

REVISIONS			
ZONE	REV	DESCRIPTION	DATE
			APPROVED

TRANSFORMER

MVA 22.5	CLASS OA	RISE 55 °C	COND HV CU	LV CU	PHASE 3
MVA 30.0	CLASS FA	RISE 55 °C	MAX OPERATING PRESSURE 0.5 LBS. POS. 5.0 LBS. POS.		
MVA 37.5	CLASS FA	RISE 55 °C	TANK DESIGNED FOR 14.7 PSI VACUUM FILLING		
MVA 42.0	CLASS FA	RISE 65 °C	ALTITUDE 3300 FEET ABOVE SEA LEVEL		
SERIAL NO.	DESIGN NO.	Hz 60	APPROXIMATE WEIGHTS — POUNDS		
HV 68800 DELTA			CORE AND COILS	50000	
LV 13090 GRDY/7560			TANK AND FITTINGS	26200	
IMPEDANCE %	@ 22.5	MVA YEAR OF MFR	2560 GALLONS OF OIL *	19200	
LIQUID LEVEL 16.0	INCHES BELOW MANHOLE FLANGE AT 25°C		TOTAL WEIGHT WITHOUT OIL *	76200	
LIQUID LEVEL CHANGE 0.67	INCHES PER 10°C LIQUID TEMP.		TOTAL WEIGHT WITH OIL *	95400	
INSTR BOOK	9300		UNTANKING (HEAVIEST PIECE)	50000	

* INHIBITED OIL MEETS ASTM D3487 TYPE II
NON-DETECTABLE LEVEL (LESS THAN 2 PPM)
OF PCB PER FEDERAL REGISTER (44FR31514)
MAY 31, 1979

HV	TAP CHANGER POSITION	VOLTAGE	AMPS @ 22.5 MVA	AMPS @ 30.0 MVA	AMPS @ 37.5 MVA	AMPS @ 42.0 MVA	
DE-ENERGIZE TRANSFORMER BEFORE CHANGING TAPS	1	72400	179	239	299	335	
	2	70600	184	245	307	343	
	3	68800	189	252	315	352	
	4	67000	194	259	323	362	
	5	65200	199	266	332	372	
LV	ANY	13090	992	1323	1654	1852	

BUSHING CURRENT TRANSFORMER MULTI-RATIO ACC. CLASS C400 H1-H2-H3 - TOP AND BOTTOM DESIGN 7617982T00

CURRENT RATIO	TAP	CURRENT RATIO	TAP
50:5	X2-X3	300:5	X2-X4
100:5	X1-X2	400:5	X1-X4
150:5	X1-X3	450:5	X3-X5
200:5	X4-X5	500:5	X2-X5
250:5	X3-X4	600:5	X1-X5

BUSHING CURRENT TRANSFORMER MULTI-RATIO ACC. CLASS C600 X1-X2-X3 - TOP DESIGN 7617983T00

CURRENT RATIO	TAP	CURRENT RATIO	TAP
300:5	X3-X4	1200:5	X1-X3
400:5	X1-X2	1500:5	X1-X4
500:5	X4-X5	1600:5	X2-X5
800:5	X2-X3	2000:5	X1-X5
1100:5	X2-X4		

BUSHING CURRENT TRANSFORMER MULTI-RATIO ACC. CLASS C400 X0 - TOP DESIGN 7617984T00

CURRENT RATIO	TAP	CURRENT RATIO	TAP
50:5	X2-X3	300:5	X2-X4
100:5	X1-X2	400:5	X1-X4
150:5	X1-X3	450:5	X3-X5
200:5	X4-X5	500:5	X2-X5
250:5	X3-X4	600:5	X1-X5

BUSHING CURRENT TRANSFORMER MULTI-RATIO ACC. CLASS C50 FOR WINDING TEMP. INDICATOR LOCATED ON X2 BUSHING RATIO 2400:5 CONN (X2-X4) 2200:5 DESIGN 7613756T00

CURRENT RATIO	TAP	CURRENT RATIO	TAP
50:5	X2-X3	300:5	X2-X4
100:5	X1-X2	400:5	X1-X4
150:5	X1-X3	450:5	X3-X5
200:5	X4-X5	500:5	X2-X5
250:5	X3-X4	600:5	X1-X5

WAUKESHA ELECTRIC SYSTEMS
A UNIT OF GENERAL SIGNAL
P.O. BOX 268 GOLDSBORO, N.C. 27533

MATERIAL: 12.25 X 10.00 STAINLESS STEEL USS. STD. GA. NO. 22 (.0299)
MTG. HOLES: 11.75 X 9.5 C TO C 4-5/32 DIA HOLES
LETTERING AND NUMERALS SUNKEN BLACK ON A POLISHED
STAINLESS STEEL BACKGROUND
PAINT: SPRAYED BLACK ENAMEL
PADS: ALL RAISED PADS ARE 7/32 WIDE AND LENGTH SHOWN

NOTE:
THE DESIGN IMPEDANCE IS:

7.0 @ 22.5 MVA

THE SERIAL NUMBER, YEAR OF MANUFACTURE,
AND MEASURED IMPEDANCE OF EACH UNIT
OF THIS DESIGN WILL BE STAMPED ON ITS
NAMEPLATE PRIOR TO SHIPMENT.

HARRIMAN UTILITY BOARD
PO# 12701 (A) & (B)
NEW HARRIMAN SUBSTATION
SERIAL/MFG. NO. GM971382 & GM971383

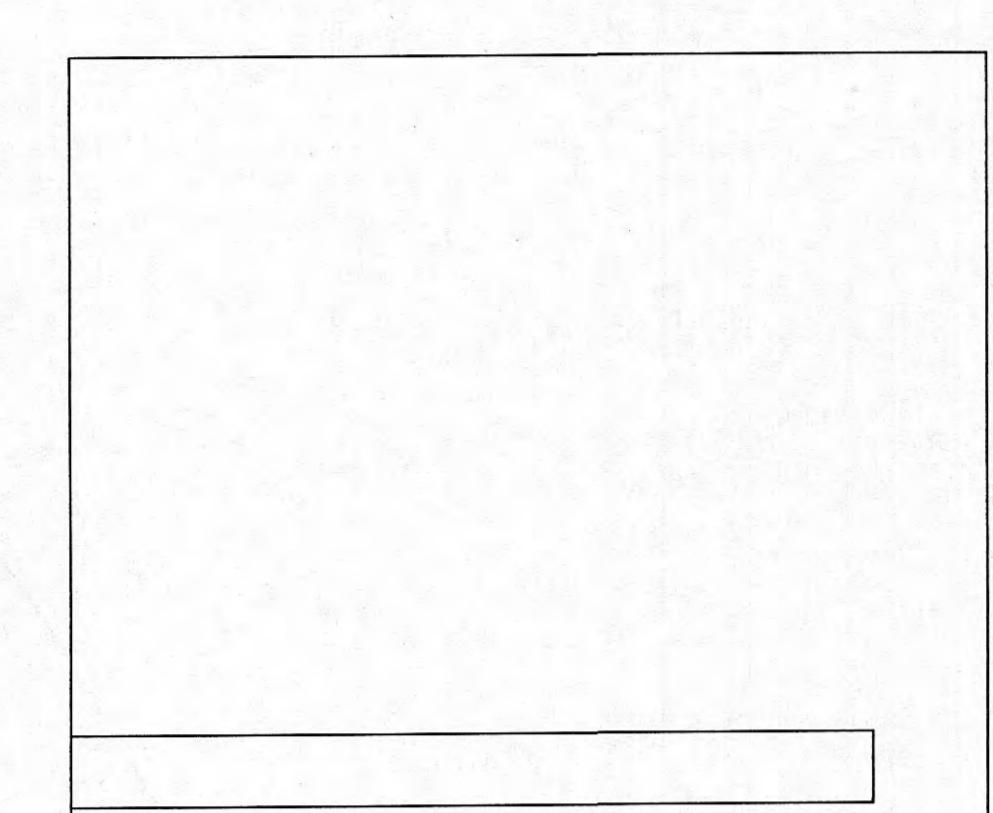
DRAWN	RDN	GS WAUKESHA ELECTRIC SYSTEMS A UNIT OF GENERAL SIGNAL P.O. BOX 268 GOLDSBORO NC 27533
DATE	10/22/97	
APPROVED	MBS	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		
SIZE	FSCM NO	DVG NO
C		A547436890
SCALE	1:10	SHEET

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- NOTES:
- 1- CONTROL WIRE #14 AWG, 600V, 90°C, TYPE SIS (VW-1)
 - 2- BCT WIRE #10 AWG, 600V, 90°C, TYPE SIS (VW-1)
 - 3- POWER WIRING TO ALL CIRCUIT BREAKERS #8 AWG, 600V, 90°C, TYPE FEP TEFLOM.
 - 4- WIRING TO HEATER TERMINALS #12 AWG, 600V, 150°C, TYPE FEP TEFLOM.
 - 5- CONTROL TERMINAL BLOCKS 30 AMP, 600V, MARATHON SERIES 300.
 - 6- BCT TERMINAL BLOCKS 30 AMP, 600V, MARATHON SERIES 1600SC.
 - 7- POWER TERMINAL BLOCK 175 AMP, 600V, MARATHON SERIES 140.
 - 8- BCT TEST BLOCKS 10 AMP, 250V, 4 POLE, GENERAL ELECTRIC TYPE PK-2.
 - 9- LABEL ALL TERMINAL WIRES PER "OPPOSITE-END" DESIGNATION.
 - 10- ALL LUGS ARE NON-INSULATED, AMP SOLISTRAND, RING-TYPE. CRIMP #10-12 AWG LUGS, & BUTT SPLICES, WITH AMP #49935-Y TOOL. CRIMP #8 AWG LUGS, & BUTT SPLICES, WITH AMP #69355 TOOL.

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED



C

D

B

A

7

CONTROL CABINET REAR PANEL

6

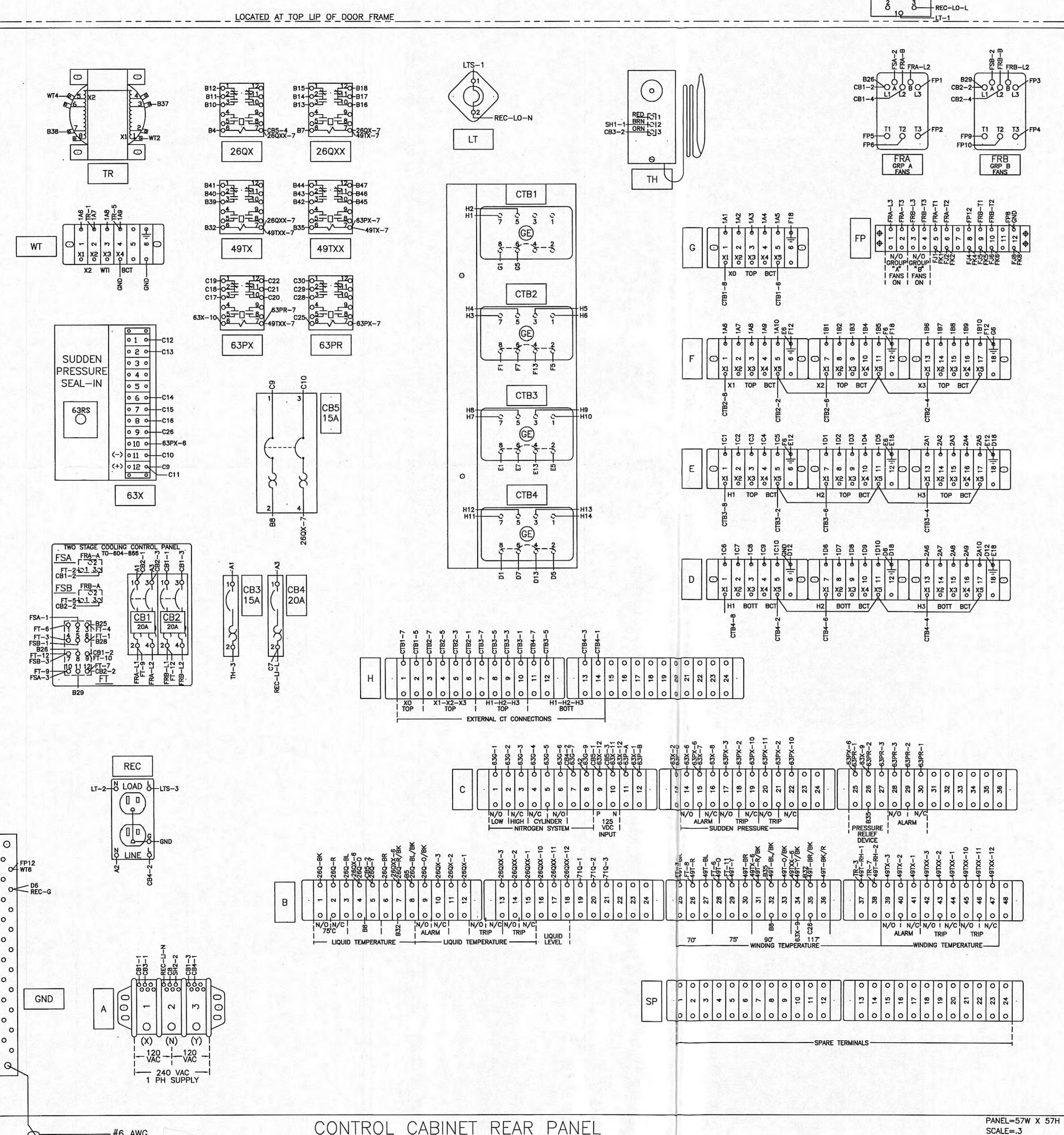
5

4

3

2

1

LEFT SIDE PANEL
PANEL= 16W X 48H

CONTROL CABINET BOTTOM
STATION GROUND

7

6

5

4

3

2

1

PANEL=57W X 57H
SCALE=.3

DRAWN	DGW
DATE	10/9/97
APPROVED	MBS
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	
G	WAUKEsha ELECTRIC SYSTEMS A UNIT OF GENERAL SIGNAL P.O. BOX 268 GOLDSBORO NC 27553
SIZE	FSM NO
D	DVG NO
SCALE	N/A
SHEET	

CONTROL CABINET
WIRING DIAGRAM

A547436895

HARRIMAN UTILITY BOARD
PO# 12701 (A) & (B)
NEW HARRIMAN SUBSTATION
SERIAL/MFG. NO. GM971382 & GM971383
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