM
N/A	P.O. NO. 43036
SUMMARY	BRGR. ILYA HIEKIN DATE 12/1/97
FRONT VIEW	DRWN. DAVID HACHEY DATE 12/1/97
B-10161	CHKD. RAJ K. SHARMA DATE 12/1/97
SCHEMATIC	APPD. ALEX GELFEN DATE 12/1/97
DW-11027	APPD. DATE
WIRING DIAGRAM	APPD. DATE
DW-11042	

DESCRIPTION OF OPERATION	CUST. ALBAN ENGINE POWER SYSTEM
N/A	P.O. NO. 43036
SUMMARY	BRGR. ILYA HIEKIN DATE 12/1/97
FRONT VIEW	DRWN. DAVID HACHEY DATE 12/1/97
B-10161	CHKD. RAJ K. SHARMA DATE 12/1/97
SCHEMATIC	APPD. ALEX GELFEN DATE 12/1/97
DW-11027	APPD. DATE
WIRING DIAGRAM	APPD. DATE
DW-11042	

DESCRIPTION OF OPERATION	CUST. ALBAN ENGINE POWER SYSTEM
N/A	P.O. NO. 43036
SUMMARY	BRGR. ILYA HIEKIN DATE 12/1/97
FRONT VIEW	DRWN. DAVID HACHEY DATE 12/1/97
B-10161	CHKD. RAJ K. SHARMA DATE 12/1/97
SCHEMATIC	APPD. ALEX GELFEN DATE 12/1/97
DW-11027	APPD. DATE
WIRING DIAGRAM	APPD. DATE
DW-11042	

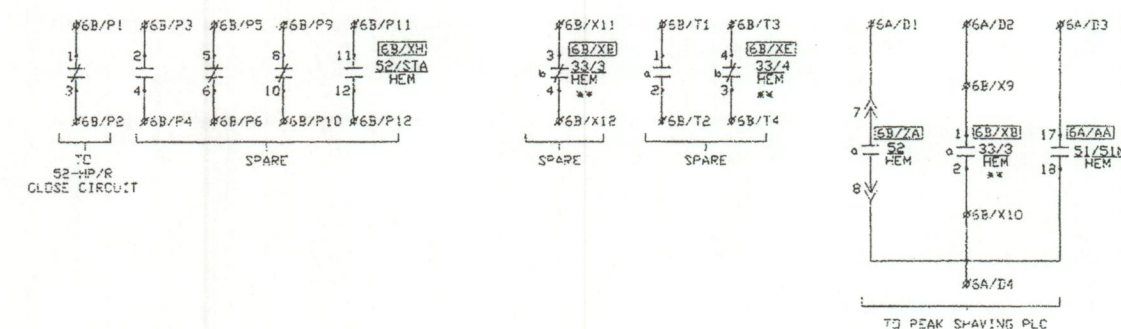
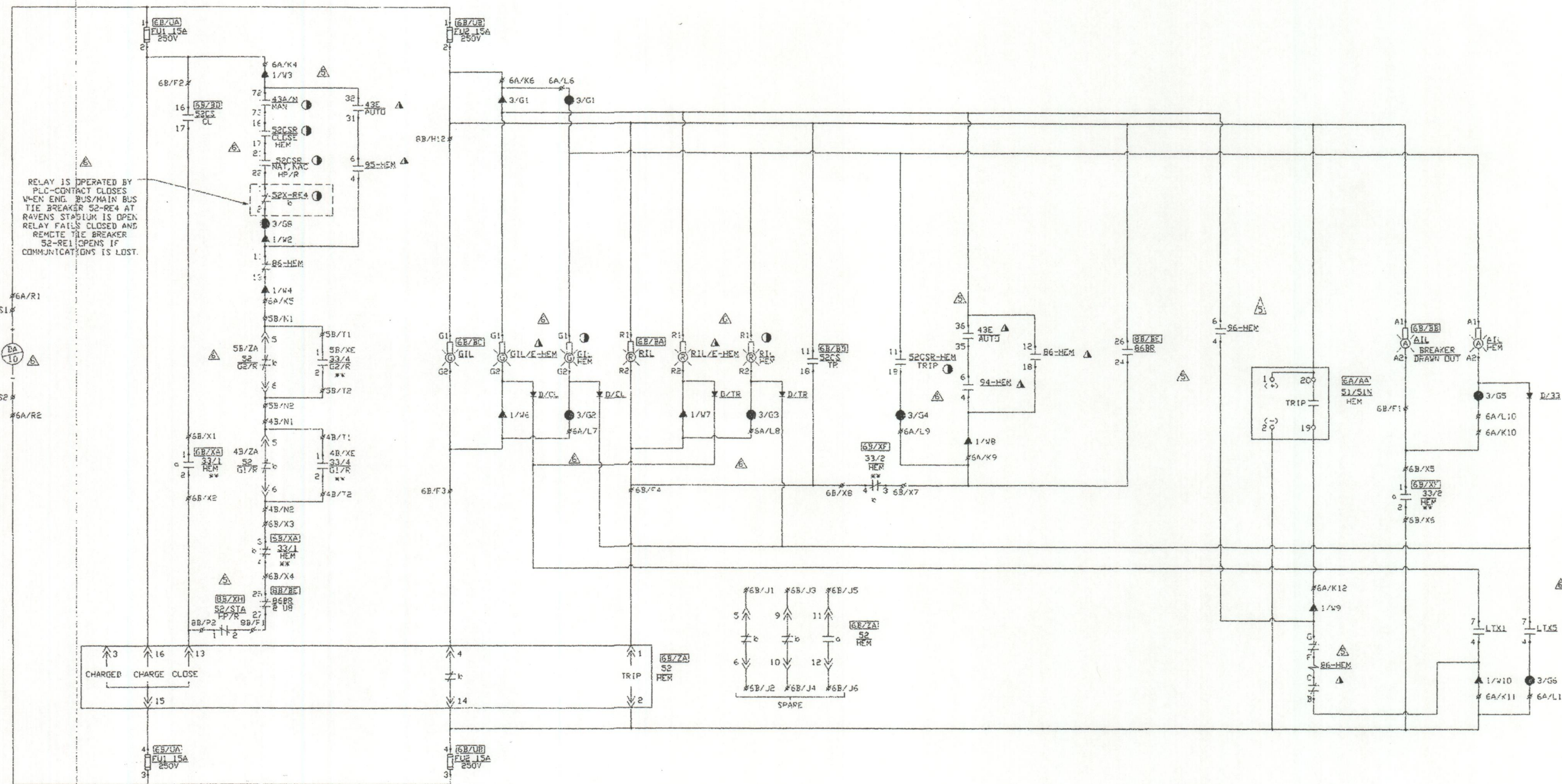
Powercon Corp  
WEB SITE: <http://www.powerconcorp.com>

TITLE: 52HP/R & 52HEM SCHEMATIC DIAGRAM  
15KV METAL-CLAD SWITCHGEAR, RATED 13.2KV NOMINAL,  
1200A, 3-PHASE, 3-WIRE, 60HZ, 95KV BIL, 500MVA  
STATION: MSA HAMBURG STREET GEN. PLANT  
LOCATION: BALTIMORE, MARYLAND

SO#01-27176 DW-11027 REV 6



DW-11027



52HEM BREAKER CONTROL SCHEMATIC - UNIT #6 15KV SWITCHGEAR

NOTE:  
MICROSHIELD RELAYS 51/2/1H  
TO BE PROGRAMMED TO OUTPUT  
CONTACTS 11-17-18 & 19-20  
FUNCTION SAME AS TRIP CONTACT (19-20)

- ▲ - TERMINAL BLOCK LOCATED @ EMERGENCY CONTROL CABINET
- - DEVICE LOCATED @ EMERGENCY CONTROL CABINET
- - TERMINAL BLOCK LOCATED @ PEAK SHAVING CONTROL CABINETS
- - DEVICE LOCATED @ PEAK SHAVING CONTROL CABINETS
- - BREAKER POSITION SWITCH SHOWN WITH BREAKER IN CORRECT POSITION

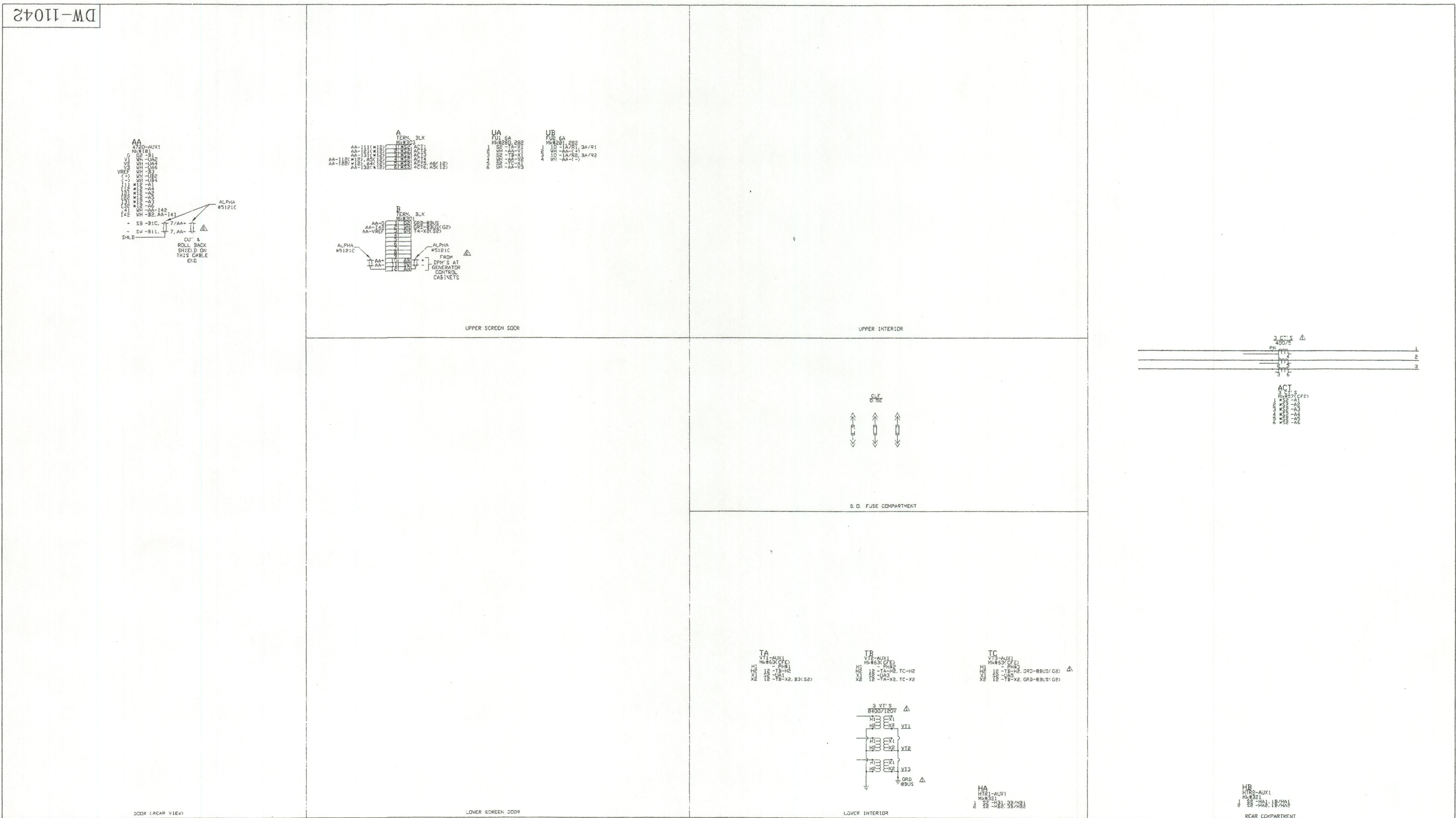
SHEET 11 OF 11

REVISIONS		DESCRIPTION OF OPERATION		CUST. ALBAN ENGINE POWER SYSTEM		Powercon Corp	
1	REVISED PER ELECTRICAL	N/A	S-13858	ENGR. ILYA HIEKIN	DATE 12/1/97	WEB SITE http://www.powerconcorp.com	
2	REVISED PER ELECTRICAL	N/A	D-10161	DRWN. DAVID HACHEY	DATE 12/1/97	TITLE 52HP/R & 52HEM SCHEMATIC DIAGRAM	
3	REVISED PER ELECTRICAL	N/A	SCHEMATIC	CHKD. RAJ K. SHARMA	DATE 12/19/97	15KV METAL-CLAD SWITCHGEAR, RATED 15.2KV NOMINAL,	
4	REVISED PER ELECTRICAL	N/A	DW-11027	APPD. ALEX GELFEN	DATE 12/1/97	1200A, 3-PHASE, 3-WIRE, 60HZ, 95KV BIL, 500MVA	
5	REVISED PER ELECTRICAL	N/A	WIRING DIAGRAM	APPD. _____	DATE _____	STATION MSA HAMBURG STREET GEN. PLANT	
6	REVISED PER ELECTRICAL	N/A	DW-11042	APPD. _____	DATE _____	LOCATION BALTIMORE, MARYLAND	
						SO#01-27176	DW-11027
						REV. 6	



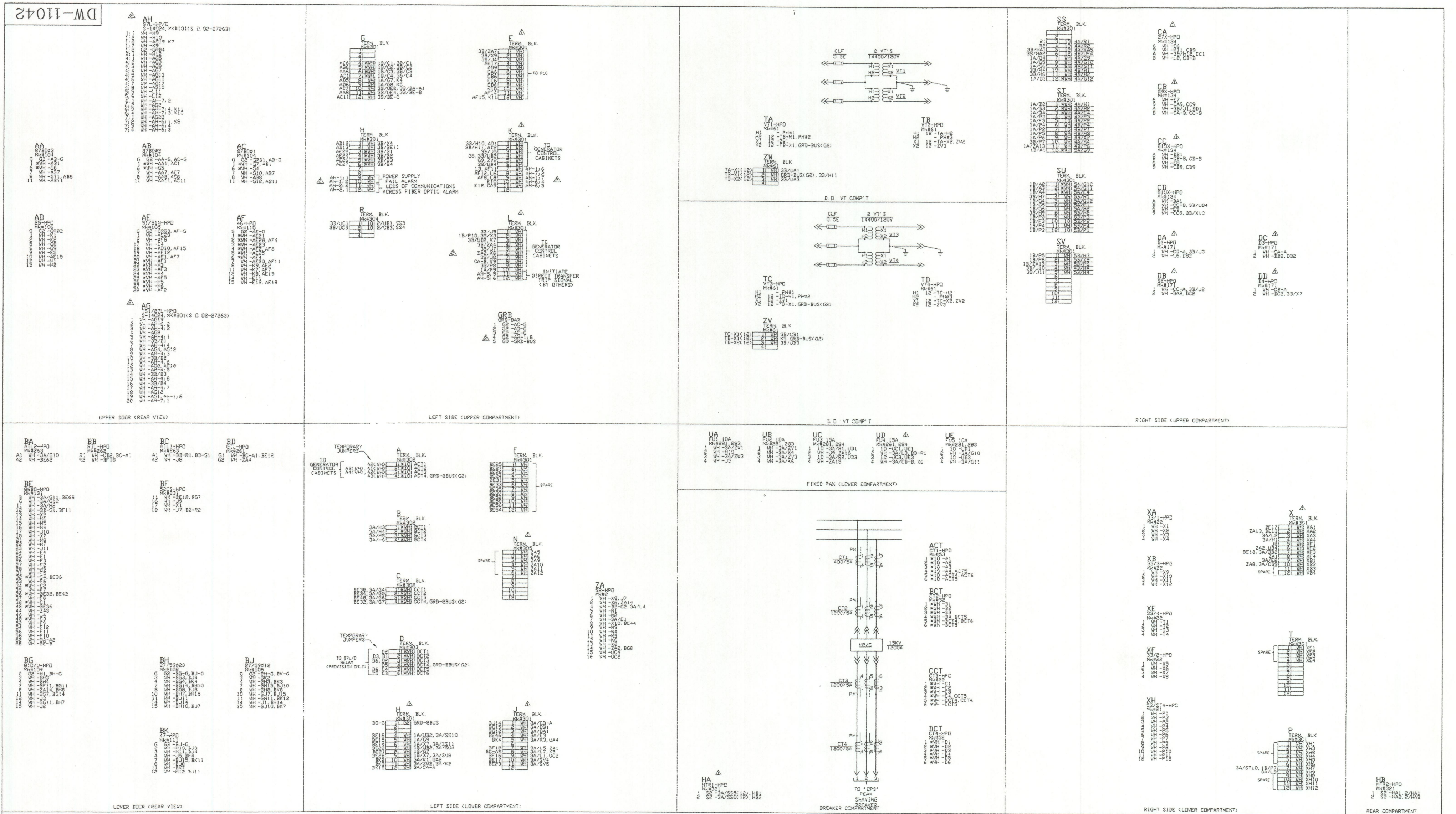






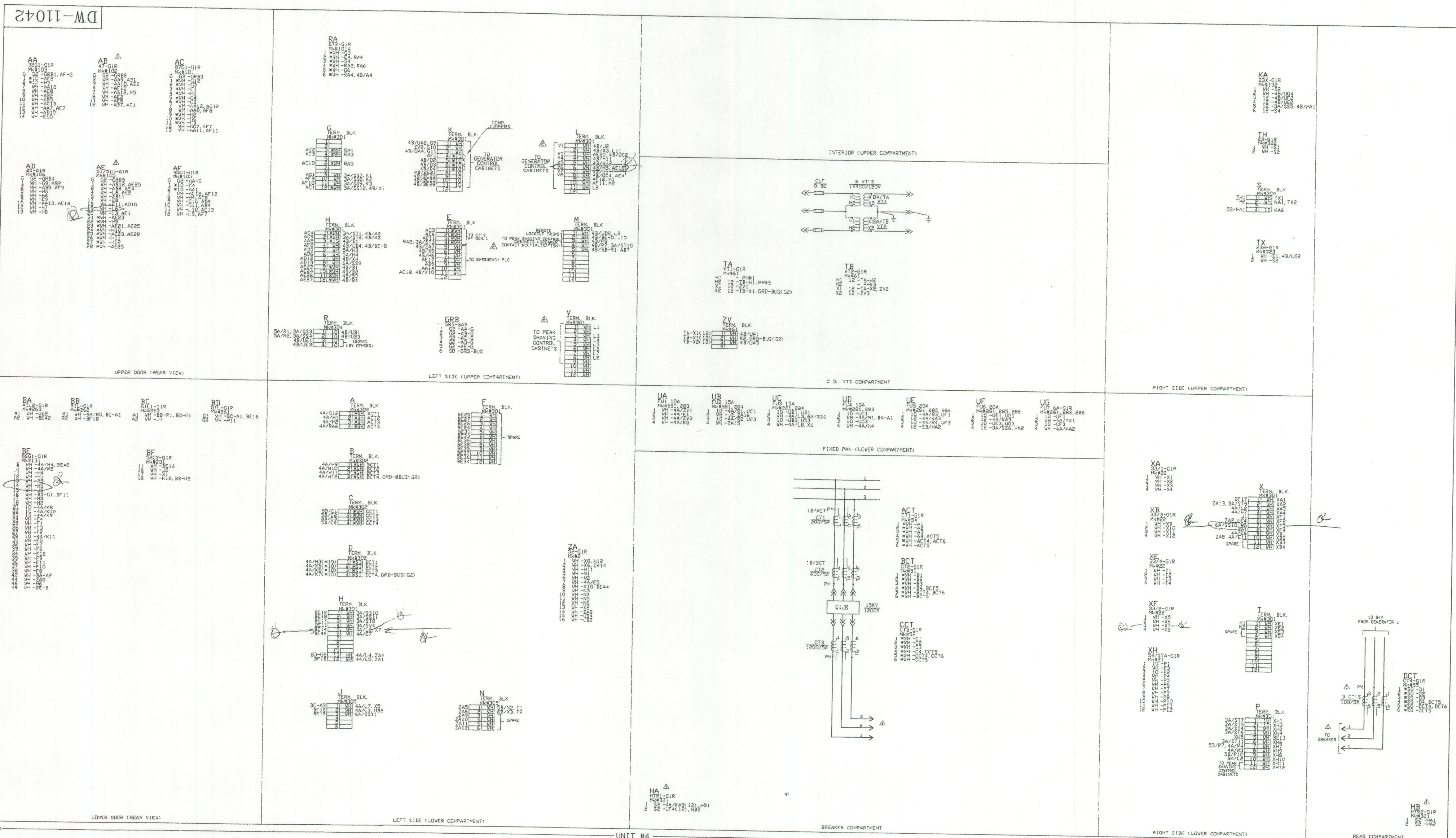
REVISIONS		DESCRIPTION OF OPERATION		CUST. ALBAN ENGINE POWER SYSTEM		Powercon Corp WEB SITE: <a href="http://www.powerconcorp.com">http://www.powerconcorp.com</a>
REV. AS BUILT	AND TESTED	N/A	SUMMARY	P.O. NO. 43036		
03/26/98	TH/LP/AG		S-13858	ENGR. J. BOGDANOVSKI	DATE 2/9/98	TITLE: WIRING DIAGRAM - 15KV METAL-CLAD SWGR. RATED 13.2KV NDM 1200A, 3 PHASE, 3 WIRE, 60HZ, 95KV BIL, 500MVA
RE-FLX STARTING	RE-FLX STARTING		D-10161	DRWN. J. BOGDANOVSKI	DATE 2/9/98	
RE-FLX STARTING	RE-FLX STARTING			CHKD. RAJ K. SHARMA	DATE 2/9/98	STATION: MSA HAMBURG STREET GEN. PLANT LOCATION: BALTIMORE, MARYLAND
RE-FLX STARTING	RE-FLX STARTING			APPD. ALEX GELFEN	DATE 2/9/98	
RE-FLX STARTING	RE-FLX STARTING			APPD.	DATE	SO#01-27176
RE-FLX STARTING	RE-FLX STARTING					DW-11042





<b>REVISIONS</b> REV. AS BUILT AND TESTED 02/26/98 LB/LP/AG REV. PER START-UP OF PEAK SHAVING CONTROLS 11/06/98 RKS/MB/AMH/AG	THIS DRAWING AND ALL PREVIOUS ISSUES ARE THE SOLE PROPERTY OF THE POWERCON CORPORATION OF SEVERN, MARYLAND. NEITHER RECEIPT OF SAID DRAWING, NOR POSSESSION THEREOF, IMPLIES OR TRANSFERS ANY RIGHTS OR LICENSE TO USE THE DRAWINGS, OR THE SUBJECT MATTER, DESIGN, OR TECHNICAL INFORMATION SHOWN THEREON, OR ANY RIGHT TO COPY OR OTHERWISE REPRODUCE THIS DRAWING OR ANY PART THEREOF. NEITHER THIS DRAWING NOR ANY INFORMATION CONTAINED HEREIN, MAY BE COPIED, REPRODUCED OR OTHERWISE USED WITHOUT FIRST OBTAINING WRITTEN AUTHORIZATION OF THE POWERCON CORPORATION. PRINTS ARE LOANED SUBJECT TO RETURN UPON DEMAND, AND THE EXPRESS CONDITION THAT THEY WILL NOT BE USED IN ANY WAY DETRIMENTAL TO THE POWERCON CORPORATION.	<b>DESCRIPTION OF OPERATION</b> N/A <b>SUMMARY</b> S-13258 <b>FRONT VIEW</b> D-10161 <b>SCHEMATIC</b> DW-11027 <b>WIRING DIAGRAM</b> DW-11042	<b>CUST. ALBAN ENGINE POWER SYSTEM</b> P.O. NO. 43036 <b>ENGR. I. BOGDANOVSKI</b> DATE 2/9/98 <b>DRWN. I. BOGDANOVSKI</b> DATE 2/9/98 <b>CHKD. RAJ K. SHARMA</b> DATE 2/9/98 <b>APPD. ALEX GELFEN</b> DATE 2/9/98 <b>APPD.</b> DATE	<b>Powercon Corp.</b> WEB SITE <a href="http://www.powerconcorp.com">http://www.powerconcorp.com</a> <b>TITLE WIRING DIAGRAM - 15KV METAL-CLAD SWGR. RATED 13.2KV NOM. 1200A, 3 PHASE, 3 WIRE, 60HZ. 95KV BIL. 50GMYA</b> <b>STATION MSA HAMBURG STREET GEN. PLANT</b> <b>LOCATION BALTIMORE, MARYLAND</b> <b>SO#01-27176</b> <b>DW-11042</b> <b>REV. 2</b>
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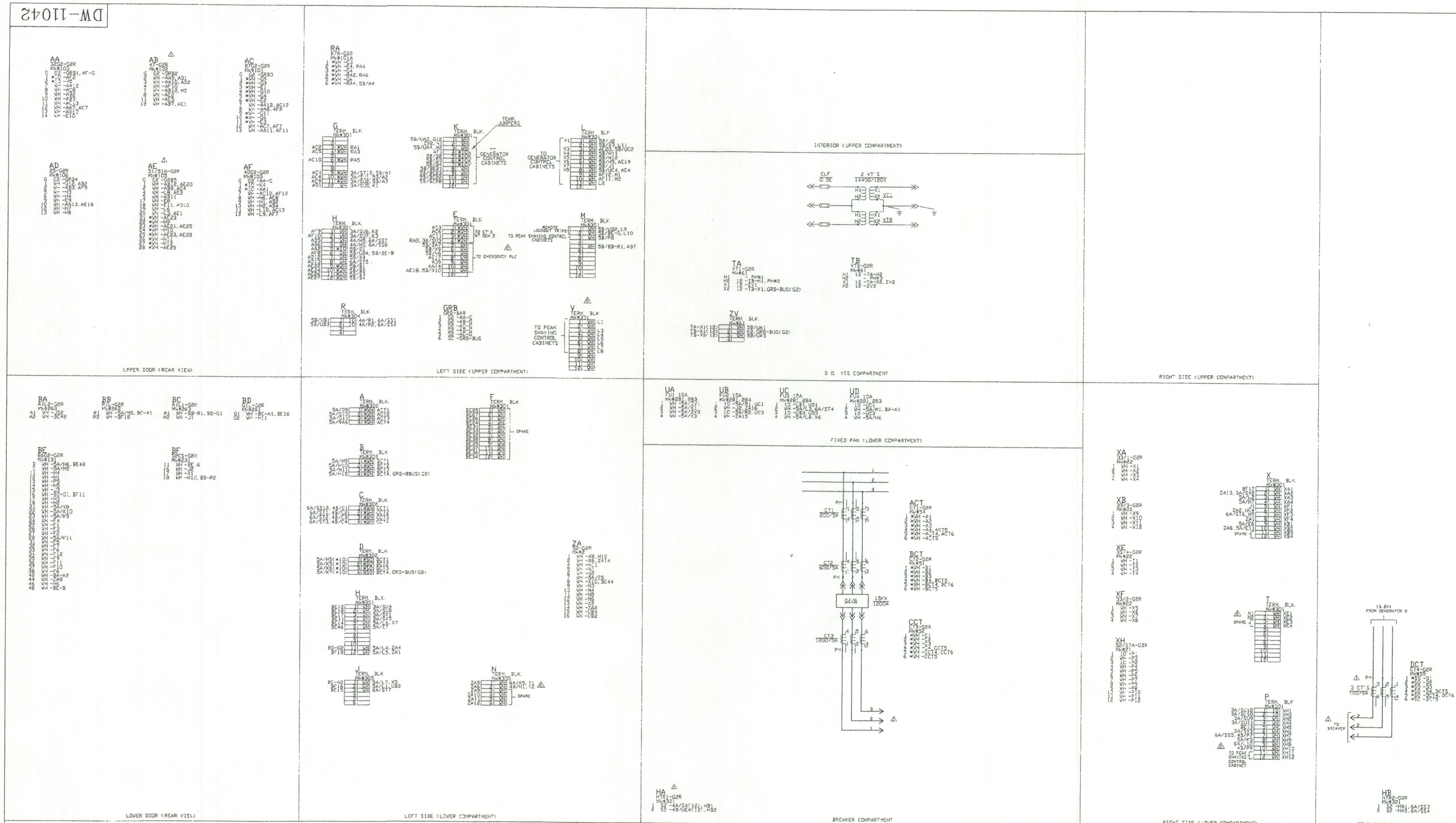



<b>REVISIONS</b> REV. AS BUILT 03/26/98 TR/LP/AG REV. PER START-UP 04/01/98 TR/LP/AG REV. PER START-UP 04/01/98 TR/LP/AG REV. PER START-UP 04/01/98 TR/LP/AG	THIS DRAWING AND ALL PREVIOUS ISSUES ARE THE SOLE PROPERTY OF THE POWERCON CORPORATION OF SEVERN, MARYLAND. NEITHER RECEIPT OF SAID DRAWING, NOR POSSESSION THEREOF, IMPLIES OR TRANSFERS ANY RIGHTS OR LICENSE TO USE THE DRAWINGS, OR THE SUBJECT MATTER, DESIGN, OR TECHNICAL INFORMATION SHOWN THEREON, OR ANY PART THEREOF. NEITHER THIS DRAWING NOR ANY INFORMATION CONTAINED THEREIN, MAY BE COPIED, REPRODUCED OR OTHERWISE USED WITHOUT FIRST OBTAINING WRITTEN AUTHORIZATION OF THE POWERCON CORPORATION. PRINTS ARE LOANED SUBJECT TO RETURN UPON DEMAND, AND THE EXPRESS CONDITION THAT THEY WILL NOT BE USED IN ANY WAY DETRIMENTAL TO THE POWERCON CORPORATION.	<b>DESCRIPTION OF OPERATION</b> N/A <b>SUMMARY</b> S-13858 <b>FRONT VIEW</b> 5-10161 <b>SCHEMATIC</b> DW-11027 <b>WIRING DIAGRAM</b> DW-11042	<b>CUST.</b> ALBAN ENGINE POWER SYSTEM <b>P.O. NO.</b> 43036 <b>ENGR.</b> J. BOGDANSKY <b>DATE</b> 2/9/98 <b>DRWN.</b> I. BOGDANSKY <b>DATE</b> 2/9/98 <b>CHKD.</b> RAJ K. SHARMA <b>DATE</b> 2/9/98 <b>APPD.</b> ALEX GELFEN <b>DATE</b> 2/9/98	<b>Powercon Corp.</b> WEB SITE <a href="http://www.powerconcorp.com">http://www.powerconcorp.com</a> <b>TITLE</b> WIRING DIAGRAM - 15KV METAL-CLAD SWGR RATED 13.2KV NDM 1200A, 3 PHASE, 3 WIRE, 60HZ, 95KV BIL, 300MVA <b>STATION</b> MSA HAMBURG STREET GEN PLANT <b>LOCATION</b> BALTIMORE, MARYLAND <b>SO#01-27176</b> <b>DW-11042</b> REV. 2
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5261/R



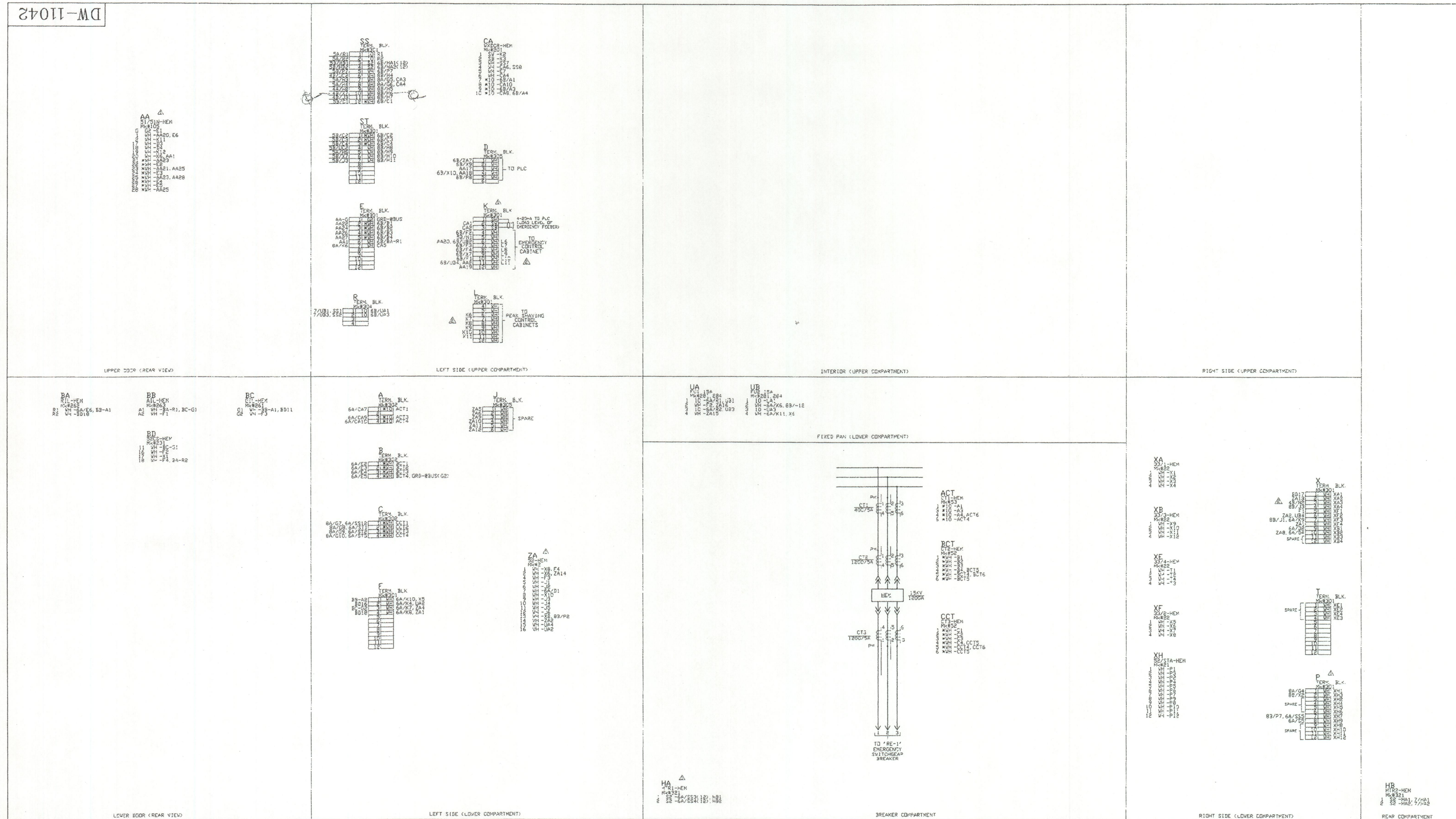
DW-11042



REVISIONS	REV. AS BUILT	THIS DRAWING AND ALL PREVIOUS ISSUES ARE THE SOLE PROPERTY OF THE POWERCON CORPORATION OF SEVERN, MARYLAND. NEITHER RECEIPT OF SAID DRAWING, NOR POSSESSION THEREOF, IMPLIES OR TRANSFERS ANY RIGHTS OR LICENSE TO USE THE DRAWINGS, OR THE SUBJECT MATTER, DESIGN, OR TECHNICAL INFORMATION SHOWN THEREON, OR ANY RIGHT TO COPY OR OTHERWISE REPRODUCE THIS DRAWING OR ANY PART THEREOF, NOR THIS DRAWING NOR ANY INFORMATION CONTAINED THEREIN, MAY BE COPIED, REPRODUCED OR OTHERWISE USED WITHOUT FIRST OBTAINING WRITTEN AUTHORIZATION OF THE POWERCON CORPORATION. PRINTS ARE LOANED SUBJECT TO RETURN UPON DEMAND, AND THE EXPRESS CONDITION THAT THEY WILL NOT BE USED IN ANY WAY DETRIMENTAL TO THE POWERCON CORPORATION.	DESCRIPTION OF OPERATION	CUST. ALBAN ENGINE POWER SYSTEM		 WEB SITE <a href="http://www.powerconcorp.com">http://www.powerconcorp.com</a>	SHEET 3 OF 8
	REV. AS BUILT 03/26/98 1B/LP/AG REV. PEK START-UP 05/01/98 1B/LP/AG REV. PEK SHAVING 05/01/98 1B/LP/AG REV. PEK SHAVING 11/10/98 1B/LP/AG		N/A SUMMARY S-13858 FRONT VIEW D-10161 SCHEMATIC DW-11027 WIRING DIAGRAM DW-11042	F.O. No. 43036 ENGR. I. BOGDANOVSKI DATE 2/9/98 DRWN. I. BOGDANOVSKI DATE 2/9/98 CHKD. RAJ K. SHARMA DATE 2/9/98 APPD. DATE APPD. ALEX GELFEN DATE 2/9/98 APPD. DATE	TITLE WIRING DIAGRAM - 15KV METAL-CLAD SWGR. RATED 13.2KV NDM 1200A, 3 PHASE, 3 WIRE, 60HZ, 95KV BIL, 500MVA STATION MSA HAMBURG STREET GEN. PLANT LOCATION BALTIMORE, MARYLAND SO#01-27176 DW-11042		



DW-11042




-UNIT #6-

BREAKER COMPARTMENT

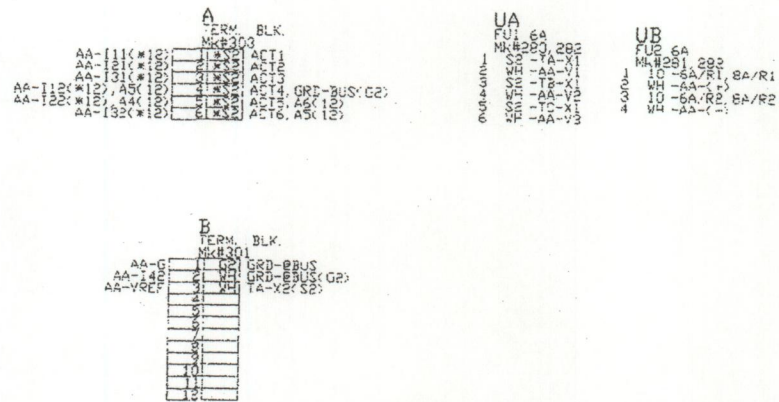
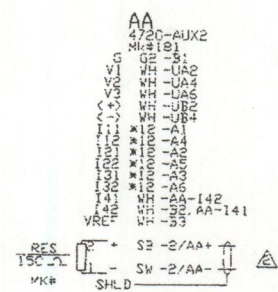
RIGHT SIDE (LOWER COMPARTMENT)

REAR COMPARTMENT

REVISIONS  REV. AS BUILT 03/06/98 19/LP/AG REV. PER START-UP OF PEAK SHAVING 01/06/98 RCM/VB/AM/AG	N/A	THIS DRAWING AND ALL PREVIOUS ISSUES ARE THE SOLE PROPERTY OF THE POWERCORP CORPORATION OF SEVERN, MARYLAND. NEITHER RECEIPT, NOR TRANSFER, NOR POSSESSION "HEREOF", IMPLIES OR TRANSFERS ANY RIGHTS OR LICENSE TO USE THE DRAWINGS, OR THE SUBSTANCE, DESIGN, OR TECHNICAL INFORMATION SHOWN THEREON, OR ANY RIGHT TO COPY OR OTHERWISE REPRODUCE THIS DRAWING OR ANY PART THEREOF. NEITHER THIS DRAWING NOR ANY INFORMATION CONTAINED THEREIN, MAY BE COPIED, REPRODUCED OR OTHERWISE USED WITHOUT FIRST OBTAINING WRITTEN AUTHORIZATION OF THE POWERCORP CORPORATION. PRINTS ARE LOANED SUBJECT TO RETURN PROMPTLY, AND THE EXPRESS CONDITION THAT THEY WILL NOT BE USED IN ANY WAY DETRIMENTAL TO THE POWERCORP CORPORATION.	DESCRIPTION OF OPERATION N/A	CUST. ALBAN ENGINE POWER SYSTEM	<div></div> WEB SITE <a href="http://www.powercorcorp.com">http://www.powercorcorp.com</a> TITLE WIRING DIAGRAM - 15KV METAL-CLAD SWGR. RATED 19.2KV NOV 1200A, 3 PHASE, 3 WIRE, 50HZ. 95KV BIL, 500NVA STATION MSA HAMBURG STREET GEN. PLANT LOCATION BALTIMORE, MARYLAND SO#01-27176DW-11042	SHEET 6 OF 8 REV.
	S-13698		SUMMARY	ENGR. I. BOGDANOVSKI DATE 2/9/98		
	D-10161		FRONT VIEW	DRWN. I. BOGDANOVSKI DATE 2/9/98		
	DW-11027		SCHEMATIC	CHKD. RAJ K. SHARMA DATE 2/9/98		
	DW-11042		WIRING DIAGRAM	APPD. DATE		
			APPD. ALEX GELFEN DATE 2/9/98	APPD. DATE		

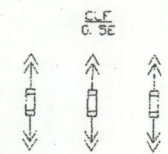


DW-11042

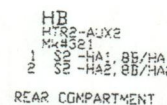
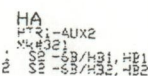
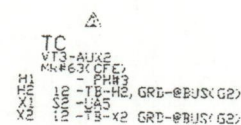
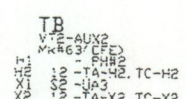
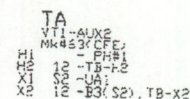


UPPER SCREEN DOOR

INTERIOR (UPPER COMPARTMENT)



B. D. FUSE COMPARTMENT



DOOR (REAR VIEW)

LOWER SCREEN DOOR

2 D VT COMP T

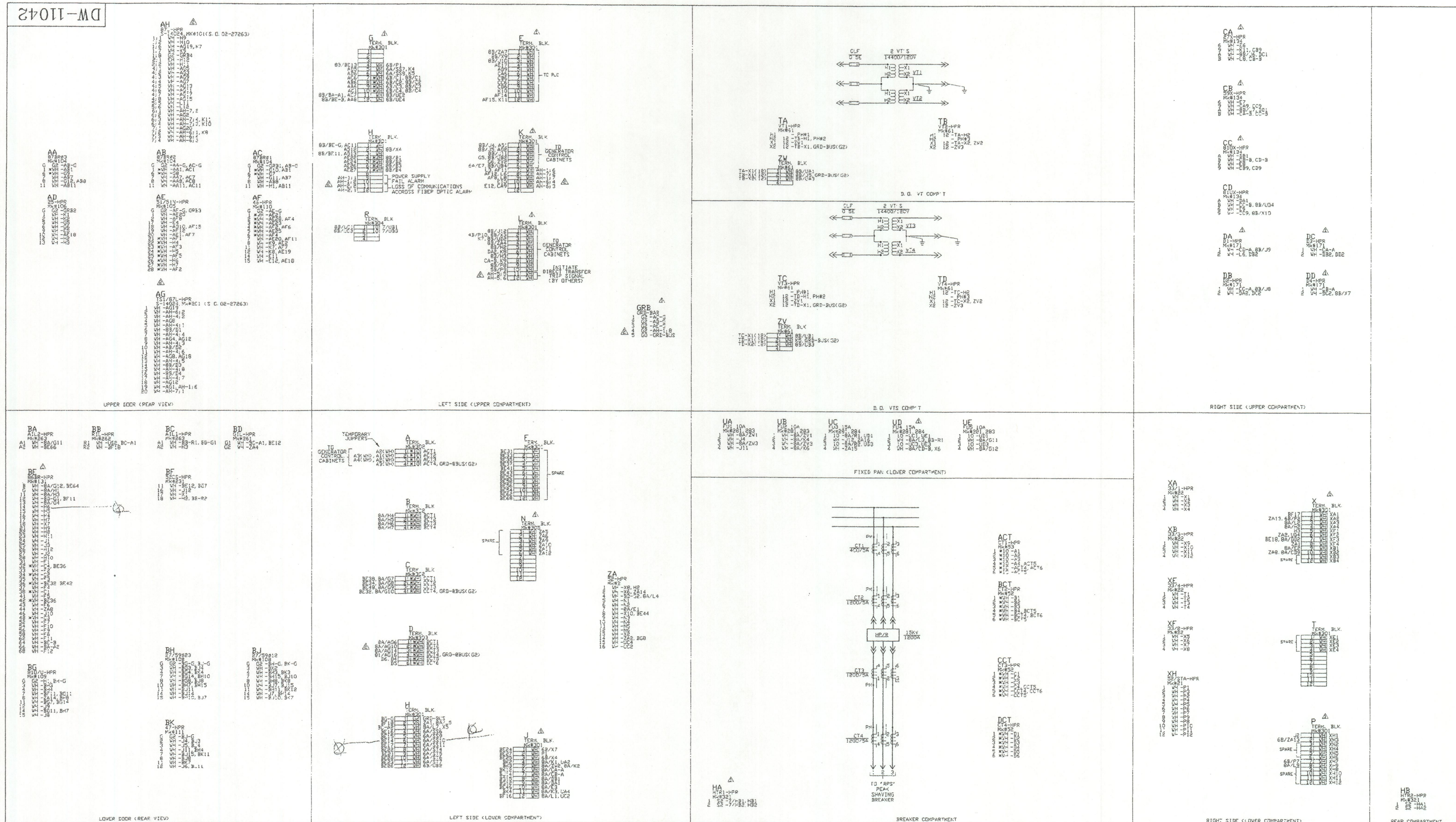
REAR COMPARTMENT

UNIT #7

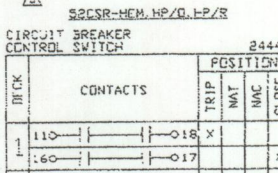
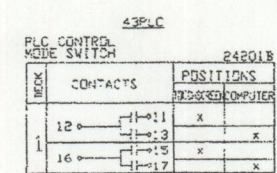
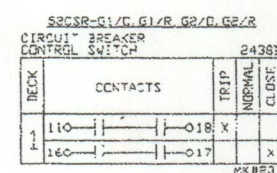
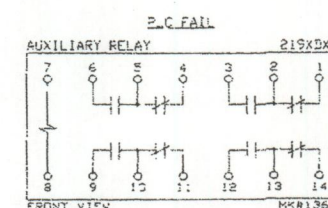
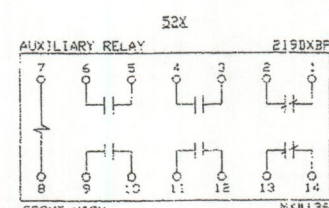
SHEET 7 OF 8

<p>REVISIONS</p> <p>REV. AS BUILT AND TESTED 03/26/98 TELP/AC</p> <p>REV. PER START-UP BY PEAK SHAVING 06/06/98 KKS/AB/AMM/AC</p>	<p>THIS DRAWING AND ALL PREVIOUS ISSUES ARE THE SOLE PROPERTY OF THE POWERCON CORPORATION OF SEVERN, MARYLAND. NEITHER RECEIPT OF SAID DRAWING, NOR POSSESSION THEREOF, IMPLIES OR TRANSFERS ANY RIGHTS OR LICENSE TO USE THE DRAWINGS, OR THE SUBJECT MATTER, DESIGN, OR TECHNICAL INFORMATION SHOWN THEREON, OR ANY PART THEREOF. NEITHER THIS DRAWING NOR ANY INFORMATION CONTAINED THEREIN, MAY BE COPIED, REPRODUCED OR OTHERWISE USED WITHOUT FIRST OBTAINING WRITTEN AUTHORIZATION OF THE POWERCON CORPORATION. PRINTS ARE LOANED SUBJECT TO RETURN UPON DEMAND, AND THE EXPRESS CONDITION THAT THEY WILL NOT BE USED IN ANY WAY DETRIMENTAL TO THE POWERCON CORPORATION.</p>	<p>DESCRIPTION OF OPERATION</p> <p>N/A</p> <p>SUMMARY</p> <p>S-13858</p> <p>FRONT VIEW</p> <p>D-10161</p> <p>SCHEMATIC</p> <p>DW-11027</p> <p>WIRING DIAGRAM</p> <p>DW-11042</p>	<p>CUST. ALBAN ENGINE POWER SYSTEM</p> <p>P.O. NO. 43036</p> <p>ENGR. I. BOGDANOVSKI DATE 2/9/98</p> <p>DRWN. I. BOGDANOVSKI DATE 2/9/98</p> <p>CHKD. RAJ K. SHARMA DATE 2/9/98</p> <p>APPD. ALEX GELFEN DATE 2/9/98</p>	<p>Powercon Corp</p> <p>WEB SITE <a href="http://www.powerconcorp.com">http://www.powerconcorp.com</a></p> <p>TITLE WIRING DIAGRAM - 15KV METAL-CLAD SWGR. RATED 13.2KV NDM 1200A, 3 PHASE, 3 WIRE, 60HZ, 95KV BIL, 500MVA</p> <p>STATION MSA HAMBURG STREET GEN PLANT</p> <p>LOCATION BALTIMORE, MARYLAND</p> <p>SO#01-27176</p> <p>DW-11042</p> <p>REV 2</p>
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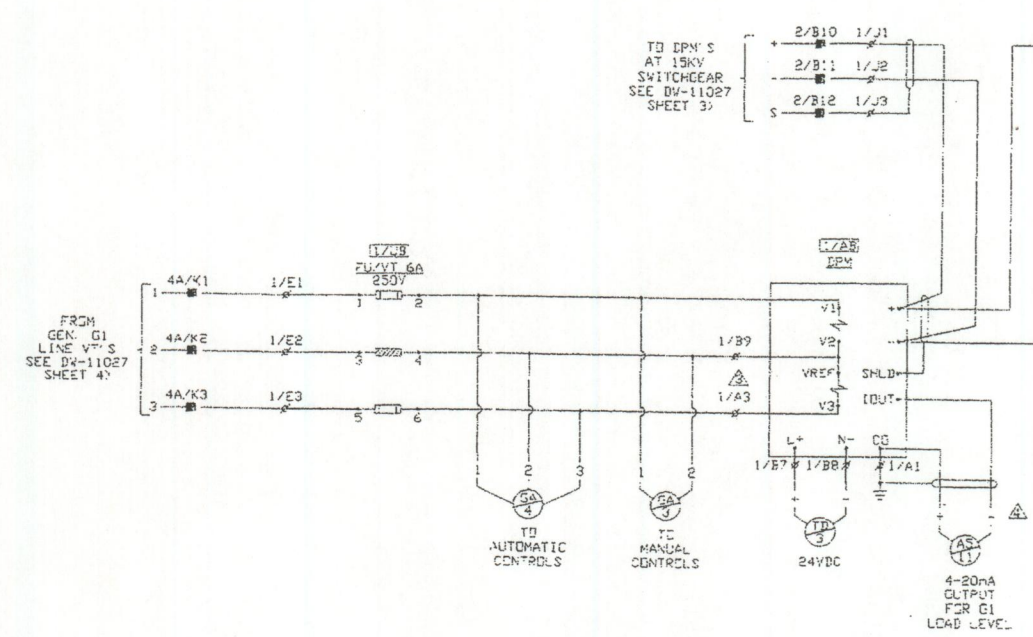




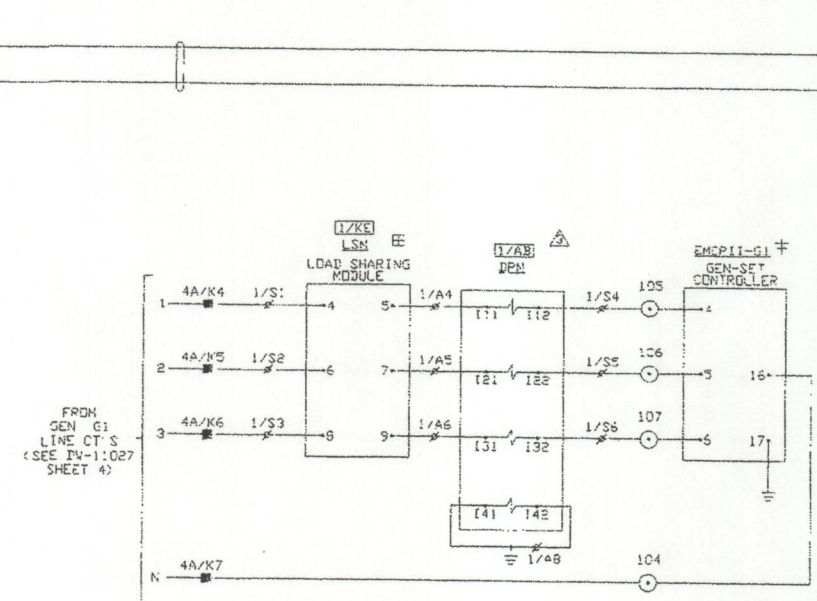




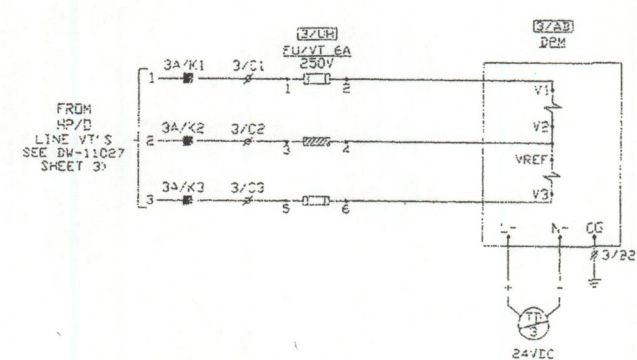
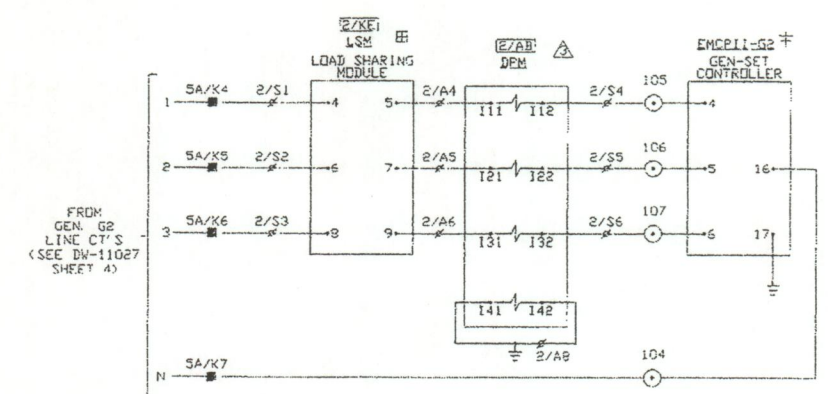
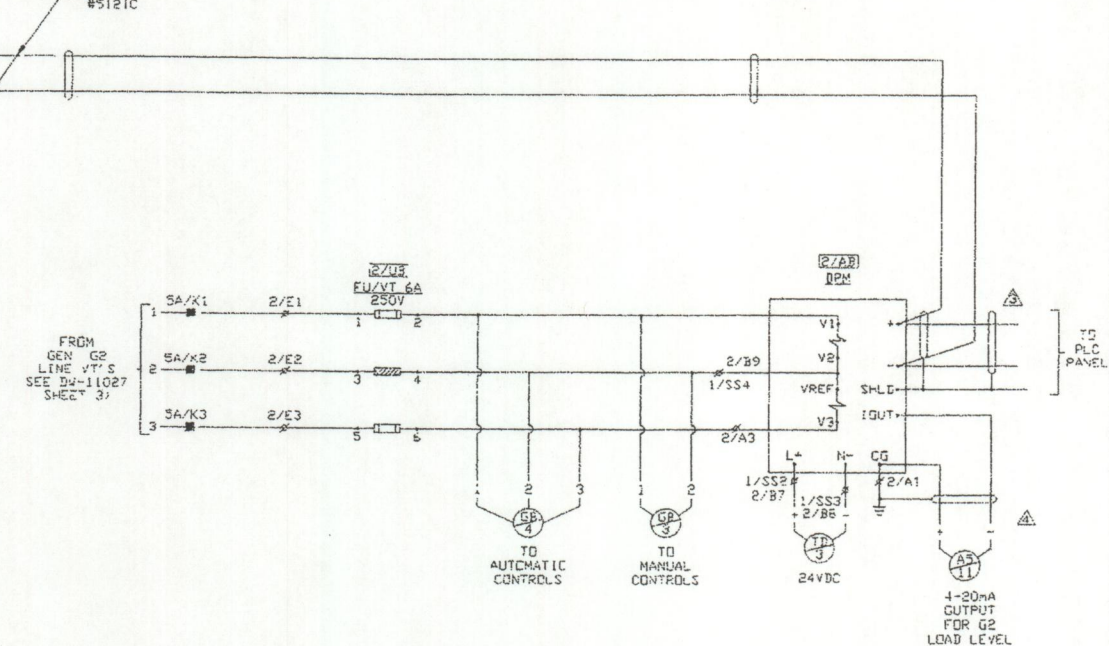




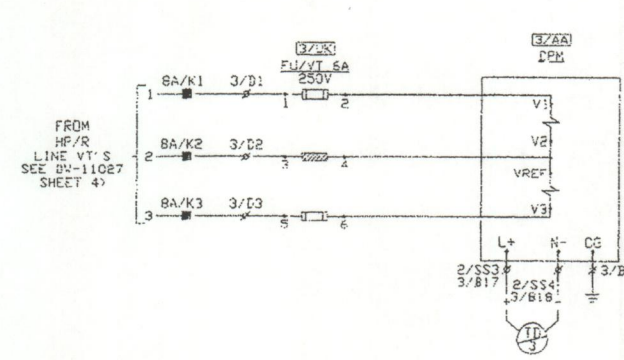
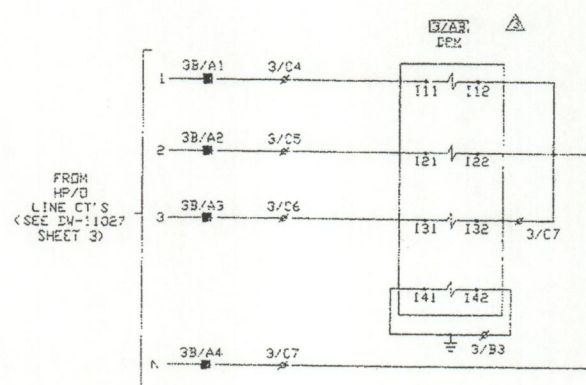
### GENERATOR G1 METERING



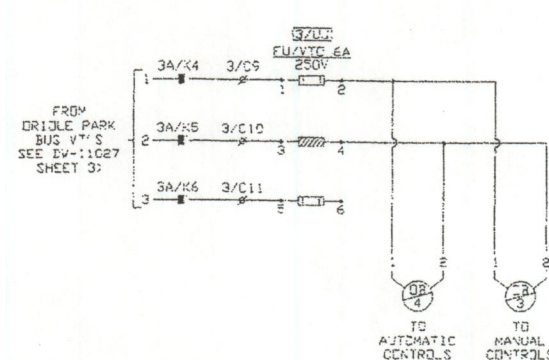
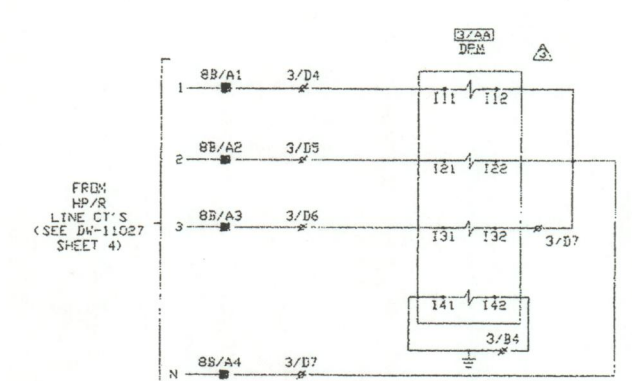
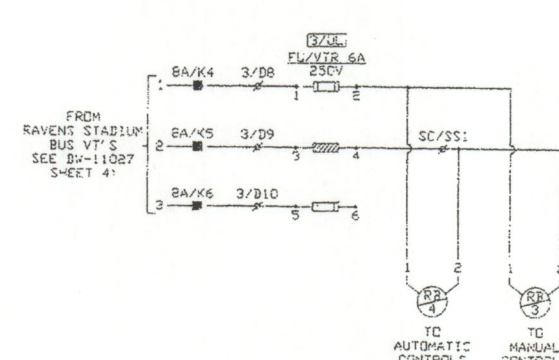
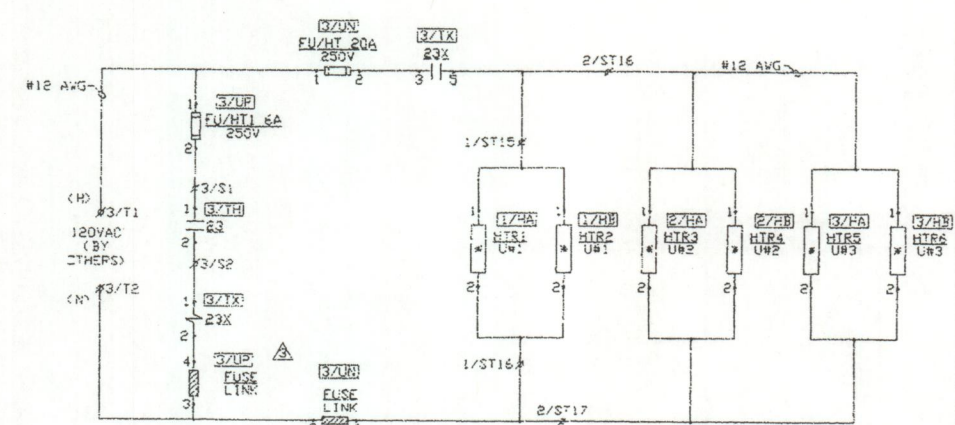
### GENERATOR G2 METERING



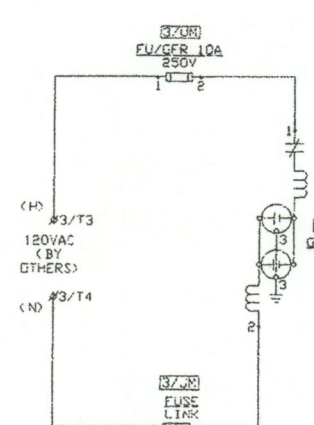
## HP/O METERING



HP/R METERING


OROLE PARK BUS VOLTAGERAVENS STADIUM BUS VOLTAGE

GENERATOR CONTROL CABINET HEATER CIRCUIT

GFR CIRCUIT

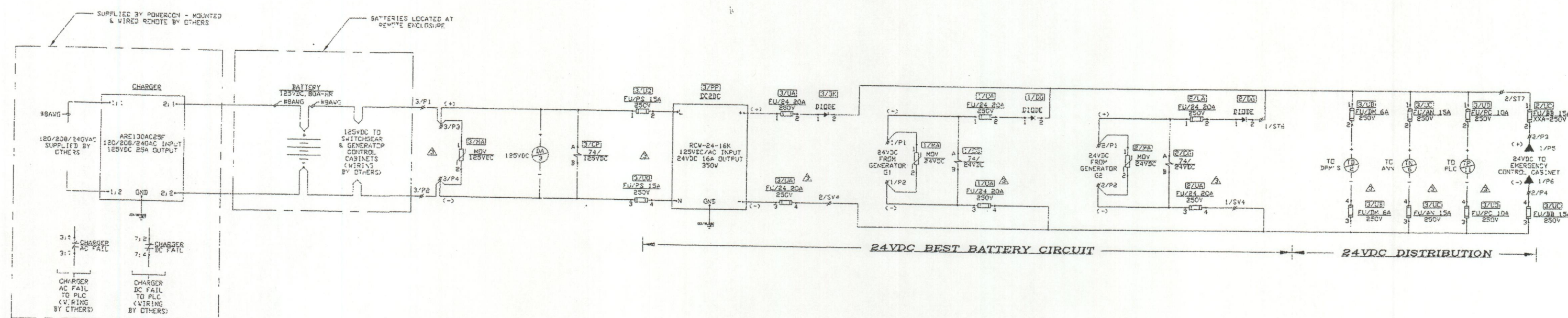
- XX - BREAKER POSITION SWITCH SHOWN WITH BREAKER IN DISCONNECT POSITION
- XXX - STATION SWITCH OPERATES IN DISCONNECT POSITION ONLY
- ▲ - DEVICE LOCATED IN EMERGENCY CONTROL CABINET
- - TERMINAL BLOCK LOCATED IN EMERGENCY CONTROL CABINET
- ☑ - DEVICE LOCATED IN SHV SWITCHGEAR
- - TERMINAL BLOCK LOCATED IN SHV SWITCHGEAR
- ≡ - PROVIDED BY OTHERS, LOCATED REMOTE
- ≡ - PROVIDED BY OTHERS, MOUNTED & WIRED BY POWERCON
- ⊙ - GENERATOR SET CONTROL PANEL TERMINAL BLOCK POINT

### UTILITY & GENERATOR METERING

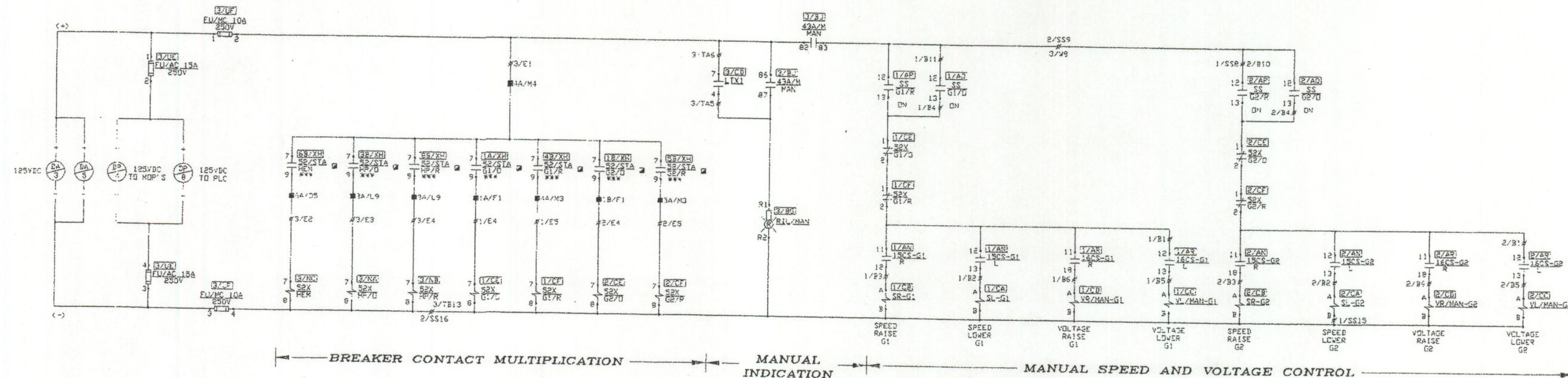
REVISIONS REV. P/R CUSTOMER CHANGES 5/04/98 RKS/AG REV. PER WIRING DIAGRAM DESIG 6/26/98 RKS/AG/1B REVISED PER AS BUILT & TESTED 8/17/98 RKS/AMH/AG REV. PER START-UP CONTROLS 11/6/98 RKS/AMH/AG		DESCRIPTION OF OPERATION W-3228 SUMMARY S-13927 FRONT VIEW D-10203 SCHEMATIC DW-11049 WIRING DIAGRAM DW-11050		CUST. ALBAN ENGINE POWER SYSTEM P.O. No. 43036 ENGR. RAJ K. SHARMA DATE 1/17/98 DRWN. RAJ K. SHARMA DATE 1/17/98 CHRD. RAJ K. SHARMA DATE 1/17/98 APPD. DATE APPD. ALEX GELFEN DATE 1/17/98 APPD. DATE		SHEET 2 OF 12  WEB SITE <a href="http://www.powerconcorp.com">http://www.powerconcorp.com</a> TITLE UTILITY & GENERATOR METERING SCHEMATIC PEAK SHAVING CONTROL CABINETS FOR (2) 15KV, 1800KW DIESEL GENERATORS WITH UTILITY PARALLELING CONTROL. STATION MSA HAMBURG ST. GEN. PLANT LOCATION BALTIMORE, MD SO#02-27176 DW-11049		REV. 4
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DW-11049



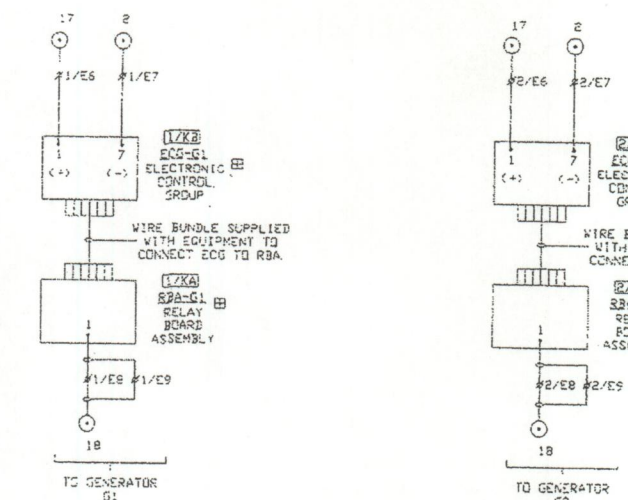
125VDC BATTERY SYSTEM



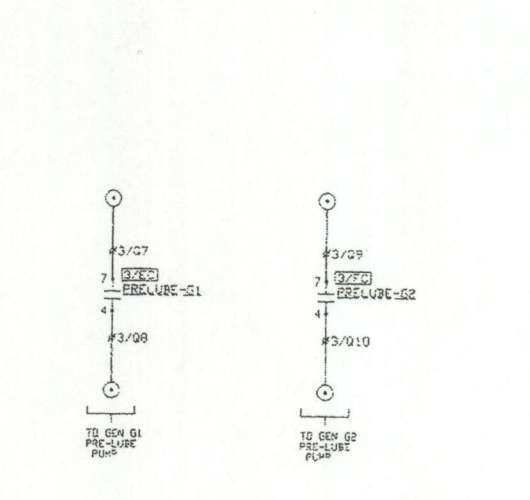
BREAKER CONTACT MULTIPLICATION

MANUAL INDICATION

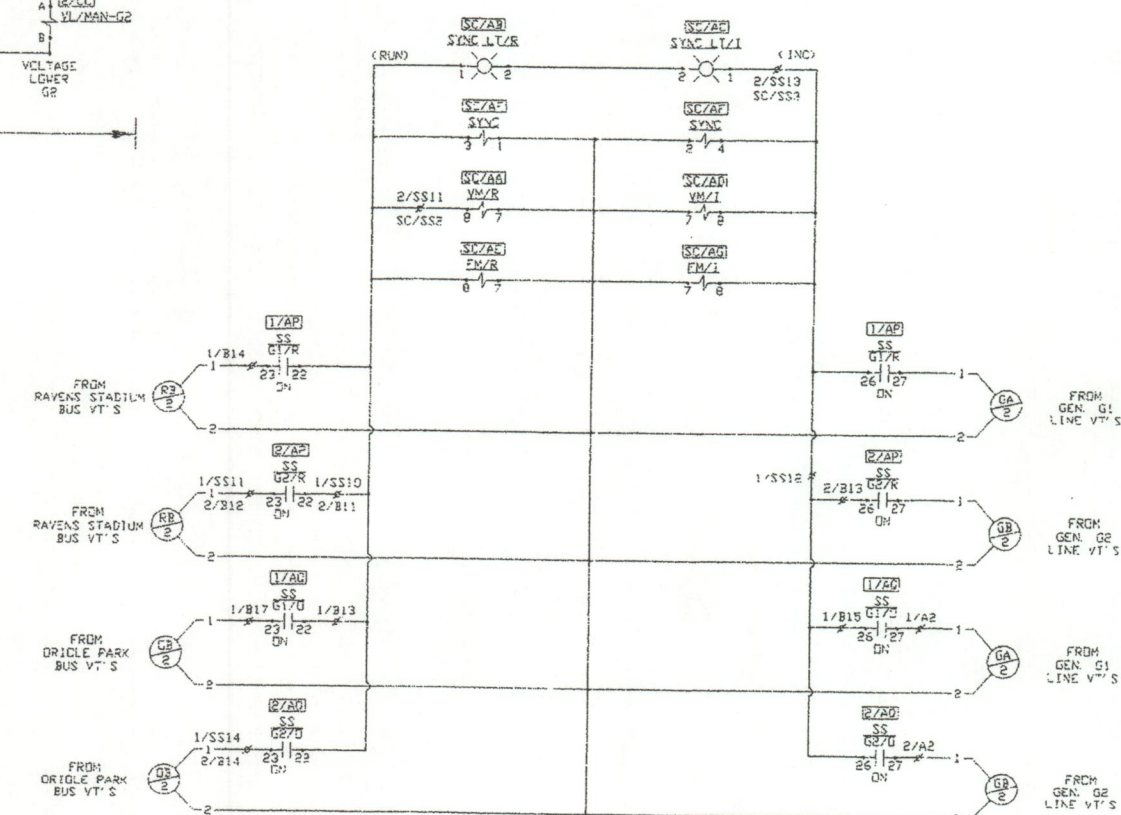
MANUAL SPEED AND VOLTAGE CONTROL



GENERATOR CUSTOMER INTERFACE MODULE



GENERATOR PRELUBE PUMP CIRCUIT



MANUAL SYNCHRONIZING

- BREAKER POSITION SWITCH SHOWN WITH BREAKER IN DISCONNECT POSITION
- STATION SWITCH OPERATES IN DISCONNECT POSITION ONLY
- ▲ DEVICE LOCATED @ EMERGENCY CONTROL CABINET
- ▲ TERMINAL BLOCK LOCATED @ EMERGENCY CONTROL CABINET
- DEVICE LOCATED @ 15KV SWITCHGEAR
- TERMINAL BLOCK LOCATED @ 15KV SWITCHGEAR
- † PROVIDED BY OTHERS, LOCATED REMOTE
- PROVIDED BY OTHERS, MOUNTED & WIRED BY POWERCON
- GENERATOR SET CONTROL PANEL TERMINAL BLOCK POINT

REV.	REV. DESCRIPTION	DATE
1	REV. PER CUSTOMER CHANGES	5/1/98
2	REV. PER WIRING DIAGRAM DESIGN	6/25/98
3	REV. PER AS BUILT	8/1/98
4	REV. PER AS BUILT	8/1/98
5	REV. PER AS BUILT	11/1/98

MANUAL GENERATOR CONTROL

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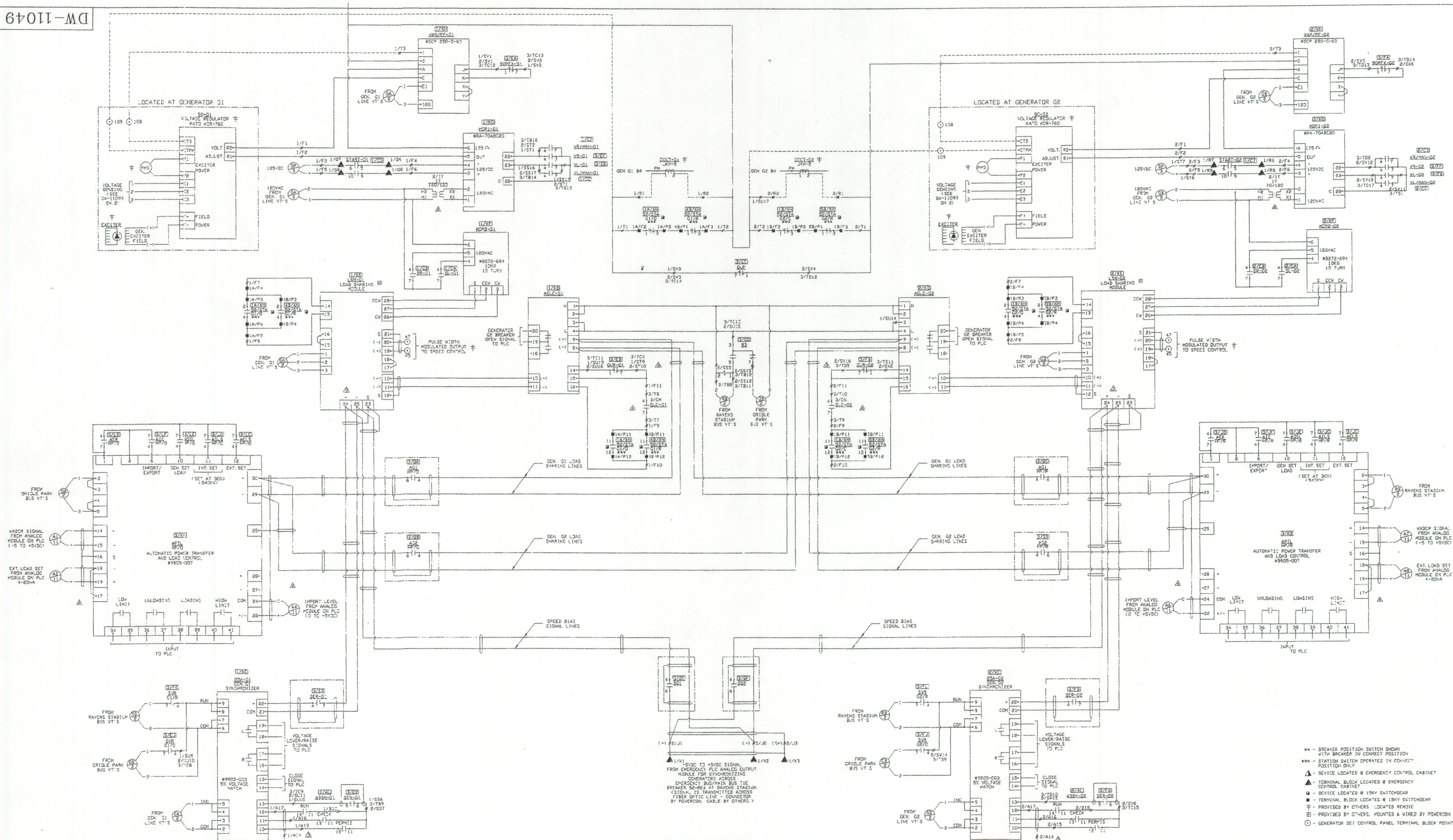
DESCRIPTION OF OPERATION  
W-3228  
SUMMARY  
S-13927  
FRONT VIEW  
D-10203  
SCHEMATIC  
DW-11049  
WIRING DIAGRAM  
DW-11050

CUST. ALBAN ENGINE POWER SYSTEM  
P.O. NO. 43036  
ENGR. RAJ K. SHARMA  
DATE 1/17/98  
DRWN. RAJ K. SHARMA  
DATE 1/17/98  
CHKD. RAJ K. SHARMA  
DATE 1/17/98  
APPD. ALEX GELFEN  
DATE 1/17/98

POWERCON CORP.  
WEB SITE <http://www.powerconcorp.com>  
TITLE: MANUAL GENERATOR CONTROL SCHEMATIC  
PEAK SHAVING CONTROL CABINETS FOR (2) 15KV, 1800KW  
DIESEL GENERATORS WITH UTILITY PARALLELING CONTROL.  
STATION: MSA HAMBURG ST. GEN. PLANT  
LOCATION: BALTIMORE, MD  
SO#02-27176  
DW-11049  
REV. 4

SHEET 3 OF 12





AUTOMATIC GENERATOR CONTROL

REV.	REV. PER CUSTOMER	REV. PER WIRING	REV. PER START-UP	REV. PER PEAK SHAVING	REV. PER LOAD SHARING
1	3/24/98	3/24/98	3/24/98	3/24/98	3/24/98
2	3/24/98	3/24/98	3/24/98	3/24/98	3/24/98
3	3/24/98	3/24/98	3/24/98	3/24/98	3/24/98
4	3/24/98	3/24/98	3/24/98	3/24/98	3/24/98
5	3/24/98	3/24/98	3/24/98	3/24/98	3/24/98
6	3/24/98	3/24/98	3/24/98	3/24/98	3/24/98
7	3/24/98	3/24/98	3/24/98	3/24/98	3/24/98
8	3/24/98	3/24/98	3/24/98	3/24/98	3/24/98
9	3/24/98	3/24/98	3/24/98	3/24/98	3/24/98
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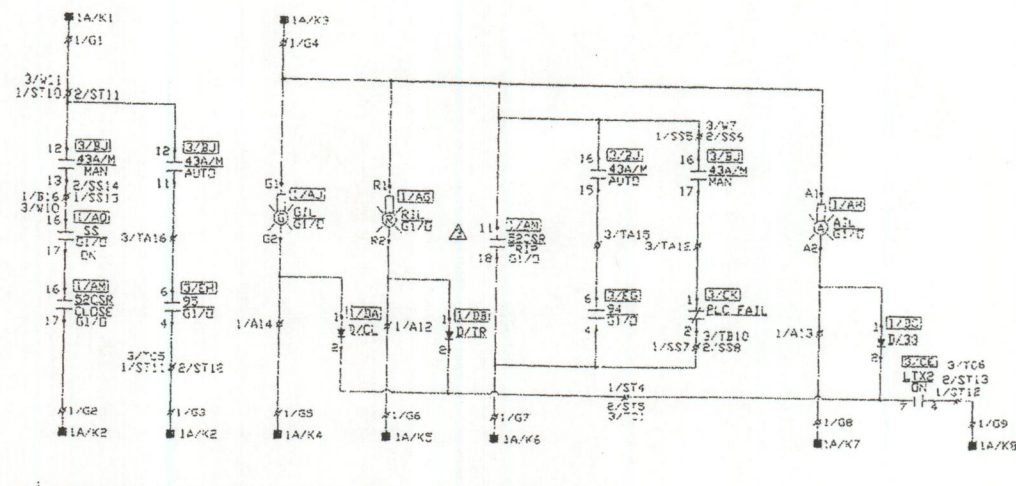
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DESCRIPTION OF OPERATION	M-3228
SUMMARY	S-13927
FRONT VIEW	D-10203
SCHEMATIC	DW-11049
WIRING DIAGRAM	DW-11050
CUST. ALBAN ENGINE POWER SYSTEM	P.O. NO. 43036
ENGR. RAJ K. SHARMA	DATE 1/17/98
DRWN. RAJ K. SHARMA	DATE 1/17/98
CHKD. RAJ K. SHARMA	DATE 1/17/98
APPD. ALEX GELFEN	DATE 1/17/98
APPD.	DATE

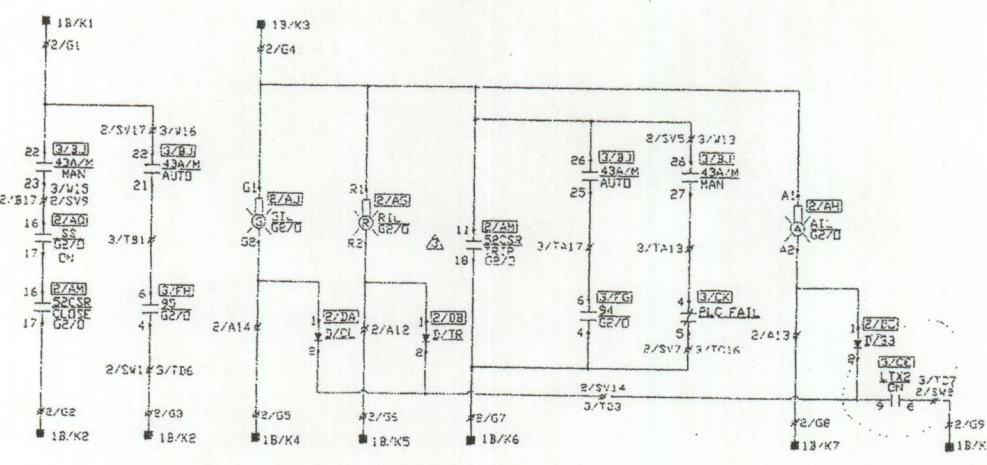
<p><b>Powercon Corp</b></p> <p>VEB SITE <a href="http://www.powerconcorp.com">http://www.powerconcorp.com</a></p> <p>TITLE: AUTOMATIC GENERATOR CONTROL SCHEMATIC</p> <p>PEAK SHAVING CONTROL CABINETS FOR (2) 15KV, 1800KW DIESEL GENERATORS WITH UTILITY PARALLELING CONTROL.</p> <p>STATION: MSA HAMBURG ST. GEN. PLANT</p> <p>LOCATION: BALTIMORE, MD</p>	<p>NO. 02-27176</p> <p>DW-11049</p> <p>REV. 4</p>
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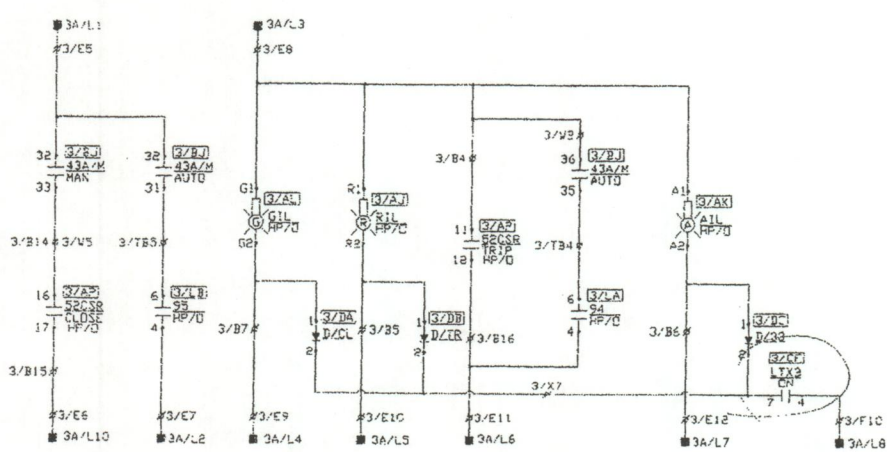
DW-11049



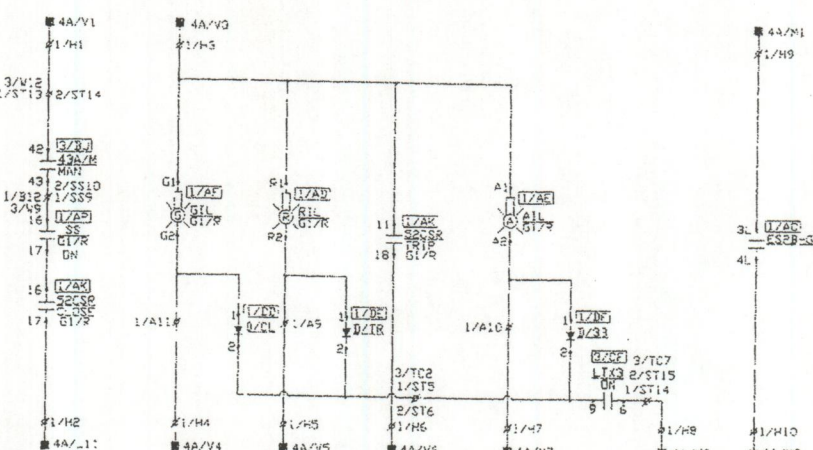
52G1/O CONTROL



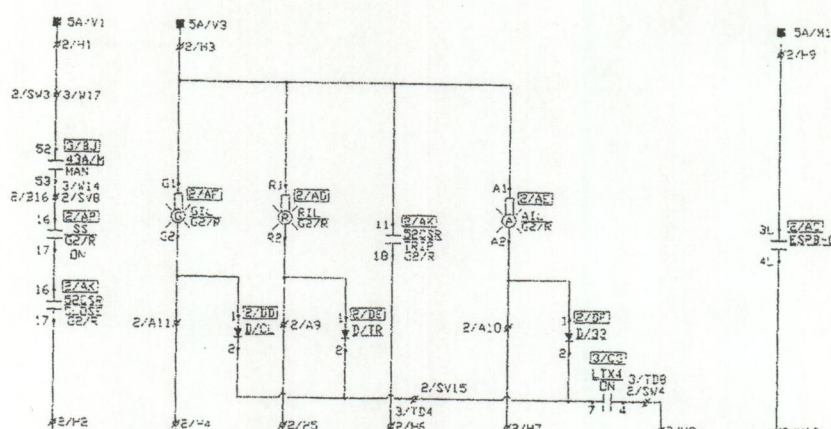
52G2/O CONTROL



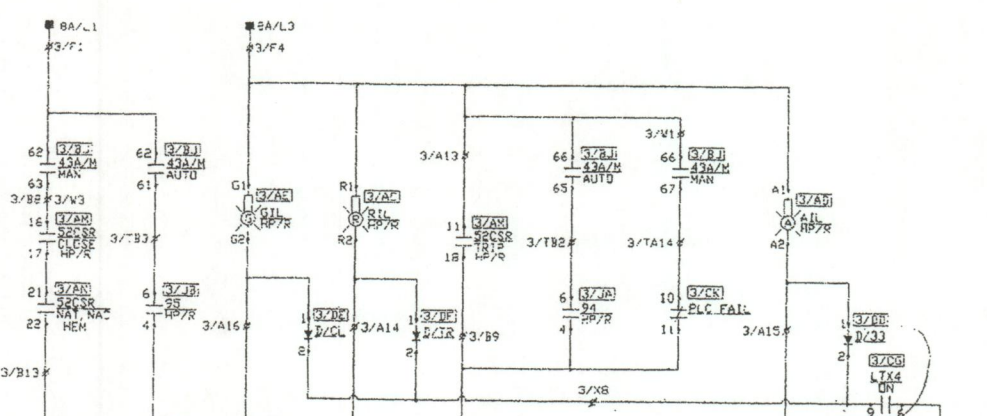
52HP/O CONTROL



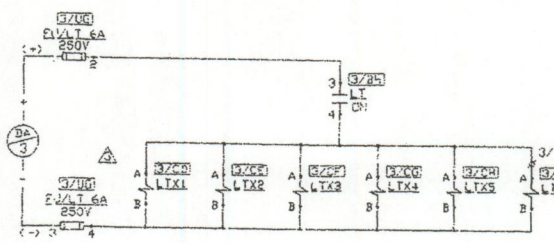
52G1/R CONTROL



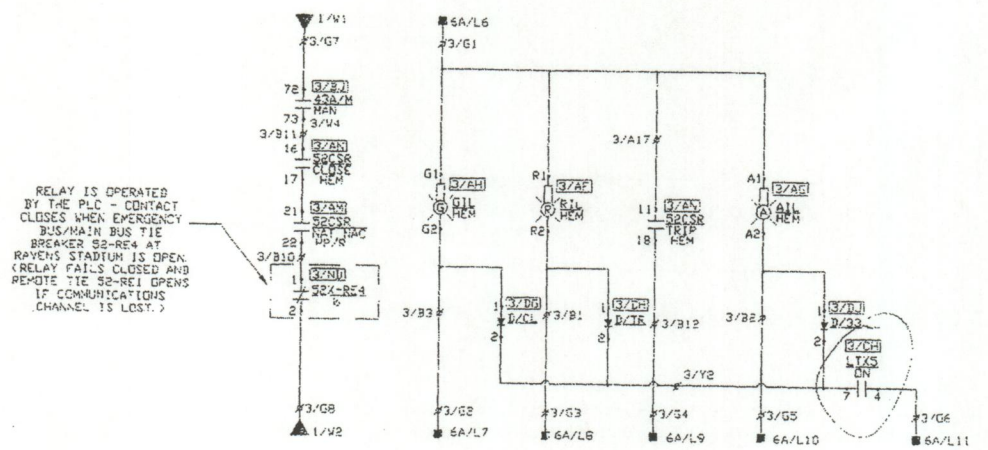
52G2/R CONTROL



52HP/R CONTROL



LAMP TEST CIRCUIT



52HEM CONTROL

AUTOMATIC/MANUAL SWITCHGEAR CONTROL INTERFACE

- ... BREAKER POSITION SWITCH SHOWN WITH BREAKER IN CONNECT POSITION
- ... STATION SWITCH OPERATES IN CONNECT POSITION ONLY
- ▲ - DEVICE LOCATED IN EMERGENCY CONTROL CABINET
- ▲ - TERMINAL BLOCK LOCATED IN EMERGENCY CONTROL CABINET
- - DEVICE LOCATED IN 15KV SWITCHGEAR
- - TERMINAL BLOCK LOCATED IN 15KV SWITCHGEAR
- - PROVIDED BY OTHERS, LOCATED RESPECT
- - PROVIDED BY OTHERS, MOUNTED & WIRED BY POWERCON
- - GENERATOR SET CONTROL PANEL TERMINAL BLOCK POINT

REVISIONS	BY	DATE	DESCRIPTION
1	RAJ K SHARMA	1/17/98	REVISED PER CUSTOMER CHANGES
2	RAJ K SHARMA	1/17/98	REVISED PER WIRING DIAGRAM DESIGN
3	RAJ K SHARMA	1/17/98	REVISED PER AS BUILT & TESTED
4	RAJ K SHARMA	1/17/98	REVISED PER POWERCON COMMENTS

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DESCRIPTION OF OPERATION	U-3228
SUMMARY	S-13927
FRONT VIEW	D-10203
SCHEMATIC	DW-11049
WIRING DIAGRAM	DW-11050
CUST ALBAN ENGINE POWER SYSTEM	P.O. NO. 43036
ENGR. RAJ K. SHARMA	DATE 1/17/98
DRWN. RAJ K. SHARMA	DATE 1/17/98
CHKD. RAJ K. SHARMA	DATE 1/17/98
APPD. ALEX GELFEN	DATE 1/17/98
APPD.	DATE

TITLE AUTO/MAN SWITCHGEAR CONTROL INTERFACE SCHEMATIC	
PEAK SHAVING CONTROL CABINETS FOR <2> 15KV, 1800KW DIESEL GENERATORS WITH UTILITY PARALLELING CONTROL.	
STATION MSA HANBURG ST. GEN. PLANT	
LOCATION BALTIMORE, MD	
S0#02-27176	DW-11049
REV	4



DW-11049

1	2	3	4
A	RSB	RSB	RSB
B	RSB	RSB	RSB
C	RSB	RSB	RSB
D	RSB	RSB	RSB
E	RSB	RSB	RSB
F	RSB	RSB	RSB

30-M

WINDOW NO.	LINE 1	LINE 2
A1	OVERVOLTAGE	UNDERVOLTAGE
A2	OVERCURRENT	UNDERCURRENT
A3	OVERTEMPERATURE	UNDERTEMPERATURE
B1	PEAK SHAVING	PEAK SHAVING
B2	PEAK SHAVING	PEAK SHAVING
B3	PEAK SHAVING	PEAK SHAVING
B4	PEAK SHAVING	PEAK SHAVING
C1	PEAK SHAVING	PEAK SHAVING
C2	PEAK SHAVING	PEAK SHAVING
C3	PEAK SHAVING	PEAK SHAVING
C4	PEAK SHAVING	PEAK SHAVING
D1	PEAK SHAVING	PEAK SHAVING
D2	PEAK SHAVING	PEAK SHAVING
D3	PEAK SHAVING	PEAK SHAVING
D4	PEAK SHAVING	PEAK SHAVING
E1	PEAK SHAVING	PEAK SHAVING
E2	PEAK SHAVING	PEAK SHAVING
E3	PEAK SHAVING	PEAK SHAVING
E4	PEAK SHAVING	PEAK SHAVING
F1	PEAK SHAVING	PEAK SHAVING
F2	PEAK SHAVING	PEAK SHAVING
F3	PEAK SHAVING	PEAK SHAVING
F4	PEAK SHAVING	PEAK SHAVING

MAIN CONTROL SECTION ANNUNCIATOR WINDOW LAYOUT AND ENGRAVING

1	2	3	4
A	RSB	RSB	RSB
B	RSB	RSB	RSB
C	RSB	RSB	RSB
D	RSB	RSB	RSB
E	RSB	RSB	RSB
F	RSB	RSB	RSB

30-G

1	2	3	4
A	RSB	RSB	RSB
B	RSB	RSB	RSB
C	RSB	RSB	RSB
D	RSB	RSB	RSB
E	RSB	RSB	RSB
F	RSB	RSB	RSB

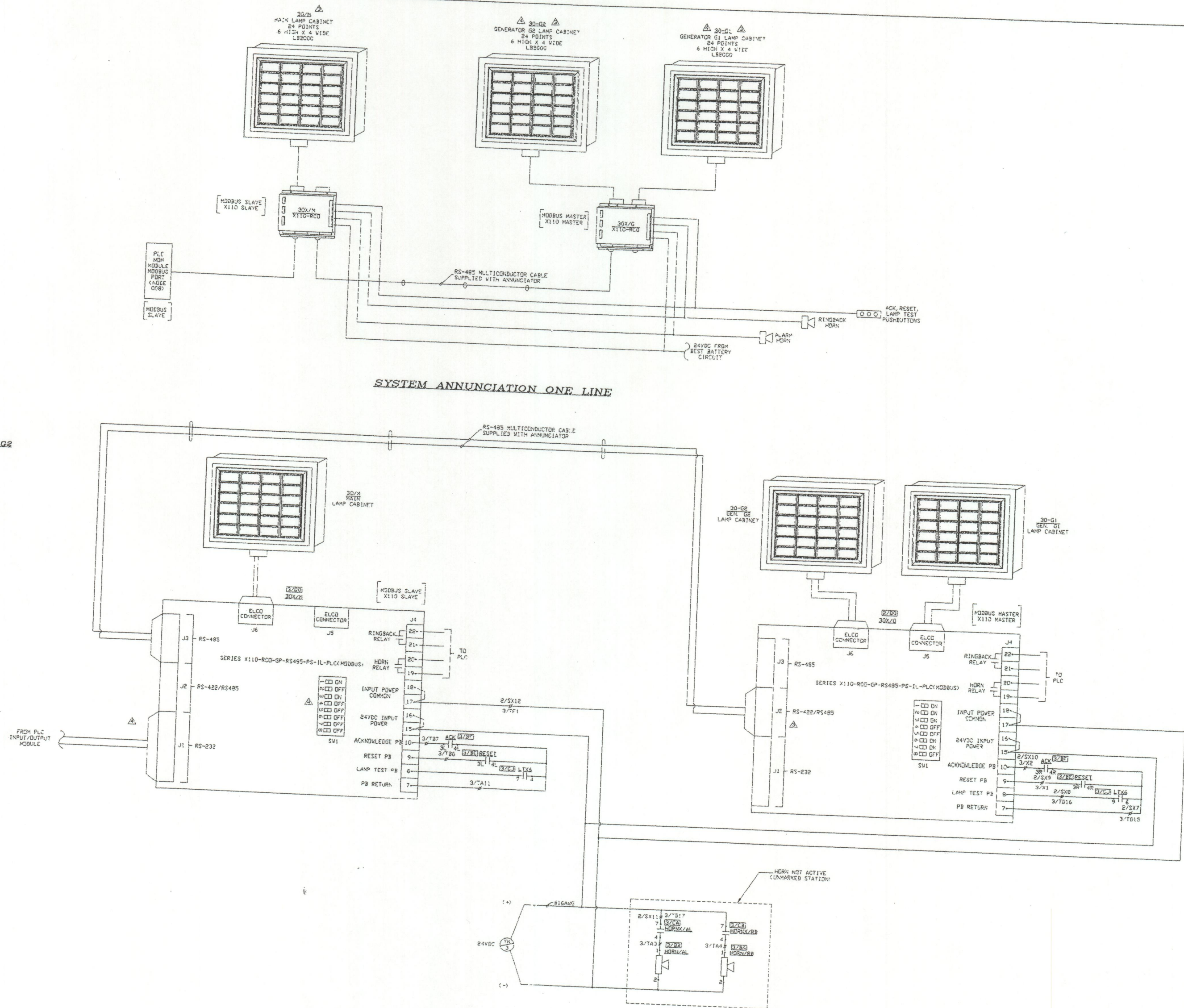
30-G2

WINDOW NO.	LINE 1	LINE 2
A1	OVERVOLTAGE	UNDERVOLTAGE
A2	OVERCURRENT	UNDERCURRENT
A3	OVERTEMPERATURE	UNDERTEMPERATURE
B1	PEAK SHAVING	PEAK SHAVING
B2	PEAK SHAVING	PEAK SHAVING
B3	PEAK SHAVING	PEAK SHAVING
B4	PEAK SHAVING	PEAK SHAVING
C1	PEAK SHAVING	PEAK SHAVING
C2	PEAK SHAVING	PEAK SHAVING
C3	PEAK SHAVING	PEAK SHAVING
C4	PEAK SHAVING	PEAK SHAVING
D1	PEAK SHAVING	PEAK SHAVING
D2	PEAK SHAVING	PEAK SHAVING
D3	PEAK SHAVING	PEAK SHAVING
D4	PEAK SHAVING	PEAK SHAVING
E1	PEAK SHAVING	PEAK SHAVING
E2	PEAK SHAVING	PEAK SHAVING
E3	PEAK SHAVING	PEAK SHAVING
E4	PEAK SHAVING	PEAK SHAVING
F1	PEAK SHAVING	PEAK SHAVING
F2	PEAK SHAVING	PEAK SHAVING
F3	PEAK SHAVING	PEAK SHAVING
F4	PEAK SHAVING	PEAK SHAVING

GENERATOR CONTROL SECTION ANNUNCIATOR WINDOW LAYOUT AND ENGRAVING (ENGRAVING TYPICAL FOR TWO GENERATORS)

- NOTE:
- ANNUNCIATOR WINDOW LAMP COLORS ARE AS FOLLOWS:  
W = WHITE  
R = RED  
G = GREEN
  - ANNUNCIATOR WINDOW NUMBERS ARE AS FOLLOWS:  
A1 = ROW A, COLUMN 1  
A2 = ROW A, COLUMN 2  
A3 = ROW A, COLUMN 3  
A4 = ROW A, COLUMN 4
  - ANNUNCIATOR WINDOW LAMP ASSIGNMENT ARE AS FOLLOWS:  
W = WHITE  
R = RED  
G = GREEN
  - ANNUNCIATOR WINDOW ADDRESS LOCATED UNDER WINDOW LAMP ASSIGNMENT - X10 SET-UP AS MASTER

- REVISIONS
- | REV. | PER     | DATE    | DESCRIPTION     |
|------|---------|---------|-----------------|
| 1    | CHANGES | 3/17/98 | REV. PER WIRING |
| 2    | CHANGES | 3/17/98 | REV. PER WIRING |
| 3    | CHANGES | 3/17/98 | REV. PER WIRING |
| 4    | CHANGES | 3/17/98 | REV. PER WIRING |
| 5    | CHANGES | 3/17/98 | REV. PER WIRING |
| 6    | CHANGES | 3/17/98 | REV. PER WIRING |
| 7    | CHANGES | 3/17/98 | REV. PER WIRING |
| 8    | CHANGES | 3/17/98 | REV. PER WIRING |
| 9    | CHANGES | 3/17/98 | REV. PER WIRING |
| 10   | CHANGES | 3/17/98 | REV. PER WIRING |



SYSTEM ANNUNCIATION SCHEMATIC

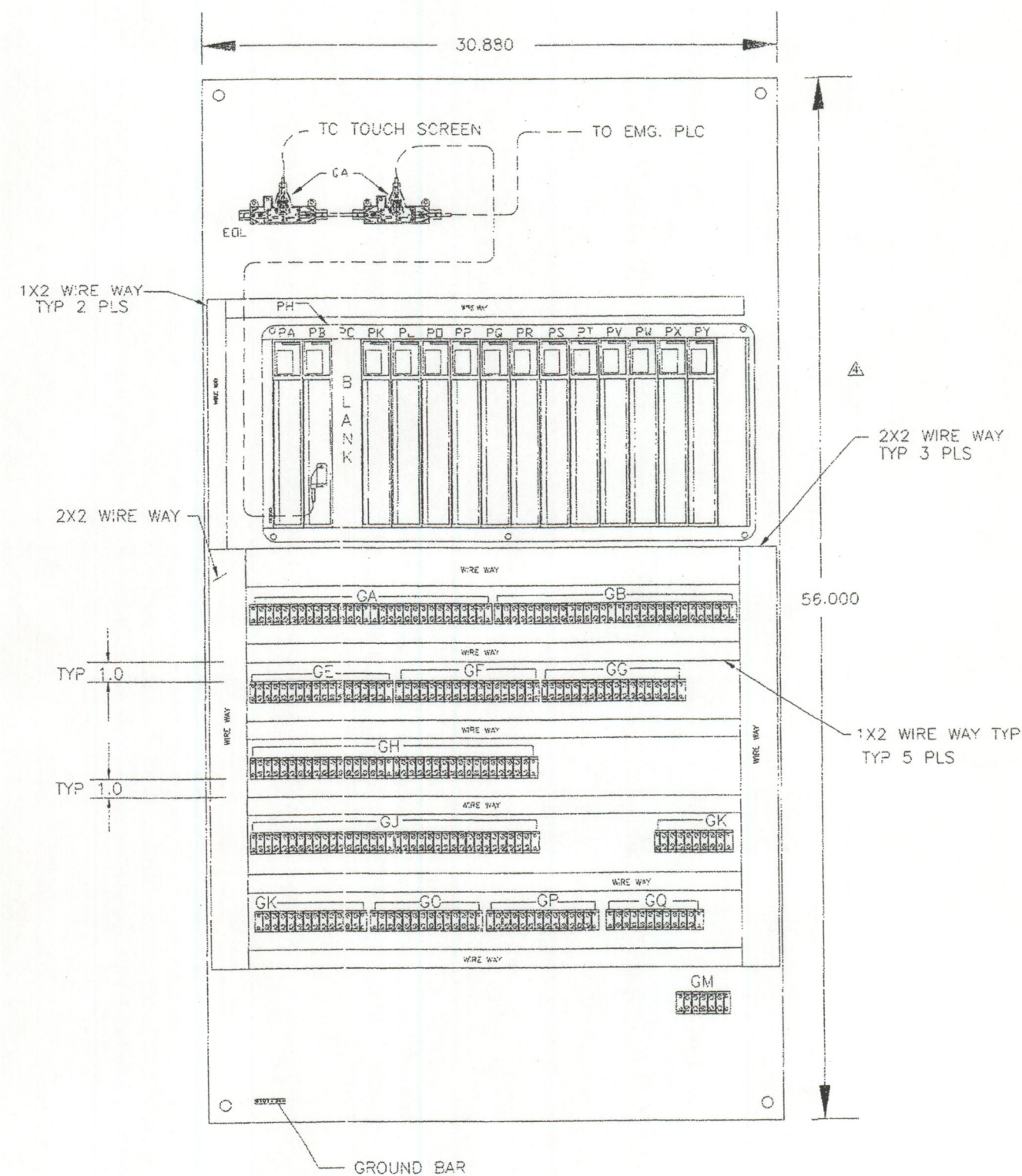
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DESCRIPTION OF OPERATION	W-3228
SUMMARY	S-13927
FRONT VIEW	D-10203
SCHEMATIC	DW-11049
WIRING DIAGRAM	DW-11050
CUST. ALBAN ENGINE POWER SYSTEM	P.O. NO. 43036
ENGR. RAJ K. SHARMA	DATE 1/17/98
DRWN. RAJ K. SHARMA	DATE 1/17/98
CHKD. RAJ K. SHARMA	DATE 1/17/98
APPD. ALEX GELFEN	DATE 1/17/98
APPD.	DATE

TITLE	SYSTEM ANNUNCIATION SCHEMATIC
PEAK SHAVING CONTROL CABINETS FOR (2) 15KV, 1800KW DIESEL GENERATORS WITH UTILITY PARALLELING CONTROL.	
STATION	MSA HAMBURG ST. GEN. PLANT
LOCATION	BALTIMORE, MD
SO#02-27176	DW-11049
REV.	4



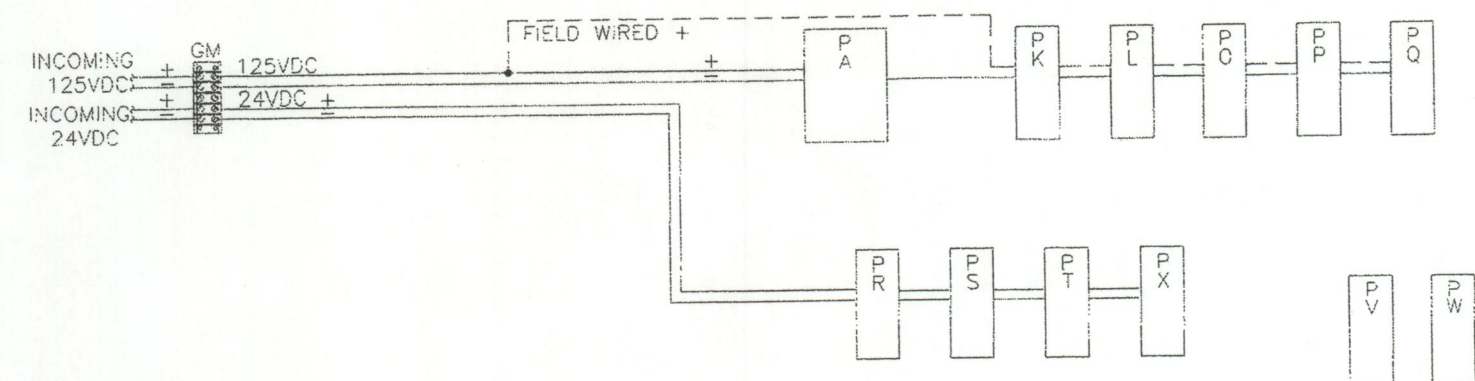
DW-11049



BACK PANEL

- \*\*\* - BREAKER POSITION SWITCH SHOWN WITH BREAKER IN CONNECT POSITION  
\*\*\* - STATION SWITCH OPERATES IN CONNECT POSITION ONLY  
▲ - DEVICE LOCATED @ EMERGENCY CONTROL CABINET  
▲ - TERMINAL BLOCK LOCATED @ EMERGENCY CONTROL CABINET  
■ - DEVICE LOCATED @ 15KV SWITCHGEAR  
■ - TERMINAL BLOCK LOCATED @ 15KV SWITCHGEAR  
+ - PROVIDED BY OTHERS, LOCATED REMOTE  
+ - PROVIDED BY OTHERS, MOUNTED & WIRED BY POWERCON  
○ - GENERATOR SET CONTROL PANEL TERMINAL BLOCK POINT

PEAK SHAVING PLC PANEL LAYOUT &amp; BILL OF MATERIAL



POWER WIRING

BILL OF MATERIAL				
QTY.	DESCRIPTION	CATALOG NUMBER	MANUFACTURER	DEVICE DESIGNATION
1	BACK PANEL	WA72P60F2	WIEGMANN	-
1	PLC	140-CPU-113-02	MODICON	PB
1	POWER SUPPLY	140-CPS-511-00	MODICON	PA
1	16 SLOT RACK	140-XBP-016-00	MODICON	PH
2	INPUT MODULE 24PT. 125VDC	140-DDI-673-00	MODICON	PK, PL
3	RELAY OUTPUT 16PT 125VDC	140-DRA-840-00	MODICON	PJ, PP, PQ
2	INPUT MODULE 32PT. 24VDC	140-DDI-353-00	MODICON	PR, PS
1	ANALOG I/O 4PT	140-AMM 090-00	MODICON	PT
2	OUTPUT CARD	140-AVO-020-00	MODICON	PV, PX
1	INPUT HIGH SPEED COUNTER	140-EHC-105-00	MODICON	PX
7	TERMINALS SERIES 141	750-4312	CINCH	GA, GB, GK, GD, GP
7	TERMINALS SERIES 141	750-4316	CINCH	GE, GF, GG, GH, GJ
2	TERMINALS SERIES 141	750-4310	CINCH	GQ, GK
1	TERMINALS SERIES 141	750-4306	CINCH	GM
2	MB+ CABLE DROP	990NAD21110	MODICON	-
2	MB+ TEE ADAPTOR	990NAD230 00	MODICON	GA
1	5" TOUCH SCREEN	TOUCH CONTROL JR.	TOTAL CONTROL	MOUNTED ON DOOR
A/N	WIRE WAY 1" W X 1 1/2" H	1" X 2"	TYTON	-
A/N	WIRE WAY 2" W X 2" H	2" X 2"	TYTON	-
1	MOD MODULE			PY

PEAK SHAVING PLC PANEL BILL OF MATERIAL

END VIEW  
WIRE WAY OMITTED FOR CLARITY

REV.	PER CUSTOMER	CHANGES
1	5/04/98	RKS/AG
2	6/26/98	RKS/AG/1B
3	8/17/98	RKS/AG/1B
4	8/17/98	RKS/AG/1B
5	8/17/98	RKS/AG/1B
6	8/17/98	RKS/AG/1B
7	8/17/98	RKS/AG/1B
8	8/17/98	RKS/AG/1B
9	8/17/98	RKS/AG/1B
10	8/17/98	RKS/AG/1B

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DESCRIPTION OF OPERATION	W-3228
SUMMARY	S-13927
FRONT VIEW	D-10203
SCHEMATIC	DW-11049
WIRING DIAGRAM	DW-11050

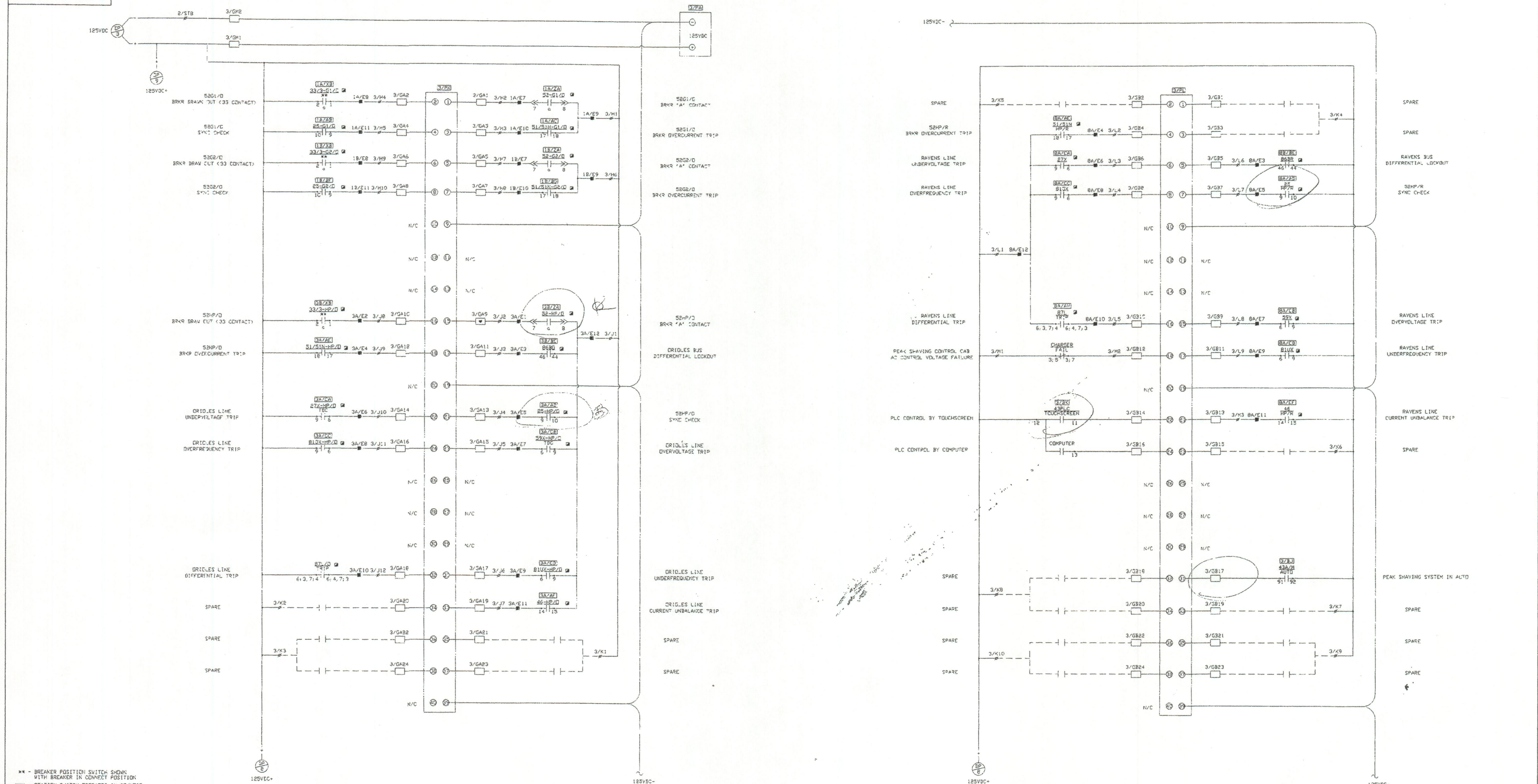
CUST. ALBAN ENGINE POWER SYSTEM	P.O. NO. 43036
ENGR. RAJ K. SHARMA	DATE 1/17/98
DRWN. RAJ K. SHARMA	DATE 1/17/98
CHKD. RAJ K. SHARMA	DATE 1/17/98
APPD. ALEX GELFEN	DATE 1/17/98
APPD. ALEX GELFEN	DATE 1/17/98

Powercon Corp	
WEB SITE: <a href="http://www.powerconcorp.com">http://www.powerconcorp.com</a>	
TITLE: PEAK SHAVING PLC SCHEMATIC - PANEL LAYOUT & B.D.M.	
PEAK SHAVING CONTROL CABINETS FOR (2) 15KV, 1800KW DIESEL GENERATORS WITH UTILITY PARALLELING CONTROL.	
STATION: MSA HAMBURG ST. GEN. PLANT	
LOCATION: BALTIMORE, MD	
SO#02-27176	DW-11049
REV. 4	

SHEET 7 OF 12



DW-11049



PLC INPUT - MODULE #1  
125VDC

PLC INPUT MODULE #2  
125VDC

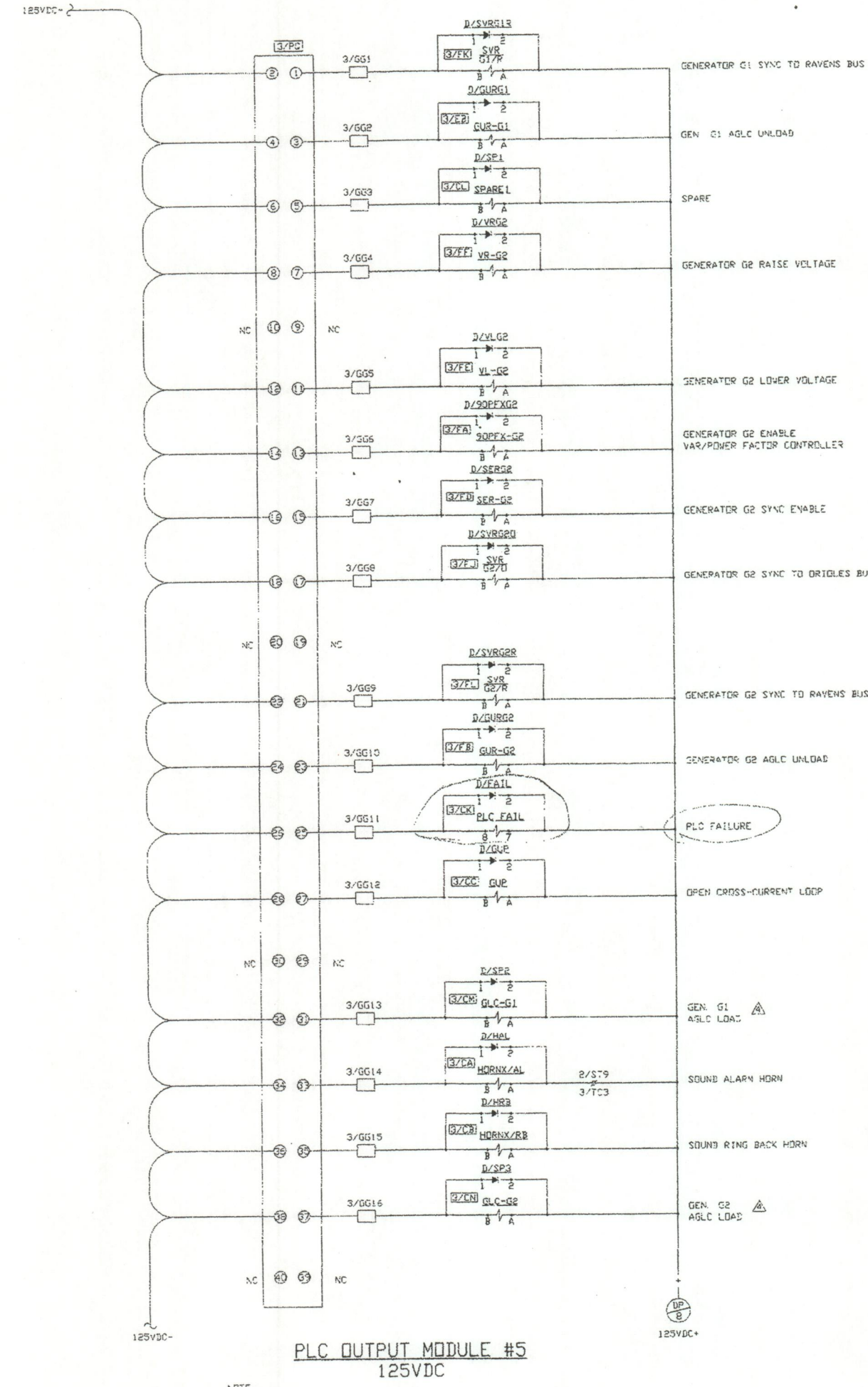
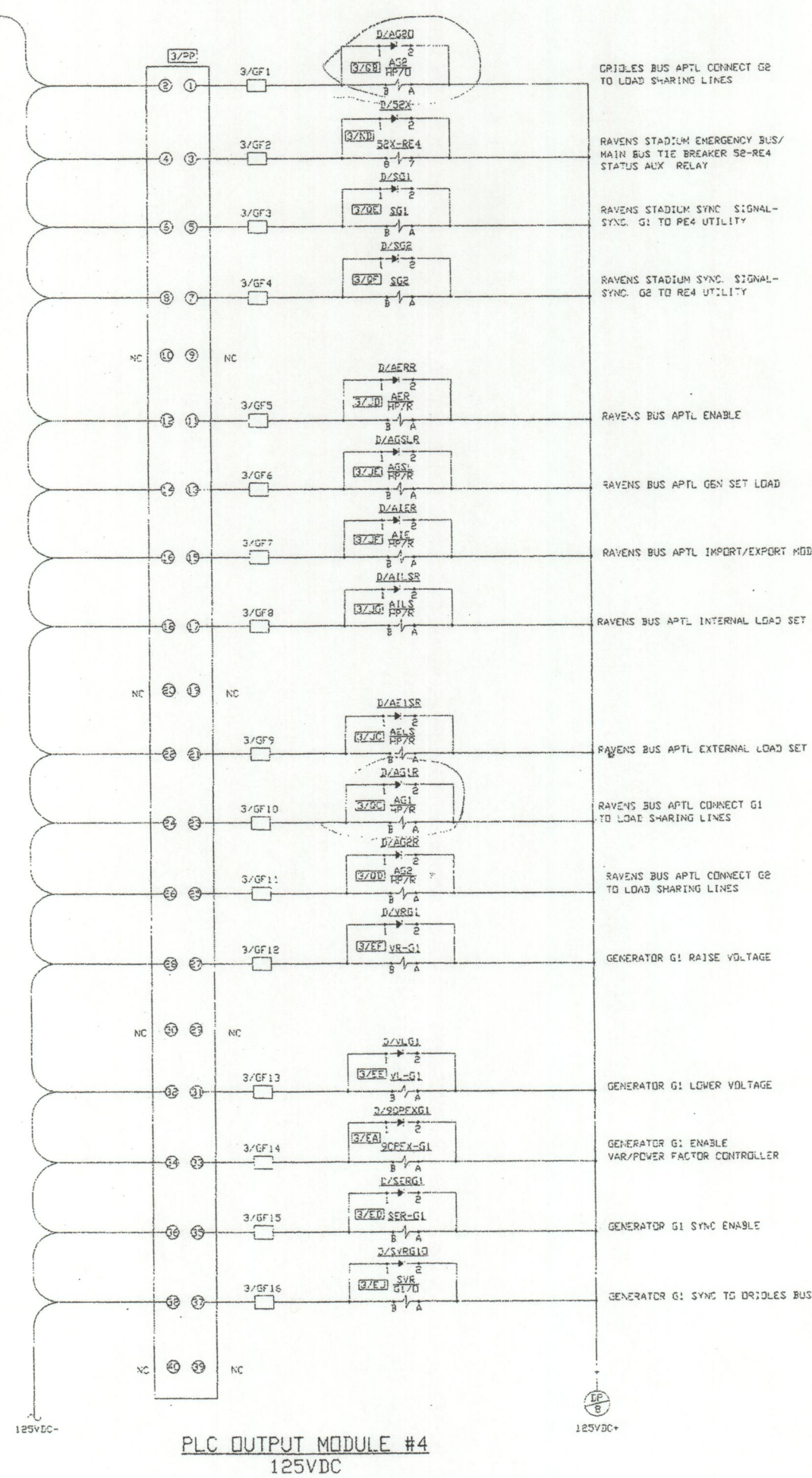
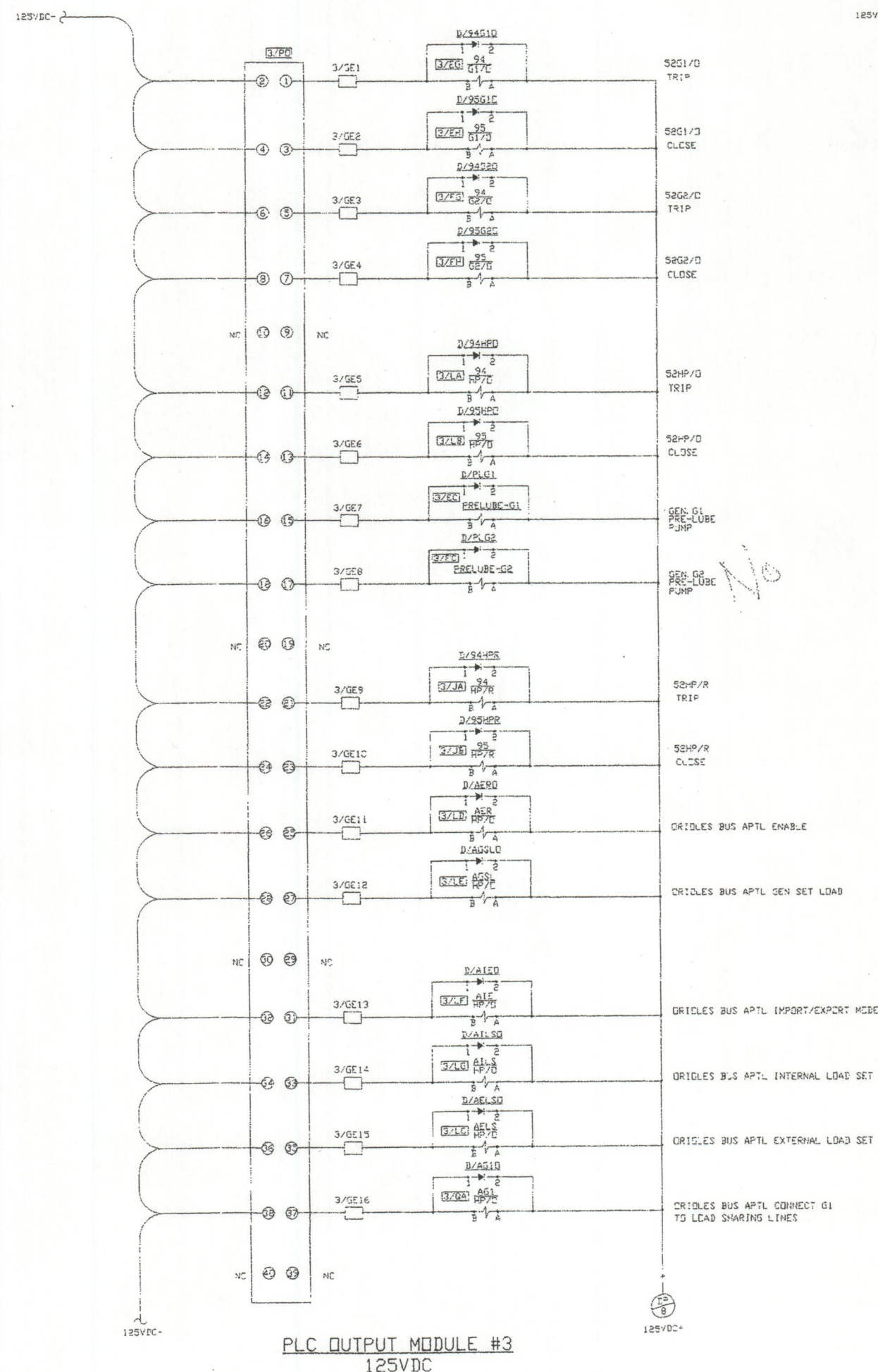
NOTE: 1. ALL PLC WIRING TO BE #18AWG WHITE WIRE, TERMINATED WITH UNINSULATED RING LUGS AND HAVE "TD" WIRE MARKERS.

PEAK SHAVING PLC SCHEMATIC - 125VDC INPUT MODULES

<p>REVISIONS</p> <p>REV. PER CUSTOMER</p> <p>5/04/98 RKS/AG</p> <p>REV. PER WIRING</p> <p>DIAGRAM DESIGN</p> <p>6/26/98 RKS/AG/18</p> <p>REVISED PER AS</p> <p>BUILT &amp; TESTED</p> <p>8/17/98 RKS/AMM/AL</p> <p>N/A THIS SHEET</p> <p>11/06/98 RKS/AMM/AG</p>	<p>THIS DRAWING AND ALL PREVIOUS ISSUES ARE THE SOLE PROPERTY OF THE POWERCON CORPORATION OF SEVERN, MARYLAND. NEITHER RECEIPT OF SAID DRAWING, NOR POSSESSION THEREOF, IMPLIES OR TRANSFERS ANY RIGHTS OR LICENSE TO USE THE DRAWINGS, OR THE SUBJECT MATTER, DESIGN, OR TECHNICAL INFORMATION SHOWN THEREON, OR ANY PART THEREOF. NEITHER THIS DRAWING NOR ANY INFORMATION CONTAINED THEREIN, MAY BE COPIED, REPRODUCED OR OTHERWISE USED WITHOUT FIRST OBTAINING WRITTEN AUTHORIZATION OF THE POWERCON CORPORATION. PRINTS ARE LOANED SUBJECT TO RETURN UPON DEMAND, AND THE EXPRESS CONDITION THAT THEY WILL NOT BE USED IN ANY WAY DETRIMENTAL TO THE POWERCON CORPORATION.</p>	<p>DESCRIPTION OF OPERATION</p> <p>N-3228</p> <p>SUMMARY</p> <p>S-13927</p> <p>FRONT VIEW</p> <p>D-10203</p> <p>SCHEMATIC</p> <p>DW-11049</p> <p>WIRING DIAGRAM</p> <p>DW-11050</p>	<p>CUST. ALBAN ENGINE POWER SYSTEM</p> <p>P.O. NO. 43036</p> <p>ENGR. RAJ K. SHARMA</p> <p>DATE 1/17/98</p> <p>DRWN. RAJ K. SHARMA</p> <p>DATE 1/17/98</p> <p>CHKD. RAJ K. SHARMA</p> <p>DATE 1/17/98</p> <p>APPD.</p> <p>DATE</p> <p>APPD. ALEX GELFEN</p> <p>DATE 1/17/98</p> <p>APPD.</p> <p>DATE</p>	<p>Powercon Corp</p> <p>WEB SITE <a href="http://www.powerconcorp.com">http://www.powerconcorp.com</a></p> <p>TITLE: PEAK SHAVING PLC SCHEMATIC - 125VDC INPUT MODULES</p> <p>PEAK SHAVING CONTROL CABINETS FOR (2) 15KV, 1800KW DIESEL GENERATORS WITH UTILITY PARALLELING CONTROL</p> <p>STATION MSA HAMBURG ST. GEN. PLANT</p> <p>LOCATION BALTIMORE, MD</p> <p>SO#02-27176</p> <p>DW-11049</p> <p>REV. 4</p>
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DW-11049

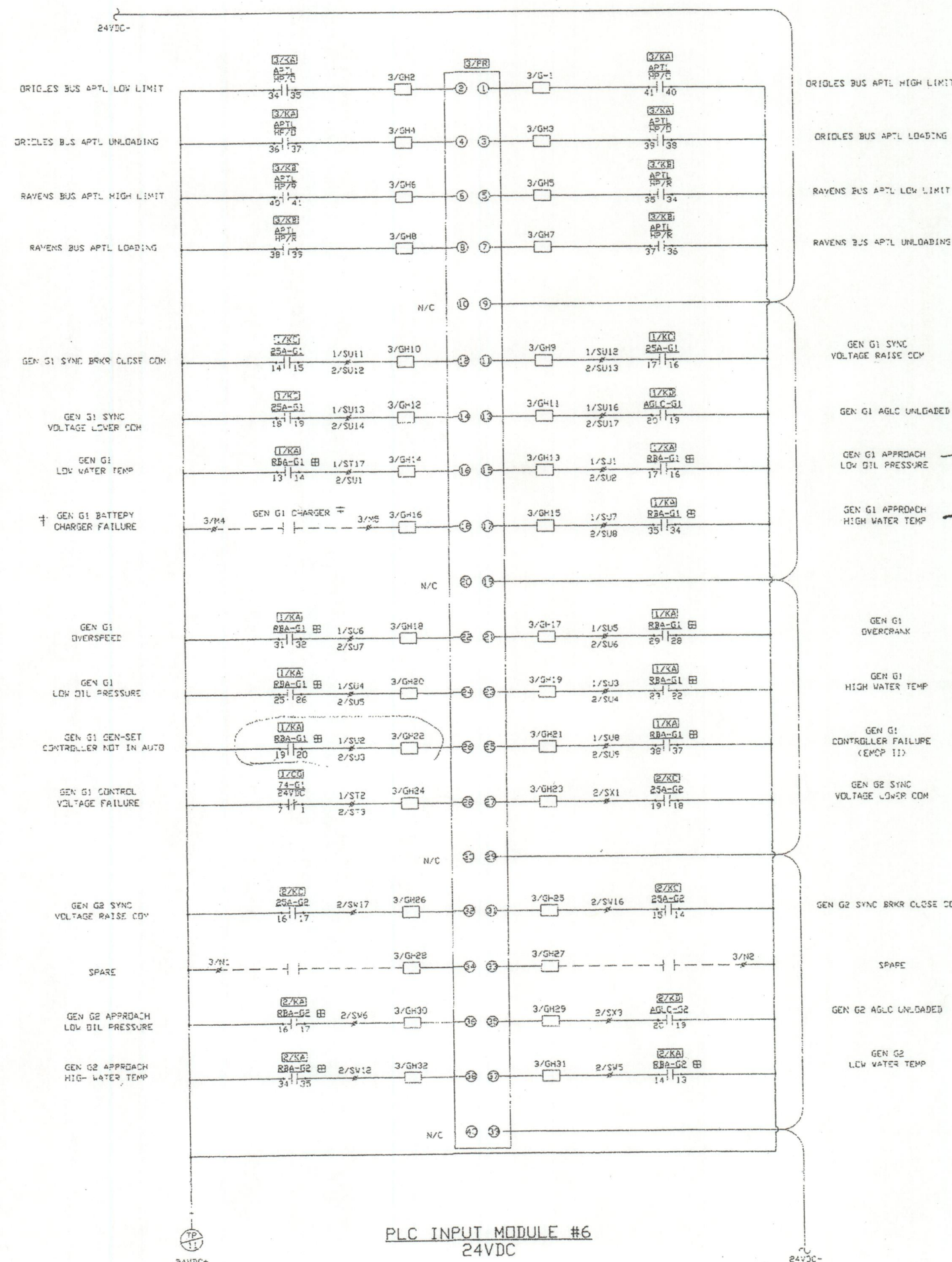


- ✱ - BREAKER POSITION SWITCH SHOWN WITH BREAKER IN CONNECT POSITION
- ✱ - STATION SWITCH OPERATES IN CONNECT POSITION ONLY
- ▲ - DEVICE LOCATED @ EMERGENCY CONTROL CABINET
- ▲ - TERMINAL BLOCK LOCATED @ EMERGENCY CONTROL CABINET
- - DEVICE LOCATED @ 15KV SWITCHGEAR
- - TERMINAL BLOCK LOCATED @ 15KV SWITCHGEAR
- ✱ - PROVIDED BY OTHERS, LOCATED REMOTE
- ✱ - PROVIDED BY OTHERS, MOUNTED & WIRED BY POWERCON
- - GENERATOR SET CONTROL PANEL, TERMINAL BLOCK POINT

PEAK SHAVING PLC SCHEMATIC - 125VDC OUTPUT MODULES

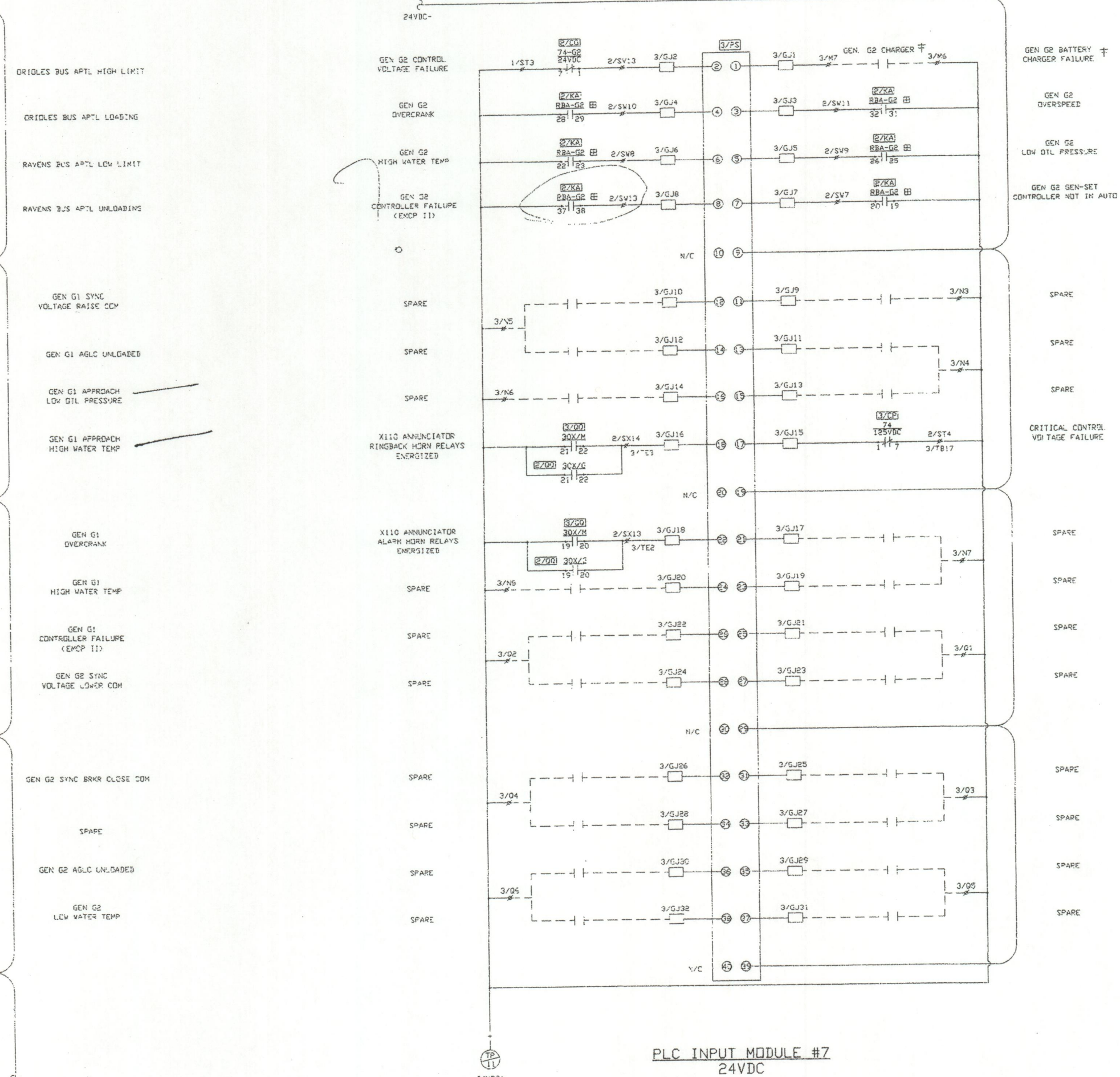
<b>REVISIONS</b> REV. PER CUSTOMER CHANGES 3/04/98 RKS/AG REV. PER WIRING DIAGRAM DESIGN 6/26/98 RKS/AL/IB REVISED PER AS BUILT & TESTED 8/17/98 RKS/AMM/AG REV. PER WIRING DIAGRAM DESIGN 11/06/98 RKS/AMM/AG	THIS DRAWING AND ALL PREVIOUS ISSUES ARE THE SOLE PROPERTY OF THE POWERCON CORPORATION OF SEVERN, MARYLAND. NEITHER RECEIPT OF SAID DRAWING, NOR POSSESSION THEREOF, IMPLIES OR TRANSFERS ANY RIGHTS OR LICENSE TO USE THE DRAWINGS OR THE SUBJECT MATTER, DESIGN, OR TECHNICAL INFORMATION SHOWN THEREON, OR ANY RIGHT TO COPY OR OTHERWISE REPRODUCE THIS DRAWING OR ANY PART THEREOF. NEITHER THIS DRAWING NOR ANY INFORMATION CONTAINED THEREIN, MAY BE COPIED, REPRODUCED OR OTHERWISE USED WITHOUT FIRST OBTAINING WRITTEN AUTHORIZATION OF THE POWERCON CORPORATION. PRINTS ARE LOANED SUBJECT TO RETURN UPON DEMAND, AND THE EXPRESS CONDITION THAT THEY WILL NOT BE USED IN ANY WAY DETRIMENTAL TO THE POWERCON CORPORATION.	<b>DESCRIPTION OF OPERATION</b> V-3228 <b>SUMMARY</b> S-13927 <b>FRONT VIEW</b> D-10203 <b>SCHEMATIC</b> DW-11049 <b>WIRING DIAGRAM</b> DW-11050	<b>CUST. ALBAN ENGINE POWER SYSTEM</b> P.O. NO. 43036 <b>ENGR. RAJ K. SHARMA</b> DATE 1/17/98 <b>DRWN. SUE TUBIN</b> DATE 5/30/98 <b>CHKD.</b> DATE <b>APPD.</b> DATE <b>APPD. ALEX GELFEN</b> DATE 1/17/98	<b>Powercon Corp.</b> WEB SITE <a href="http://www.powerconcorp.com">http://www.powerconcorp.com</a> <b>TITLE</b> PEAK SHAVING PLC SCHEMATIC - 125VDC OUTPUT MODULES <b>PEAK SHAVING CONTROL CABINETS FOR (2) 15KV, 1800KW DIESEL GENERATORS WITH UTILITY PARALLELING CONTROL.</b> <b>STATION</b> MSA HAMBURG ST. GEN. PLANT <b>LOCATION</b> BALTIMORE, MD <b>SO#02-27176</b> <b>DW-11049</b> <b>REV 4</b>
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- \*\*\* - BREAKER POSITION SWITCH SHOWN WITH BREAKER IN CONNECT POSITION  
\*\*\* - STATION SWITCH OPERATES IN CONNECT POSITION ONLY  
▲ - DEVICE LOCATED @ EMERGENCY CONTROL CABINET  
▲ - TERMINAL BLOCK LOCATED @ EMERGENCY CONTROL CABINET  
■ - DEVICE LOCATED @ 15KV SWITCHGEAR  
■ - TERMINAL BLOCK LOCATED @ 15KV SWITCHGEAR  
✚ - PROVIDED BY OTHERS, LOCATED REMOTE  
BB - PROVIDED BY OTHERS, MOUNTED & WIRED BY POWERCON  
○ - GENERATOR SET CONTROL PANEL, TERMINAL BLOCK POINT

NOTE:  
1. ALL PLC WIRING TO BE #18 AWG WHITE WIRE, TERMINATED WITH UNINSULATED RING LUGS AND HAVE "TD" WIRE MARKERS.



NOTE:  
1. ALL PLC WIRING TO BE #18 AWG WHITE WIRE, TERMINATED WITH UNINSULATED RING LUGS AND HAVE "TD" WIRE MARKERS.

## PEAK SHAVING PLC SCHEMATIC - 24VDC INPUT MODULES

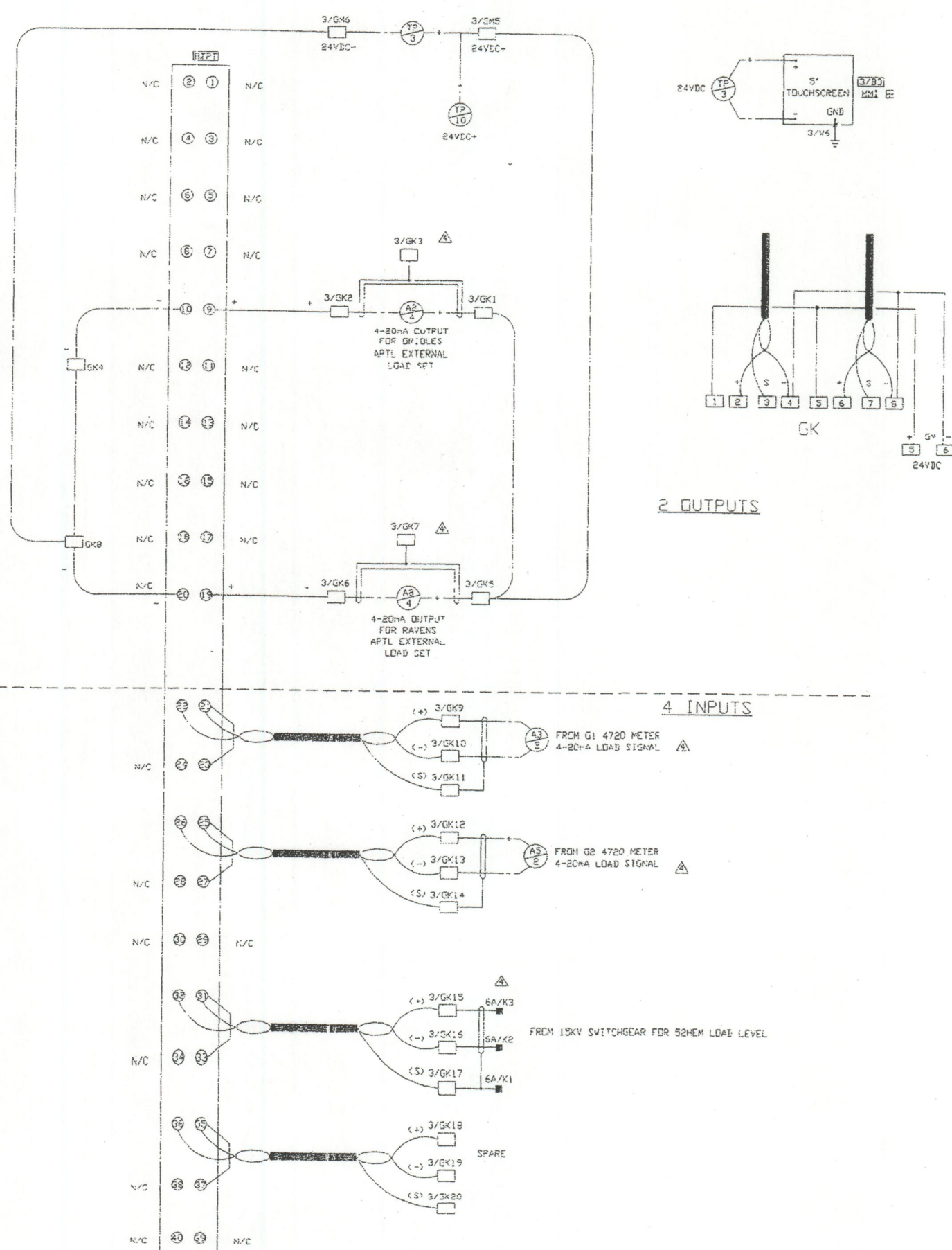
REV.	PER CUSTOMER	CHANGES	DATE
1	3/17/98	RKS/AG	
2	5/30/98	RKS/AG	
3	6/26/98	RKS/AG	
4	8/17/98	RKS/AG	
5	11/06/98	RKS/AG	

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DESCRIPTION OF OPERATION	CUST	ALBAN ENGINE POWER SYSTEM
W-3228	P.O. NO. 43036	
SUMMARY	ENGR. RAJ K. SHARMA	DATE 1/17/98
S-13927	DRWN. SUE TOBIN	DATE 5/30/98
FRONT VIEW	CHKD.	DATE
D-10203	APPD.	DATE
SCHEMATIC	APPD. ALEX GELFEN	DATE 1/17/98
WIRING DIAGRAM	APPD.	DATE
DW-11049		
DW-11050		

POWERCON CORP.	VER SITE http://www.powerconcorp.com
TITLE PEAK SHAVING PLC SCHEMATIC - 24VDC INPUT MODULES	
PEAK SHAVING CONTROL CABINETS FOR (2) 15KV, 1800KW DIESEL GENERATORS WITH UTILITY PARALLELING CONTROL	
STATION MSA HAMBURG ST. GEN. PLANT	
LOCATION BALTIMORE, MD	
SO#02-27176	DW-11049
REV. 4	

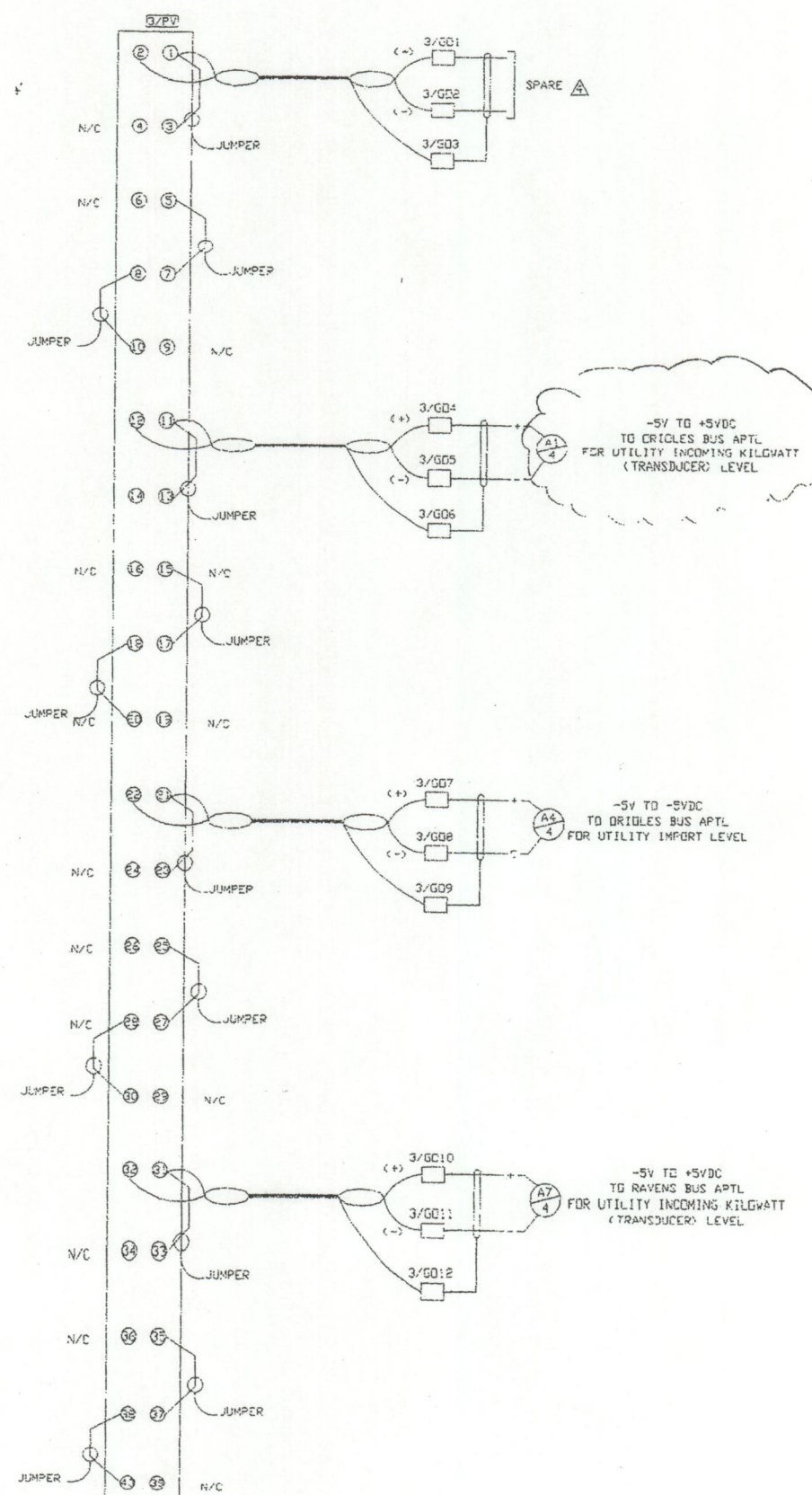




PLC ANALOG I/O MODULE #8  
4-20mA

NOTE:

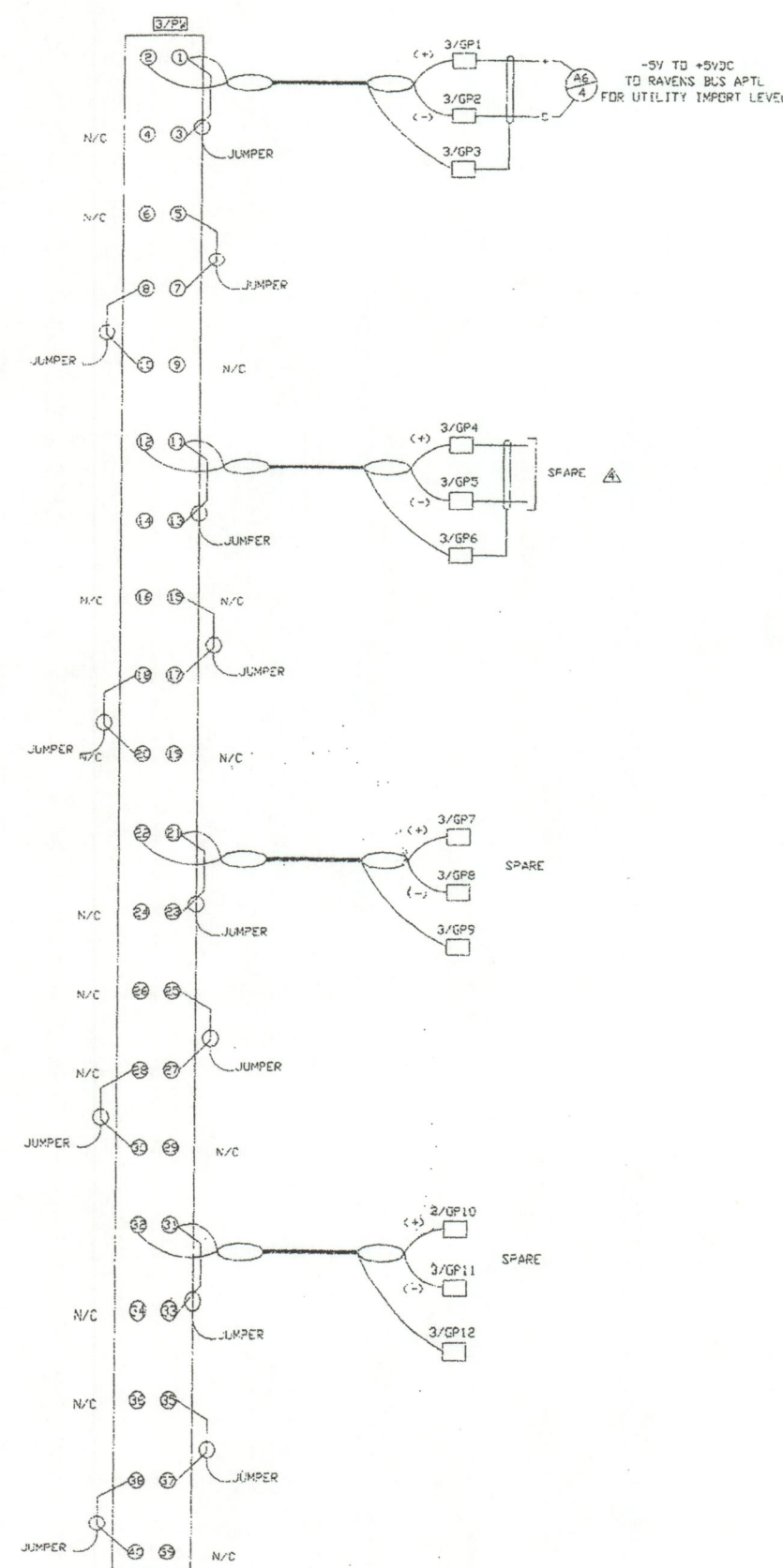
1. ALL PLC WIRING TO BE #10 AWG WHITE WIRE & SHIELDED CABLE, TERMINATED WITH UNINSULATED RING LUGS AND HAVE "TC" WIRE MARKERS.



PLC ANALOG OUTPUT MODULE #9  
±5VDC

NOTE:

- 1 ALL WIRING TO BE SHIELDED CABLE, TERMINATED WITH UNINSULATED RING LUGS AND HAVE 'TO' WIRE MARKERS




PLC ANALOG OUTPUT MODULE #10  
±5VDC

NOTE:

1. ALL WIRING TO BE SHIELDED, TERMINATED WITH UNINSULATED RING LUGS AND HAVE 'TO' WIRE MARKERS.

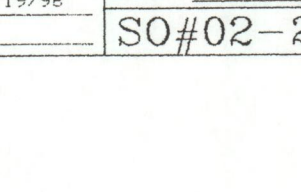
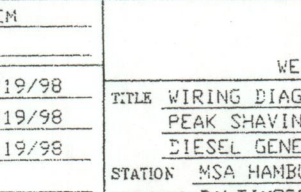
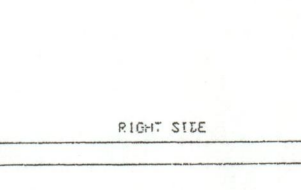
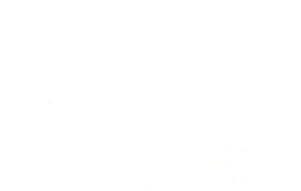
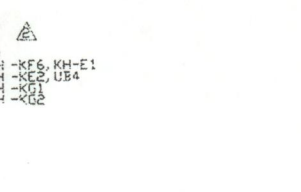
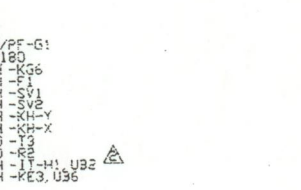
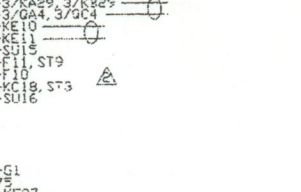
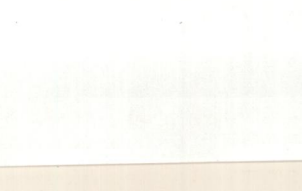
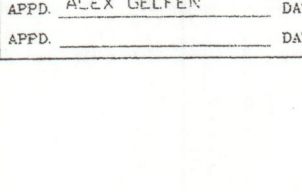
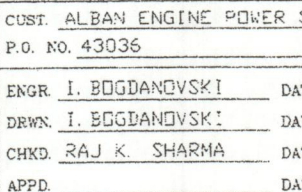
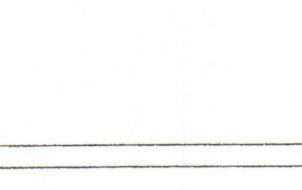
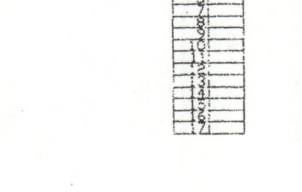
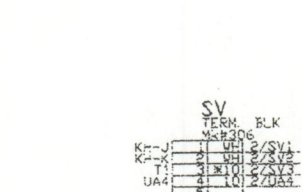
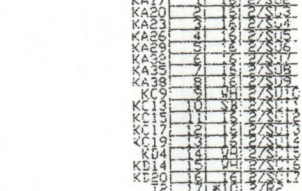
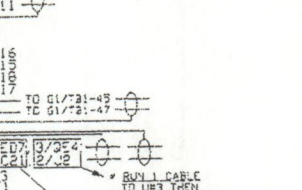
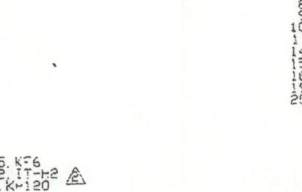
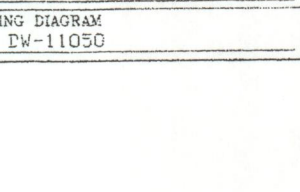
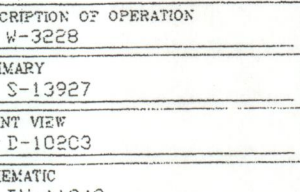
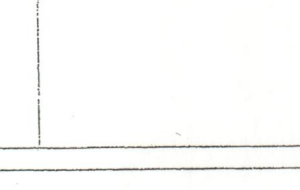
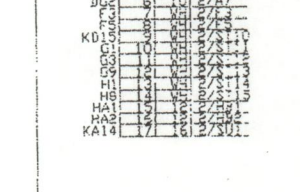
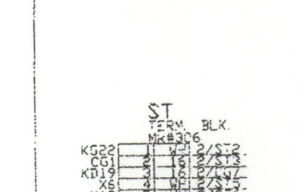
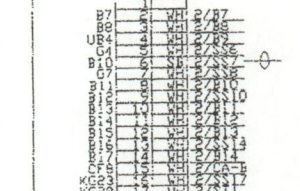
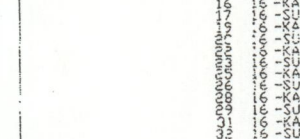
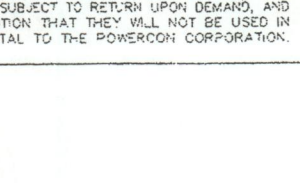
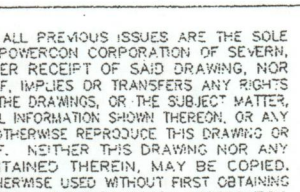
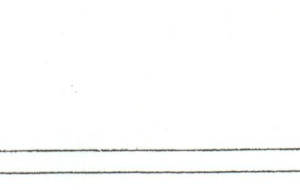
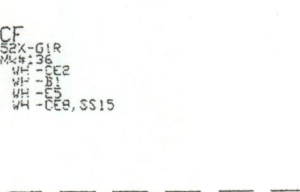
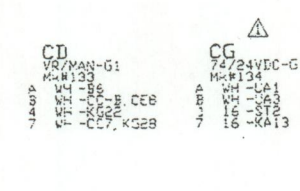
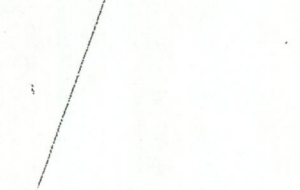
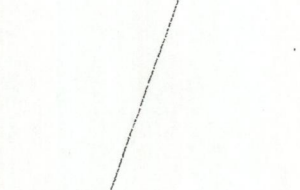
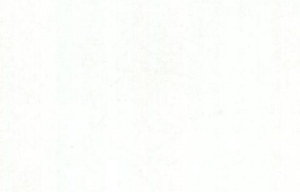
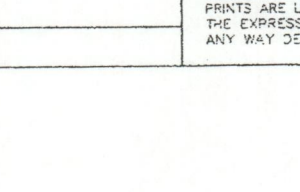
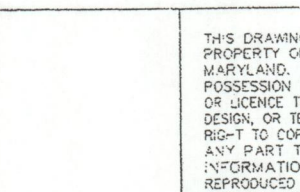
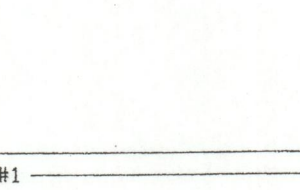
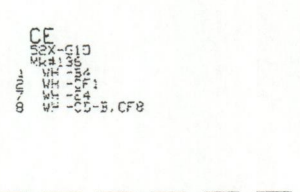
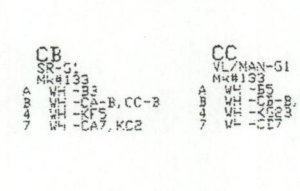
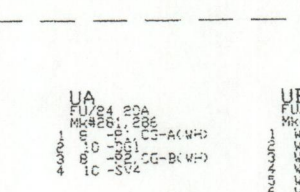
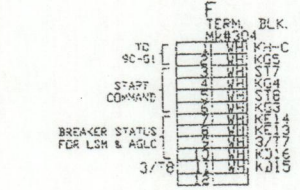
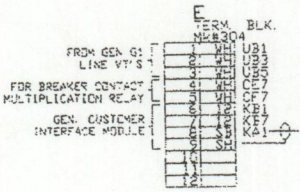
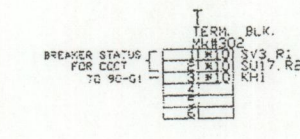
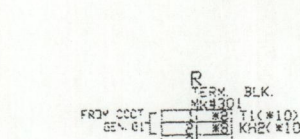
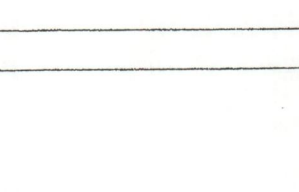
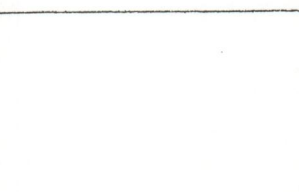
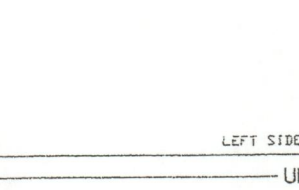
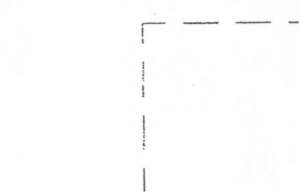
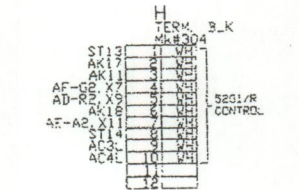
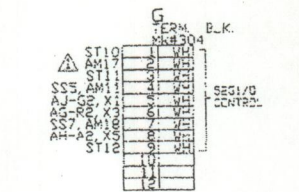
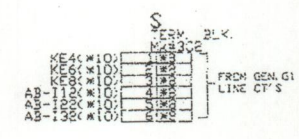
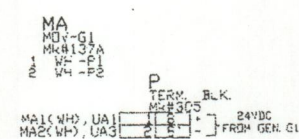
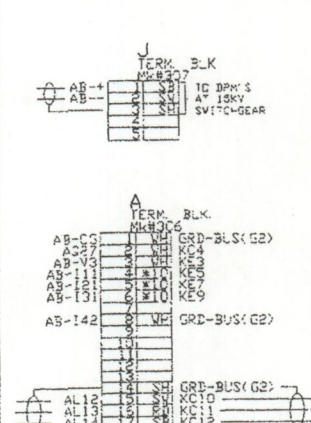
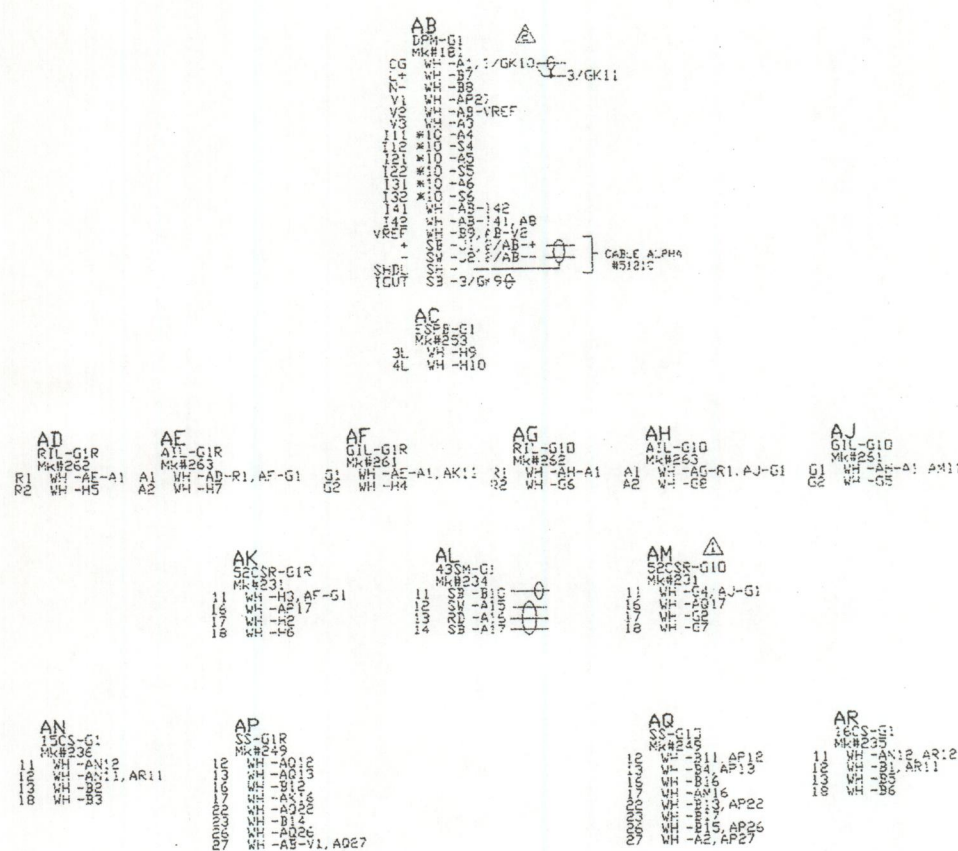
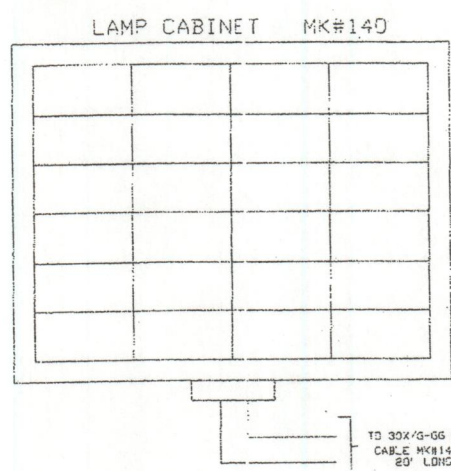
- \*\*\* - BREAKER POSITION SWITCH SHOWN WITH BREAKER IN CONNECT POSITION
- \*\*\* - STATION SWITCH OPERATES IN CONNECT POSITION ONLY
- ▲ - DEVICE LOCATED @ EMERGENCY CONTROL CABINET
- - TERMINAL BLOCK LOCATED @ EMERGENCY CONTROL CABINET
- - DEVICE LOCATED @ ISKV SWITCHGEAR
- - TERMINAL BLOCK LOCATED @ ISKV SWITCHGEAR
- † - PROVIDED BY OTHERS. LOCATED REMOTE
- † - PROVIDED BY OTHERS. MOUNTED & WIRED BY POWERSON
- ⊖ - GENERATOR SET CONTROL. PANEL TERMINAL BLOCK POINT

### PEAK SHAVING PLC SCHEMATIC - ANALOG MODULES

REVISIONS REV. PER CUSTOMER CHANGES: 5/04/98 RKS/AG REV. PER UTILITY DIAGRAM DESIGN 6/06/98 RKS/AG/18 REVISED PER AS BUILT & TESTED 8/1/98 RKS/NNM/AG REV. PER START-UP OF PEAK SHAVING CONTROLS 11/06/98 RKS/NNM/AG		THIS DRAWING AND ALL PREVIOUS ISSUES ARE THE SOLE PROPERTY OF THE POWERCON CORPORATION OF SEVERN, MARYLAND. NEITHER RECEIPT OF SAID DRAWING, NOR POSSESSION THEREOF, IMPLIES OR TRANSFERS ANY RIGHTS OF LICENSE TO USE THE DRAWINGS, OR THE SERVICE, DESIGN, OR TECHNICAL INFORMATION SHOWN THEREIN, OR ANY RIGHT TO COPY OR OTHERWISE REPRODUCE THIS DRAWING OR ANY PART THEREOF. NEITHER THIS DRAWING NOR ANY INFORMATION CONTAINED THEREIN, MAY BE COPIED, REPRODUCED OR OTHERWISE USED WITHOUT FIRST OBTAINING WRITTEN AUTHORIZATION OF THE POWERCON CORPORATION. PRINTS ARE LOANED SUBJECT TO RETURN UPON DEMAND, AND THE EXPRESS CONDITION THAT THEY WILL NOT BE USED IN ANY WAY DETRIMENTAL TO THE POWERCON CORPORATION.		DESCRIPTION OF OPERATION W-3223 SUMMARY S-13927 FRONT VIEW D-10203 SCHEMATIC DW-11049 WIRING DIAGRAM DW-11050		CUST. ALBAN ENGINE POWER SYSTEM P.O. NO. 43036 ENGR. RAJ K. SHARMA DATE 1/17/98 DRWN. SUE TOBIN DATE 5/30/98 CHDK. DATE APPD. DATE APPD. ALEX GELFEN DATE 1/17/98 APPD. DATE		 WEB SITE <a href="http://www.powerconcorp.com">http://www.powerconcorp.com</a> TITLE PEAK SHAVING PLC SCHEMATIC - ANALOG MODULES PEAK SHAVING CONTROL CABINETS FOR (2) 15KV, 1800KW DIESEL GENERATORS WITH UTILITY PARALLELING CONTROL STATION MSA HAMBURG ST. GEN. PLANT LOCATION BALTIMORE, MD SO#02-27176 DW-11049		SHEET 11 OF 12 REV
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DW-11050



- NOTES
1. ALL WIRE TO BE MINIMUM #14 AWG WHITE COLOR, EXCEPT AS NOTED.  
Q2 = GREEN #12 AWG SV = WHITE TWISTED  
SB = BLACK SHIELDED PAIR #18AWG.  
SN = SHIELD EXCEPT AS NOTED.
  2. FOR PHYSICAL LOCATION OF EQUIPMENT SEE FRONT VIEW DRAWING.
  3. FOR DESCRIPTION OF MARK NUMBERS REFER TO SUMMARY OF EQUIPMENT.
  4. \* UNINSULATED RING LUGS & LOCKWASHERS RED D.
  5. CONTROL WIRING TO BE TERMINATED WITH UNINSULATED RING LUGS.
  6. ALL WIRES TO BE STAMPED WITH "FROM-TO" DESIGNATION EVERY 3".
  7. DISCONNECT UNDERLINED WIRES FOR SHIPPING.
  8. TWISTED AND SHIELDED WIRES TO BE GROUNDED AND RUN SEPARATELY FROM ALL OTHER CONDUCTORS.

DOOR (REAR VIEW)

LEFT SIDE

UNIT #1

RIGHT SIDE

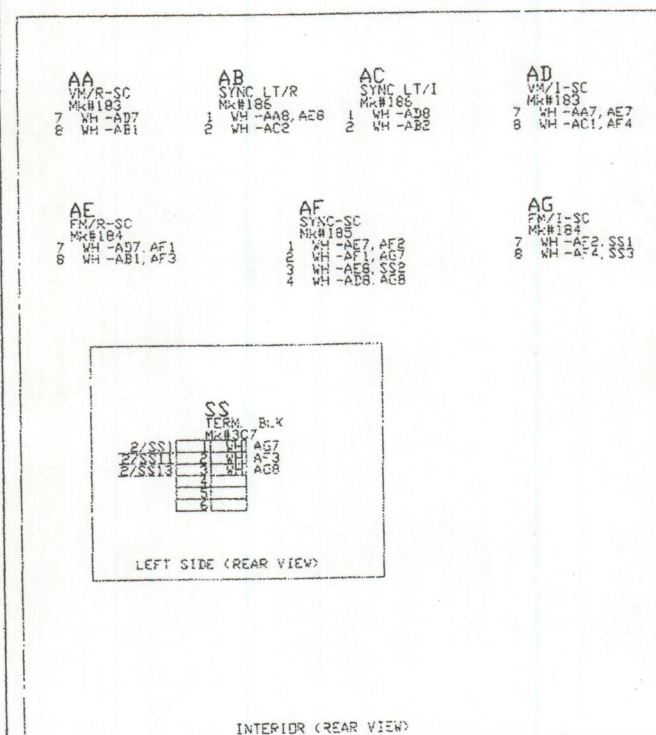
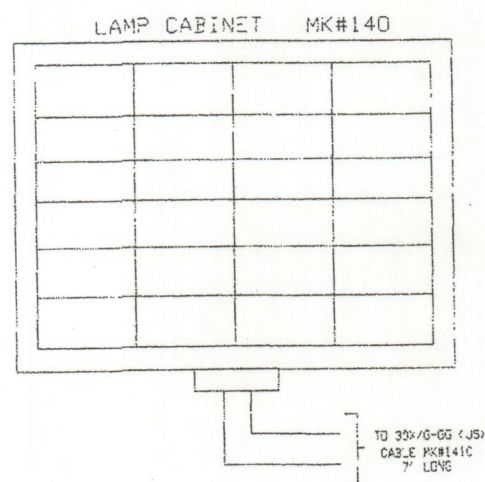
SHEET 1 OF 4

<p>REVISIONS</p> <p>REVISED PER AS BUILT &amp; TESTED 08/17/98 BY ANN/AG</p> <p>REVISED PER START-UP OF PEAK SHAVING CONTROLS 11/06/98 BY KRS/MB/ANN/SC</p>	<p>THIS DRAWING AND ALL PREVIOUS ISSUES ARE THE SOLE PROPERTY OF THE POWERCON CORPORATION OF SEVERN, MARYLAND. NEITHER RECEIPT OF SAID DRAWING, NOR POSSESSION THEREOF, IMPLIES OR TRANSFERS ANY RIGHTS OR LICENSE TO USE THE DRAWINGS, OR THE SUBJECT MATTER, DESIGN, OR TECHNICAL INFORMATION SHOWN THEREON, OR ANY PART THEREOF. NEITHER THIS DRAWING NOR ANY INFORMATION CONTAINED THEREIN, MAY BE COPIED, REPRODUCED OR OTHERWISE USED WITHOUT FIRST OBTAINING WRITTEN AUTHORIZATION OF THE POWERCON CORPORATION. PRINTS ARE LOANED SUBJECT TO RETURN UPON DEMAND, AND THE EXPRESS CONDITION THAT THEY WILL NOT BE USED IN ANY WAY DETRIMENTAL TO THE POWERCON CORPORATION.</p>	<p>DESCRIPTION OF OPERATION</p> <p>V-3228</p> <p>SUMMARY</p> <p>S-13927</p> <p>FRONT VIEW</p> <p>D-102C3</p> <p>SCHEMATIC</p> <p>DW-11049</p> <p>WIRING DIAGRAM</p> <p>DW-11050</p>	<p>CUST. ALBAN ENGINE POWER SYSTEM</p> <p>P.O. NO. 43036</p> <p>ENGR. I. BOGDANOVSKI</p> <p>DATE 6/19/98</p> <p>DRWN. I. BOGDANOVSKI</p> <p>DATE 6/19/98</p> <p>CHKD. RAJ K. SHARMA</p> <p>DATE 6/19/98</p> <p>APPD. ALEX GELFEN</p> <p>DATE 6/19/98</p>	<p>TITLE WIRING DIAGRAM</p> <p>PEAK SHAVING CONTROL CABINETS FOR (2) 15KV, 1800KW DIESEL GENERATORS WITH UTILITY PARALLELING CONTROL.</p> <p>STATION MSA HAMBURG STREET GEN PLANT</p> <p>LOCATION BALTIMORE, MARYLAND</p>	<p>SO#02-27176</p> <p>DW-11050</p> <p>REV 2</p>
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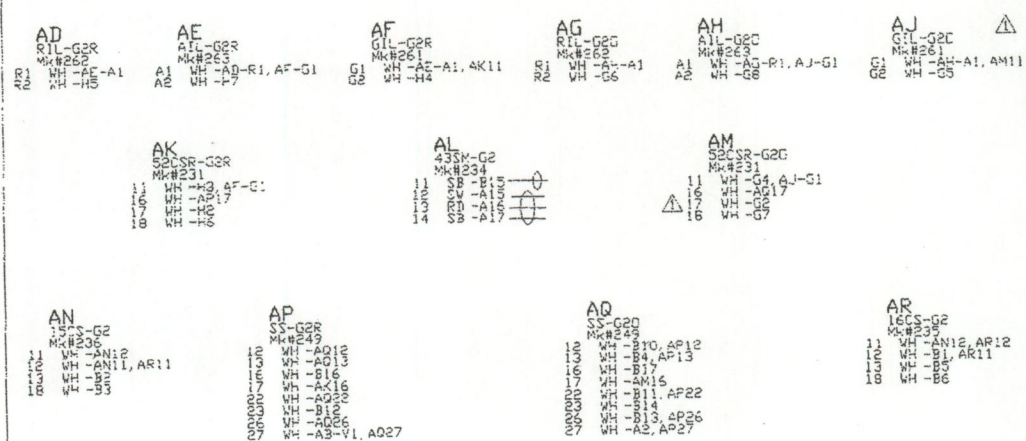
control cabinet



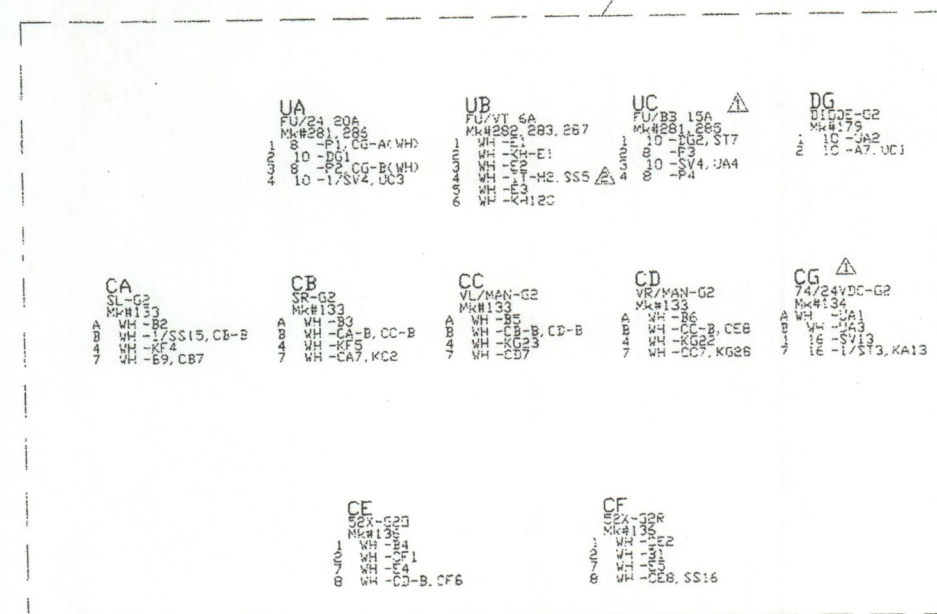
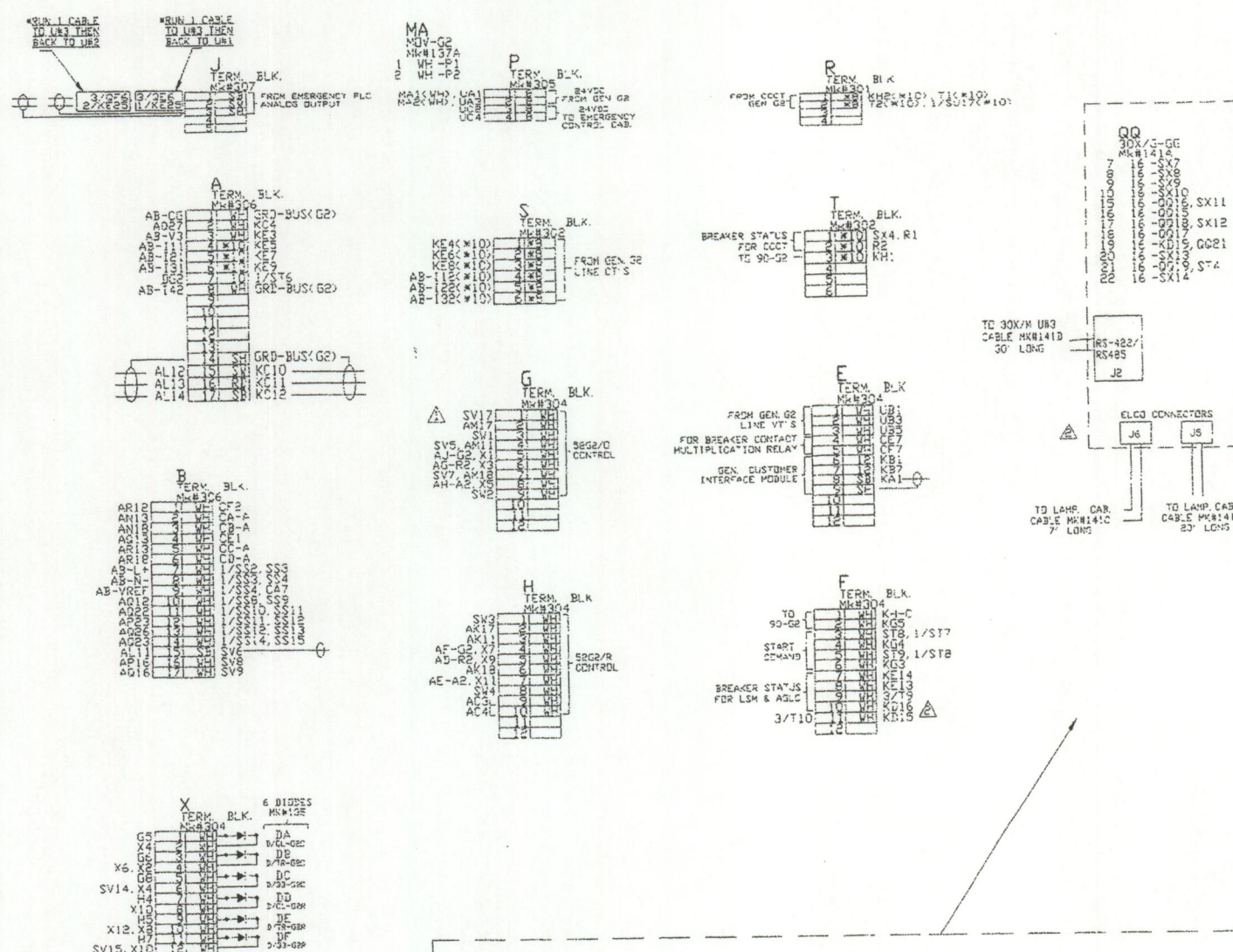
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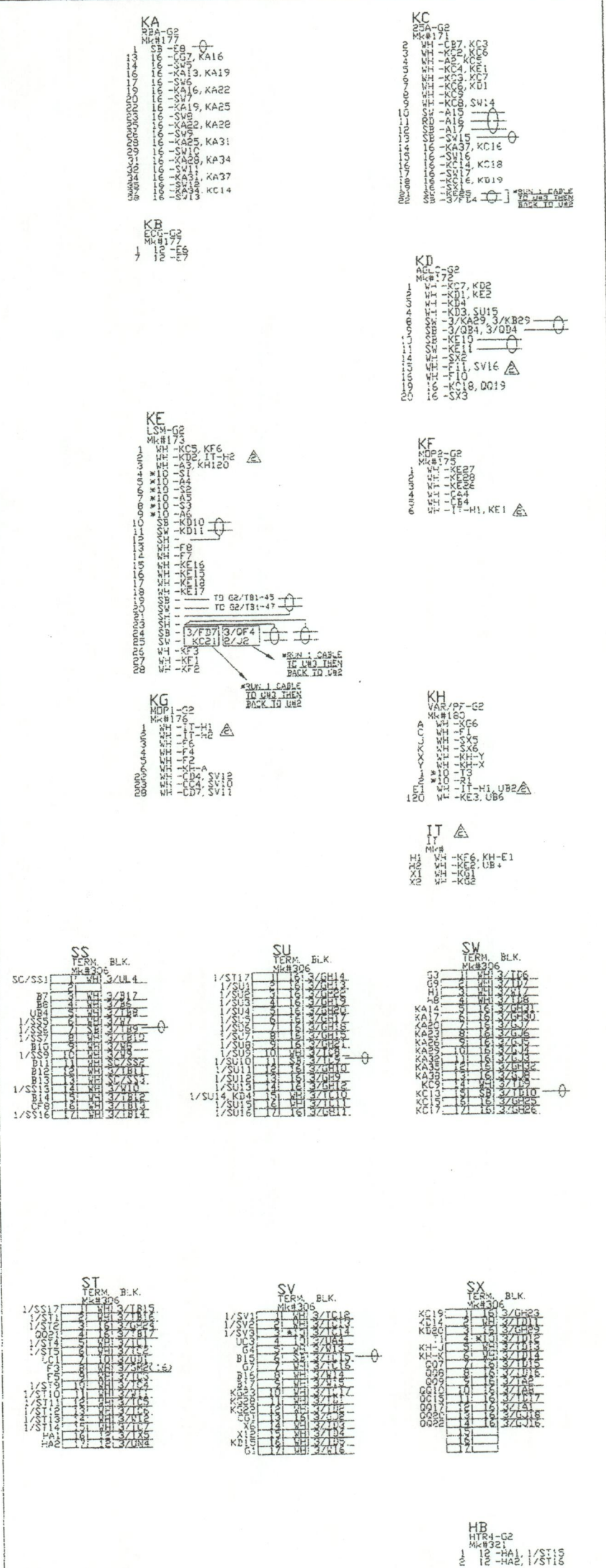
UNIT #SC



DOOR (REAR VIEW)



UNIT #2



RIGHT SIDE

REVISIONS
REVISED PER AS
08/17/98 IB/AMM/AG
REV. PER START-UP
08/17/98 IB/AMM/AG
REV. PER SHAVING
08/17/98 IB/AMM/AG
REV. PER SHAVING
08/17/98 IB/AMM/AG

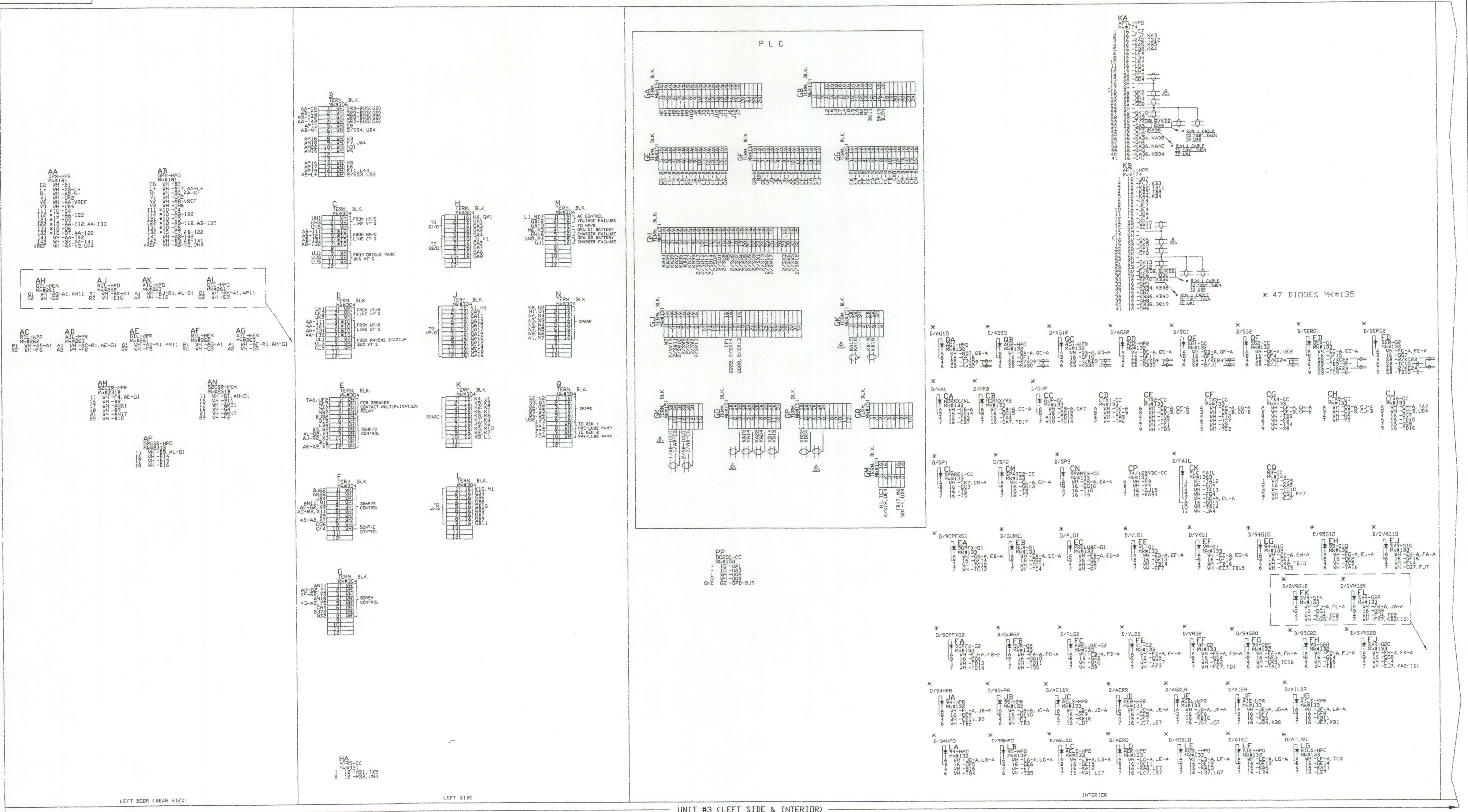
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DESCRIPTION OF OPERATION
SUMMARY
S-13927
FRONT VIEW
D-10203
SCHEMATIC
DW-11049
WIRING DIAGRAM
DW-11050

CUST. ALBAN ENGINE POWER SYSTEM
P.O. NO. 43536
ENGR. I. BOGDANOVSKI
DATE 6/19/98
DRWN. I. BOGDANOVSKI
DATE 6/19/98
CHKD. RAJ K. SHARMA
DATE 6/19/98
APPD. ALEX GELFEN
DATE 6/19/98
APPD. _____
DATE _____

TITLE WIRING DIAGRAM
PEAK SHAVING CONTROL CABINETS FOR (2) 15KV, 1800KW
DIESEL GENERATORS WITH UTILITY PARALLELING CONTROL.
STATION MSA HAMBURG STREET GEN. PLANT
LOCATION BALTIMORE, MARYLAND
SO#02-27176
DW-11050
REV. 2

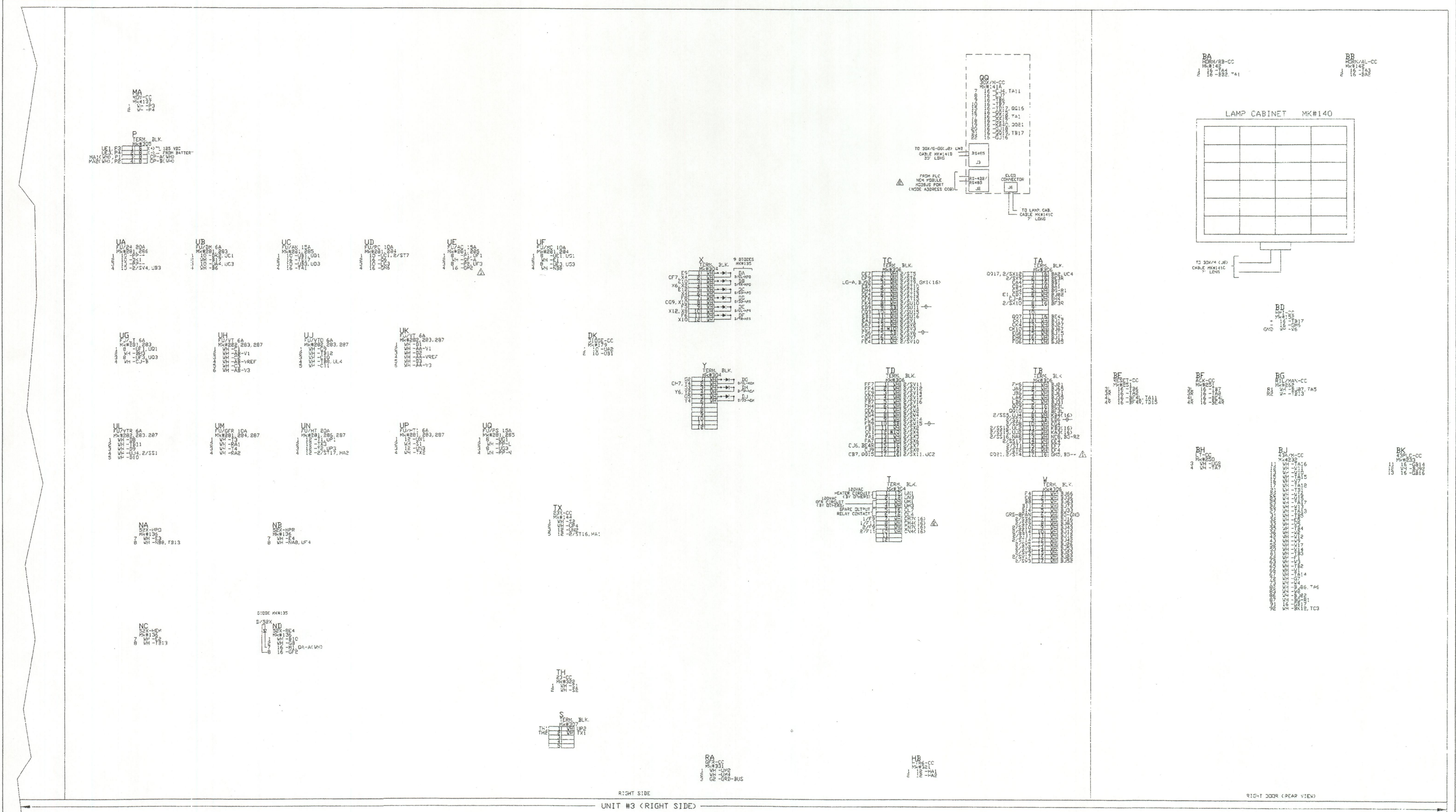




<p>REVISIONS</p> <p>REVISED PER AS BUILT &amp; TESTED 08/17/98 IB/AMM/AG</p> <p>REV. PER START-UP OF PEAK SHAVING CONTROLS 11/06/98 RK3/MB/AMM/AG</p>	<p>THIS DRAWING AND ALL PREVIOUS ISSUES ARE THE SOLE PROPERTY OF THE POWERCON CORPORATION OF SEVERN, MARYLAND. NEITHER RECEIPT OF THIS DRAWING, NOR POSSESSION THEREOF, IMPLIES OR TRANSFERS ANY RIGHTS OR LICENSE TO USE THE DRAWINGS, OR THE SUBJECT MATTER, DESIGN, OR TECHNICAL INFORMATION SHOWN THEREON, OR ANY PART THEREOF. NEITHER THIS DRAWING NOR ANY INFORMATION CONTAINED THEREIN, MAY BE COPIED, REPRODUCED OR OTHERWISE USED WITHOUT FIRST OBTAINING WRITTEN AUTHORIZATION OF THE POWERCON CORPORATION. PRINTS ARE LOANED SUBJECT TO RETURN UPON DEMAND, AND THE EXPRESS CONDITION THAT THEY WILL NOT BE USED IN ANY WAY DETRIMENTAL TO THE POWERCON CORPORATION.</p>	<p>DESCRIPTION OF OPERATION N-3228</p> <p>SUMMARY S-13927</p> <p>FRONT VIEW D-10203</p> <p>SCHEMATIC DW-11049</p> <p>WIRING DIAGRAM DW-11050</p>	<p>CUST. ALBAN ENGINE POWER SYSTEM F.O. NO. 43036</p> <p>ENGR. I. BOGDANSKYSKI DATE 6/19/98</p> <p>DRWN. I. BOGDANSKYSKI DATE 6/19/98</p> <p>CHKD. RAJ K. SHARMA DATE 6/19/98</p> <p>APPD. DATE</p> <p>APPD. ALEX GELFEN DATE 6/19/98</p> <p>APPD. DATE</p>	<p><b>Powercon Corp.</b> WEB SITE <a href="http://www.powerconcorp.com">http://www.powerconcorp.com</a></p> <p>TITLE WIRING DIAGRAM PEAK SHAVING CONTROL CABINETS FOR (2) 15KV, 1800KW DIESEL GENERATORS WITH UTILITY PARALLELING CONTROL.</p> <p>STATION 356 HAYBURG STREET GEN. PLANT LOCATION BALTIMORE, MARYLAND</p> <p>SO#02-27176 DW-11050 RSV 2</p>
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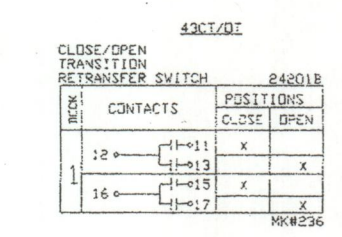
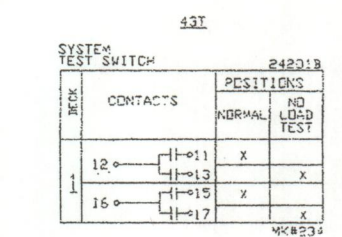
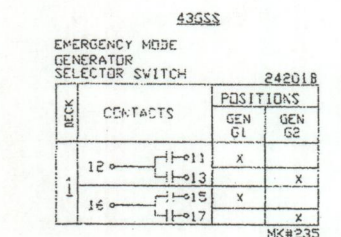
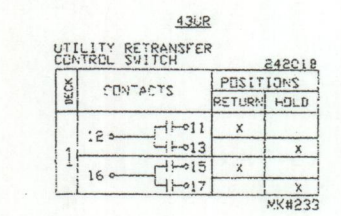
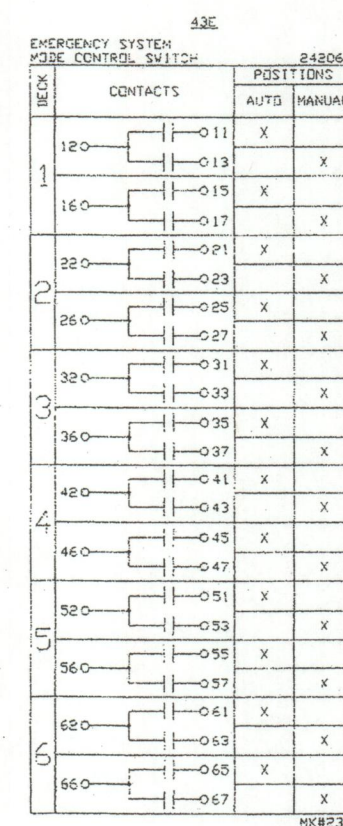
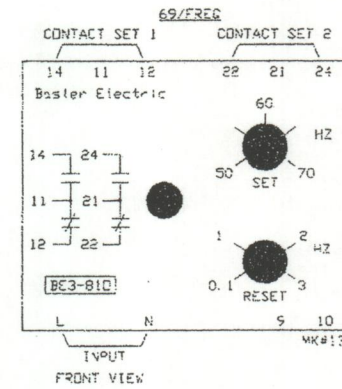
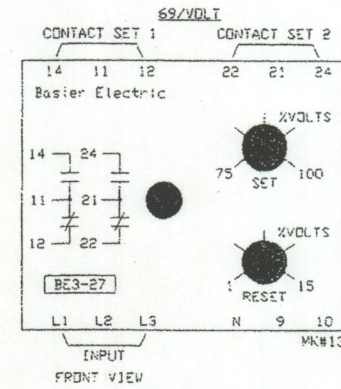
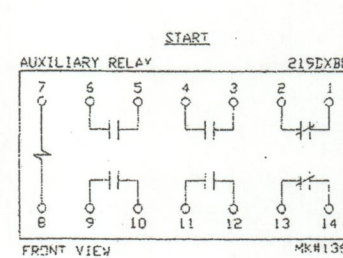
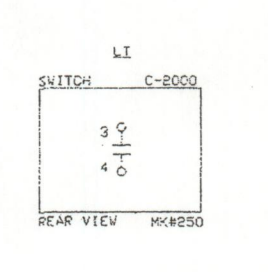
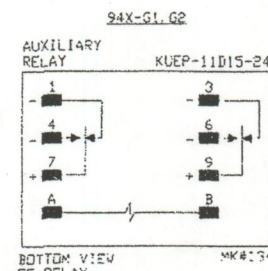
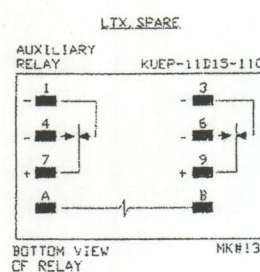
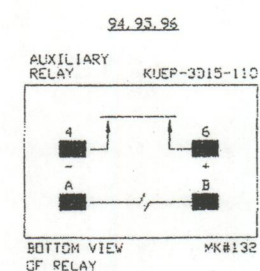
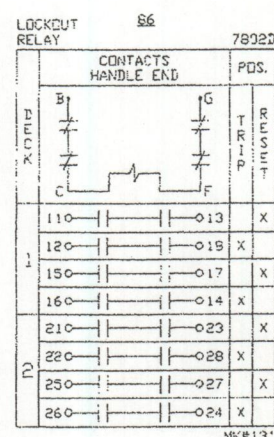
DW-11050



<p>REVISIONS</p> <p>REVISED PER AS BUILT &amp; TESTED 08/17/98 TB/AMM/AG</p> <p>REV. PER START-UP OF PEAK SHAVING CONTROLS 11/06/98 RKS/AMM/AG</p>	<p>THIS DRAWING AND ALL PREVIOUS ISSUES ARE THE SOLE PROPERTY OF THE POWERCORP CORPORATION OF SEVERN, MARYLAND. NEITHER RECEIPT OF SAID DRAWING, NOR POSSESSION THEREOF, IMPLIES OR TRANSFERS ANY RIGHTS OR LICENSE TO USE THE DRAWINGS, OR THE SUBJECT MATTER, DESIGN, OR TECHNICAL INFORMATION SHOWN THEREON, OR ANY PART THEREOF. NEITHER THIS DRAWING NOR ANY INFORMATION CONTAINED THEREIN, MAY BE COPIED, REPRODUCED OR OTHERWISE USED WITHOUT FIRST OBTAINING WRITTEN AUTHORIZATION OF THE POWERCORP CORPORATION. PRINTS ARE LOANED SUBJECT TO RETURN UPON DEMAND, AND THE EXPRESS CONDITION THAT THEY WILL NOT BE USED IN ANY WAY DETRIMENTAL TO THE POWERCORP CORPORATION.</p>	<p>DESCRIPTION OF OPERATION</p> <p>V-3228</p> <p>SUMMARY</p> <p>S-13927</p> <p>FRONT VIEW</p> <p>D-10203</p> <p>SCHEMATIC</p> <p>DW-11049</p> <p>WIRING DIAGRAM</p> <p>DW-11050</p>	<p>CUST. ALBAN ENGINE POWER SYSTEM</p> <p>P.O. NO. 43036</p> <p>ENGR. I. BOGDANOVSKI DATE 6/19/98</p> <p>DRWN. I. BOGDANOVSKI DATE 6/19/98</p> <p>CHKD. RAJ K. SHARMA DATE 6/19/98</p> <p>APPD. ALEX GELFEN DATE 6/19/98</p> <p>APPD. DATE</p>	<p>Powercor Corp</p> <p>WEB SITE <a href="http://www.powercorcorp.com">http://www.powercorcorp.com</a></p> <p>TITLE WIRING DIAGRAM</p> <p>PEAK SHAVING CONTROL CABINETS FOR (2) 15KV, 1800KW DIESEL GENERATORS WITH UTILITY PARALLELING CONTROL</p> <p>STATION MSA HAMBURG STREET GEN. PLANT</p> <p>LOCATION BALTIMORE, MARYLAND</p> <p>SO#02-27176 DW-11050</p>
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66011-MC



- △ - NORMALLY OPEN CONTACT
- ▽ - NORMALLY CLOSED CONTACT
- DCDC - 125VDC - 24VDC CONVERTER
- DICDC - 125VDC - 24VDC CONVERTER
- DICDC - 125VDC - 24VDC CONVERTER
- EMCP11 - EMERGENCY STOP PUSHBUTTON
- ESPB - EMERGENCY STOP PUSHBUTTON
- FU - FUSE
- GFR - GROUND FAULT INTERRUPTER RECEPTACLE
- HTR - HEATER
- LT - LAMP TEST SWITCH (LIGHTS)
- LTX - LAMP TEST RELAY
- MCV - METAL-OXIDE VARISTOR
- PLC - PROGRAMMABLE LOGIC CONTROLLER
- PM - POLARITY MARK
- SPARE - AUXILIARY RELAY
- START - GENERATOR START RELAY
- V7 - VOLTAGE TRANSFORMER
- 23 - THERMOSTAT
- 25 - SYNC CHECK RELAY
- 32 - REVERSE POWER RELAY
- 33 - CIRCUIT BREAKER POSITION SWITCH
- 43CT/OT - CLOSED/OPEN TRANSITION RETRANSFER SWITCH
- 43C - EMERGENCY SYSTEM MODE CONTROL SWITCH
- 43SS - EMERGENCY MODE GENERATOR SELECTOR SWITCH
- 43T - SYSTEM TEST SWITCH
- 43UR - UTILITY RETRANSFER CONTROL SWITCH
- 51/SIN - 115V OVERCURRENT RELAY
- 52 - VACUUM CIRCUIT BREAKER
- 69/FREQ - 69V/FREQ - GENERATOR FREQUENCY & VOLTAGE PERMISSIVE RELAY
- 86 - LOCKOUT RELAY
- 90 - VOLTAGE REGULATOR
- 94, 94X-G1, G2 - AUXILIARY TRIPPING RELAY
- 95 - AUXILIARY CLOSING RELAY
- 96 - LOCKOUT ACTIVATE RELAY
- 97 - TERMINAL BLOCK POINT LOCATED @ EMERGENCY CONTROL CABINET
- X - SHORTING TYPE TERMINAL BLOCK POINT
- △ - AMBER INDICATING LIGHT
- ▽ - GREEN INDICATING LIGHT
- ▽ - RED INDICATING LIGHT
- △/1 - MATCH LETTER WITH SHEET NUMBER

- △ - BREAKER POSITION SWITCH SHOWN WITH BREAKER IN CONNECT POSITION
- △ - STATION SWITCH OPERATES IN CONNECT POSITION ONLY
- - DEVICE LOCATED @ 15KV SWITCHGEAR
- - TERMINAL BLOCK LOCATED @ 15KV SWITCHGEAR
- - TERMINAL BLOCK LOCATED @ PEAK SHAVING CONTROL CABINETS
- - DEVICE LOCATED @ PEAK SHAVING CONTROL CABINETS
- † - PROVIDED BY OTHERS, LOCATED REMOTE
- BB - PROVIDED BY OTHERS, MOUNTED & WIRED BY POWERCON
- - PLC PANEL TERMINAL BLOCK POINT
- - DEVICE DESIGNATION
- - GENERATOR SET CONTROL PANEL TERMINAL BLOCK POINT

## DEVICE LEGEND

DESCRIPTION	POWERCON SHOP ORDER	SCHEMATIC DIAGRAM	WIRING DIAGRAM	FRONT VIEW	B. D. M.	DESCRIPTION OF OPERATION
15KV SWITCHGEAR DRAWINGS	S. D. 01-27176	DW-11087	DW-11042	D-10161	S-13958	
PEAK SHAVING CONTROL CABINETS	S. D. 02-27176	DW-11049	DW-11050	D-10203	S-13927	
EMERGENCY CONTROL CABINET	S. D. 03-27176	DW-11099	DW-11099	D-10291	S-14152	
RAVENS EMERGENCY SWITCHGEAR "RE"	S. D. 01-27263	DW-11065	DW-11066	D-10240	S-14083	
RAVENS STADIUM PEAK SHAVING BREAKER	S. D. 02-27263	DW-11067	DW-11067	D-11732	S-14084	
GRIDDLE PARK PEAK SHAVING BREAKER	S. D. 01-27244	DW-11063	DW-11063	D-11702	S-14082	
SYSTEM ONE-LINE DIAGRAM	S. D. 01-27176	DW-22905	N/A	N/A	N/A	
INTERCONNECTION DIAGRAM	N/A	N/A	DW-11051, DW-11151	N/A	N/A	

## PROJECT DRAWING INDEX

SHEET NO.	DESCRIPTION
1	DEVICE DEVELOPMENT, LEGEND AND DRAWING INDEX
2	GENERATOR RELAYING & AC/DC POWER SCHEMATIC
3	AUTOMATIC/AUTOMATIC OFF EMERGENCY CONTROL INTERFACE
4	EMERGENCY PLC SCHEMATIC - PANEL LAYOUT
5	EMERGENCY PLC SCHEMATIC - 125VDC INPUT, OUTPUT, 24VDC INPUT
6	EMERGENCY PLC SCHEMATIC - ANALOG OUTPUT MODULE

## EMERGENCY CONTROL CABINET DRAWING INDEX

## DEVICE DEVELOPMENT

REVISIONS	REV.	AS BUILT AND TESTED	DATE	BY	DESCRIPTION
1	AS BUILT AND TESTED	6/18/98	RKS/PLP/AG		N/A THIS SHEET
2	REVISION PER START-UP OF PEAK SHAVING CONTROLS	7/02/98	RKS/PLP/AG		11/05/98RKS/AMW/AG

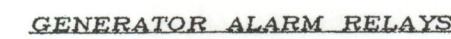
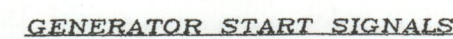
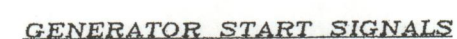
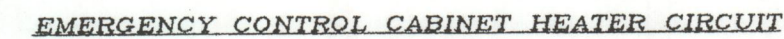
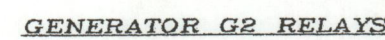
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DESCRIPTION OF OPERATION	CUST. ALBAN ENGINE POWER SYSTEM
W-3228	P.O. NO. 43036
SUMMARY	ENGR. RAJ K. SHARMA DATE 5/1/98
S-14152	DRWN. SUE TOBIN DATE 5/4/98
FRONT VIEW	CHKD. DATE
D-10291	APPD. DATE
SCHMATIC	APPD. ALEX GELFEN DATE 3/4/98
DW-11099	APPD. DATE
WIRING DIAGRAM	
DW-11100	

POWERCON Corp.	WEB SITE: http://www.powerconcorp.com
TITLE: DEVICE DEVELOPMENT AND LEGEND	
EMERGENCY CONTROL CABINET FOR (2) 15KV, 1800KW DIESEL GENERATOR	
STATION: MSA, HAMBURG ST. GEN. PLANT	
LOCATION: BALTIMORE, MD	
S0#03-27176	DW-11099
	REV. 3

Emergency Cabinet






- ✱ - BREAKER POSITION SWITCH SHOWN WITH BREAKER IN CONNECT POSITION
- ✱✱ - STATION SWITCH OPERATES IN CONNECT POSITION ONLY
- ☑ - DEVICE LOCATED @ 15KV SWITCHGEAR
- TERMINAL BLOCK LOCATED @ 15KV SWITCHGEAR
- - TERMINAL BLOCK LOCATED @ PEAK SHAVING CONTROL CABINETS
- - DEVICE LOCATED @ PEAK SHAVING CONTROL CABINETS
- ≡ - PROVIDED BY OTHERS. LOCATED REMOTE
- ≡ - PROVIDED BY OTHERS. MOUNTED & WIRED BY POWERCON
- ⊙ - GENERATOR SET CONTROL PANEL. TERMINAL BLOCK POINT

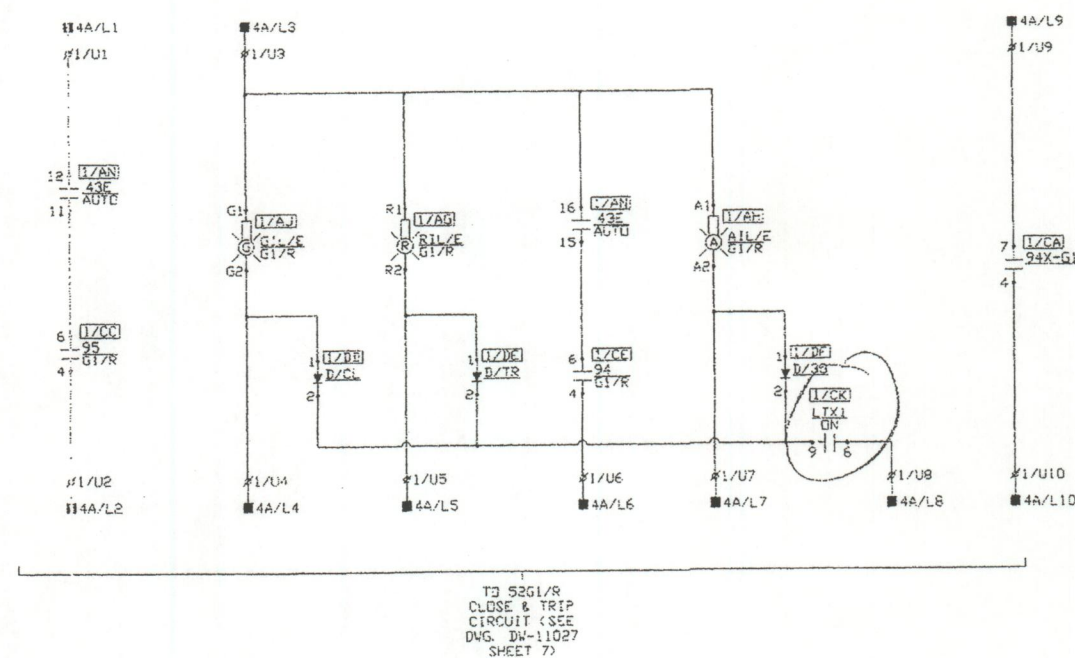
REVISIONS	
①	REV. AS BUILT AND TESTED 6/18/98 RKS/LP/AG
②	N/A THIS SHEET 7/07/98 RKS/LP/AG
③	N/A THIS SHEET 11/76/98 RKS/AMM/AG

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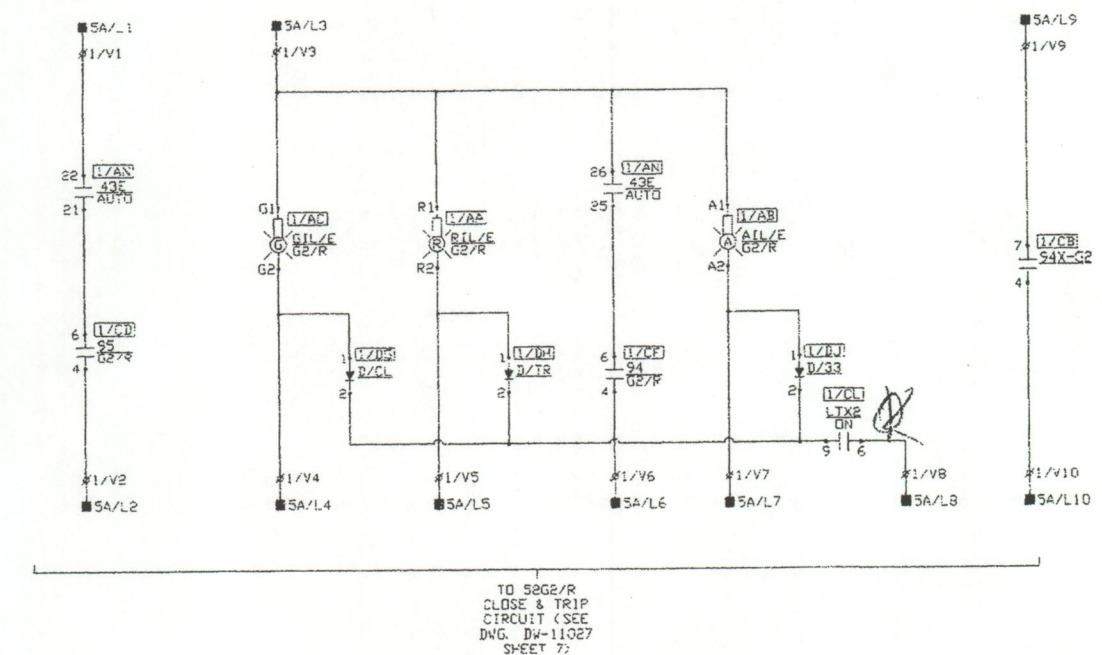
DESCRIPTION OF OPERATION D-3228		CUST. <u>ALBAN ENGINE POWER SYSTEM</u>	
SUMMARY S-14152		P.O. NO. <u>43036</u>	
FRONT VIEW D-10291		DRWN. <u>RAJ K. SHARMA</u>	DATE <u>5/1/98</u>
SCHEMATIC DW-11099		CHKD. _____	DATE _____
WIRING DIAGRAM EX-11100		APPD. <u>ALEX GELFEN</u>	DATE <u>5/4/98</u>
		APPD. _____	DATE _____

		SPEED & REV. B	
WEB SITE <a href="http://www.powerconcorp.com">http://www.powerconcorp.com</a>			
TITLE GENERATOR RELAYING AC/DC POWER SCHEMATIC EMERGENCY CONTROL CABINET FOR (2) 15KV, 1800KW DIESEL GENERATOR.			
STATION MSA HAMBURG ST. GEN. PLANT			
LOCATION BALTIMORE, MD			
SQ#033-27176		DW-11099	
		REV. 2	

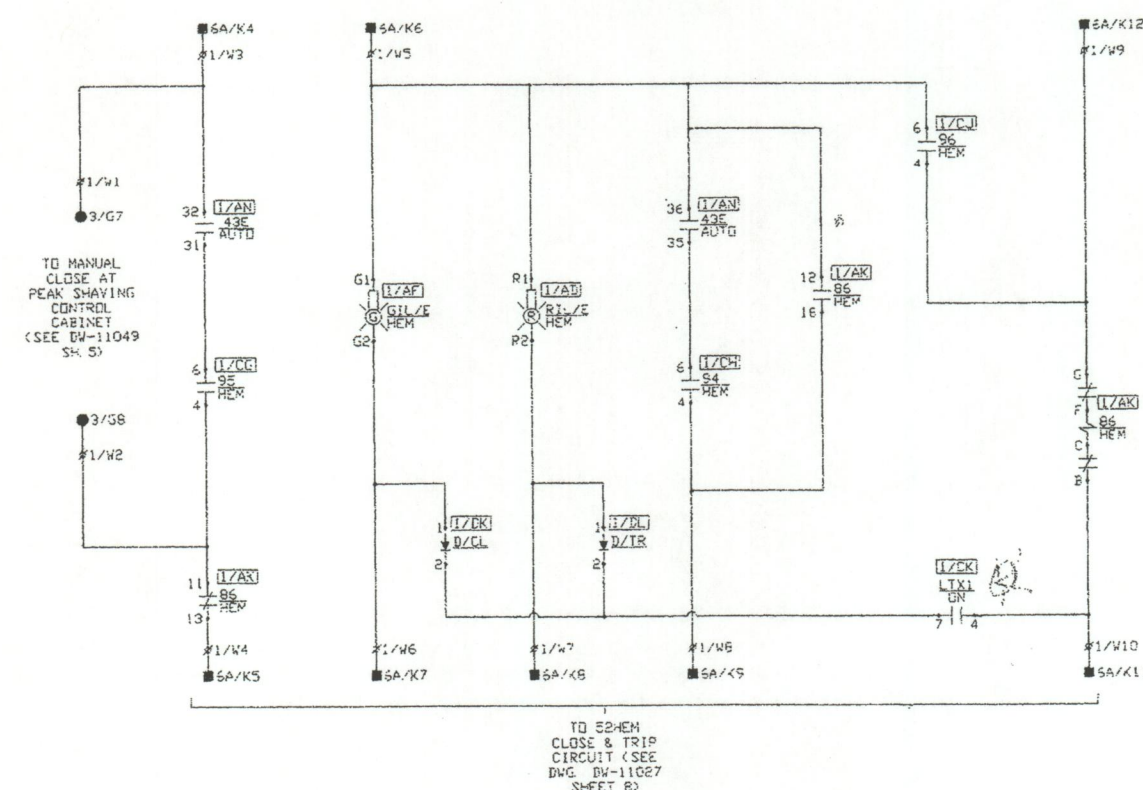




52G1/R EMERGENCY CONTROL



52G2/R EMERGENCY CONTROL



52HEM EMERGENCY CONTROL

## AUTOMATIC/AUTOMATIC OFF EMERGENCY CONTROL INTERFACE

- \*\*\* - BREAKER POSITION SWITCH SHOWN WITH BREAKER IN DISCONNECT POSITION
- \*\*\* - STATION SWITCH OPERATES IN CONNECT POSITION ONLY
- - DEVICE LOCATED @ 15KV SWITCHGEAR
- - TERMINAL BLOCK LOCATED @ 15KV SWITCHGEAR
- - TERMINAL BLOCK LOCATED @ PEAK SHAVING CONTROL CABINETS
- - DEVICE LOCATED @ PEAK SHAVING CONTROL CABINETS
- ± - PROVIDED BY OTHERS, LOCATED REMOTE
- ⊞ - PROVIDED BY OTHERS, MOUNTED & WIRED BY POWERCON
- ⊙ - GENERATOR SET CONTROL PANEL TERMINAL BLOCK POINT

REVISIONS	DATE	BY	CHKD.	APPD.
REV. AS BUILT AND TESTED	6/18/98	RKS/LP/AG		
REV. PER START-UP OF EMERGENCY	7/02/98	RKS/LP/AG		
REV. PER THIS SHEET	11/6/98	RKS/AMM/AG		

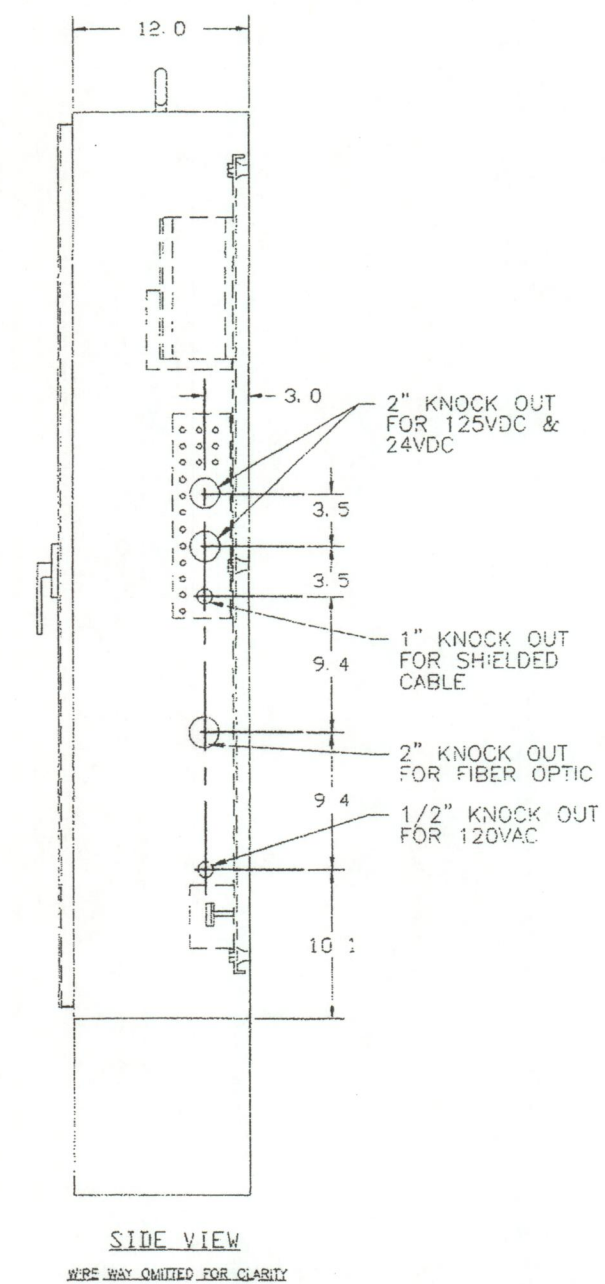
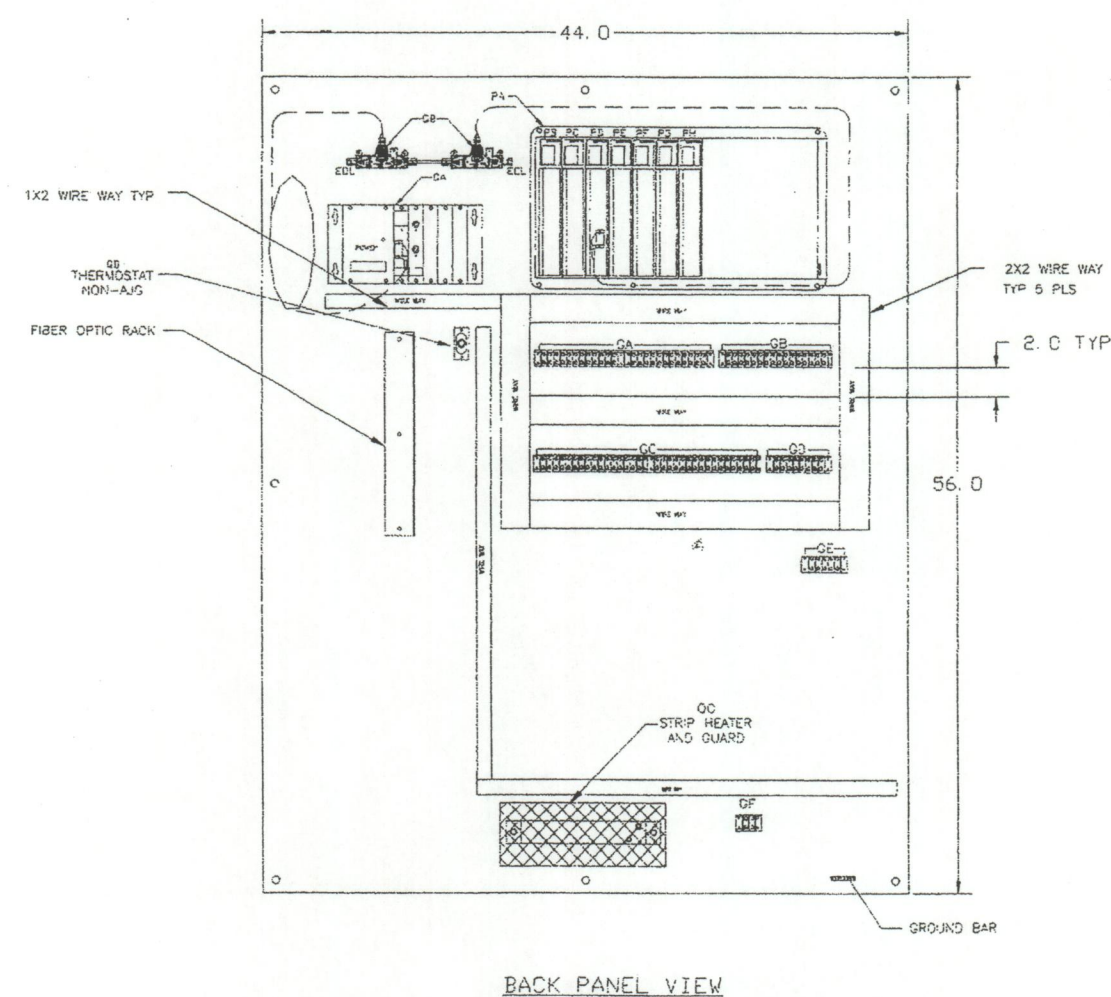
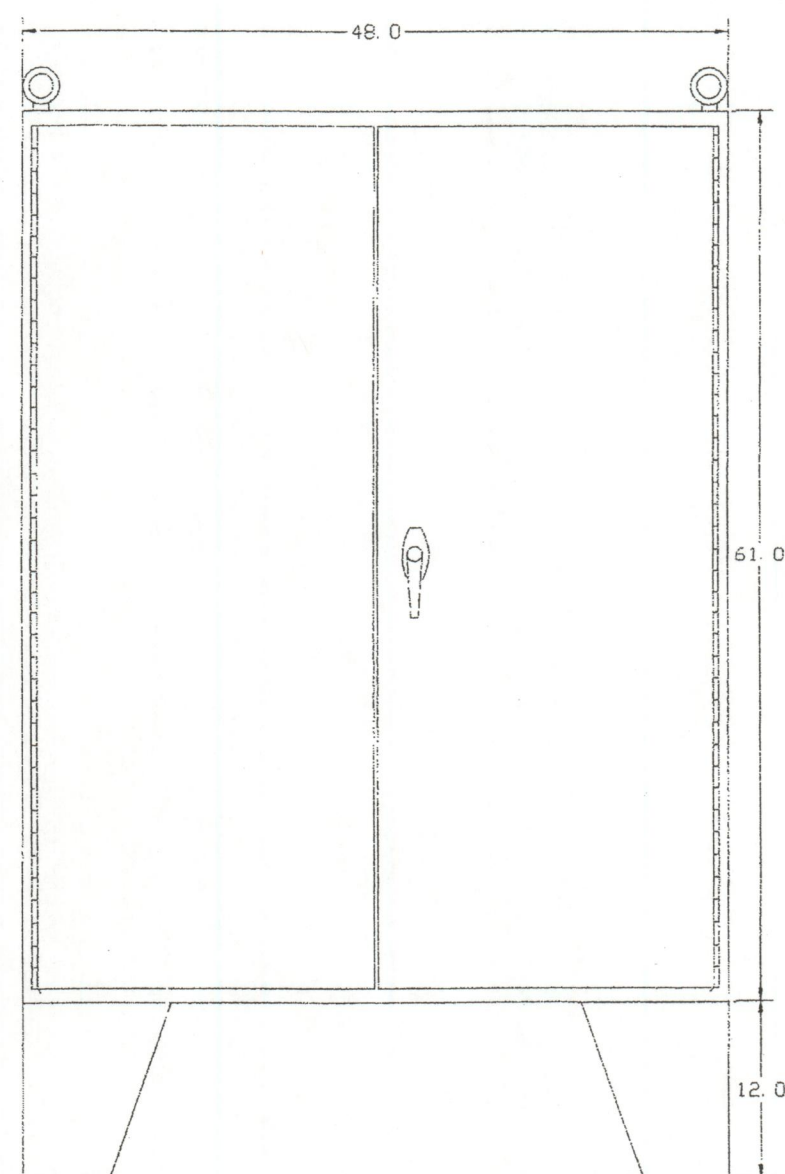
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DESCRIPTION OF OPERATION	CUST.
V-3228	ALBAN ENGINE POWER SYSTEM
SUMMARY	P.O. No. 43036
S-14152	
FRONT VIEW	ENGR. RAJ K. SHARMA DATE 5/1/98
D-10291	DRWN. SUE TOBIN DATE 5/4/98
SCHEMATIC	CHKD. DATE
DW-11099	APPD. DATE
WIRING DIAGRAM	APPD. ALEX GELFEN DATE 5/4/98
DW-11100	APPD. DATE

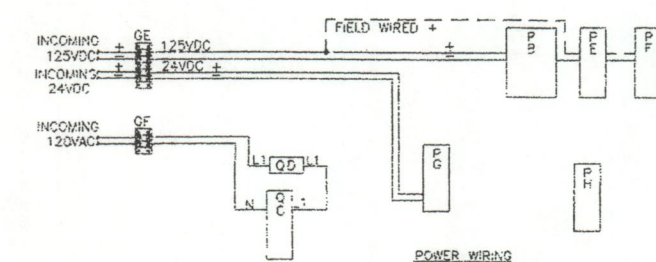
STATION	LOCATION
MSA HAMBURG ST. GEN. PLANT	BALTIMORE, MD

POWERCON CORP.	WEB SITE
http://www.powerconcorp.com	
TITLE	REVISION
AUTO/AUTO OFF EMERGENCY CONTROL INTERFACE	
EMERGENCY CONTROL CABINET FOR (2) 15KV, 1800KW DIESEL GENERATOR.	
STATION MSA HAMBURG ST. GEN. PLANT	
LOCATION BALTIMORE, MD	
SO#03-27176	DW-11099
REV. 3	





BILL OF MATERIAL				
QTY.	DESCRIPTION	CATALOG NUMBER	MANUFACTURER	DEVICE DESIGNATION
1	ENCLOSURE NEMA 12	A-604812LP	HOFFMAN	-
1	BACK PANEL	A-6048P	HOFFMAN	-
1	P.C.	140-CP-113-0E	MDICOM	PC
1	POWER SUPPLY	140-CPS-21100-0G	MDICOM	PC
1	MS+ MULTI CON PORT MODULE	140-NCM-21100-0G	MDICOM	PA
1	10 SLOT DMC	140-MB-210-0G	MDICOM	PC
1	MS+ DRPG DC 1 CH	140-CDA-21100-0E	MDICOM	PC
1	INPUT MODULE 84PT. 18VDC	140-IM1-673-0G	MDICOM	PE
1	RELAY OUTPUT 18PT 24VDC	140-RO1-673-0G	MDICOM	PE
1	INPUT MODULE 84PT. 24VDC	140-IM1-653-0G	MDICOM	PH
1	ANALOG OUTPUT CARTR	140-AVD-280-0G	MDICOM	PH
2	TERMINALS SERIES 141	750-4312	CINCH	GA GE
2	TERMINALS SERIES 141	750-4316	CINCH	GB GC
1	TERMINALS SERIES 141	750-4305	CINCH	GE
1	TERMINALS SERIES 141	750-4302	CINCH	GF
1	MS+ CABLE DRPG	990NAB2110	MDICOM	GB
1	MS+ CBL ADAPTOR	990NAB230	MDICOM	GB
1	FIBER OPTIC / MS+ CONVERTER	6000	WEBB	DA
1	FIBER OPTIC RACK	CUSTOM	J. V. TIEDER	DB
1	COR. HEATER	180VAC 850W	-	DC
1	TEMPERISTAT NON-ADJ.	ST607E-4G	WATLID	DB
A/N	WIPE VAY 1" X 1/2"	1" X 1 1/2"	TYTON	-
A/N	WIPE VAY 2" X 2"	2" X 2"	TYTON	-

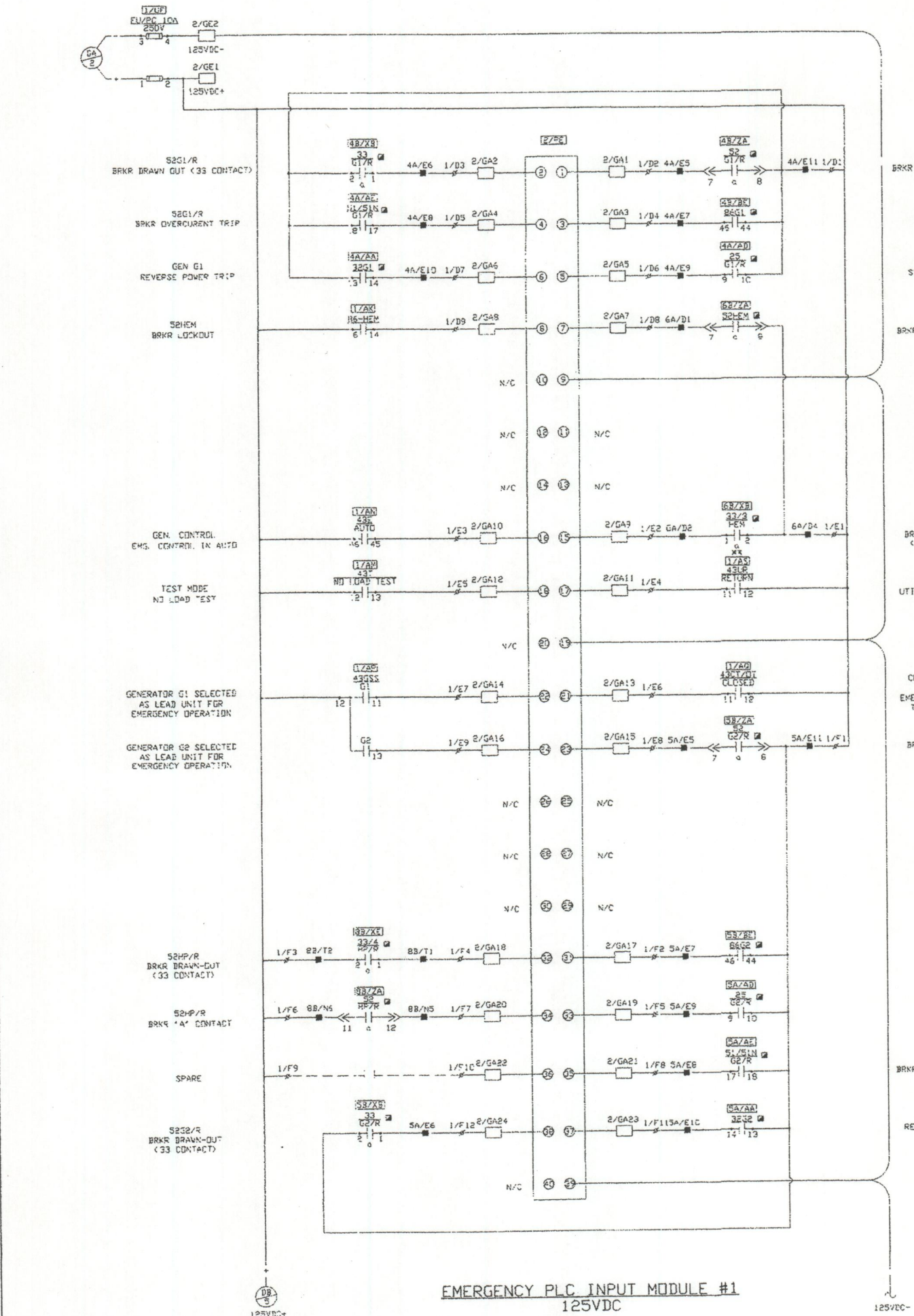


EMERGENCY PLC SYSTEM LAYOUT & BILL OF MATERIAL

REVISIONS			THIS DRAWING AND ALL PREVIOUS ISSUES ARE THE SOLE PROPERTY OF THE POWERCON CORPORATION OF SEVERI, MASSACHUSETTS. NEITHER RECEIPT OF SAID DRAWING, NOR POSSESSION THEREOF, IMPLIES OR TRANSFERS ANY RIGHTS OR LICENSE TO USE THE DRAWING OR THE INFORMATION, DESIGN, OR TECHNICAL INFORMATION SHOWN THEREON, OR ANY RIGHT TO COPY OR OTHERWISE REPRODUCE THE DRAWING OR ANY PART THEREOF. NEITHER THIS DRAWING NOR ANY INFORMATION CONTAINED THEREIN, MAY BE COPIED, REPRODUCED OR OTHERWISE USED WITHOUT FIRST OBTAINING WRITTEN AUTHORIZATION OF THE POWERCON CORPORATION. PRINTS ARE LOANED SUBJECT TO RETURN UPON DEMAND AND THE EXPRESS CONDITION THAT THEY WILL NOT BE USED IN ANY WAY DETRIMENTAL TO THE POWERCON CORPORATION.			DESCRIPTION OF OPERATION W-3228 SUMMARY S-14152 FRONT VIEW D-10291 SCHEMATIC DW-11099 WIRING DIAGRAM DW-11100			CUST. ALBAN ENGINE POWER SYSTEM P.O. NO. 43035 ENGR. RAJ K. SHARMA DATE 5/1/98 DRWN. SUE TUBBIN DATE 5/4/98 CHKD. DATE APPD. ALEX GELFEN DATE 5/4/98 APPD. DATE			<div>Powercon Corp SYSTEMS INC.</div> <div>WEB SITE <a href="http://www.powerconcorp.com">http://www.powerconcorp.com</a></div> <div>TITLE: EMERGENCY PLC SYSTEM LAYOUT &amp; BILL OF MATERIAL EMERGENCY CONTROL CABINET FOR (2) 15KW, 1800KW DIESEL GENERATOR</div> <div>STATION: NSA HANBURG ST. GEN. PLANT LOCATION: BALTIMORE, MD</div> <div>SO#03-27176 DW-11099</div> <div>REV. 3</div>		
REV.	AS BUILT	DATE												
1	AS BUILT	5/19/98 RKS/LP/AG												
2	AND	7/02/98 RKS/LP/AG												
3	N/A THIS SHEET	11/6/98 RKS/AM/AG												

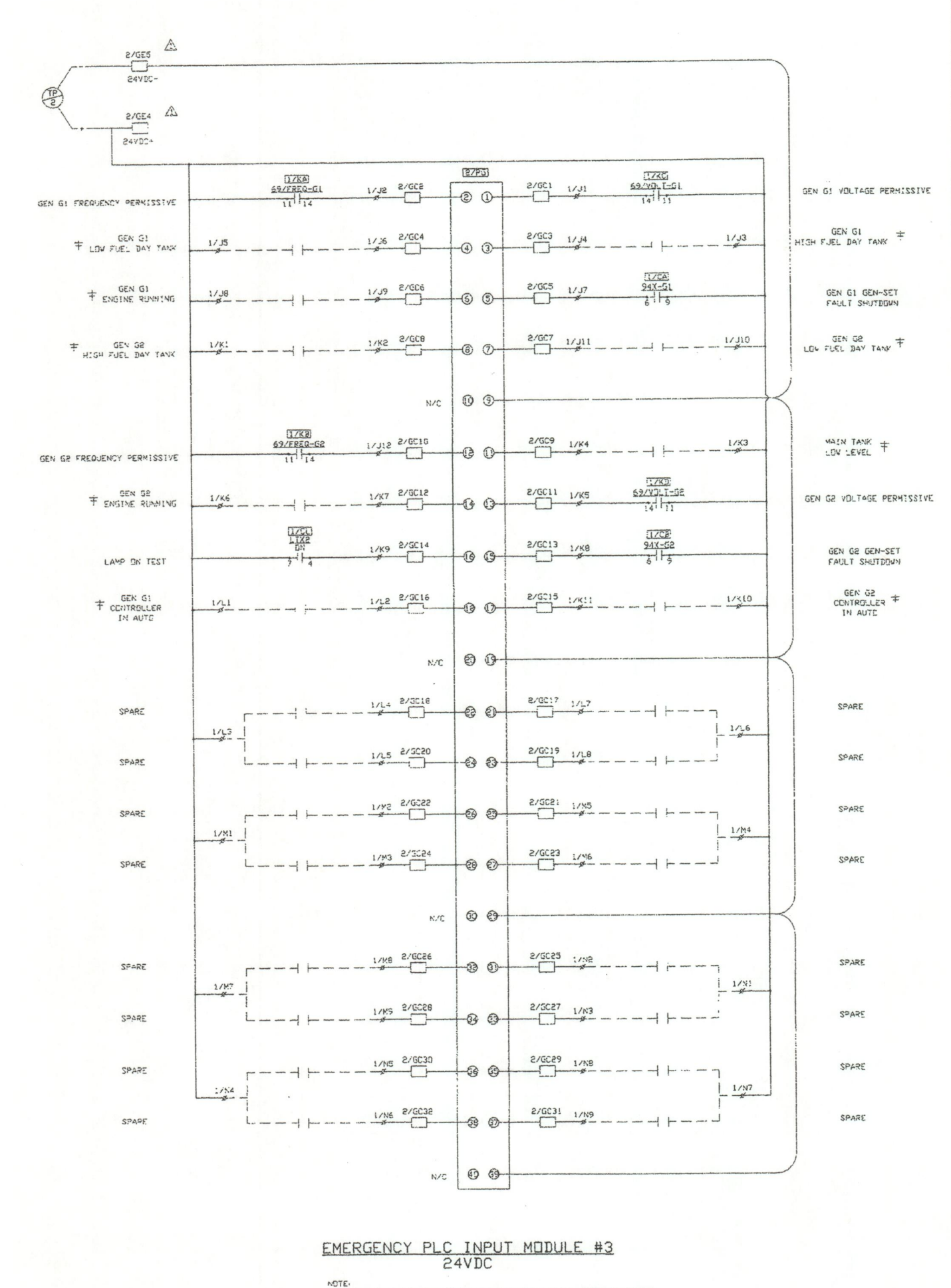
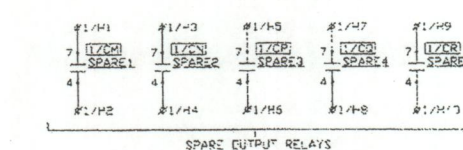
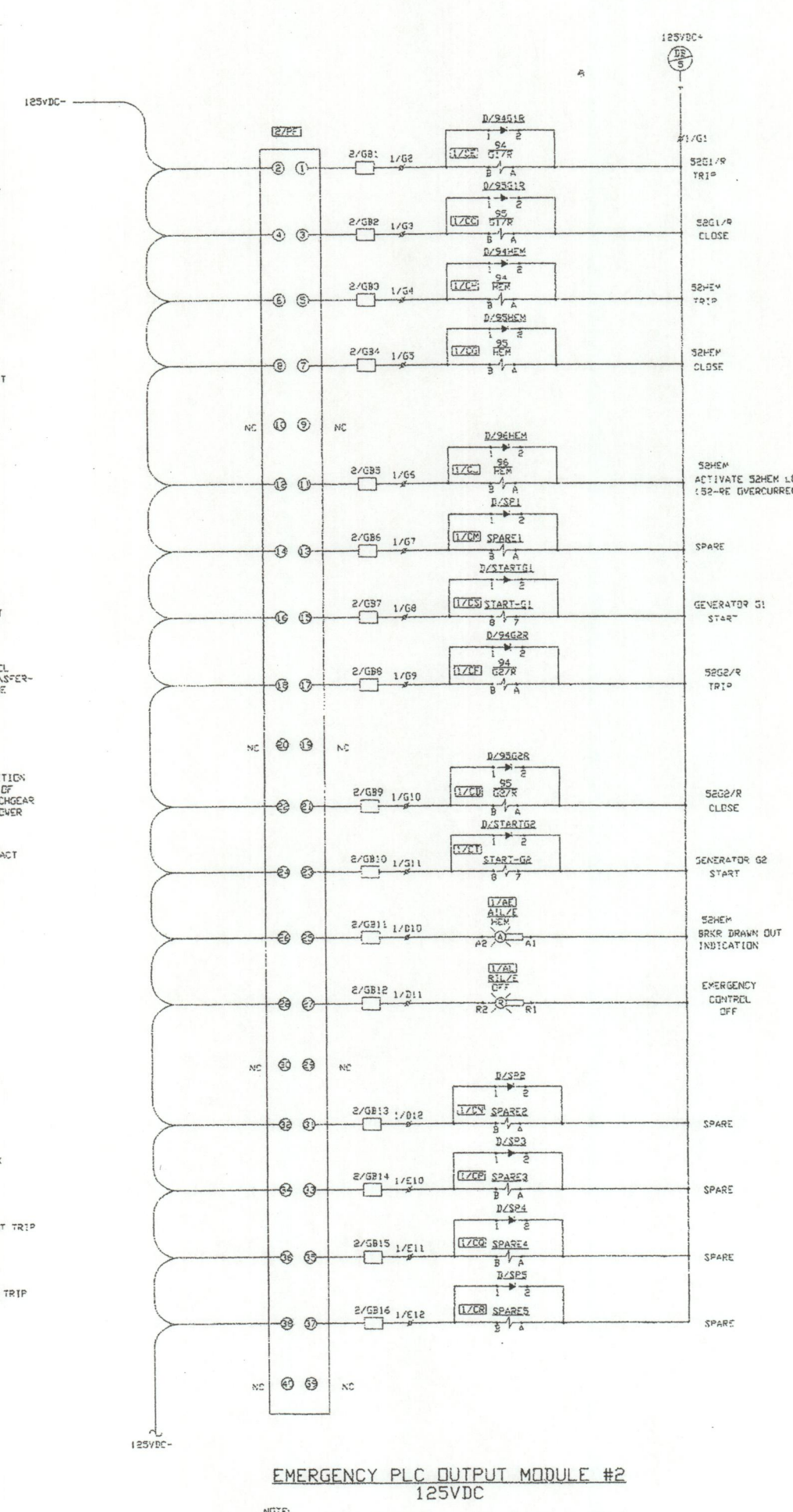


66011-MD



- BREAKER POSITION SWITCH SHOWN WITH BREAKER IN CONNECT POSITION
- STATION SWITCH OPERATES IN CONNECT POSITION ONLY
- - DEVICE LOCATED @ 15KV SWITCHGEAR
- - TERMINAL BLOCK LOCATED @ 15KV SWITCHGEAR
- - TERMINAL BLOCK LOCATED @ PEAK SHAVING CONTROL CABINETS
- - DEVICE LOCATED @ PEAK SHAVING CONTROL CABINETS
- - PROVIDED BY OTHERS, LOCATED REMOTE
- - PROVIDED BY OTHERS, MOUNTED & WIRED BY POWERCON
- - GENERATOR SET CONTROL PANEL TERMINAL BLOCK POINT

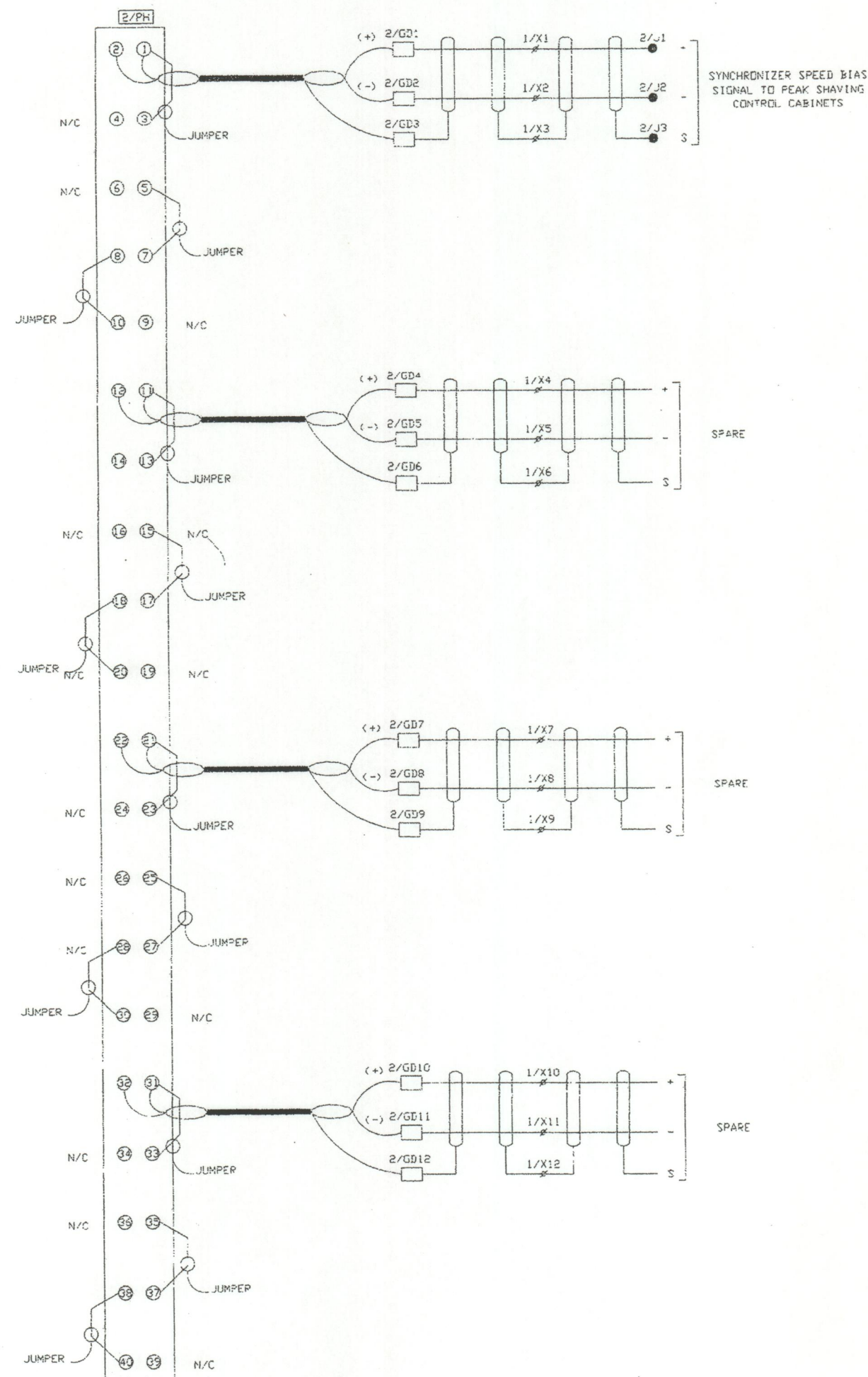
REVISIONS	REV	AS BUILT	DATE	BY
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2	THIS SHEET	07/02/98	RKS/LP/AG	
3	THIS SHEET	11/16/98	RKS/AMM/AG	



<b>DESCRIPTION OF OPERATION</b> W-3228		<b>COST: ALBAN ENGINE POWER SYSTEM</b> P.O. NO. 43036	
<b>SUMMARY</b> S-14152		<b>ENGR: RAJ K. SHARMA</b> DATE 5/1/98	
<b>FRONT VIEW</b> D-10291		<b>DRWN: SUE TOBIN</b> DATE 5/4/98	
<b>SCHEMATIC</b> DW-11099		<b>CHKD:</b> DATE	
<b>WIRING DIAGRAM</b> DW-11100		<b>APPD: ALEX GELFEN</b> DATE 5/4/98	
		<b>APPD:</b> DATE	
		<b>WEB SITE:</b> <a href="http://www.powerconcorp.com">http://www.powerconcorp.com</a>	
		<b>TITLE:</b> AUTO/MAN EMERGENCY CONTROL INTERFACE & PLC I/O EMERGENCY CONTROL CABINET FOR (2) 15KV, 1800KW DIESEL GENERATOR	
		<b>STATION:</b> MSA HAMBURG ST. GEN. PLANT <b>LOCATION:</b> BALTIMORE, MD	
		<b>SO#03-27176</b>	
		<b>DW-11099</b>	
		<b>REV</b> 3	



66011-MD



EMERGENCY PLC ANALOG OUTPUT MODULE #4  
±5V

NOTE:  
1. ALL WIRING TO BE SHIELDED CABLE, TERMINATED WITH UNINSULATED RING LUGS AND HAVE "TO" WIRE MARKERS

- - BREAKER POSITION SWITCH SHOWN WITH BREAKER IN CONNECT POSITION
- \*\*\* - STATION SWITCH OPERATES IN CONNECT POSITION ONLY
- - DEVICE LOCATED @ 15KV SWITCHGEAR
- - TERMINAL BLOCK LOCATED @ 15KV SWITCHGEAR
- - TERMINAL BLOCK LOCATED @ PEAK SHAVING CONTROL CABINETS
- - DEVICE LOCATED @ PEAK SHAVING CONTROL CABINETS
- ⊞ - PROVIDED BY OTHERS, LOCATED REMOTE
- ⊞ - PROVIDED BY OTHERS, MOUNTED & WIRED BY POWERCON
- - GENERATOR SET CONTROL PANEL TERMINAL BLOCK POINT

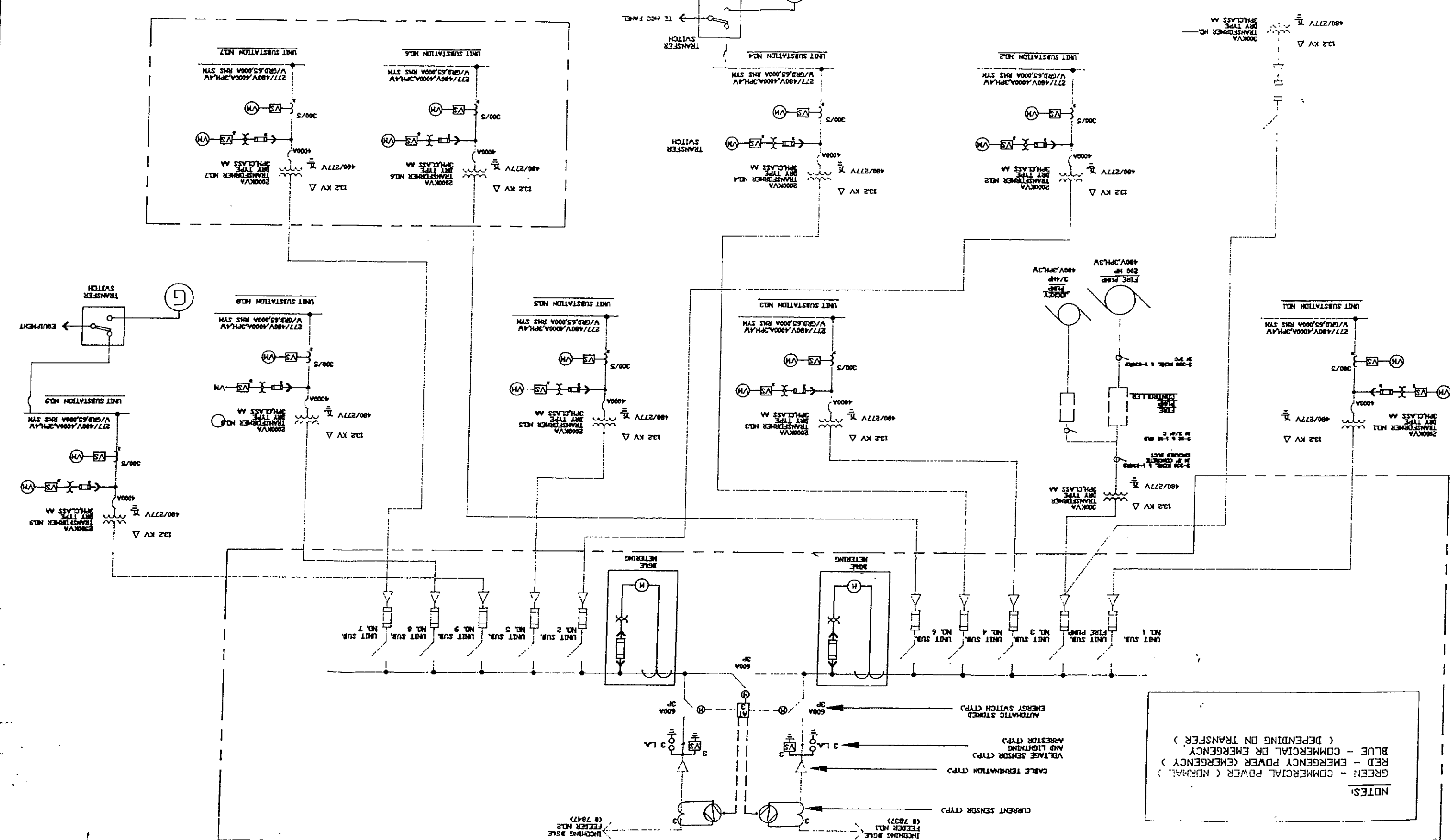
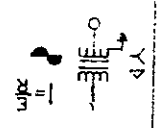
REVISIONS	REV. AS BUILT AND TESTED 6/19/98 RKS/LP/AG N/A THIS SHEET 01/02/98 RKS/LP/AG REV. PER START-UP OF PEAK SHAVING CONTROLS 11/5/98 RKS/NB/AMM/AG	THIS DRAWING AND ALL PREVIOUS ISSUES ARE THE SOLE PROPERTY OF THE POWERCON CORPORATION OF SEVERN, MARYLAND. NEITHER RECEIPT OF SAID DRAWING, NOR POSSESSION THEREOF, IMPLIES OR TRANSFERS ANY RIGHTS OR LICENSE TO USE THE DRAWINGS, OR THE SUBJECT MATTER, DESIGN, OR TECHNICAL INFORMATION SHOWN THEREON, OR ANY PART THEREOF. NEITHER THIS DRAWING NOR ANY INFORMATION CONTAINED THEREIN, MAY BE COPIED, REPRODUCED OR OTHERWISE USED WITHOUT FIRST OBTAINING WRITTEN AUTHORIZATION OF THE POWERCON CORPORATION. PRINTS ARE LOANED SUBJECT TO RETURN UPON DEMAND, AND THE EXPRESS CONDITION THAT THEY WILL NOT BE USED IN ANY WAY DETRIMENTAL TO THE POWERCON CORPORATION.	DESCRIPTION OF OPERATION W-3228 SUMMARY S-14152 FRONT VIEW D-10291 SCHEMATIC DW-11099 WIRING DIAGRAM DW-11100	CUST. ALBAN ENGINE POWER SYSTEM P.O. NO. 43036 ENGR. RAJ K. SHARMA DATE 5/1/98 DRWN. SUE TOBIN DATE 5/4/98 CHKD. DATE APPD. ALEX GELFEN DATE 5/4/98 APPD. DATE	TITLE EMERGENCY PLC ANALOG OUTPUT EMERGENCY CONTROL CABINET FOR (2) 15KV, 1800KW DIESEL GENERATOR STATION MSA HAMBURG ST. GEN. PLANT LOCATION BALTIMORE, MD SO#03-27176 DW-11099 REV. 3	POWERCON CORP. WEB SITE <a href="http://www.powerconcorp.com">http://www.powerconcorp.com</a> SHEET 6 OF 6
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ADDRESS 555 RUSSELL STREET  
 CITY BALTIMORE STATE MD  
 PROJECT  
 DATE-DRAWN 2-1-78  
 CHECKED BY JOHN HETTINGER  
 ISSUED  
 PAGE 1

HARTLAND STADIUM AUTHORITIES AT CAMDEN YARDS  
 ELECTRICAL ONE-LINE  
 PRIMARY DISTRIBUTION

IN THE EVENT OF MODIFICATIONS  
 OR DISCREPANCIES, PLEASE MARK  
 CHANGES TO THIS DRAWING AND  
 FORWARD TO:  
 H & H TESTING, INC.  
 21 FONTANA LANE, SUITE 103  
 BALTIMORE, MD 21207



**NOTES:**  
 GREEN - COMMERCIAL POWER (NORMAL)  
 RED - EMERGENCY POWER (EMERGENCY)  
 BLUE - COMMERCIAL OR EMERGENCY  
 (DEPENDENT ON TRANSFER)

INCHING BOLE  
 FEEDER NO. 1  
 (7837)  
 CURRENT SENSOR (TYP)  
 CABLE TERMINATION (TYP)  
 VOLTAGE SENSOR (TYP)  
 ARRESTOR (TYP)  
 AUTOMATIC SWITCH (TYP)

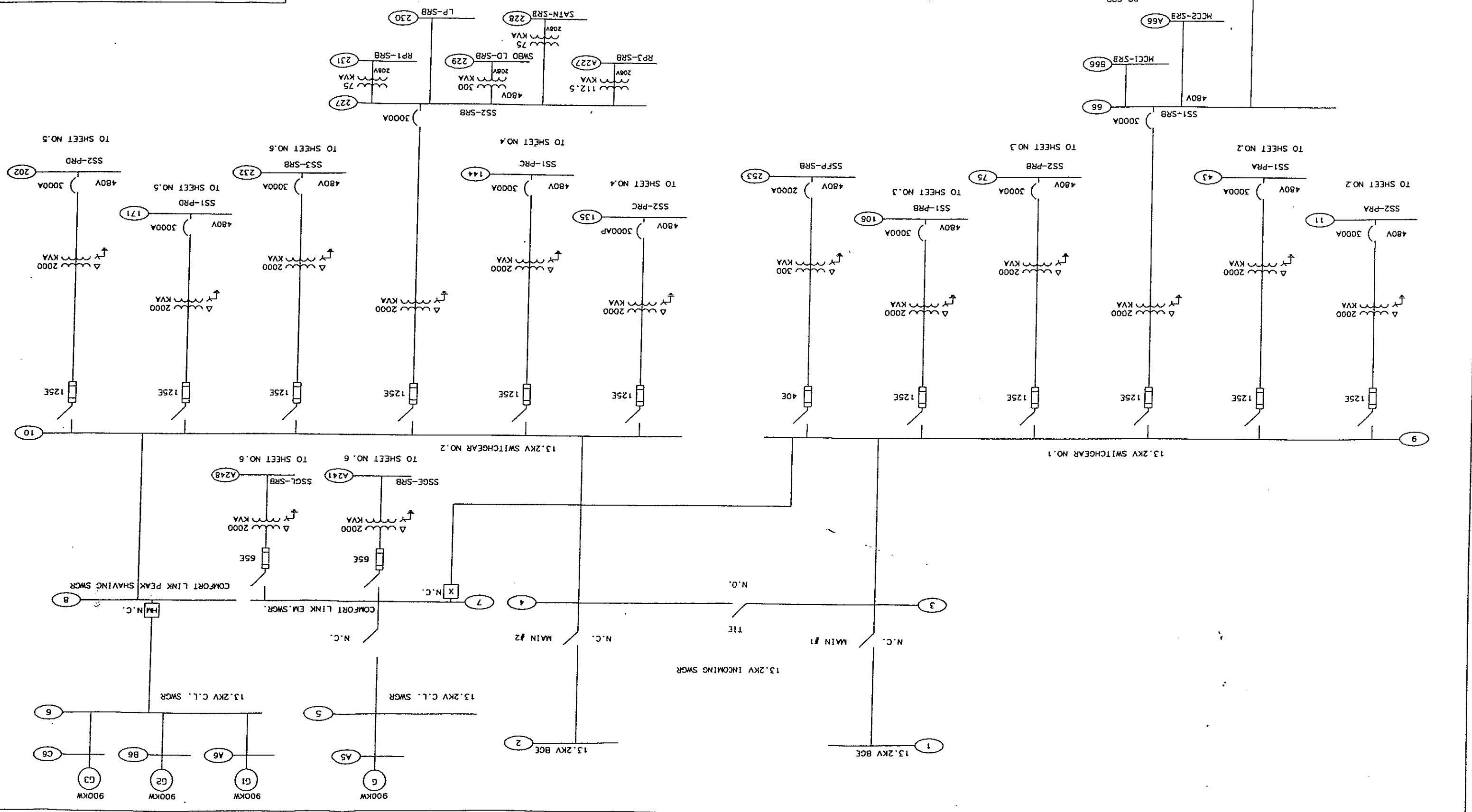


Westinghouse Electric Corporation

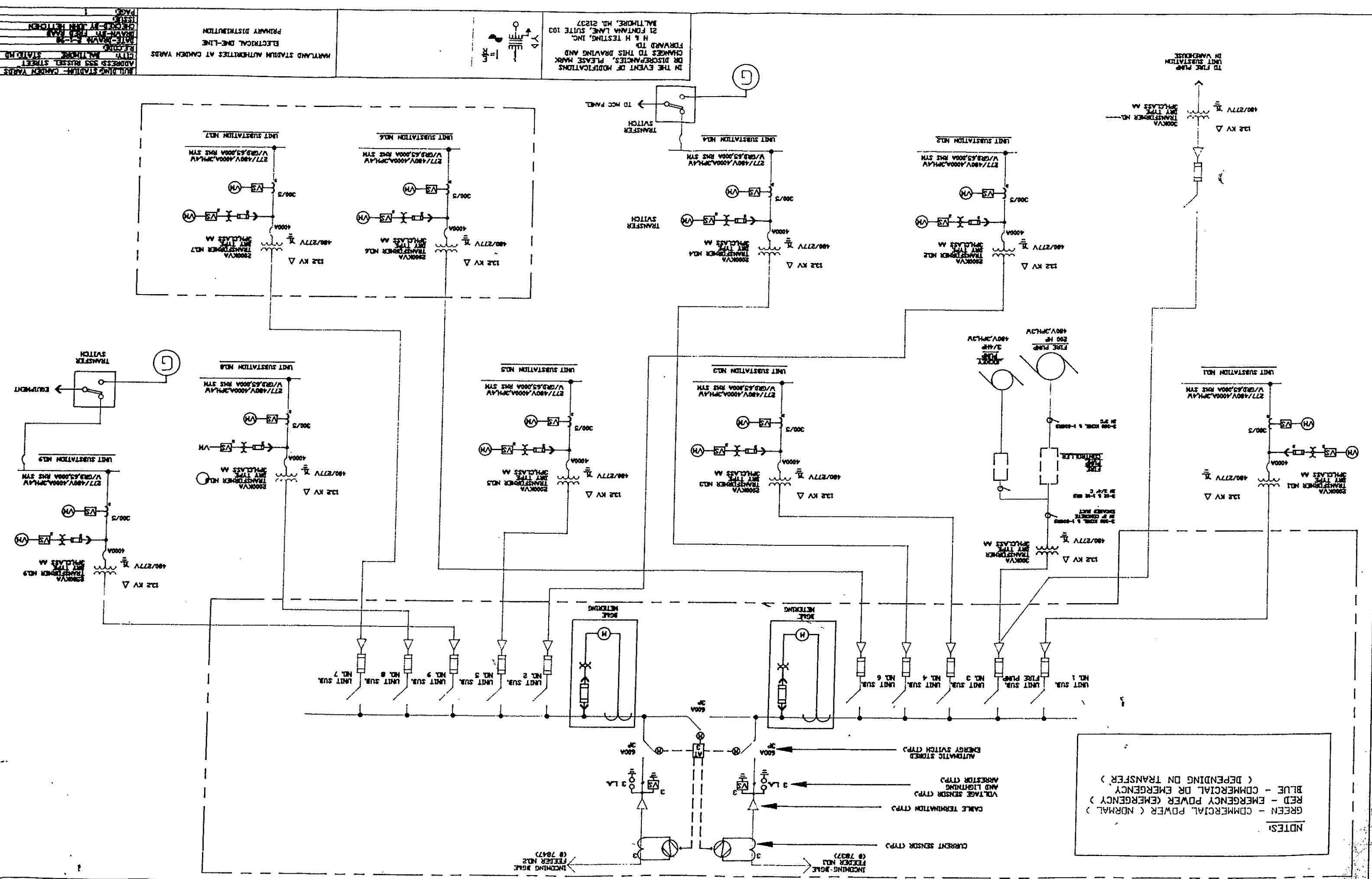
ENGINEERING SERVICES DIV. - PCH., PA. U.S.A.

SINGLE LINE DIAGRAM FOR THE  
BALTIMORE  
NFL STADIUM

SCALE: N.T.S.  
SHEET 01 OF 01 SHEETS  
HWM-030697-10







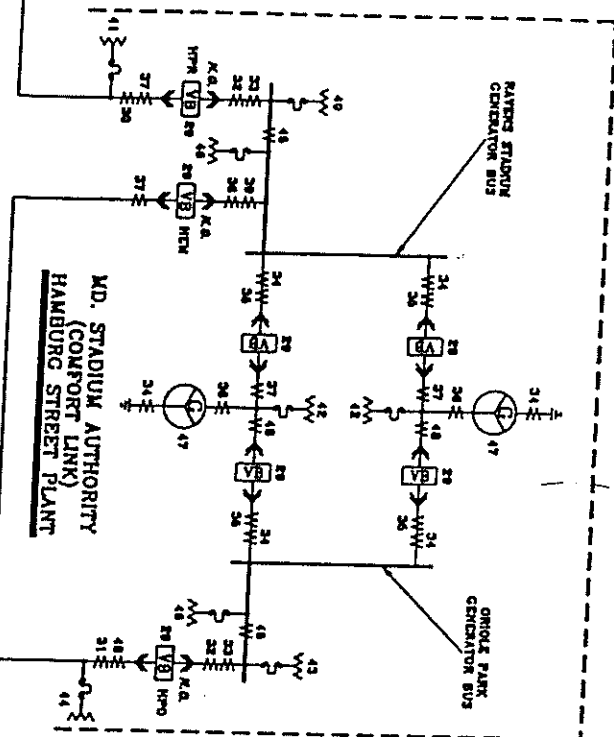


# BALTIMORE GAS AND ELECTRIC COMPANY CUSTOMER OWNED SUBSTATION

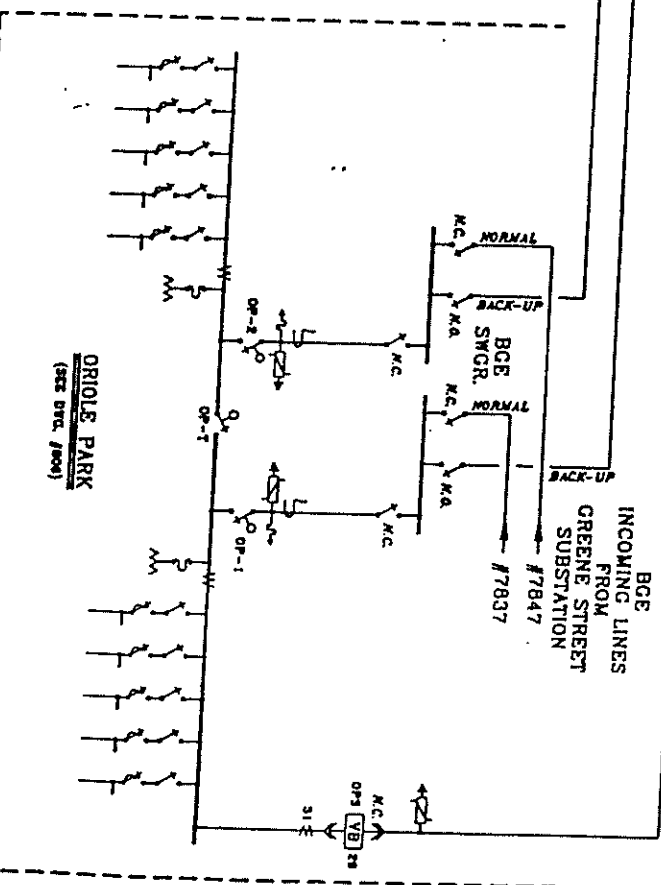
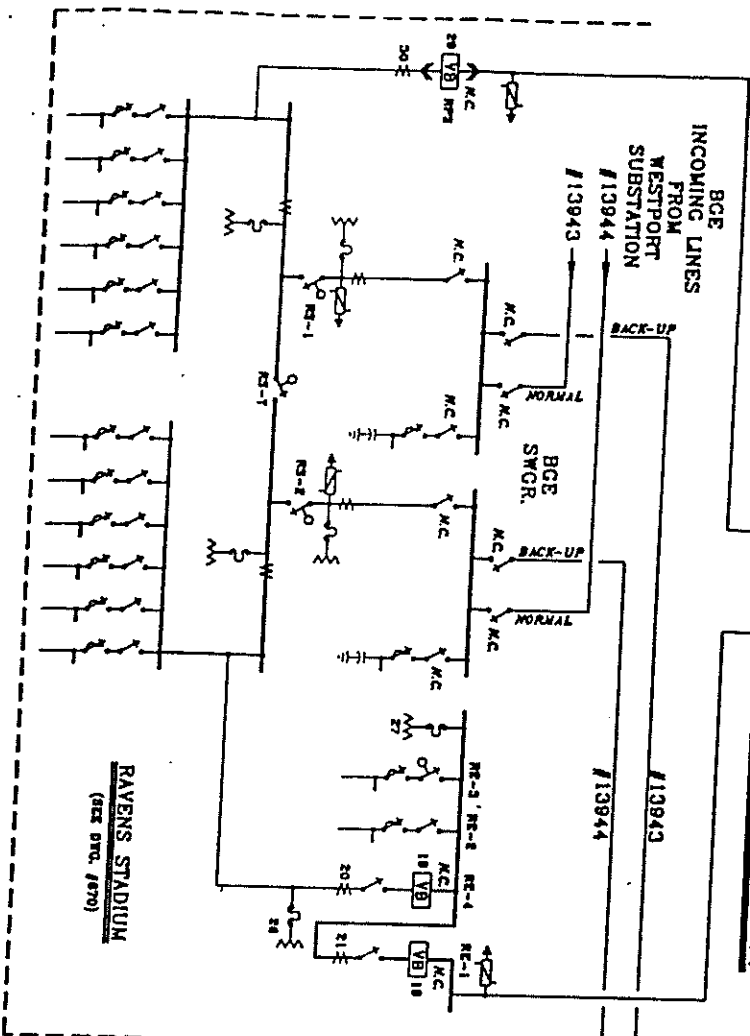
CUSTOMER: STATE OF MARYLAND  
MARYLAND STADIUM AUTHORITY  
ORIOLE PARK AT CAMDEN YARDS  
800 S. EUTAW STREET  
BALTIMORE, MD. 21230

DRAWING ID. NUMBER: 806-2  
SHEET 2 of 4  
REVISION 0-04/14/88

NOTE: 12KV CUSTOMER GENERATORS MAY OPERATE  
AT TIMES IN PARALLEL WITH BCE SYSTEM.



MD. STADIUM AUTHORITY  
(COMFORT LINK)  
HAMBURG STREET PLANT





# BALTIMORE GAS AND ELECTRIC COMPANY CUSTOMER OWNED SUBSTATION

DRAWING ID. NUMBER: 806

SHEET 1 of 4

REVISION 4-08/07/98

CUSTOMER: STATE OF MARYLAND  
MARYLAND STADIUM AUTHORITY  
ORIOLE PARK AT CAMDEN YARDS  
600 S. EUTAW STREET  
BALTIMORE, MD. 21230

INDOOR METAL ENCLOSED SWITCHGEAR

THRU BGE SWITCHGEAR  
AT RAVENS STADIUM  
FROM WESTPORT SUBSTATION  
(SEE DWG. #870)

#13943 BACK-UP  
#13944 BACK-UP

NORMAL

NORMAL

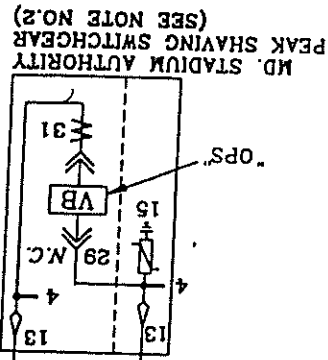
FROM GREENE ST. SUBSTATION

BGE COMPANY OWNED SWITCHGEARS

NOTES:

- 1.) 13KV MAIN INCOMING AND BUS TIE LOAD INTERRUPTER SWITCHES (+) ARE EQUIPPED WITH AUTOMATIC TRANSFER OPERATION AND INTERLOCKED TO PREVENT PARALLELING BGE SUPPLY FEEDERS.
- 2.) 13KV CUSTOMERS PEAK SHAVING GENERATORS MAY OPERATE AT TIMES IN PARALLEL WITH BGE SYSTEM.

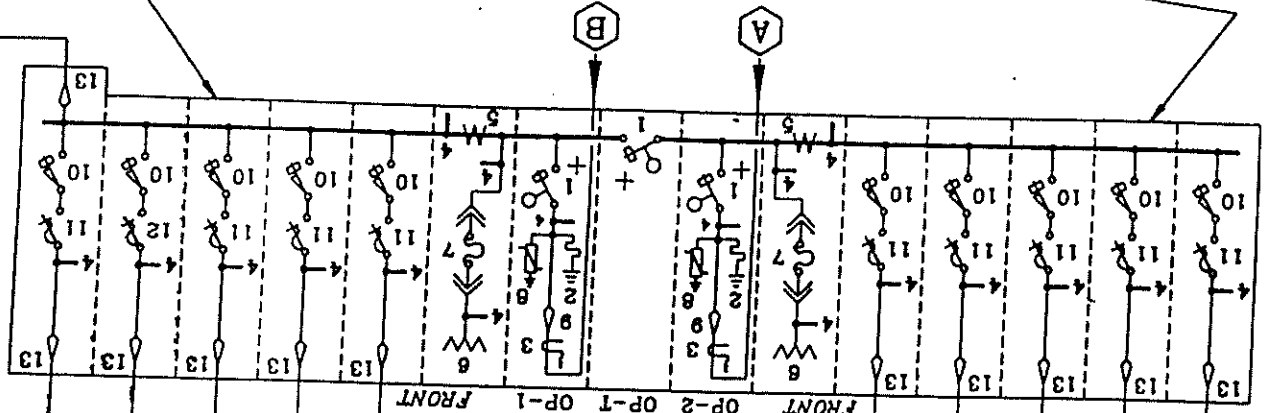
13KV FDR. FROM MD. STADIUM AUTHORITY (COMFORT LINK) GENERATOR SWGR. BREAKER "HPO" (SEE DWG. #806-2)



TO CUSTOMERS 13KV DISTRIBUTION SYSTEM

TO CUSTOMERS 13KV DISTRIBUTION SYSTEM

FIRE PUMP FEEDER



MARYLAND STADIUM AUTHORITY ORIOLE PARK MAIN SWITCHGEAR - SEE NOTE NO.1



BALTIMORE GAS & ELECTRIC COMPANY

CUSTOMER OWNED SUBSTATION

STATE OF MARYLAND MARYLAND STADIUM AUTHORITY ORIOLE PARK AT CAMDEN YARD 600 S. EUTAW STREET BALTIMORE, MD 21230	CUSTOMER ID # 806 SHEET 3 of 4
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ITEM #	DESCRIPTION
1.	1-LOAD INTERRUPTER SWITCH, S&C MINI-RUPTR, 13.8KV, 600A, 40KA, 95KV BIL, 3-POLE, MOTOR OPERATED.
2.	3-VOLTAGE SENSOR, S&C, 14.4KV, (INCOMING VOLTAGE)
3.	3-CURRENT SENSOR, S&C, SET AT 480A. (OVERCURRENT BLOCKING)
4.	3-GROUNDING POINT.
5.	3-CURRENT TRANSF, GE JKM-110, 150.5A. (COMPANY METER)
6.	3-POTENTIAL TRANSF, GE JVM-5, 70:1V. (COMPANY METER)
7.	3-FUSE, GE EJ-1, 14.4KV, 1E AMP, SIZE B. (COMPANY METER)
8.	3-SURGE ARRESTER, 10KV MOV DISTRIBUTION CLASS (COMPANY OWNED)
9.	3-CABLE TERMINATION. (COMPANY OWNED)
10.	1-LOAD INTERRUPTER SWITCH, S&C MINI-RUPTR, 13.8KV, 600A, 40KA, 95KV BIL, 3-POLE, MANUAL OPERATED.
11.	3-FUSE, S&C SM-5S, 13.8KV, 500MVA, 12SE AMP REFILL.
12.	3-FUSE, S&C SM-5S, 13.8KV, 500MVA, 6SE AMP REFILL.
13.	3-CABLE TERMINATION.
14.	1-LOAD INTERRUPTER SWITCH, POWERCON PFI, 13.8KV, 1200A, 61KA, 95KV BIL, 3-POLE, MANUAL OPERATED. (COMPANY OWNED)
15.	3-SURGE ARRESTER, 10KV, MOV DISTRIBUTION CLASS.
29.	1-VACUUM CIRCUIT BREAKER (DRAWOUT MOUNTED), SIEMEN GMI, 13.8KV, 1200A, 60HZ, 500MVA, 3-POLE, 125VDC TRIP & CLOSE.
30.	3-CURRENT TRANSF, ABB SCR, C200, 1200/5A. (RAVENS STADIUM BKRS RPS/HPR PILOT WIRE TRIP)
31.	3-CURRENT TRANSF, ABB SCR, C200, 1200/5A. (ORIOLE PARK BKRS RPO/HPO PILOT WIRE TRIP)
32.	3-CURRENT TRANSF, ABB SCR, C200, 1200/5A. (OVERCURRENT & CURRENT BALANCE TRIP)
33.	3-CURRENT TRANSF, ABB SCR, C50, 400/5A. (GENERATOR CONTROL)
34.	3-CURRENT TRANSF, ABB SCR, C20, 200/5A. (GENERATOR DIFFERENTIAL TRIP)
35.	3-CURRENT TRANSF, ABB SCR, C100, 600/5A. (GENERATOR OVERCURRENT TRIP)

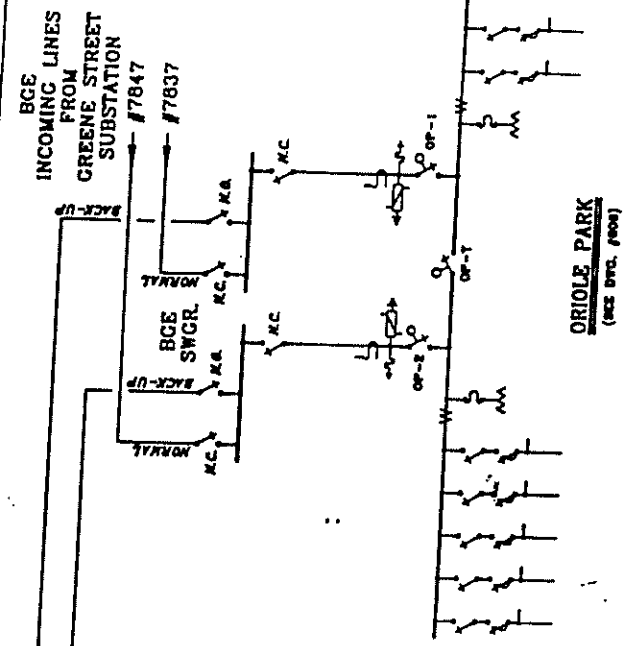
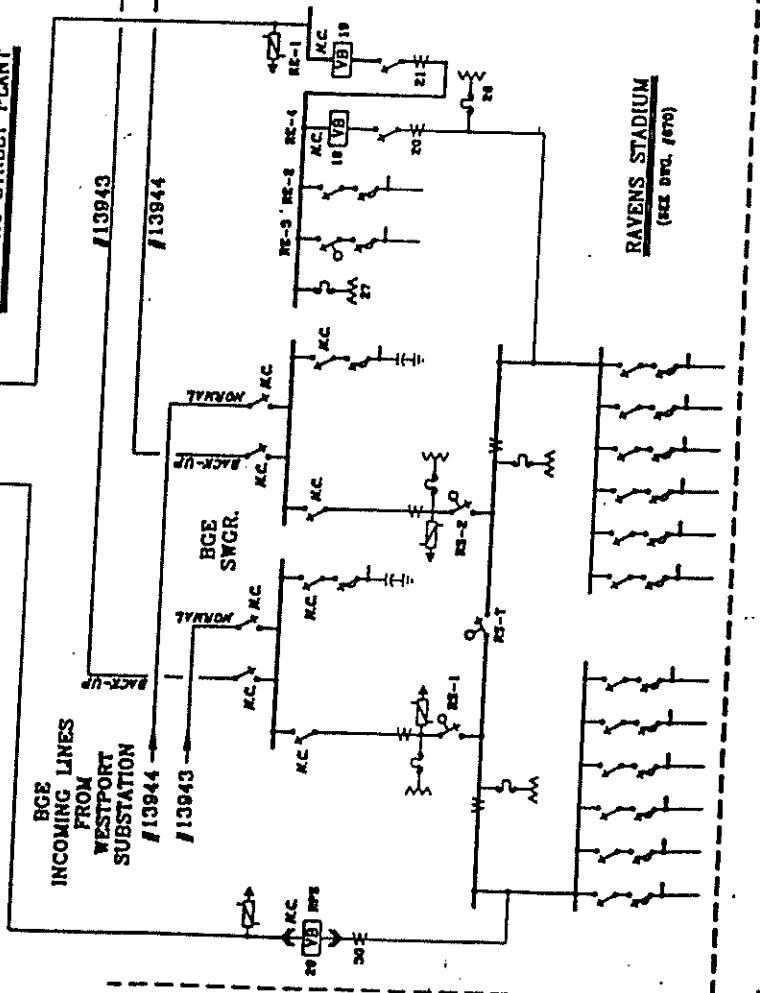
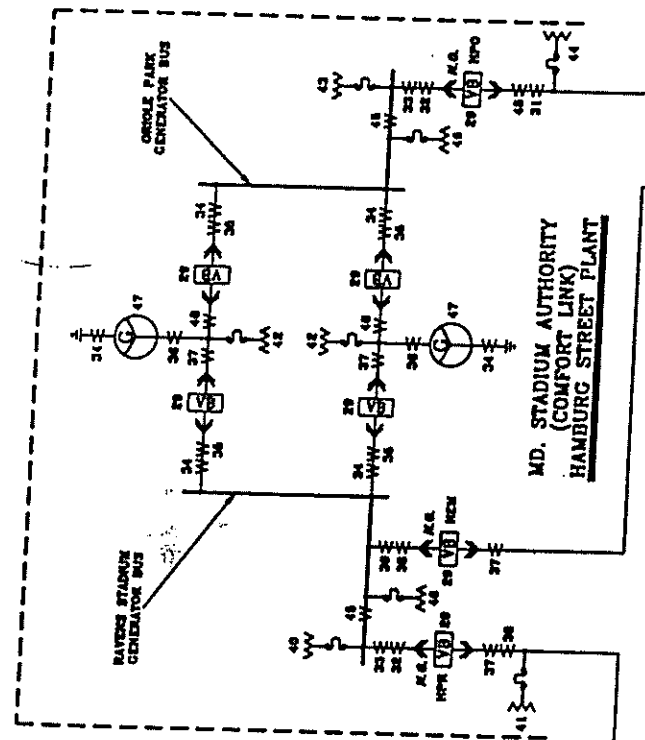


# BALTIMORE GAS AND ELECTRIC COMPANY CUSTOMER OWNED SUBSTATION

CUSTOMER: STATE OF MARYLAND  
MARYLAND STADIUM AUTHORITY  
ORIOLE PARK AT CAMDEN YARDS  
600 S. EUTAW STREET  
BALTIMORE, MD. 21230

DRAWING ID. NUMBER: 806-2  
SHEET 2 of 4  
REVISION 0-04/J14/89

NOTE: 13KV CUSTOMER GENERATORS MAY OPERATE AT TIMES IN PARALLEL WITH BCE SYSTEM.





# BALTIMORE GAS & ELECTRIC COMPANY CUSTOMER OWNED SUBSTATION

STATE OF MARYLAND MARYLAND STADIUM AUTHORITY ORIOLE PARK AT CAMDEN YARD 600 S. EUTAW STREET BALTIMORE, MD 21230	CUSTOMER ID # 806 SHEET 3 of 4
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ITEM #	DESCRIPTION
--------	-------------

1. 1-LOAD INTERRUPTER SWITCH, S&C MINI-RUPTR, 13.8KV, 600A, 40KA, 95KV BIL, 3-POLE, MOTOR OPERATED.
2. 3-VOLTAGE SENSOR, S&C, 14.4KV, (INCOMING VOLTAGE)
3. 3-CURRENT SENSOR, S&C, SET AT 480A. (OVERCURRENT BLOCKING)
4. 3-GROUNDING POINT.
5. 3-CURRENT TRANSF, GE JKM-110, 150:5A. (COMPANY METER)
6. 3-POTENTIAL TRANSF, GE JYM-5, 70:1V. (COMPANY METER)
7. 3-FUSE, GE EJ-1, 14.4KV, 1E AMP, SIZE B. (COMPANY METER)
8. 3-SURGE ARRESTER, 10KV MOV DISTRIBUTION CLASS (COMPANY OWNED)
9. 3-CABLE TERMINATION. (COMPANY OWNED)
10. 1-LOAD INTERRUPTER SWITCH, S&C MINI-RUPTR, 13.8KV, 600A, 40KA, 95KV BIL, 3-POLE, MANUAL OPERATED.
11. 3-FUSE, S&C SM-5S, 13.8KV, 500MVA, 125E AMP REFILL.
12. 3-FUSE, S&C SM-5S, 13.8KV, 500MVA, 65E AMP REFILL.
13. 3-CABLE TERMINATION.
14. 1-LOAD INTERRUPTER SWITCH, POWERCON PFI, 13.8KV, 1200A, 61KA, 95KV BIL, 3-POLE, MANUAL OPERATED. (COMPANY OWNED)
15. 3-SURGE ARRESTER, 10KV, MOV DISTRIBUTION CLASS.

29. 1-VACUUM CIRCUIT BREAKER (DRAWOUT MOUNTED), SIEMEN GMI, 13.8KV, 1200A, 60HZ, 500MVA, 3-POLE, 125VDC TRIP & CLOSE.
30. 3-CURRENT TRANSF, ABB SCR, C200, 1200/5A. (RAVENS STADIUM BKRS RPS/HPR PILOT WIRE TRIP)
31. 3-CURRENT TRANSF, ABB SCR, C200, 1200/5A. (ORIOLE PARK BKRS RPO/HPO PILOT WIRE TRIP)
32. 3-CURRENT TRANSF, ABB SCR, C200, 1200/5A. (OVERCURRENT & CURRENT BALANCE TRIP)
33. 3-CURRENT TRANSF, ABB SCR, C50, 400/5A. (GENERATOR CONTROL TRIP)
34. 3-CURRENT TRANSF, ABB SCR, C20, 200/5A. (GENERATOR DIFFERENTIAL TRIP)
35. 3-CURRENT TRANSF, ABB SCR, C100, 600/5A. (GENERATOR OVERCURRENT TRIP)



# BALTIMORE GAS AND ELECTRIC COMPANY CUSTOMER OWNED SUBSTATION

DRAWING ID. NUMBER: 806  
SHEET 1 of 4  
REVISION 4-08/07/98  
KJB

CUSTOMER: STATE OF MARYLAND  
MARYLAND STADIUM AUTHORITY  
ORIOLE PARK AT CAMDEN YARDS  
600 S. EUTAW STREET  
BALTIMORE, MD. 21230  
INDOOR METAL ENCLOSED SWITCHGEAR

THRU BCE SWITCHGEAR  
AT RAVENS STADIUM  
FROM WESTPORT SUBSTATION  
(SEE DWG. #870)

- NOTES:
- 1.) 13kV MAIN INCOMING AND BUS TIE LOAD INTERRUPTER SWITCHES (+) ARE EQUIPPED WITH AUTOMATIC TRANSFER OPERATION AND INTERLOCKED TO PREVENT PARALLELING BCE SUPPLY FEEDERS.
  - 2.) 13kV CUSTOMERS PEAK SHAVING GENERATORS MAY OPERATE AT TIMES IN PARALLEL WITH BCE SYSTEM. 13kV FDR FROM MD. STADIUM AUTHORITY (COMFORT LINK) GENERATOR SWGR. BREAKER "HPO" (SEE DWG. #806-2)

MD. STADIUM AUTHORITY  
13kV FDR FROM  
GENERATOR SWGR. BREAKER "HPO"  
(SEE DWG. #806-2)  
MD. STADIUM AUTHORITY  
PEAK SHAVING SWITCHGEAR  
(SEE NOTE NO.2)

