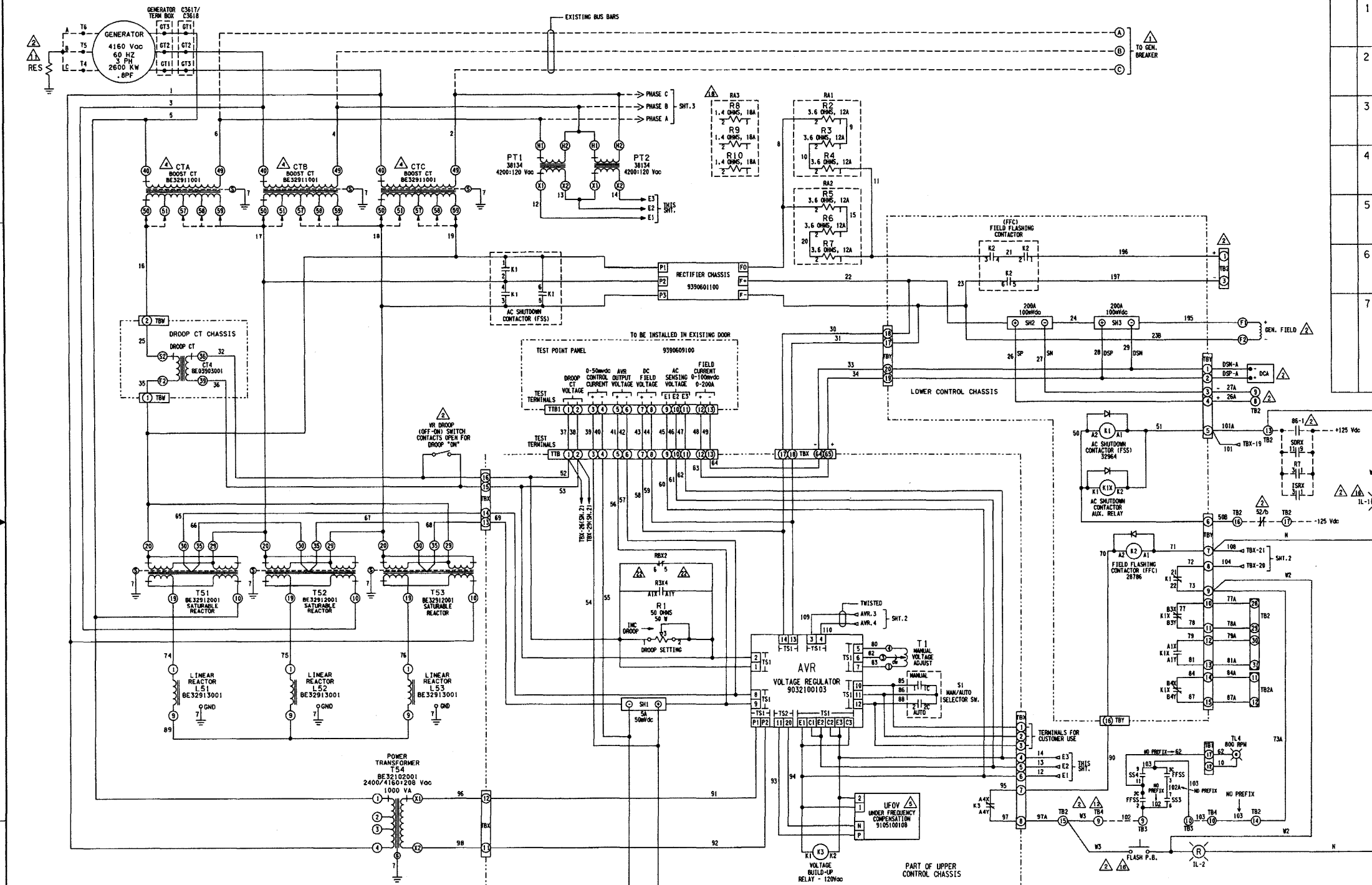


0200007802
11/17/05 (JNH)



REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED
	0	ORIGINAL ISSUE WITH SIGNATURES	03-23-05	
	1	INCORPORATED CLIENT COMMENTS	06-09-05 06-09-05 06-09-05 06-09-05	N. HOKE J. CUNNINGHAM N. HOKE J. CUNNINGHAM D. HARRIS
	2	CLARIFIED GT TERMINALS AND METERING PT CONNECTIONS	07-21-05 07-21-05 07-21-05 07-21-05	N. HOKE J. CUNNINGHAM N. HOKE J. CUNNINGHAM D. HARRIS
	3	UPDATED AVR AND UFOV PART NUMBERS. ADDED NOTE 19. REMOVED BASLER PROPRIETARY INFORMATION LABEL.	08-31-05 09-01-05 09-01-05 09-01-05	N. HOKE J. CUNNINGHAM N. HOKE J. CUNNINGHAM D. HARRIS
	4	INCORPORATED LATEST BASLER REVISION - NO CHANGES	10-04-05 10-05-05 10-05-05 10-05-05	N. HOKE J. CUNNINGHAM N. HOKE J. CUNNINGHAM D. HARRIS
	5	ADDED NOTES 20 AND 21. UPDATED WIRE NUMBERING	10-11-05 10-11-05 10-11-05 10-11-05	N. HOKE E. CLAUDE N. HOKE E. CLAUDE D. HARRIS
	6	CORRECTED K3 CONTACT LABEL	10-31-05	N. HOKE J. CUNNINGHAM N. HOKE J. CUNNINGHAM D. HARRIS
	7	CORRECTED POLARITY OF SH1 AND INCORPORATED LATEST REVISION OF BASLER DRAWING	11-17-05	N. HOKE INITIALS ON FILE

- NOTES:
- △ PHASE ROTATION: A-B-C
 - △ ITEM NOT SUPPLIED BY BASLER ELECTRIC.
 - 3 ALL EXTERNAL WIRING TO BE 14 AWG. MIN. EXCEPT THOSE LISTED IN THE TABLE BELOW WHICH SHALL BE CALCULATED ACCORDING TO THE DATA GIVEN.
- | LOCATION | VOLTAGE | CURRENT |
|------------------|---------|-----------|
| RECT. CH - F.-F. | 123 Vdc | 147 Adc |
| DC CTRL PWR | 125 Vdc | 5 Adc MAX |
| FLASHING | 125 Vdc | 20.8 Adc |
- △ PROPER SECONDARY TAPS ON CT1, CT2, AND CT3 MUST BE DETERMINED BY TEST OF SYSTEM. SEE THE GENERATOR/SERIES BOOST WATCHING PROCEDURE MANUAL.
 - △ UNIT MUST BE TAPPED FOR 120 Vdc.
 - △ REFERENCE #7749-M-180 DRAWING SET FOR EXISTING "EM" EXCITER SYSTEM BEING REPLACED. ALL REMOTE EXISTING INTERCONNECTION DETAILS TO BE DETERMINED BY OTHERS.
 - △ EXISTING SPACE HEATER CONTROLS RELOCATED TO NEW CONTROL PANEL ON LEFT WALL OF MIDDLE BAY.
 - △ SHOWN FOR DC-1. FOR DC-2, SEE DETAIL "A".
 - △ FUSES, VOLTAGE RELAY, VOLTMETER SWITCH, AND VOLTMETER ARE EXISTING EQUIPMENT.
 - △ VOLTAGE RELAY (V) LOCATED ON CUBICLE FLOOR. FUSES LOCATED ON UPPER CONTROL PANEL. VOLTMETER, VOLTMETER SWITCH AND DISCONNECT SWITCH LOCATED ON FRONT DOOR.
 - △ 1000 OHM CT AND GROUNDING RESISTOR CONNECTIONS, SEE DRAWING 27, SHEET 1.
 - △ SEE 12501-M-1000-13.
 - △ THIS FEATURE IS NOT PRESENTLY USED.
 - △ SEE E648, SH. 1G (061-1) AND SH. 1G (061-2)
 - △ TB-2 TERMINAL LOCATIONS ARE SPECIFIED BY TERMINAL BLOCK POSITION LABEL, NOT BY WIRE #. THESE SAME TERMINALS ARE IDENTIFIED BY WIRE NUMBER RATHER THAN POSITION/LABEL ON 7749-M-180-25.
 - △ SEE 7749-M-180-47 AND 7749-M-180-48.
 - △ SEE 7749-M-180-10 (EN DNG. 8157/0201 SH. 5)
 - △ RA3 TO BE USED FOR OTHER FIELD FLASHING RESISTANCES.
 - △ THE BATH TERMINAL IS BASLER PART # 8052201010 AND WAS LAST REVISED ON AUGUST 11, 2004.
 - 20 DASHED WIRES ARE EXTERNAL TO C3617/C3618.
 - 21 ALL NUMERICAL WIRE NUMBERS HAVE A PREFIX OF "B" EXCEPT WHERE NOTED.
 - △ TERMINATIONS MADE AT TBX(26) AND TBX(29) (SEE SH. 2).
 - △ SEE E-39-9 SH. 1 FOR HS SYNC 1. SEE E-39-12 SH. 1 FOR HS SYNC 2. SWITCH CONFIGURATION IS SHOWN ON DNG. E-300, SH. 98 FIG. 1.

NO.	DATE	BY	CHK	ENGR	SUPP
1	11/17/05	JNH			

INC. DUN 12-0207-001-001 REV. 00

INC. DUN S 02-0738-001-012, -001-013, BOTH REV. 01, 02-0738-001-021 REV. 00 & DUN'S 02-0738-002-012 & -002-015 BOTH REV. 01

GEN. UPDATE FOR NOTE: CORRECTIONS FOR DNG. ENHANCEMENT & TRANSFERRED REV. T14 CHANGES (PROGRAM, CONVERTED TO ALL VECTOR) AND GEN. UPDATE: ESH.13 CORRECT "ADM" IN NOTE 10 TO "AND" & PULLED BACK HORIZ. (PHASE B & C) SOLID LINES (0 D-B) TO GENERATOR CIRCLE FOR CALIBRITY. ESH.23 CORRECT "K3" TO "K3A" (0 B-2), CORRECT "128" TO "129" (0 B-4), CORRECT "A0C" TO "A0C" AND ADD INFO. FOR "CR3" (0 B-C-5) (SH.23 CORRECT "T2" (1), T2 (2) & T2 (3) TO "T2 (1)", T2 (2) & T2 (3) TO "T2 (1)" (0 B-C-5), GREATER THAN & LESS THAN SYMBOLS TO "A" FOR BOTH AND T2 (14) TO "T2 (14)" (0 C-5) AND TO SPACE HEATERS. "TO" TO SPACE HEATERS. ALL SH. 2 & 3 UPDATE ERRORS AT REV. T14 (VERIFIED PER REVIEW OF DUN #180-31-27) CHECKER COMMENTS & ENG'G CONCURRENCE (JUSTIF. IN NOTIF. 60655325)

INC. DUN S1 #180-31-25 PER ECR 02-0737-01, #180-31-27 PER ECR 02-0737-00 REV. 10, #180-31-28 & 29 PER ECR 05-0955-00 REV. 4 (CR 06-0115) & GEN. UPDATE ADD GEN. NOTE (REDRAWN)

GENERAL NOTE:
PREVIOUS SHEET 1 OF 1, OF THIS DRAWING WHICH WAS ELECTRIC MACHINERY MFG. CO. DRAWING NUMBER 3680262 WAS REPLACED IN IT'S ENTIRETY WITH THESE THREE NEW MPR ASSOCIATE DNG. SHEETS

REV.	DATE	BY	CHK	ENGR	SUPP	DESCRIPTION
L	11/14/05	AHH				CORRECTED SHUNT 1 WIRING
F	7/19/05	AHH				ADD 2 STR. HTRS & GEN TERM BOX
E	7/11/05	AHH				FINAL REV., ADD WIRE NO'S & K3 CHART
D	20/31/05	AHH				REV. MAGNETICS PART NUMBERS
C	6/3/05	AHH				J ADDED WIRE *S TO EXTERNAL WIRES
B	5/2/05	AHH				ADDED SITE SPECIFIC INFORMATION
A	9/8/05	AHH				REV. RECT#CH NOMENCLATURE, SHT. 2
H	8/31/05	AHH				H ADDED NOTE 19 PER MPR
G	8/1/05	AHH				ADDED P/N TO AVR & RA70A

CONTACT	400 RPM	800 RPM
10-11-01C	20-11-02C	1 X
2	X	
30-11-03C	40-11-04C	3 X
4	X	

CONTACT	MAN	AUTO
10-11-01C	20-11-02	1 X
2	X	
30-11-03C	40-11-04	3 X
4	X	

7749-M-180-31-23
SHT. 1 OF 3

CONTRACT NUMBER: _____
PREPARED BY: JNH/06
DATE: 3-22-05
CHECKER: J. CUNNINGHAM
DATE: 3-23-05
D/D SUPERVISOR: N. HOKE
DATE: 3-23-05
REVIEWER: J. CUNNINGHAM
DATE: 3-23-05
APPROVER: D. HARRIS
DATE: 3-23-05

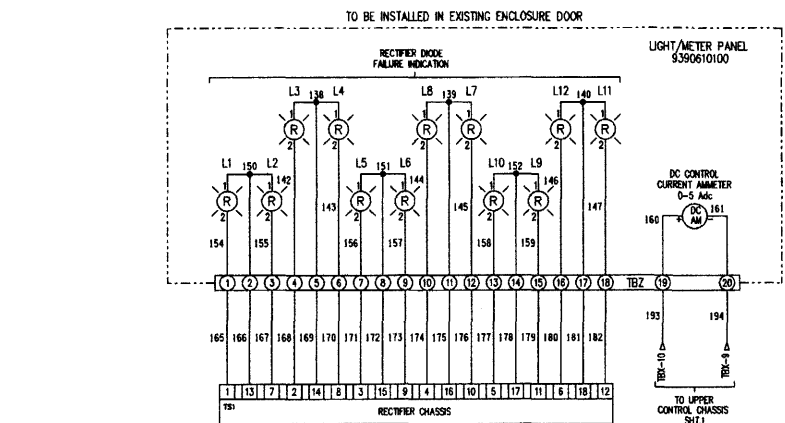
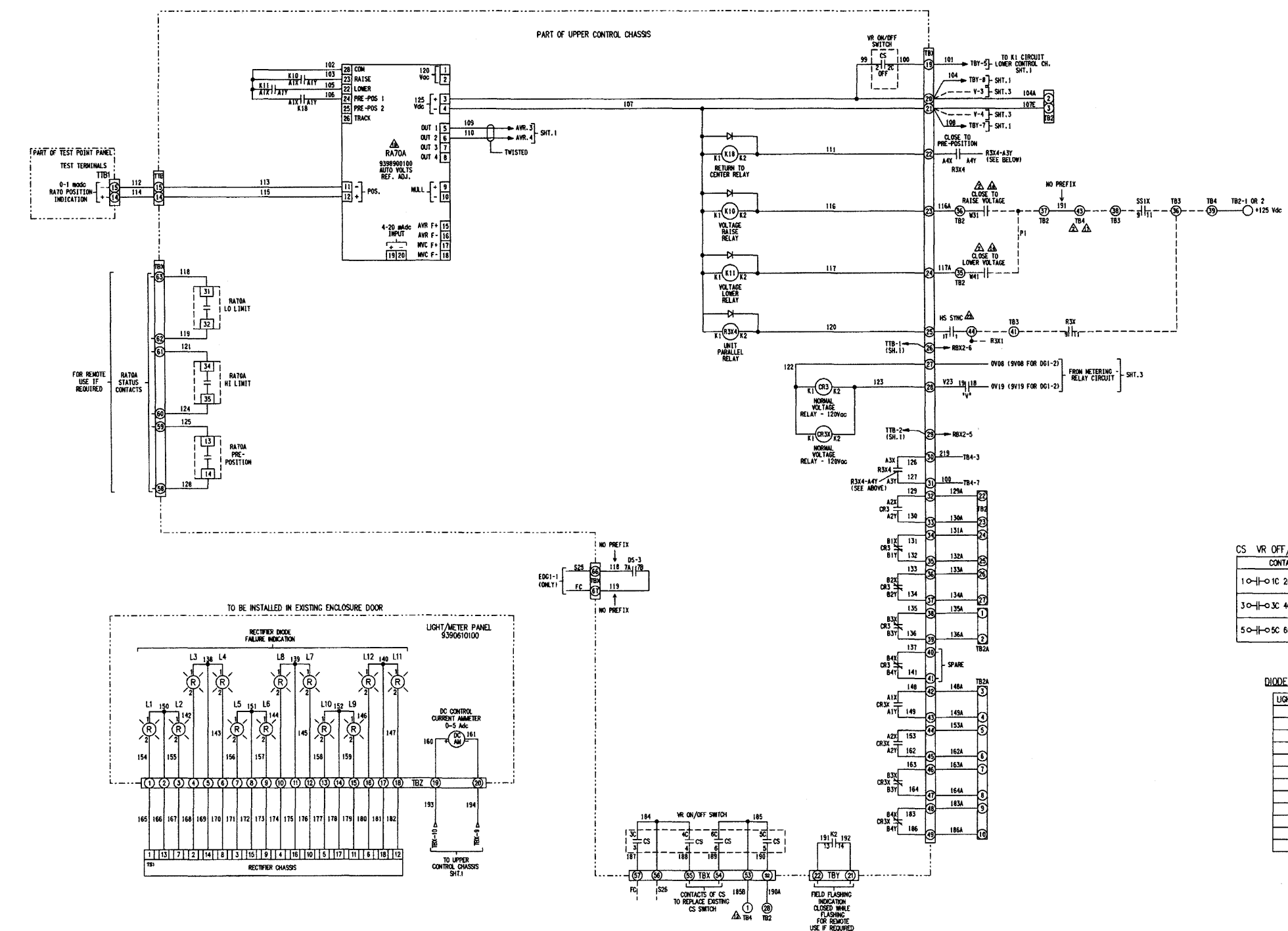
THIS DNG. WAS REDRAWN ON CAD AND SUPERSEDES SUBMITTAL 20.

MPR ASSOCIATES, INC.
320 KING STREET
ALEXANDRIA, VA 22314

DAVIS-BESSE NUCLEAR POWER PLANT
EDG EXCITATION SYSTEM
INTERCONNECTION DIAGRAM

SHEET 1 OF 3
PROJECT NO. 93174
DRAWN BY/DATE: HUELSMANN/2-15-05
CHKD BY/DATE: M.T.T./8-29-05
APPR. BY/DATE: M.T.T./8-29-05
DWE 5186
DRAWING NO. 9390600960
REV L
SCALE: NONE
SHEET 1 OF 3

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED
	0	ORIGINAL ISSUE WITH SIGNATURES	03-23-05	
	1	INCORPORATED CLIENT COMMENTS	06-09-05 06-09-05 06-09-05 06-09-05	N. HOKE J. CUNNINGHAM N. HOKE J. CUNNINGHAM D. HARRIS
	2	CORRECTED V RELAY TERMINAL CONNECTIONS	06-10-05 06-10-05 06-10-05 06-10-05	N. HOKE J. CUNNINGHAM N. HOKE J. CUNNINGHAM D. HARRIS
	3	REVISED TB2 CONNECTION POINTS FOR POWER	07-21-05 07-21-05 07-21-05 07-21-05	N. HOKE J. CUNNINGHAM N. HOKE J. CUNNINGHAM D. HARRIS
	4	UPDATED RA70A PART NUMBER. ADDED NOTE 19. REMOVED BASLER PROPRIETARY INFORMATION LABEL.	08-31-05 09-01-05 09-01-05 09-01-05	N. HOKE J. CUNNINGHAM N. HOKE J. CUNNINGHAM D. HARRIS
	5	REVISED RECTIFIER CHASSIS TERMINAL AND WIRE NUMBERS	10-04-05 10-05-05 10-05-05 10-05-05	N. HOKE J. CUNNINGHAM N. HOKE J. CUNNINGHAM D. HARRIS
	6	UPDATED WIRE NUMBERS	10-11-05 10-11-05 10-11-05 10-11-05	N. HOKE E. CLAUDE N. HOKE E. CLAUDE D. HARRIS
	7	CORRECTED K2 AUXILIARY CONTACT WIRING	10-31-05	N. HOKE J. CUNNINGHAM N. HOKE J. CUNNINGHAM D. HARRIS
	8	INCORPORATED LATEST BASLER REVISION - NO CHANGES	11-17-05	N. HOKE

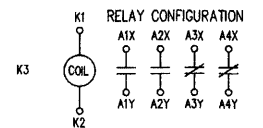
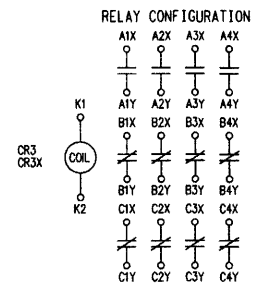
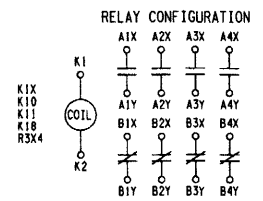


CS VR OFF/ON SWITCH

CONTACTS	OFF	ON
1-0-11-0-1C 2C-0-11-0-2	1	X
2-0-11-0-1C 4C-0-11-0-4	2	X
3-0-11-0-3C 4C-0-11-0-4	3	X
4-0-11-0-3C 6C-0-11-0-6	4	X
5-0-11-0-3C 6C-0-11-0-6	5	X
6-0-11-0-3C 6C-0-11-0-6	6	X

DIODE FAILURE LIGHTS

LIGHT NO.	DIODE NO.
L1	CR1
L2	CR2
L3	CR3
L4	CR4
L5	CR5
L6	CR6
L7	CR7
L8	CR8
L9	CR9
L10	CR10
L11	CR11
L12	CR12



GENERAL NOTE:
PREVIOUS SHEET 1 OF 1, OF THIS DRAWING WHICH WAS ELECTRIC MACHINERY MFG. CO. DRAWING NUMBER 3680262 WAS REPLACED IN ITS ENTIRETY WITH THESE THREE NEW MPR ASSOCIATE DWG. SHEETS

LET.	REVISION	DATE	BY

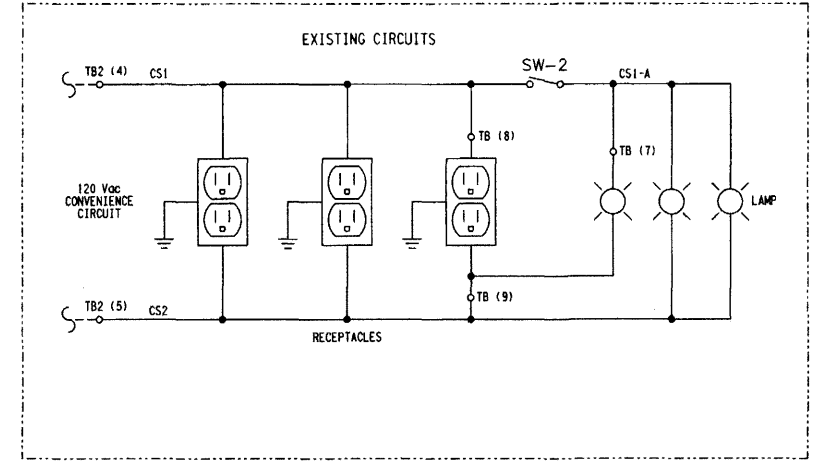
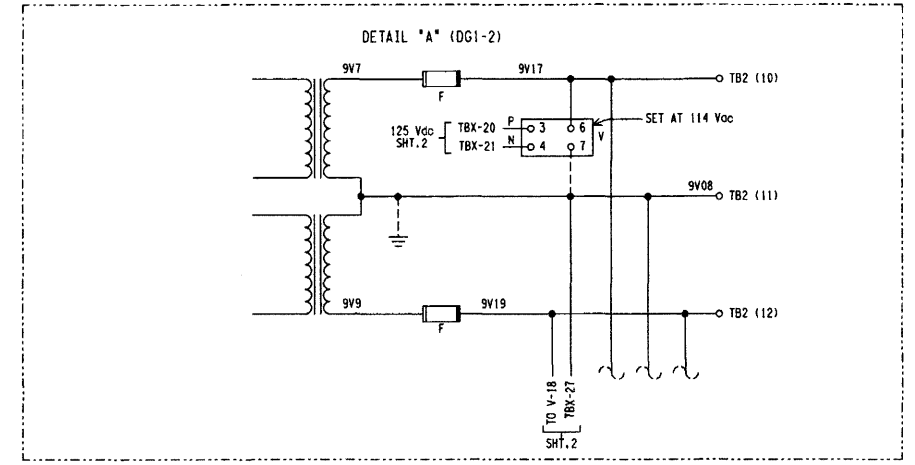
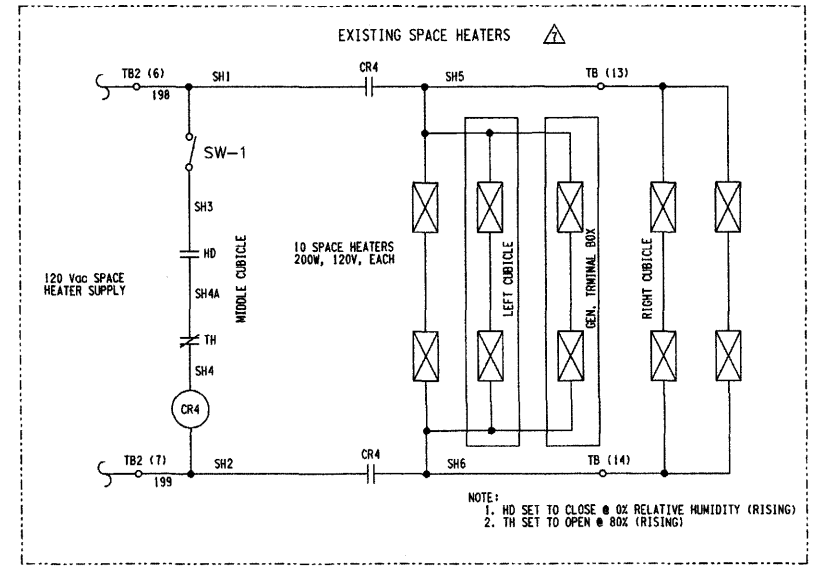
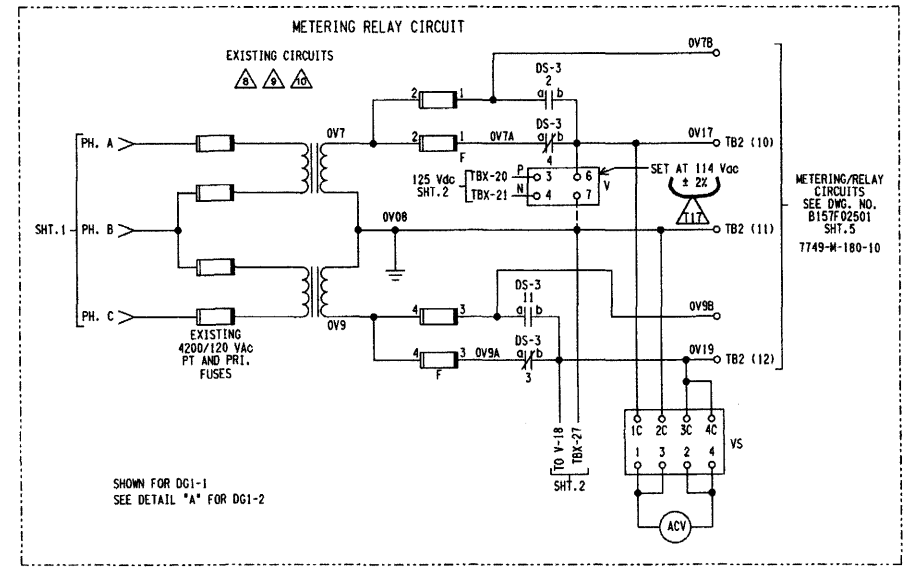
7749-M-180-31-~~20~~-23
SHT. 2 OF 3

THIS DWG. WAS REDRAWN ON CAD AND SUPERSEDES SUBMITTAL 20.

CONTRACT NUMBER	DATE		MPR ASSOCIATES, INC. 320 KING STREET ALEXANDRIA, VA 22314
PREPARED BY JNHoke	3-22-05		
CHECKER J. CUNNINGHAM	3-23-05	DAVIS-BESSE NUCLEAR POWER PLANT EDG EXCITATION SYSTEM INTERCONNECTION DIAGRAM	
D/D SUPERVISOR N. HOKE	3-23-05	SIZE	CAGE NO.
REVIEWER J. CUNNINGHAM	3-23-05	DWG NO.	0200-0078-02
APPROVER D. HARRIS	3-23-05	SCALE	NONE
		SHEET	2 OF 3

D0200007802
 11/17/05 (JNH)

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED
	0	ORIGINAL ISSUE WITH SIGNATURES	03-23-05	
	1	INCORPORATED CLIENT COMMENTS	06-09-05 06-09-05 06-09-05 06-09-05	N. HOKE J. CUNNINGHAM N. HOKE J. CUNNINGHAM D. HARRIS
	2	CORRECTED V RELAY TERMINAL CONNECTIONS	06-10-05 06-10-05 06-10-05 06-10-05	N. HOKE J. CUNNINGHAM N. HOKE J. CUNNINGHAM D. HARRIS
	3	CLARIFIED WIRE NUMBERING FOR PTs AND LOCATION OF SPACE HEATERS	07-21-05 07-21-05 07-21-05 07-21-05	N. HOKE J. CUNNINGHAM N. HOKE J. CUNNINGHAM D. HARRIS
	4	REMOVED BASLER PROPRIETARY INFORMATION LABEL.	08-31-05 09-01-05 09-01-05 09-01-05	N. HOKE J. CUNNINGHAM N. HOKE J. CUNNINGHAM D. HARRIS
	5	INCORPORATED LATEST BASLER REVISION - NO CHANGES	10-04-05 10-05-05 10-05-05 10-05-05	N. HOKE J. CUNNINGHAM N. HOKE J. CUNNINGHAM D. HARRIS
	6	UPDATED WIRE NUMBERING	10-11-05 10-11-05 10-11-05 10-11-05	N. HOKE E. CLAUDE N. HOKE E. CLAUDE D. HARRIS
	7	INCORPORATED LATEST BASLER REVISION - NO CHANGES	10-31-05	N. HOKE J. CUNNINGHAM N. HOKE J. CUNNINGHAM D. HARRIS
	8	INCORPORATED LATEST BASLER REVISION - NO CHANGES	11-17-05	N. HOKE INITIALS ON FILE



CONTACTS - HANDLE END			
ODD	EVEN	NORMAL	LOCAL
1	X		
2		X	
3	X		
4	X		
5	X		
6	X		
7	X		
8	X		
9	X		
10	X		
11	X		X
12	X		

EMER. DSL GEN. 1-1 ONLY

DISCONNECT SWITCH W/ROUND KNULED KNOB
 G.E. CO. TYP 5B-9 - PART NO. 16SB9B2H2T5SM16P

7749-M-180-31-~~22~~-23
 SHT. 3 OF 3

GENERAL NOTE:
 PREVIOUS SHEET 1 OF 1, OF THIS DRAWING WHICH WAS ELECTRIC MACHINERY MFG. CO. DRAWING NUMBER 3680262 WAS REPLACED IN IT'S ENTIRETY WITH THESE THREE NEW MPR ASSOCIATE DWG. SHEETS

LET.	REVISION	DATE	BY	TITLE	SHEET 3 OF 3
				INTERCONNECTION DIAGRAM	
				DAVIS BESSE EDG EXCITATION SYSTEM	PROJECT NO. 93174
DRAWN BY/DATE		CHKD BY/DATE		APPR. BY/DATE	
HUELSMANN/2-15-05		M.T.T./8-29-05		M.T.T./8-29-05	
DWG. NO. 9390600960				REVIEWER J. CUNNINGHAM DATE 3-23-05	
APPROVER D. HARRIS DATE 3-23-05				SIZE D CAGE NO. DWG. NO. 0200-0078-02 REV 8	
				SCALE: NONE SHEET 3 OF 3	