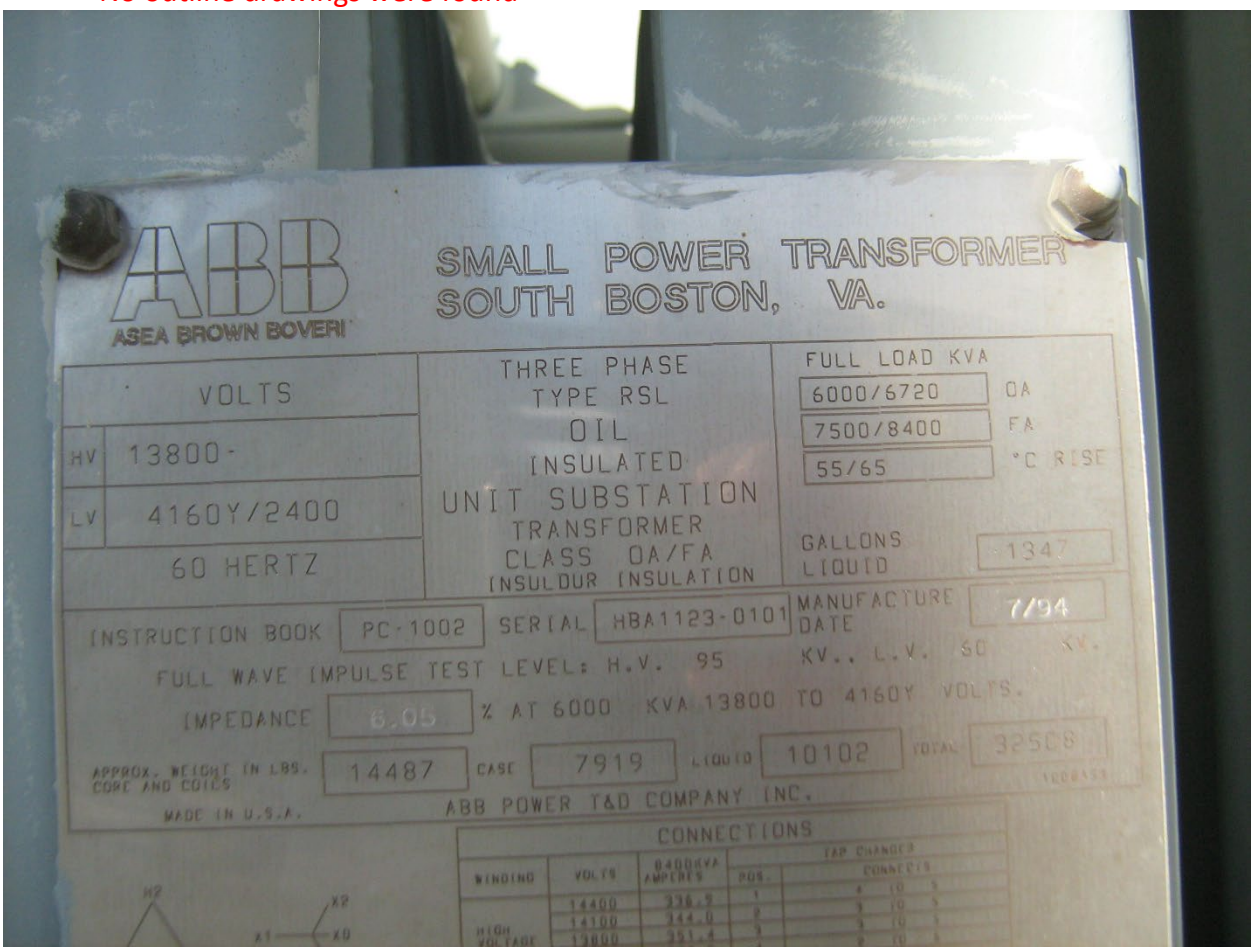
Transformers Life Extension Services
FMPA RFP# 2026-210
Questions & Answers

1Q: After reviewing this, I need the Nameplate and Outline for each unit separated. I cannot tell which outline is paired with which nameplate.

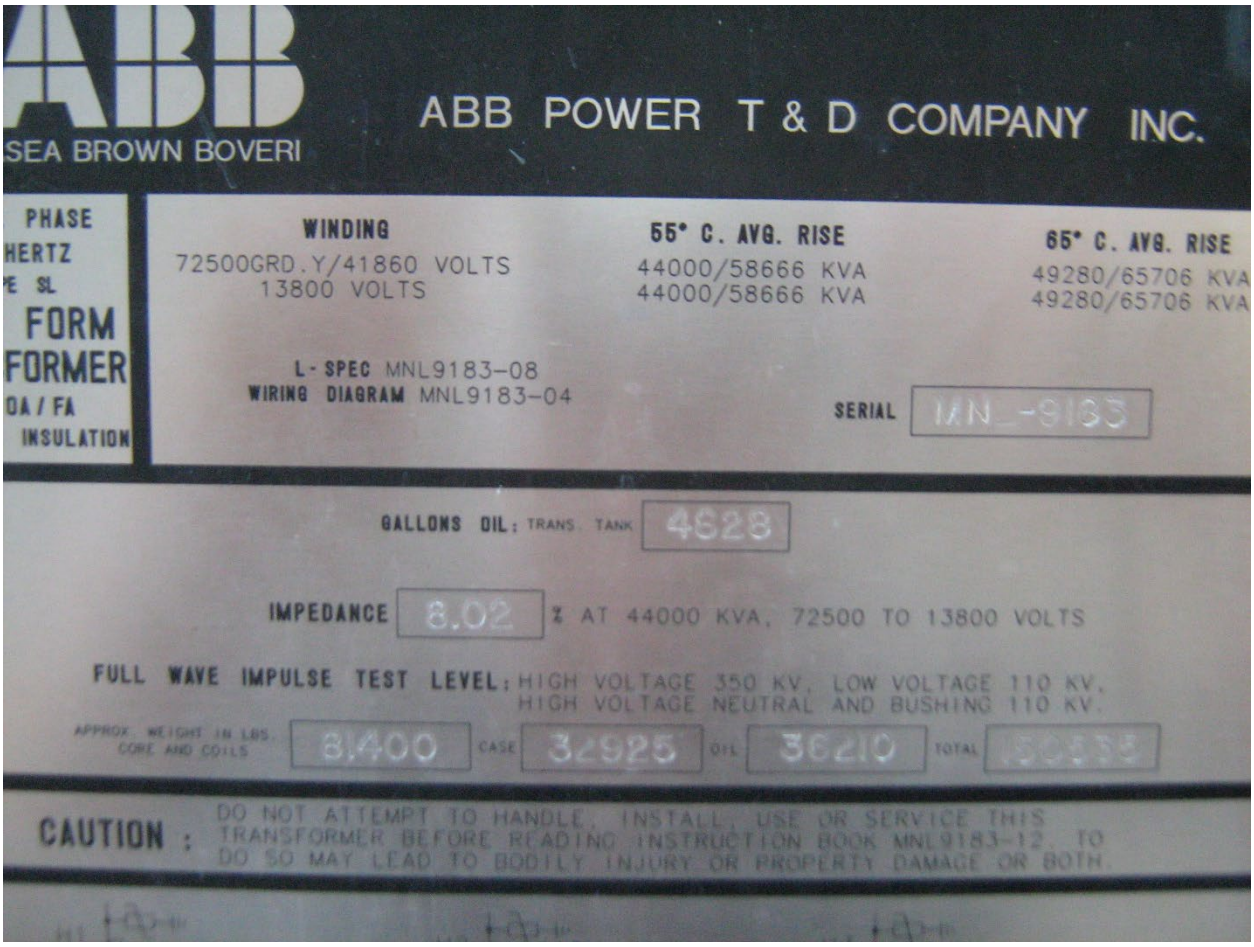
1A: **T1A Aux XFMR**

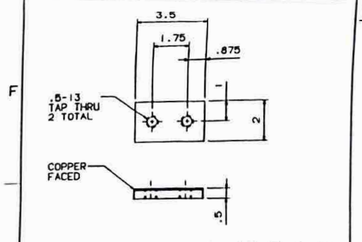
- SAT T1A Aux Transformer (see attach Nameplate)
- No outline drawings were found



T1 GSU Transformer

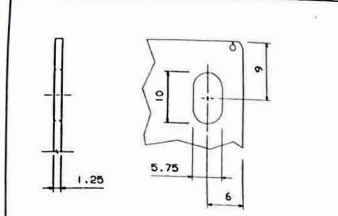
- T1 GSU Transformer (see attach Nameplate
- Outline attached



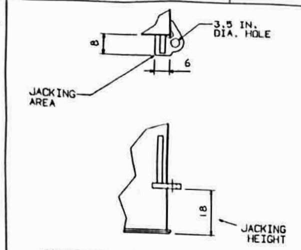


DETAIL OF ITEM 149-E & F

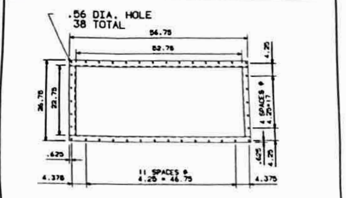
DESIGNED FOR VERTICAL LIFTING



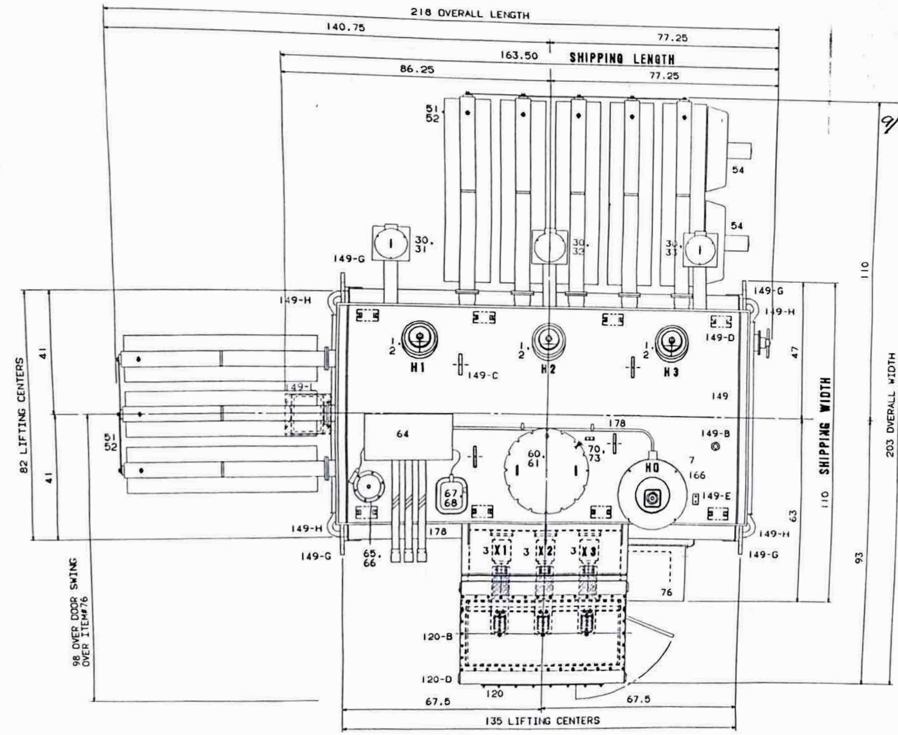
DETAIL OF ITEM 149-G



DETAIL OF ITEM 149-H



DETAIL OF ITEM 120-B



ITEM	FITTINGS AND DESCRIPTIONS CONTINUED
120-C	BOLTED ON COVER, OVER A 38.75 x 39 INCH OPENING, FOR ACCESS TO TERMINALS, (FRONT SIDE)
120-D	LIFTING LOOPS, 4 TOTAL, FOR LIFTING AIR FILLED TERMINAL CHAMBER ONLY.
120-F	GROUND PAD ON WALL, 2 TOTAL.
121	FLEXIBLE COPPER CONNECTION FROM XV BUSHINGS TO TERMINAL.
149	TANK AND COVER ASSEMBLY - WELDED.
• 149-A	BASE WELDED TO TANK, SEE DWG.764C136,FIG. #1-A, A=42.375. B=42.375.
149-B	3 INCH PLUG FOR FILLING OR VACUUM CONNECTION.
149-C	LIFT LOOPS, 4-TOTAL FOR LIFTING COVER ONLY.
149-D	SAFETY RAIL MOUNTING, 8 TOTAL.
149-E	GROUND PAD ON COVER, 1 TOTAL. SEE DETAIL.
149-F	GROUND PAD ON TANK WALL, 2 TOTAL. SEE DETAIL.
149-G	LIFTING HOOK, 4-TOTAL FOR LIFTING COMPLETE UNIT. SEE DETAIL.
149-H	COMBINATION JACKING AND PULLING LUG FOR COMPLETE UNIT. 4-TOTAL. SEE DETAIL.
149-L	IMPACT RECORDER, FOR SHIPMENT ONLY.
166	EXTERNAL C.T., S#7881A86G01, RATIO 600/5, FOR H.O. BUSHING.
175	GAS TEST VALVE, 1/4 INCH BRASS VALVE.
177	CUSTOMERS EQUIPMENT TAG NUMBER NAMEPLATE.

NOTES

SEE INSTRUCTION BOOK MNL9183-12 FOR INSTALLATION AND MAINTENANCE.
THIS OUTLINE CAN BE USED FOR ERECTION PURPOSES. IT IS NOT TO BE REGARDED AS INDICATING THE EXACT DETAILS OF CONSTRUCTION.
THE TANK IS BRACED FOR FILLING UNDER A FULL VACUUM.
BEFORE BREAKING THE SEAL ON ANY OPENING, BE SURE THE LIQUID IS LOWERED BELOW THE OPENING.
CHECK OPERATION OF TAP CHANGER MECHANISM BEFORE SEALING TRANSFORMER.
THIS TRANSFORMER IS "SEALEDAIRE" CONSTRUCTION. THE GAS SPACE IS SEALED TO PREVENT BREATHING UNDER NORMAL OPERATION.
3030 GALLONS OF LIQUID ARE REQUIRED TO COVER CORE AND COILS WITH RADIATORS MOUNTED AND 2350 GALLONS ARE REQUIRED WITHOUT RADIATORS.
PART OF THE LIQUID FOR THE RADIATORS WILL BE SHIPPED IN THE TRANSFORMER TANK. THE TANK WILL BE FILLED WITH LIQUID TO 4 INCHES BELOW THE COVER. AFTER THE RADIATORS ARE MOUNTED ON THE TRANSFORMER TANK, FILL THEM WITH LIQUID FROM THE TANK IN ACCORDANCE WITH INFORMATION IN THE INSTRUCTION BOOK. EXCESS OIL OF 420 GALLONS IS TO BE SHIPPED DETAIL.
SHIPMENT WILL BE MADE IN LIQUID IN ITS OWN TANK. BEFORE FILLING TANK WITH LIQUID SEE INSTRUCTION BOOK.

APPROXIMATE NET WEIGHT

CORE AND COILS (MAIN)	81400 LBS.
TANK AND FITTINGS	32300 LBS.
XV TERMINAL CHAMBER	625 LBS.
OIL (MAIN)	28845 LBS.---(3846 GAL.)
OIL (RADIATORS)	5805 LBS.---(774 GAL.)
TOTAL	148975 LBS.
SHIPPING WEIGHT	129900 LBS.

9/1/94 [signature]

ITEM	FITTINGS AND DESCRIPTIONS
• 1	HV BUSHING, 3-TOTAL,S#069W0412AN, OUTLINE DWG. P39488546. STUD SIZE 1.5 INCH DIA. - 12 THD. x 2.25 INCHES LONG. INTERNAL BOTTOM CONNECTED-BOLTED TERMINAL.
• 3	XV BUSHING, 3-TOTAL, S#015B3300AA, OUTLINE DWG. 5657C89. STUD SIZE 2.25 INCH DIA. - 12 THD. x 2.5 INCHES LONG. INTERNAL BOTTOM CONNECTED-BOLTED TERMINAL.
• 7	HO BUSHING, 1-TOTAL, S#B3C012DY4A, OUTLINE DWG. 8212C94. STUD SIZE 1.125 INCH DIA. - 12 THD. x 2.0 INCHES LONG. INTERNAL BOTTOM CONNECTED-BOLTED TERMINAL.
• 30	HV SURGE ARRESTER, 3 TOTAL, S#P072XA057A, OUTLINE DWG. 4699880.
31	H1 SURGE ARRESTER MOUNTING, BOLTED ON.
32	H2 SURGE ARRESTER MOUNTING, BOLTED ON.
33	H3 SURGE ARRESTER MOUNTING, BOLTED ON.
51	RADIATORS, 8-TOTAL, HAVE 1.00 INCH DRAIN AND VENT PLUGS AND ARE CONNECTED TOP AND BOTTOM WITH SHUT-OFF VALVES ON TANK.
54	FORCED-AIR COOLING FAN, FAN MOTORS ARE 1 PHASE, 60 HERTZ, 230 VOLTS, WITH OSHA FAN GUARDS, 5-TOTAL.
60	MANHOLE 24 INCH DIAMETER, 1 TOTAL.
64	94 PT. JUNCTION BOX FOR CURRENT TRANSFORMER LEADS.
65	MECHANICAL RELIEF DEVICE,WITH ALARM CONTACTS.
67	SUDDEN PRESSURE RELAY.
70	MAIN TRANSFORMER CORE GROUND, WITH CAPTIVE BOLTS.
73	MAIN TRANSFORMER CORE GROUND IDENTIFICATION NAMEPLATE.
76	CONTROL CABINET FOR FAN, ALARM, AND CURRENT TRANSFORMER LEADS. 36 WIDE x 40 HIGH x 17 DEEP, WITH UNDRILLED PLATE OVER A 10 x 26 OPENING FOR CUSTOMER'S CONNECTION, WITH PROVISION FOR PADLOCKING.
79	DIAGRAM INSTRUCTION PLATE, # MNL9183-10.
81	DRESS NAMEPLATE.
82	MAGNETIC LIQUID LEVEL GAUGE WITH LOW LIQUID LEVEL ALARM CONTACTS.
85	LIQUID TEMPERATURE INDICATOR - DIAL TYPE - SCADA PACKAGE MODIFICATION - WITH CAPILLARY TUBE - WITH MAXIMUM INDICATING HAND AND ALARM & TRIP CLOSING CONTACTS.
86	HOTSPOT TEMPERATURE INDICATOR - DIAL TYPE - WITH CAPILLARY TUBE - WITH MAXIMUM INDICATING HAND AND ALARM CLOSING CONTACTS - 3 TOTAL.
89	LIQUID TEMPERATURE INDICATOR NAMEPLATE.
90	X1 HOT SPOT INDICATOR NAMEPLATE.
91	X2 HOT SPOT INDICATOR NAMEPLATE.
92	X3 HOT SPOT INDICATOR NAMEPLATE.
98	SWITCHBOARD HOT SPOT TEMPERATURE DETECTOR INDICATOR - COPPER RESISTANCE COIL OF 10 OHMS - NOT SHIELDED AT 25° C - 3 TOTAL.
99	X1 SWITCHBOARD INDICATOR HOT SPOT NAMEPLATE.
100	X2 SWITCHBOARD INDICATOR HOT SPOT NAMEPLATE.
101	X3 SWITCHBOARD INDICATOR HOT SPOT NAMEPLATE.
109	SEALDAIRE PRESERVATION SYSTEM WITH PRESSURE VACUUM GAUGE AND AIR TEST VALVE WITH ALARM.
110	VALVE 1 INCH FOR UPPER FILTER PRESS CONNECTION.
111	VALVE 2 INCH FOR COMBINATION LOWER FILTER PRESS CONNECTION AND MAIN DRAIN WITH .375 INCH SAMPLING DEVICE.
112	DE-ENERGIZED TAP CHANGER OPERATING MECHANISM WITH PROVISIONS FOR PADLOCKING.
113	DE-ENERGIZED TAP CHANGER WARNING NAMEPLATE.
• 120	X.V. 110 BIL AIR FILLED TERMINAL CHAMBER, BOLTED TO TRANSFORMER, 13800 VOLTS, 3000 MAXIMUM AMPS.
120-A	X.V. BUSHING THROAT, 22.00 x 52.00 INSIDE DIMENSIONS, WITH 2.375 INCH FLANGE.
120-B	BOLTED ON COVER, OVER A 22.75 X 52.75 INCH FLANGE, FOR ACCESS TO TERMINALS, (TOP SIDE). SEE DETAIL.

• SEND PRINTS TO CUSTOMER

ITEM NUMBERS ON TRANSFORMER VIEWS THAT ARE NOT LISTED IN THE FITTINGS AND DESCRIPTIONS COLUMN, ARE LISTED ON OUTSIDE ASSEMBLY DRAWING MNL9183-78, SHEET 1.

FOR ELEVATION VIEWS; SEE DWG. NO. MNL9183-02 & 03

CUSTOMER: ZURN/NEPCO, ORANGE COGENERATION FACILITY		P.O. NO.: 550115	
CONTRACT:# 2055	FILE NO.: 208.1	EQUIPMENT TAG NO.: 116E100	
SHOP ORDER: MNL9183	GENERAL ORDER# PES0114	FINISH COLOR: ANSI# 70 GRAY	
H.V. 350 KV BIL	X.V. 110 KV BIL	H.V. NEUTRAL 110 KV BIL	

ABB POWER T&D COMPANY INC.
OUTLINE - CORE FORM OUTDOOR TRANSFORMER - TYPE SL
CLASS OA/FA, 3 PHASE, 60 HERTZ
APPARATUS 55° RISE KVA 44000/58666 - 65° RISE KVA 49280/65706
HV 72500GRD.Y/41860 VOLTS, XV 13800 VOLTS

DIMENSIONS IN INCHES-SCALE NTS		SUB 4		
DFTR J. REDMOND	03/25/94	CHKD J. BEES	03/25/94	MNL9183-01
L.O. J. REDMOND	03/25/94	APPD		
ENGR C. HO	03/25/94	APPD G. DEL FRATTE	03/25/94	
POWER TRANSFORMER DIVISION		MUNCIE,IN./ ST.LOUIS,MO.		

TOOL REF DWG | ENGRG REF DWG | REF BK SEC | BOOK# | APPROVED

PRINTS TO			
1		10	A
2	A	11	
3		12	
4		13	
5	A	14	
6		15	
7		16	A
8		17	
9		18	

MNL9183-01

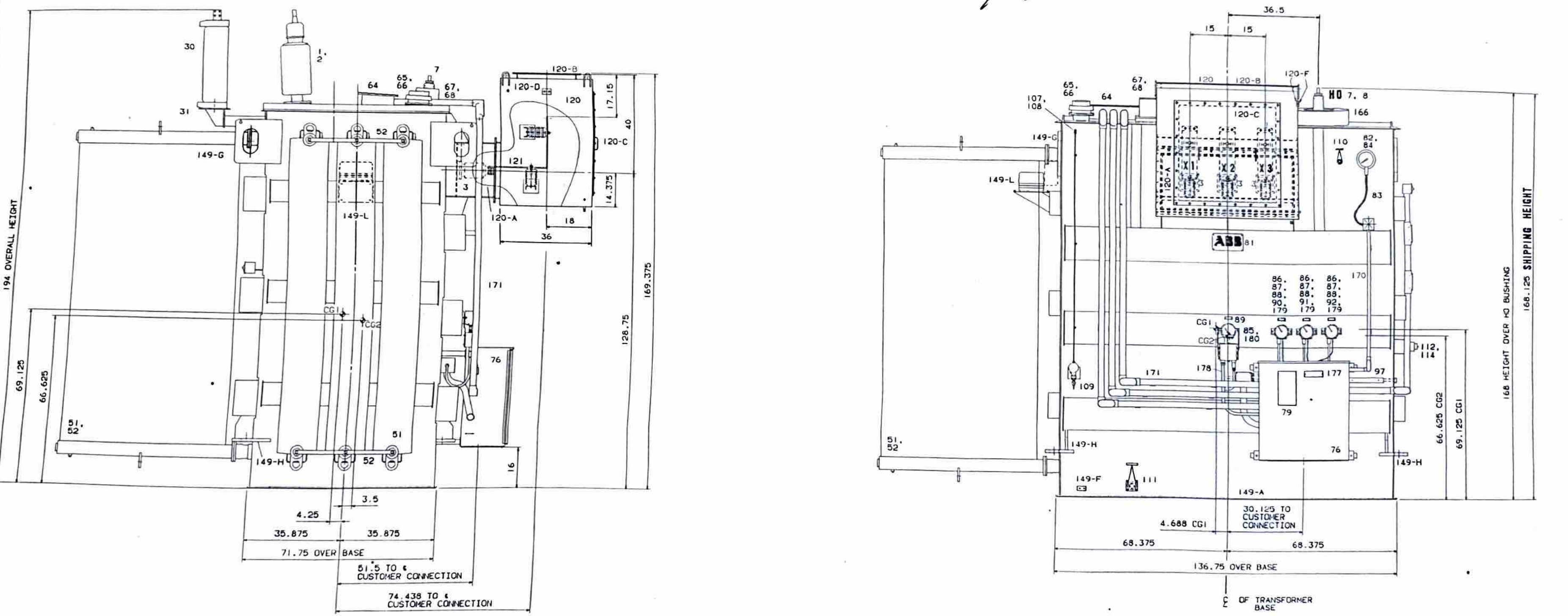
S O MNL9183
D MNL9183-09

IT.	CHANGE	
	2	ITEM NUMBERS AND NOTE ADDED FOR OUTSIDE ASSEMBLY DRAWING MNL9183-78. J. REDMOND 03/25/94, G. DEL FRATTE 03/25/94
120	3	REV. XV A.T.C. PER CHANGE NOTICE NO.1, DATED 4/29/94, AND CUSTOMER'S RETURNED APPROVAL DWG'S. DATED 4/21/94. CD. JASPER 05/06/94, J. BEES 05/06/94, G. DEL FRATTE 05/06/94
178	4	CHANGED CONDUIT TO SEALTITE. J. REDMOND 08/22/94, G. DEL FRATTE 08/22/94

THIS DWG. TO BE CHANGED ON GRAPHICS SYSTEM ONLY

COMMENT-PLTSRV2

COMMENT=PLTSRV2



9/1/94 [signature]

CG1=COMPLETE CENTER OF GRAVITY
CG2=SHIPPING CENTER OF GRAVITY

FOR PLAN VIEW, NOTES AND SHIPPING DIMENSIONS, SEE DWG. NO. MNL9183-01

ITEM NUMBERS ON TRANSFORMER VIEWS THAT ARE NOT LISTED IN THE FITTINGS AND DESCRIPTIONS COLUMN, ARE LISTED ON OUTSIDE ASSEMBLY DRAWING MNL9183-78, SHEET 1.

MNL9183-02

S D	MNL9183	
D	MNL9183-09	1
IT.	CHANGE	
	ITEM NUMBERS AND NOTE ADDED FOR OUTSIDE ASSEMBLY DRAWING MNL9183-78 J. REDMOND 03/25/94 G. DEL FRATTE 03/25/94	2
120	REV. XV A.T.C. PER CHANGE NOTICE NO. 1 DATED 4/29/94, AND CUSTOMER'S RETURNED APPROVAL DWG'S. DATED 4/21/94 CD. JASPER 05/06/94 J. BEES 05/06/94 G. DEL FRATTE 05/06/94	3
181	ADDED CONDUIT BOX FOR WIRING. J. REDMOND 08/22/94 G. DEL FRATTE 08/22/94	4

PRINTS TO			
1		10	A
2	A	11	
3		12	
4		13	
5	A	14	
6		15	
7		16	A
8		17	
9		18	

TOOL REF DWG
ENGRG REF DWG
REF BK SEC
BOOK# | APPROVED

CUSTOMER: ZURN/NEPCO, ORANGE COGENERATION FACILITY		P.O. NO.: 550115
CONTRACT: # 2055	FILE NO.: 208.1	EQUIPMENT TAG NO.: 116E100
SHOP ORDER: MNL9183	GENERAL ORDER# PES0114	FINISH COLOR: ANSI# 70 GRAY
H.V. 350 KV BIL	X.V. 110 KV BIL	H.V. NEUTRAL 110 KV BIL

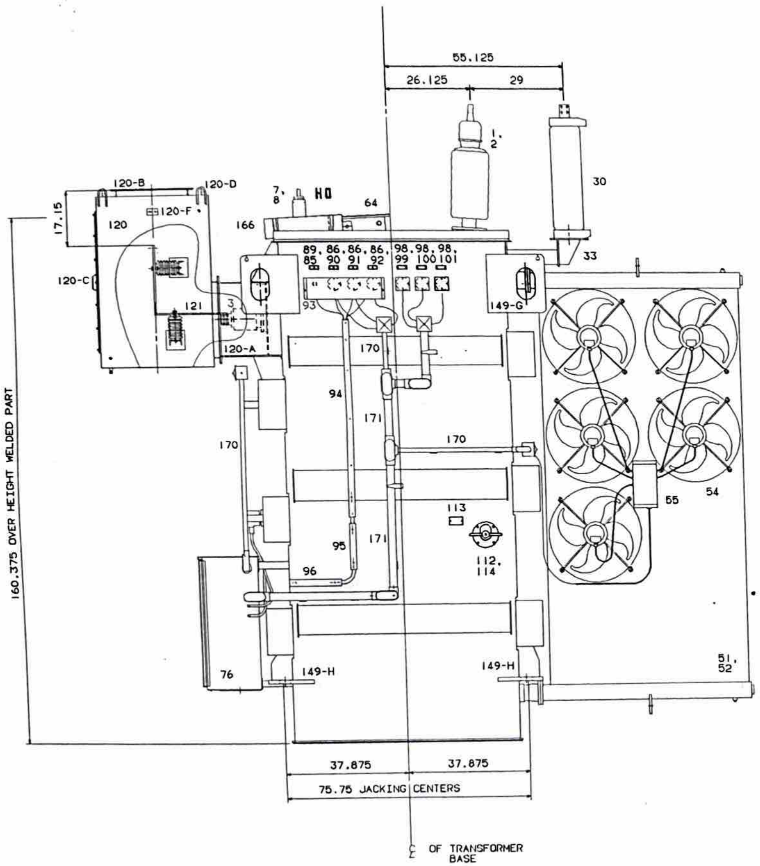
ABB POWER T&D COMPANY INC.
OUTLINE - CORE FORM OUTDOOR TRANSFORMER - TYPE SL
CLASS OA/FA, 3 PHASE, 60 HERTZ
APPARATUS 55° RISE KVA 44000/58666 - 65° RISE KVA 49280/65706
HV 72500GRD.Y/41860 VOLTS, XV 13800 VOLTS

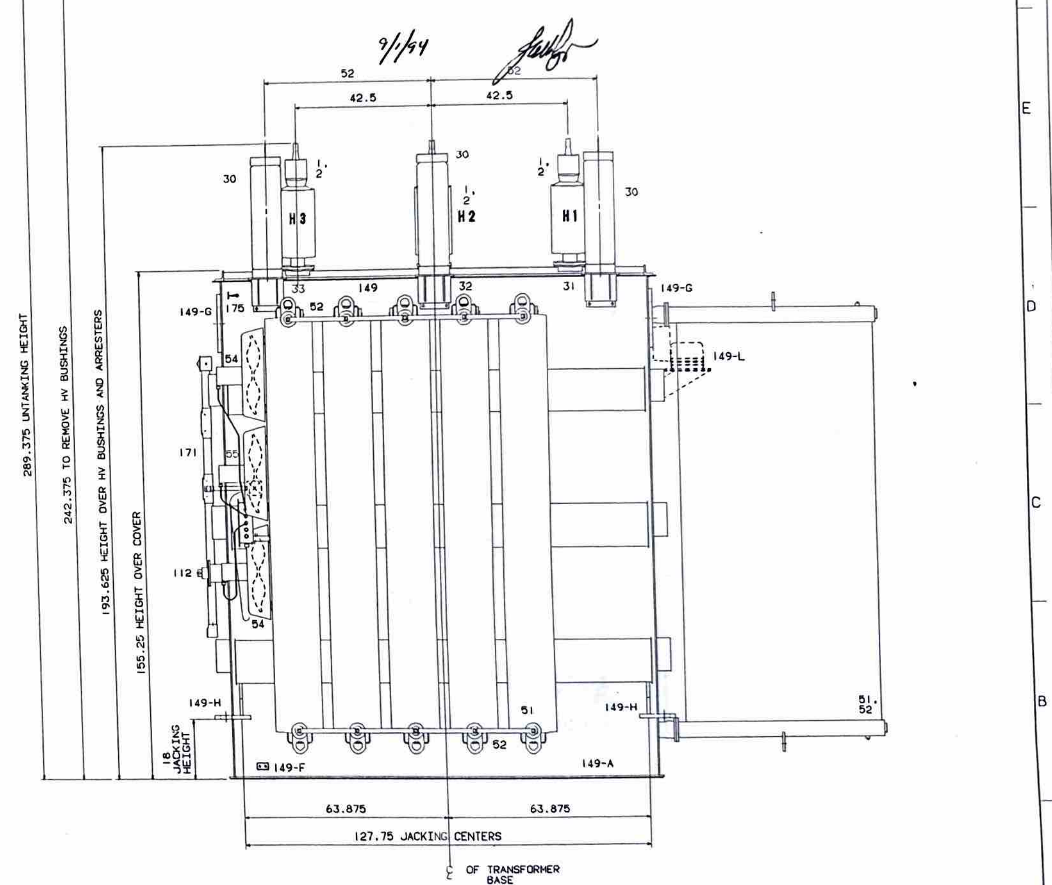
DIMENSIONS IN INCHES-SCALE NTS			SUB 4
DFTR J. REDMOND	03/25/94	CHKD J. BEES	03/25/94
L.O. J. REDMOND		APPD	
ENGR C. 10		APPD G. DEL FRATTE	03/25/94
POWER TRANSFORMER DIVISION		MUNCIE,IN./ ST.LOUIS,MO.	

MNL9183-02

THIS DWG. TO BE CHANGED ON GRAPHICS SYSTEM ONLY

COMMENT=PLTSRV2





9/1/94

FOR PLAN VIEW, NOTES AND SHIPPING DIMENSIONS, SEE DWG. NO. MNL9183-01

ITEM NUMBERS ON TRANSFORMER VIEWS THAT ARE NOT LISTED IN THE FITTINGS AND DESCRIPTIONS COLUMN, ARE LISTED ON OUTSIDE ASSEMBLY DRAWING MNL9183-78, SHEET 1.

MNL9183-03

S D	MNL9183	1
D	MNL9183-09	
IT.	CHANGE	
	ITEM NUMBERS AND NOTE ADDED FOR OUTSIDE ASSEMBLY DRAWING MNL9183-78 J. REDMOND 03/25/94 G. DEL FRATTE 03/25/94	2
120	REV. XV A.T.C. PER CHANGE NOTICE NO. 1 DATED 4/29/94, AND CUSTOMER'S RETURNED APPROVAL DWG'S. DATED 4/21/94 ED. JASPER 05/06/94 J. BEES 05/06/94 G. DEL FRATTE 05/06/94	3

CUSTOMER: ZURN/NEPCO, ORANGE COGENERATION FACILITY		P.O. NO.: 550115
CONTRACT: # 2055	FILE NO.: 208.1	EQUIPMENT TAG NO.: 116E100
SHOP ORDER: MNL9183	GENERAL ORDER# PES0114	FINISH COLOR: ANSI# 70 GRAY
H.V. 350 KV BIL	X.V. 110 KV BIL	H.V. NEUTRAL 110 KV BIL

PRINTS TO			
1		10	A
2	A	11	
3		12	
4		13	
5	A	14	
6		15	
7		16	A
8		17	
9		18	

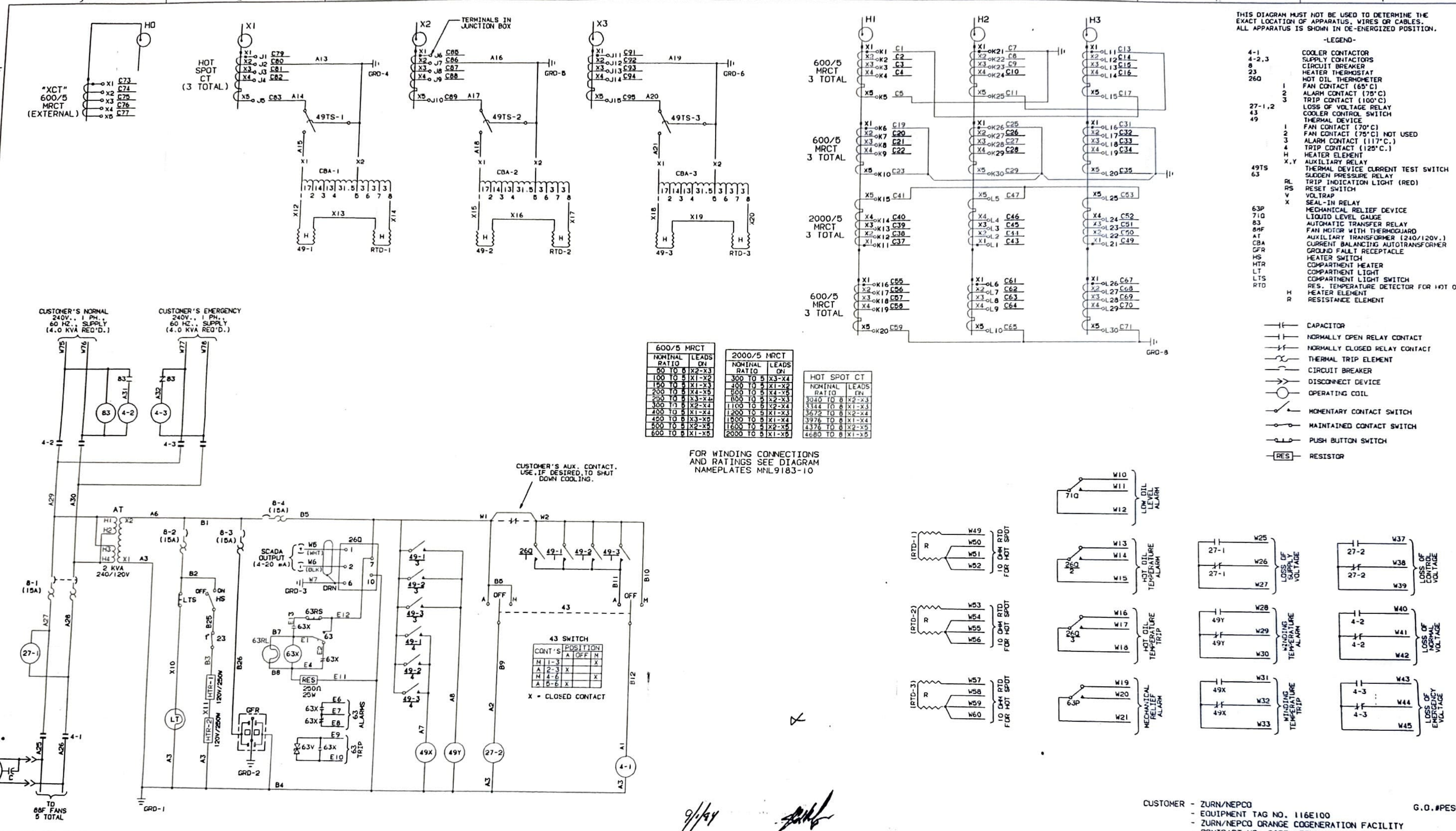
TOOL REF DWG
ENGRG REF DWG
REF BK SEC

BOOK#	APPROVED

ABB POWER T&D COMPANY INC.
OUTLINE - CORE FORM OUTDOOR TRANSFORMER - TYPE SL
CLASS OA/FA, 3 PHASE, 60 HERTZ
APPARATUS 55° RISE KVA 44000/58666 - 65° RISE KVA 49280/65706
HV 72500GRD.Y/41860 VOLTS, XV 13800 VOLTS

DIMENSIONS IN INCHES-SCALE NTS			SUB 3	
DFTR J. REDMOND	03/25/94	CHKD J. BEES	03/25/94	**MNL9183-03**
L.O. J. REDMOND		APPD		
ENGR C. HO		APPD G. DEL FRATTE	03/25/94	
POWER TRANSFORMER DIVISION		MUNCIE, IN./ ST. LOUIS, MO.		

THIS DWG. TO BE CHANGED ON GRAPHICS SYSTEM ONLY



600/5 MRCT	
NOMINAL RATIO	LEADS ON
50 TO 5	X2-X3
100 TO 5	X1-X2
150 TO 5	X1-X3
200 TO 5	X4-X5
250 TO 5	X3-X4
300 TO 5	X2-X4
400 TO 5	X1-X4
450 TO 5	X3-X5
500 TO 5	X2-X5
600 TO 5	X1-X5

2000/5 MRCT	
NOMINAL RATIO	LEADS ON
300 TO 5	X3-X4
400 TO 5	X1-X2
500 TO 5	X4-X5
800 TO 5	X2-X3
1100 TO 5	X2-X4
1200 TO 5	X1-X3
1500 TO 5	X1-X4
1600 TO 5	X2-X5
2000 TO 5	X1-X5

HOT SPOT CT	
NOMINAL RATIO	LEADS ON
3040 TO 8	X2-X3
3344 TO 8	X1-X3
3672 TO 8	X2-X4
3976 TO 8	X1-X4
4376 TO 8	X2-X5
4680 TO 8	X1-X5

FOR WINDING CONNECTIONS AND RATINGS SEE DIAGRAM NAMEPLATES MNL9183-10

THIS DIAGRAM MUST NOT BE USED TO DETERMINE THE EXACT LOCATION OF APPARATUS, WIRES OR CABLES. ALL APPARATUS IS SHOWN IN DE-ENERGIZED POSITION.

-LEGEND-

4-1		COOLER CONTACTOR
4-2,3		SUPPLY CONTACTORS
8		CIRCUIT BREAKER
23		HEATER THERMOSTAT
26Q		HOT OIL THERMOMETER
	1	FAN CONTACT (65°C)
	2	ALARM CONTACT (75°C)
	3	TRIP CONTACT (100°C)
27-1,2		LOSS OF VOLTAGE RELAY
43		COOLER CONTROL SWITCH
49		THERMAL DEVICE
	1	FAN CONTACT (70°C)
	2	FAN CONTACT (75°C) NOT USED
	3	ALARM CONTACT (117°C.)
	4	TRIP CONTACT (125°C.)
	H	HEATER ELEMENT
	X,Y	AUXILIARY RELAY
49TS		THERMAL DEVICE CURRENT TEST SWITCH
63		SUDDEN PRESSURE RELAY
	RL	TRIP INDICATION LIGHT (RED)
	RS	RESET SWITCH
	V	VOLTRAP
	X	SEAL-IN RELAY
63P		MECHANICAL RELIEF DEVICE
71Q		LIQUID LEVEL GAUGE
83		AUTOMATIC TRANSFER RELAY
88F		FAN MOTOR WITH THERMOGUARD
AT		AUXILIARY TRANSFORMER (240/120V.)
CBA		CURRENT BALANCING AUTOTRANSFORMER
GFR		GROUND FAULT RECEPTACLE
HS		HEATER SWITCH
HTR		COMPARTMENT HEATER
LT		COMPARTMENT LIGHT
LTS		COMPARTMENT LIGHT SWITCH
RTD		RES. TEMPERATURE DETECTOR FOR HOT OIL
	H	HEATER ELEMENT
	R	RESISTANCE ELEMENT

CAPACITOR
NORMALLY OPEN RELAY CONTACT
NORMALLY CLOSED RELAY CONTACT
THERMAL TRIP ELEMENT
CIRCUIT BREAKER
DISCONNECT DEVICE
OPERATING COIL
MOMENTARY CONTACT SWITCH
MAINTAINED CONTACT SWITCH
PUSH BUTTON SWITCH
RES RESISTOR

9/1/94

CUSTOMER - ZURN/NEPCO
- EQUIPMENT TAG NO. 116E100
- ZURN/NEPCO ORANGE COGENERATION FACILITY
- CONTRACT NO. 2055, FILE NO. 2055, P.O. NO. 550115

G.O.#PES0114

REF CONNECTION WIRING DIAGRAM MNL9183-05, SHEET 1 AND 2.

MNL9183-04

S D MNL9183
D MNL9183-29

IT.	CHANGE
1	
2	MNL9183 WIRE CODES WERE NOT ON DRAWING. J.S.WELCH 03-25-94
3	MNL9183 2000/5 MRCT'S WERE SHOWN WITH POLARITY TOWARD THE BUSHING. J.S.WELCH 05-03-94
4	MNL9183 REVISED HV MRCT CONNECTIONS. J.S.WELCH 08-23-94

THIS DRAWING CONTAINS INFORMATION PROPRIETARY TO ABB POWER T & D CO., INC. IT IS SUBMITTED IN CONFIDENCE AND IS TO BE USED SOLELY FOR THE PURPOSE FOR WHICH IT IS FURNISHED AND RETURNED UPON REQUEST. THIS DRAWING AND SUCH INFORMATION IS NOT TO BE REPRODUCED, TRANSMITTED, DISCLOSED OR USED OTHERWISE IN WHOLE OR IN PART WITHOUT THE WRITTEN AUTHORIZATION OF ABB POWER T & D CO., INC.

PRINTS TO			
1		10	A
2	A	11	
3		12	
4		13	
5	A	14	
6		15	
7		16	A
8		17	
9		18	

TOOL REF DWG
ENGRG REF DWG
REF BK SEC
BOOK# APPROVED

ABB POWER T&D COMPANY, INC.

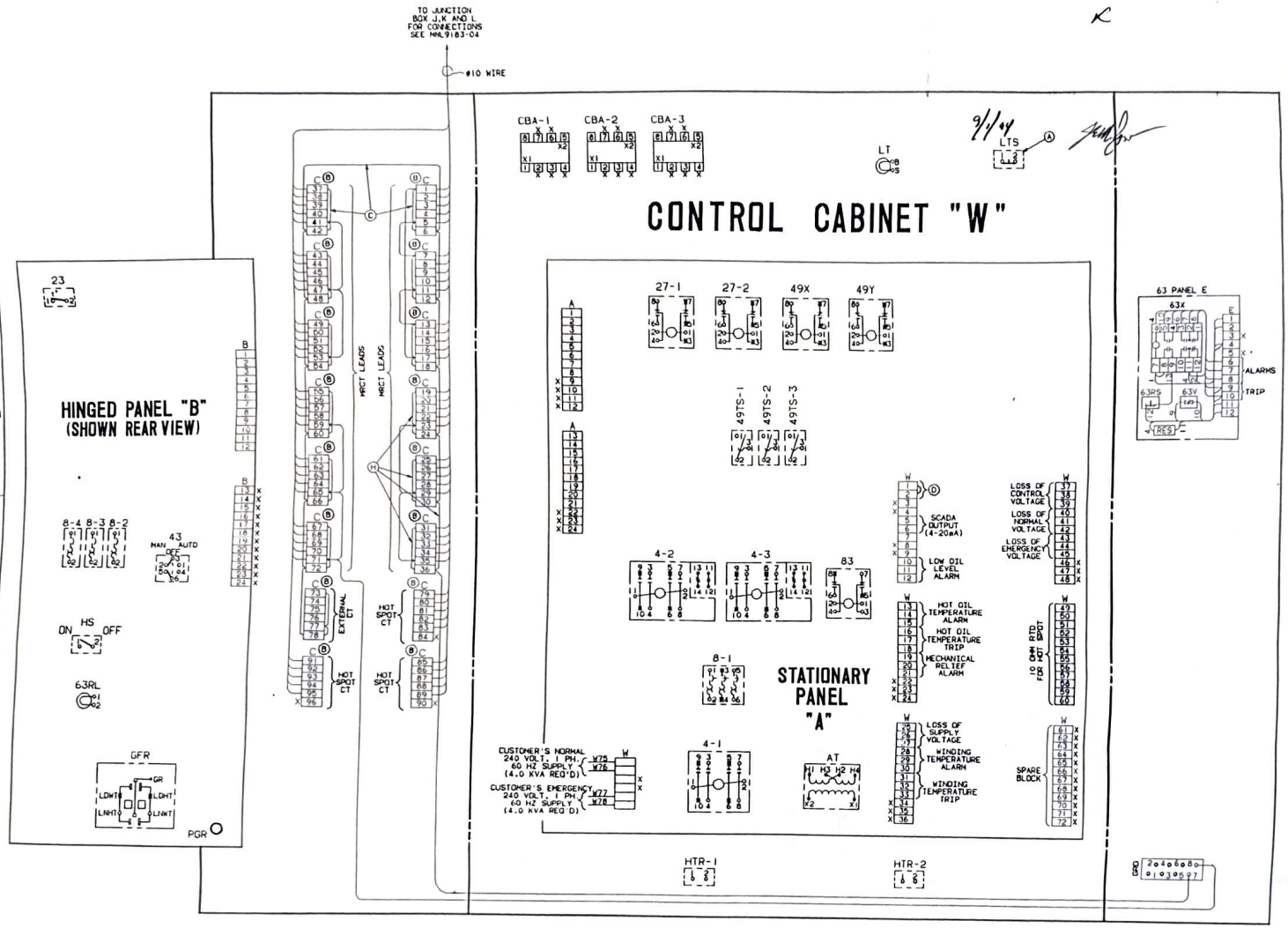
APPARATUS OA/FA TRANSFORMER
SCHEMATIC WIRING DIAGRAM
DIMENSIONS IN INCHES-SCALE NTS — SUB 4
DFTR J.S.WELCH 03-04-94 APPD
APPD
CHKD APPD CHI HQ 03-04-94

MNL9183-04

MEDIUM POWER TRANSFORMER DIVISION — ST.LOUIS, MO.

THIS DWG. TO BE CHANGED ON GRAPHICS SYSTEM ONLY

COMMENT-PLTSRV2



WIRE CONNECTIONS ON STATIONARY PANEL "A"

WIRE CODE	DESTINATION FROM		TO		TO		WIRE SIZE	GA
1	A	1	4-1	1			14	
2	A	2	27-2	1				
3	A	3	A	4	A	5		
3	A	5	27-2	2	49X	2		
4	49X	2	49Y	2	AT	X1		
6	A	6	AT	X2				
7	A	7	49X	1				
8	A	8	49Y	1				
13	A	13	49TS-1	3			10	
14	A	14	49TS-1	2				
15	A	15	49TS-1	1				
16	A	16	49TS-2	3				
17	A	17	49TS-2	2				
18	A	18	49TS-2	1				
19	A	19	49TS-3	3				
20	A	20	49TS-3	2				
21	A	21	49TS-3	1				
27	4-1	3	8-1	2			12	
27	4-1	3	27-1	1			14	
28	4-1	7	8-1	6			12	
28	4-1	7	27-1	2			14	
29	4-2	4	8-1	1	4-3	4	12	
29	4-2	4	AT	H1	AT	H3	14	
30	4-2	8	8-1	5	4-3	8	12	
30	4-2	8	AT	H2	AT	H4	14	
31	83	6	4-2	1				
32	83	7	4-3	1				
W25	W	25	27-1	6				
W26	W	26	27-1	8				
W27	W	27	27-1	4				
W28	W	28	49Y	6				
W29	W	29	49Y	8				
W30	W	30	49Y	4				
W31	W	31	49X	6				
W32	W	32	49X	8				
W33	W	33	49X	4				
W37	W	37	27-2	6				
W38	W	38	27-2	8				
W39	W	39	27-2	4				
W40	W	40	4-2	11				
W41	W	41	4-2	13				
W42	W	42	4-2	12	4-2	14		
W43	W	43	4-3	11				
W44	W	44	4-3	13				
W45	W	45	4-3	12	4-3	14		
W75	W	75	4-2	3			10	
W75	4-2	3	83	1	83	4	14	
W76	W	76	4-2	7			10	
W76	4-2	7	4-2	2	83	2	14	
W77	W	77	4-3	3			10	
W77	4-3	3	83	3			14	
W78	W	78	4-3	7			10	
W78	4-3	7	4-3	2			14	

WIRE CONNECTIONS ON HINGED PANEL "B"

WIRE CODE	DESTINATION FROM		TO		TO		WIRE SIZE	GA
1	B	1	8-2	1	8-3	1	14	
1	8-3	1	8-4	1				
2	8-2	2	B	2	HS	1		
3	B	3	23	2				
4	B	4	GFR	.NHT				
5	B	5	B	6	8-4	2		
5	8-4	2	43	1	43	2		
7	B	7	63RL	1				
8	B	8	63RL	2				
9	B	9	43	3				
10	B	10	43	4				
11	B	11	43	5				
12	B	12	43	6				
25	HS	2	23	1				
26	8-3	2	GFR	.NHT				
GRD2	PNL-B	PGR	GFR	GR				

WIRE CONNECTIONS IN CONTROL CABINET "W"

	WIRE CODE	DESTINATION FROM		TO		TO		WIRE SIZE	GA
	A1	A	1	B	12			14	
	A2	A	2	B	9				
	A3	LT	S	A	3	HTR-2	2		
	A3	B	4	A	4	E	11		
	A6	A	6	B	1				
(E)	A13	C	80	A	13	CBA-1	X2	10	
(E)	A14	A	14	C	83				
	A15	A	15	CBA-1	X1				
(E)	A16	C	86	A	16	CBA-2	X2		
(E)	A17	A	17	C	89				
	A18	A	18	CBA-2	X1				
(E)	A19	C	92	A	19	CBA-3	X2		
(E)	A20	A	20	C	95				
	A21	A	21	CBA-3	X1				
	B2	B	2	LTS	1			14	
	B3	B	3	HTR-1	1				
	B7	B	7	E	1				
	B8	B	8	E	4				
	W1	E	12	W	1	B	5		
	W2	W	2	B	10				
	X10	LTS	2	LT	B				
	X11	HTR-1	2	HTR-2	1				
	GRD1	GRD	1	A	5				
	GRD2	GRD	2	PNL-B	PGR				
	GRD3	GRD	3	W	7				
	GRD4	GRD	4	CBA-1	X2			10	
	GRD5	GRD	5	CBA-2	X2				
	GRD6	GRD	6	CBA-3	X2				

(A) SWITCH SHOWN WITH DOOR OPEN.

(B) SHORTING BLOCKS.

(C) JUMPER AND SHORT CURCUIT FOR TEST AND SHIPMENT.

(D) CUSTOMER AUXILIARY CONTACT. USE, IF DESIRED, TO SHUTDOWN COOLING.

(E) CONNECT ON CUSTOMER'S SIDE OF "C" BLOCK.

(H) THESE JUMPERS AND GROUND CONNECTION SHOULD REMAIN FOR OPERATION. CT.S ARE SPARES.

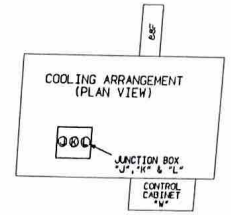
CUSTOMER - ZURN/NEPCO
- EQUIPMENT TAG NO. 116E100
- ZURN/NEPCO ORANGE COGENERATION FACILITY

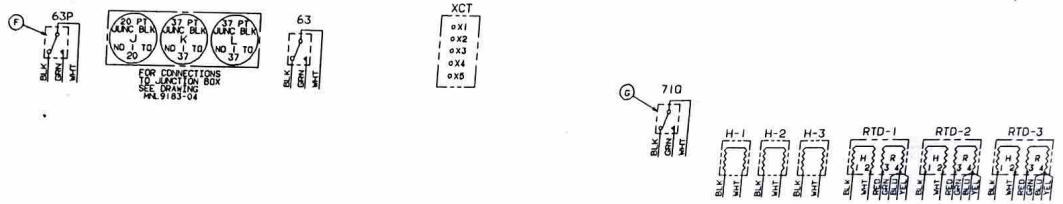
G.O.#PES0114

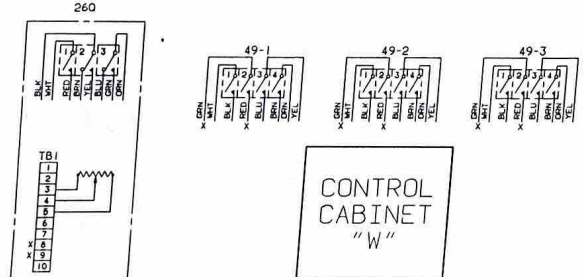
WIRE CONNECTIONS EXTERNAL TO CONTROL CABINET "W"

WIRE CODE	DESTINATION FROM		TO		TO		WIRE SIZE	CABLE
A3	A	5	TB1	10			14	
A7	A	7	49-3	BRN	49-2	BRN		
A7	49-2	BRN	49-1	BRN				
A8	A	8	49-3	BLU	49-2	BLU		
A8	49-2	BLU	49-1	BLU				
A25	4-1	4	88F	BLK			10	
A26	4-1	8	88F	WHT			10	
B7	B	7	63	WHT			14	
B11	B	11	49-3	BLK	49-2	BLK		
B11	49-2	BLK	49-1	BLK	26Q	RED		
C73	C	73	XCT	X1			10	
C74	C	74	XCT	X2				
C75	C	75	XCT	X3				
C76	C	76	XCT	X4				
C77	C	77	XCT	X5				
E2	E	2	63	BLK			14	
W1	B	5	TB1	7				
W1	63	GRN	B	6	49-3	YEL		
W1	49-3	YEL	49-3	GRN	49-2	YEL		
W1	49-2	YEL	49-2	GRN	49-1	YEL		
W1	49-1	YEL	49-1	GRN				
W2	M	2	49-3	WHT	49-2	WHT		
W2	49-2	WHT	49-1	WHT	26Q	WHT		
W5	M	5	TB1	1	(WHT)			S
W6	M	6	TB1	2	(BLK)			
W7	M	7	TB1	6	(GRN)			
W10	M	10	71Q	BLK			14	
W11	M	11	71Q	GRN				
W12	M	12	71Q	WHT				
W13	M	13	26Q	BRN				
W14	M	14	26Q	YEL				
W15	M	15	26Q	BLK				
W16	M	16	26Q	BLU				
W17	M	17	26Q	GRN				
W18	M	18	26Q	ORN				
W19	M	19	63P	BLK				
W20	M	20	63P	GRN				
W21	M	21	63P	WHT				
W49	M	49	RTD-1	RED			10	
W50	M	50	RTD-1	GRN				
W51	M	51	RTD-1	BLU				
W52	M	52	RTD-1	YEL				
W53	M	53	RTD-2	RED				
W54	M	54	RTD-2	GRN				
W55	M	55	RTD-2	BLU				
W56	M	56	RTD-2	YEL				
W57	M	57	RTD-3	RED				
W58	M	58	RTD-3	GRN				
W59	M	59	RTD-3	BLU				
W60	M	60	RTD-3	YEL				
X12	CBA-1	1	H-1	WHT				
X13	H-1	BLK	RTD-1	WHT				
X14	CBA-1	8	RTD-1	BLK				
X15	CBA-2	1	H-2	WHT				
X16	H-2	BLK	RTD-2	WHT				
X17	CBA-2	8	RTD-2	BLK				
X18	CBA-3	1	H-3	WHT				
X19	H-3	BLK	RTD-3	WHT				
X20	CBA-3	8	RTD-3	BLK				

(F) CONTACT MUST BE MANUALLY RESET AFTER TRIPPING.
(G) CONTACT CLOSES ON LOW OIL LEVEL.
(S) 2 CONDUCTOR WITH DRAIN SHIELDED CABLE.







9/1/17

CUSTOMER - ZURN/NEPCO
- EQUIPMENT TAG NO. 116E100
- ZURN/NEPCO ORANGE COGENERATION FACILITY
- CONTRACT NO. 2056, FILE NO. 2056, P.O. NO. 550115

G.O.#PES0114

REF. SCHEM.WIR.DIAGRAM MNL9183-04, CONN.WIR.DIAGRAM MNL9183-05, SHT.1

MNL9183-05
S.O. MNL9183
D MNL9183-29 1
11 CHANGE

WIRE - 6211IBY
TERMINALS - AMP PRE-INSULATED RING TONGUE
CODE MARKERS - ADHESIVE

CHARTS OF THE WIRE CONNECTIONS ADJOIN THE PHYSICAL LAYOUT OF THE PANEL, COMPARTMENT, OR GENERAL AREA TO WHICH THEIR LISTING APPLY.

WIRE CODE NO'S. CORRESPOND TO THOSE APPEARING ON THE SCHEMATIC DIAGRAM.

"X" PLACED AT THE DEVICE TERMINAL INDICATES AN UNUSED TERMINAL.

EXPLANATION

SCHEMATIC DEVICE — TERM.NO.

WIRE CODE	CONN. ON PANEL C DESTINATION FROM		TO	
1	J	104	X3	60
2	L	104	X3	60

THIS DRAWING CONTAINS INFORMATION PROPRIETARY TO ABB POWER T&D COMPANY INC. IT IS SUBMITTED IN CONFIDENCE AND IS TO BE USED SOLELY FOR THE PURPOSE FOR WHICH IT IS FURNISHED AND RETURNED UPON REQUEST. THIS DRAWING AND SUCH INFORMATION IS NOT TO BE REPRODUCED, TRANSMITTED, DISCLOSED OR USED OTHERWISE, IN WHOLE OR IN PART WITHOUT THE WRITTEN AUTHORIZATION OF ABB POWER T & D COMPANY INC.

PRINTS TO			
1	10	A	
2	A	11	
3		12	
4		13	
5	A	14	
6		15	
7		16	A
8		17	
9		18	

TOOL REF DWG
ENGRG REF DWG
REF BK SEC
BOOK# APPROVED

ABB POWER T&D COMPANY INC.

APPARATUS DA/FA TRANSFORMER
CONNECTION WIRING DIAGRAM
DIMENSIONS IN INCHES-SCALE NTS REV 1

DFTR J.S.WELCH	33-10-94	APPD	MNL9183-05
CHKD		APPD	
CHKD		APPD	SHEET 2 OF 2 SHEETS

MEDIUM POWER TRANSFORMER DIVISION ST.LOUIS,MO.

THIS DWG. TO BE CHANGED ON GRAPHICS SYSTEM ONLY

COMMENT-PLISPV2

ASEA BROWN BOVERI

ABB POWER T & D COMPANY, INC.

THREE PHASE
60 HERTZ
TYPE SL
CORE FORM TRANSFORMER
CLASS OA/FA
INSULDUR INSULATION

WINDING
72500GRD.Y/41860 VOLTS
13800 VOLTS

55° C. AVG. RISE
44000/58666 KVA
44000/58666 KVA

65° C. AVG. RISE
49280/65706 KVA
49280/65706 KVA

L-SPEC MNL9183-08
WIRING DIAGRAM MNL9183-04

SERIAL

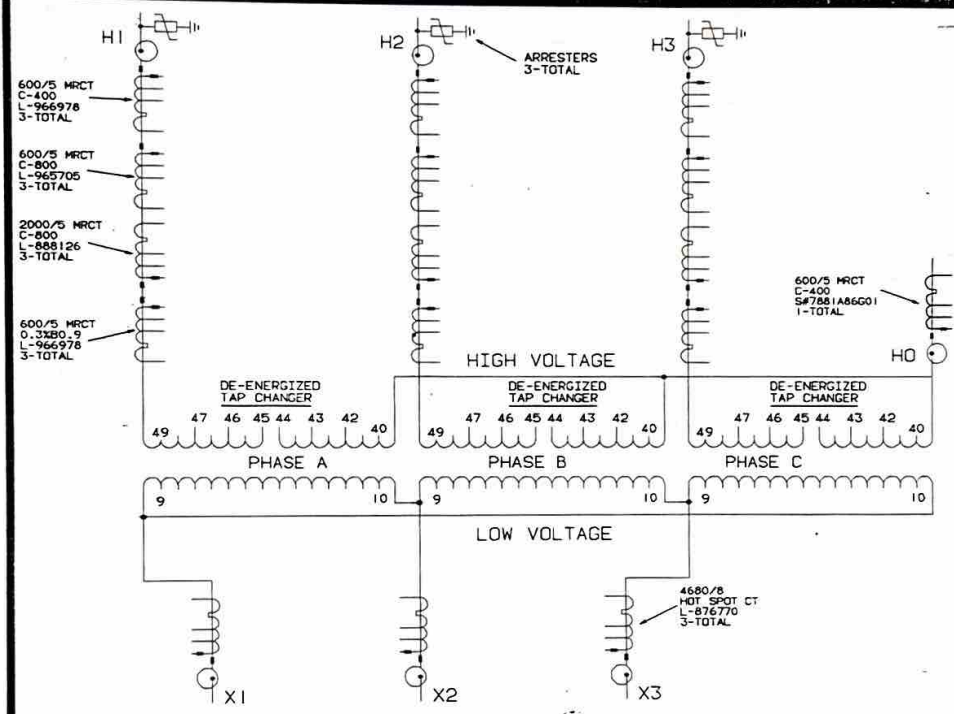
GALLONS OIL: TRANS. TANK

IMPEDANCE % AT 44000 KVA, 72500 TO 13800 VOLTS

FULL WAVE IMPULSE TEST LEVEL: HIGH VOLTAGE 350 KV, LOW VOLTAGE 110 KV, HIGH VOLTAGE NEUTRAL AND BUSHING 110 KV.

APPROX. WEIGHT IN LBS. CORE AND COILS | CASE | OIL | TOTAL

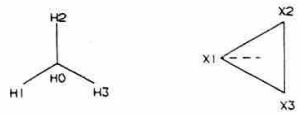
CAUTION : DO NOT ATTEMPT TO HANDLE, INSTALL, USE OR SERVICE THIS TRANSFORMER BEFORE READING INSTRUCTION BOOK MNL9183-12. TO DO SO MAY LEAD TO BODILY INJURY OR PROPERTY DAMAGE OR BOTH.



CONNECTIONS

WINDING	VOLTAGE	AMPERES AT 65706 KVA	DE-ENERGIZED TAP CHANGER	
			POS.	CONNECTS IN EACH PHASE
HIGH VOLTAGE WYE	76125	498	1	44 TO 45
	74310	511	2	43 TO 45
	72500	523	3	43 TO 46
	70690	537	4	42 TO 46
	68875	551	5	42 TO 47
LOW VOLTAGE DELTA	13800	2750		

PHASOR DIAGRAM:



THE 25°C LIQUID LEVEL IS 16.50 INCHES BELOW TOP OF HIGHEST MANHOLE FLANGE. LIQUID LEVEL CHANGES .68 INCHES FOR EACH 10°C CHANGE IN AVERAGE LIQUID TEMPERATURE.

THE TRANSFORMER MUST NOT BE ENERGIZED FROM ANY VOLTAGE SOURCE WHEN DE-ENERGIZED TAP CHANGERS ARE OPERATED.

THE HIGH VOLTAGE WINDING NEUTRAL MUST BE PERMANENTLY GROUNDED EITHER DIRECTLY OR THROUGH A LOW IMPEDANCE. IF AN IMPEDANCE IS PLACED IN THE GROUND CIRCUIT, THE VOLTAGE FROM NEUTRAL TO GROUND DURING A FAULT MUST NOT EXCEED 15000 VOLTS.

THE TRANSFORMER IS DESIGNED FOR OPERATION BETWEEN PRESSURE LIMITS OF 6.5 POUNDS PER SQUARE INCH POSITIVE AND 6.5 POUNDS PER SQUARE INCH NEGATIVE.

THE TRANSFORMER TANK IS DESIGNED TO WITHSTAND COMPLETE VACUUM AND AN INTERNAL PRESSURE OF 10 POUNDS PER SQUARE INCH.

CONDUCTOR MATERIALS H.V. CU., X.V. CU.

UNTANKING WEIGHT (HEAVIEST PIECE) 81400 LBS.

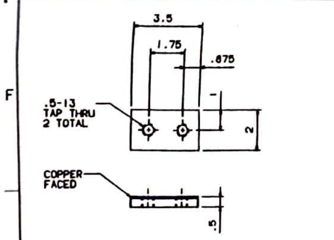
MADE IN U.S.A. MFG. DATE NP# MNL9183-10 SUB B

.032 STAINLESS STEEL #6240-SATIN FINISH-ETCHED-FILLED WITH BLACK ENAMEL.
1/4 IN. HOLE (4 TOTAL)
14-7/16 IN. BETWEEN CENTERS OF HOLES ON LONG EDGE OF PLATE.
6-15/16 IN. BETWEEN CENTERS OF HOLES ON SHORT EDGE OF PLATE.

REDUCE TO 7-1/2 IN.X 15 IN.
PROPORTION 2:1
ASSEMB. SEC. ST.LOUIS

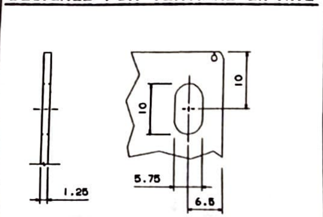
T2 GSU Transformer

- T2 GSU Transformer (see attach Nameplate
- Outline attached

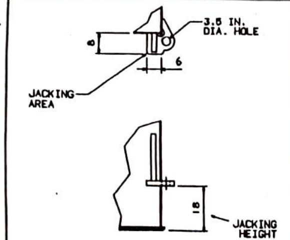


DETAIL OF ITEM 149-E & F

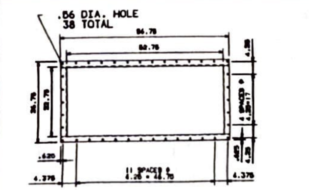
DESIGNED FOR VERTICAL LIFTING



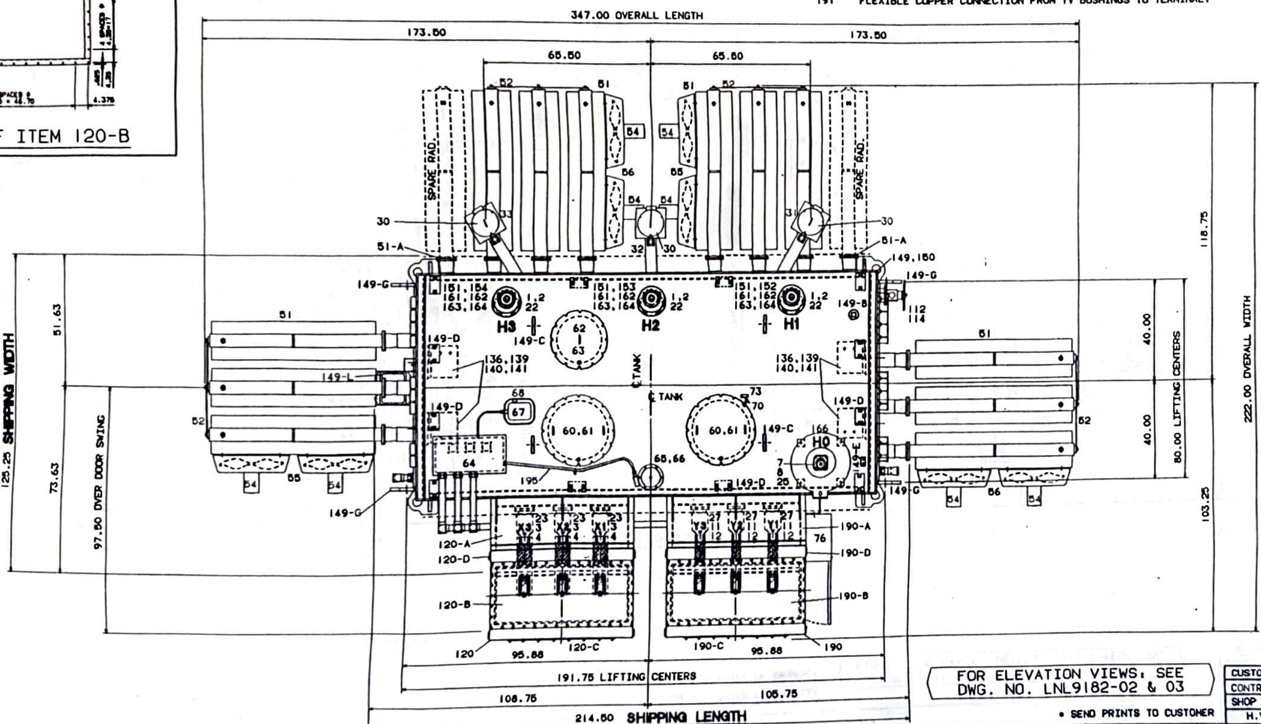
DETAIL OF ITEM 149-G



DETAIL OF ITEM 149-H



DETAIL OF ITEM 120-B



FOR ELEVATION VIEWS: SEE DWG. NO. LNL9182-02 & 03

• SEND PRINTS TO CUSTOMER

ITEM NUMBERS ON TRANSFORMER VIEWS THAT ARE NOT LISTED IN THE FITTINGS AND DESCRIPTIONS COLUMN, ARE LISTED ON OUTSIDE ASSEMBLY DRAWING LNL9182-78, SHEET 1.

ITEM	FITTINGS AND DESCRIPTIONS CONTINUED
149-F	GROUND PAD ON TANK WALL, 2 TOTAL, SEE DETAIL.
149-G	LIFTING HOOK, 4-TOTAL FOR LIFTING COMPLETE UNIT. SEE DETAIL.
149-H	COMBINATION JACKING AND PULLING LUG FOR COMPLETE UNIT. 4-TOTAL, SEE DETAIL.
149-J	TANK BRACE USED FOR ADDITIONAL GAS SPACE. (DO NOT DRILL.)
149-K	DRAIN PLUG-CUSTOMER TO OPEN AND DRAIN OIL AND REPLACE PLUG.
149-L	IMPACT RECORDER, FOR SHIPMENT ONLY.
166	EXTERNAL C.T., S#7881A86G01, RATIO 600/5, FOR H.O. BUSHING.
175	GAS TEST VALVE, 1/4 INCH BRASS VALVE.
177	CUSTOMERS EQUIPMENT TAG NUMBER NAMEPLATE.
178	X1 HOT SPOT INDICATOR NAMEPLATE.
179	X2 HOT SPOT INDICATOR NAMEPLATE.
180	X3 HOT SPOT INDICATOR NAMEPLATE.
181	Y1 HOT SPOT INDICATOR NAMEPLATE.
182	Y2 HOT SPOT INDICATOR NAMEPLATE.
183	Y3 HOT SPOT INDICATOR NAMEPLATE.
184	X1 SWITCHBOARD INDICATOR HOT SPOT NAMEPLATE.
185	X2 SWITCHBOARD INDICATOR HOT SPOT NAMEPLATE.
186	X3 SWITCHBOARD INDICATOR HOT SPOT NAMEPLATE.
187	Y1 SWITCHBOARD INDICATOR HOT SPOT NAMEPLATE.
188	Y2 SWITCHBOARD INDICATOR HOT SPOT NAMEPLATE.
189	Y3 SWITCHBOARD INDICATOR HOT SPOT NAMEPLATE.
• 190	Y.V. 110 BIL AIR FILLED TERMINAL CHAMBER, BOLTED TO TRANSFORMER, 13800 VOLTS,3000 MAXIMUM AMPS. SEE DWG.#LNL9182-96, SHT. #1.
190-A	Y.V. BUSHING THROAT, 22.00 x 52.00 INSIDE DIMENSIONS, WITH 2.375 INCH FLANGE.
190-B	BOLTED ON COVER, OVER A 22.75 X 52.75 INCH FLANGE, FOR ACCESS TO TERMINALS, (TOP SIDE). SEE DETAIL.
190-C	BOLTED ON COVER, OVER A 38.75 x 39 INCH OPENING, FOR ACCESS TO TERMINALS, (FRONT SIDE)
190-D	LIFTING LOOPS, 4 TOTAL, FOR LIFTING AIR FILLED TERMINAL CHAMBER ONLY.
190-F	GROUND PAD ON WALL, 2 TOTAL.
191	FLEXIBLE COPPER CONNECTION FROM YV BUSHINGS TO TERMINAL.

NOTES

SEE INSTRUCTION BOOK LNL9182-12 FOR INSTALLATION AND MAINTENANCE.
THIS OUTLINE CAN BE USED FOR ERECTION PURPOSES. IT IS NOT TO BE REGARDED AS INDICATING THE EXACT DETAILS OF CONSTRUCTION.
THE TANK IS BRACED FOR FILLING UNDER A FULL VACUUM.
BEFORE BREAKING THE SEAL ON ANY OPENING, BE SURE THE LIQUID IS LOWERED BELOW THE OPENING.
CHECK OPERATION OF TAP CHANGER MECHANISM BEFORE SEALING TRANSFORMER.
THIS TRANSFORMER IS "SEALEDAIRE" CONSTRUCTION. THE GAS SPACE IS SEALED TO PREVENT BREATHING UNDER NORMAL OPERATION.
7510 GALLONS OF LIQUID ARE REQUIRED TO COVER CORE AND COILS WITH RADIATORS MOUNTED AND 6430 GALLONS ARE REQUIRED WITHOUT RADIATORS.
SHIPMENT WILL BE MADE IN DRY AIR IN ITS OWN TANK. BEFORE FILLING TANK WITH LIQUID SEE INSTRUCTION BOOK.

DO NOT ENTER UNIT WITHOUT CHECKING OXYGEN CONTENT FOR SAFETY.

APPROXIMATE NET WEIGHT

CORE AND COILS (MAIN)	152750 LBS.	
TANK AND FITTINGS	57180 LBS.	
XV TERMINAL CHAMBER	3200 LBS.	
OIL (MAIN)	65430 LBS.	(8724 GAL.)
OIL (RADIATORS)	9360 LBS.	(1248 GAL.)
TOTAL	287920 LBS.	
SHIPPING WEIGHT	192196 LBS.	

ITEM	FITTINGS AND DESCRIPTIONS
• 1	HV BUSHING, 3-TOTAL,S#069W0412AN, OUTLINE DWG. P3948B546, STUD SIZE 1.5 INCH DIA. - 12 THD. x 2.25 INCHES LONG, INTERNAL BOTTOM CONNECTED-BOLTED TERMINAL.
• 3	XV BUSHING, 3-TOTAL, S#015B3300AA, OUTLINE DWG. 5657C89, STUD SIZE 2.25 INCH DIA. - 12 THD. x 2.5 INCHES LONG, INTERNAL BOTTOM CONNECTED-BOLTED TERMINAL.
• 7	HO BUSHING, 1-TOTAL, S#B3C012DY4A, OUTLINE DWG. 8212C94, STUD SIZE 1.125 INCH DIA. - 12 THD. x 2.0 INCHES LONG, INTERNAL BOTTOM CONNECTED-BOLTED TERMINAL.
• 11	YV BUSHING, 3-TOTAL, S#015B3300AA, OUTLINE DWG. 5657C89, STUD SIZE 2.25 INCH DIA. - 12 THD. x 2.5 INCHES LONG, INTERNAL BOTTOM CONNECTED-BOLTED TERMINAL.
• 30	HV SURGE ARRESTER, 3 TOTAL, S#P072XA057A, OUTLINE DWG. 4699B80.
31	H1 SURGE ARRESTER MOUNTING, BOLTED ON.
32	H2 SURGE ARRESTER MOUNTING, BOLTED ON.
33	H3 SURGE ARRESTER MOUNTING, BOLTED ON.
51	RADIATORS,12-TOTAL, HAVE 1.00 INCH DRAIN AND VENT PLUGS AND ARE CONNECTED TOP AND BOTTOM WITH SHUT-OFF VALVES ON TANK.
51-A	SPARE RADIATOR VALVE. 4 TOTAL.
54	FORCED-AIR COOLING FAN, FAN MOTORS ARE 1 PHASE, 60 HERTZ, 230 VOLTS. WITH OSHA FAN GUARDS, 14-TOTAL.
60	MANHOLE 24 INCH DIAMETER, 2 TOTAL.
62	MANHOLE 18 INCH DIAMETER, 1 TOTAL.
64	111 PT. JUNCTION BOX FOR CURRENT TRANSFORMER LEADS.
65	MECHANICAL RELIEF DEVICE,WITH ALARM CONTACTS.
67	SUDDEN PRESSURE RELAY.
70	MAIN TRANSFORMER CORE GROUND, WITH CAPTIVE BOLTS.
73	MAIN TRANSFORMER CORE GROUND IDENTIFICATION NAMEPLATE.
76	CONTROL CABINET FOR FAN, ALARM, AND CURRENT TRANSFORMER LEADS, 51 WIDE x 40 HIGH x 17 DEEP, WITH UNDRILLED PLATE OVER A 10 x 26.5 OPENING FOR CUSTOMER'S CONNECTION, WITH PROVISION FOR PADLOCKING.
79	DIAGRAM INSTRUCTION PLATE, # LNL9182-10.
81	DRESS NAMEPLATE.
82	MAGNETIC LIQUID LEVEL GAUGE WITH LOW LIQUID LEVEL ALARM CONTACTS.
85	LIQUID TEMPERATURE INDICATOR - DIAL TYPE - SCADA PACKAGE MODIFICATION - WITH CAPILLARY TUBE - WITH MAXIMUM INDICATING HAND AND ALARM & TRIP CLOSING CONTACTS.
86	HOTSPOT TEMPERATURE INDICATOR - DIAL TYPE - WITH CAPILLARY TUBE - WITH MAXIMUM INDICATING HAND AND ALARM CLOSING CONTACTS - 9 TOTAL.
89	LIQUID TEMPERATURE INDICATOR NAMEPLATE.
90	H1 HOT SPOT INDICATOR NAMEPLATE.
91	H2 HOT SPOT INDICATOR NAMEPLATE.
92	H3 HOT SPOT INDICATOR NAMEPLATE.
98	SWITCHBOARD HOT SPOT TEMPERATURE DETECTOR INDICATOR - COPPER RESISTANCE COIL OF 10 OHMS - NOT SHIELDED AT 25° C - 9 TOTAL.
99	H1 SWITCHBOARD INDICATOR HOT SPOT NAMEPLATE.
100	H2 SWITCHBOARD INDICATOR HOT SPOT NAMEPLATE.
101	H3 SWITCHBOARD INDICATOR HOT SPOT NAMEPLATE.
109	SEALDAIRE PRESERVATION SYSTEM WITH PRESSURE VACUUM GAUGE AND AIR TEST VALVE WITH ALARM.
110	VALVE 1 INCH FOR UPPER FILTER PRESS CONNECTION.
111	VALVE 2 INCH FOR COMBINATION LOWER FILTER PRESS CONNECTION AND MAIN DRAIN WITH .375 INCH SAMPLING DEVICE.
112	DE-ENERGIZED TAP CHANGER OPERATING MECHANISM WITH PROVISIONS FOR PADLOCKING.
113	DE-ENERGIZED TAP CHANGER WARNING NAMEPLATE.
• 120	X.V. 110 BIL AIR FILLED TERMINAL CHAMBER, BOLTED TO TRANSFORMER, 13800 VOLTS,3000 MAXIMUM AMPS. SEE DWG.#LNL9182-96, SHT. #1.
120-A	X.V. BUSHING THROAT, 22.00 x 52.00 INSIDE DIMENSIONS, WITH 2.375 INCH FLANGE.
120-B	BOLTED ON COVER, OVER A 22.75 X 52.75 INCH FLANGE, FOR ACCESS TO TERMINALS, (TOP SIDE). SEE DETAIL.
120-C	BOLTED ON COVER, OVER A 38.75 x 39 INCH OPENING, FOR ACCESS TO TERMINALS, (FRONT SIDE)
120-D	LIFTING LOOPS, 4 TOTAL, FOR LIFTING AIR FILLED TERMINAL CHAMBER ONLY.
120-F	GROUND PAD ON WALL, 2 TOTAL.
121	FLEXIBLE COPPER CONNECTION FROM XV BUSHINGS TO TERMINAL.
149	TANK AND COVER ASSEMBLY - WELDED.
• 149-A	BASE WELDED TO TANK, SEE DWG.764C136.FIG. #1, A=57.25, B=57.25, C= 41.94, D= 41.94 .
149-B	3 INCH PLUG FOR FILLING OR VACUUM CONNECTION.
149-C	LIFT LOOPS, 4-TOTAL FOR LIFTING COVER ONLY.
149-D	SAFETY RAIL MOUNTING, 12 TOTAL.
149-E	GROUND PAD ON COVER, 1 TOTAL, SEE DETAIL.

CUSTOMER: ZURN/NEPCO, ORANGE COGENERATION FACILITY		P.O. NO.: 550114
CONTRACT:# 2055	FILE NO.: 208.1	EQUIPMENT TAG NO.: 216E100
SHOP ORDER: LNL9182	GENERAL ORDER# PES0114	FINISH COLOR: ANSI# 70 GRAY
H.V. 350 KV BIL	X.V. 110 KV BIL	H.V. NEUTRAL 110 KV BIL

PRINTS TO			
1		10	A
2	A	11	
3		12	
4		13	
5	A	14	
6		15	
7		16	A
8		17	
9		18	

TOOL REF DWG
ENGRG REF DWG
REF BK SEC
BOOK# | APPROVED

ABB POWER T&D COMPANY INC.
OUTLINE - CORE FORM OUTDOOR TRANSFORMER - TYPE SL, GSU
CLASS OA/FA, 3 PHASE, 60 HERTZ
APPARATUS 55° RISE KVA 76000/101333 - 65° RISE KVA 85120/113450
HV 72600GRD.Y/41860 VOLTS, XV 13800 VOLTS, YV 13800 VOLTS

DIMENSIONS IN INCHES-SCALE NTS			SUB 3	
DFTR ED. JASPER	03/31/94	CHKD JOE BEES	04/06/94	LNL 9182-01
L.O. ED. JASPER	03/31/94	APPD		
ENGR RAJ SEKHAR	04/06/94	APPD G. DEL FRATTE	03/31/94	
POWER TRANSFORMER DIVISION			MUNCIE, IN./ ST.LOUIS, MO.	

LNL9182-01

S D LNL9182
D LNL9182-09

IT.	CHANGE
1	
2	ITEM NUMBERS AND NOTE ADDED FOR OUTSIDE ASSEMBLY DRAWING LNL9182-78. ED. JASPER 04/15/94, J. BEES 04/15/94, G. DEL FRATTE 04/15/94
3	120 REV. XV A.T.C. PER CHANGE NOTICE NO. 1 DATED 4/29/94, AND CUSTOMER'S RETURNED APPROVAL DWG'S. DATED 4/21/94. 190 REV. YV A.T.C. PER CHANGE NOTICE NO. 1 DATED 4/29/94, AND CUSTOMER'S RETURNED APPROVAL DWG'S. DATED 4/21/94. ED. JASPER 05/04/94, J. BEES 05/04/94, G. DEL FRATTE 05/04/94

THIS DWG. TO BE CHANGED ON GRAPHICS SYSTEM ONLY

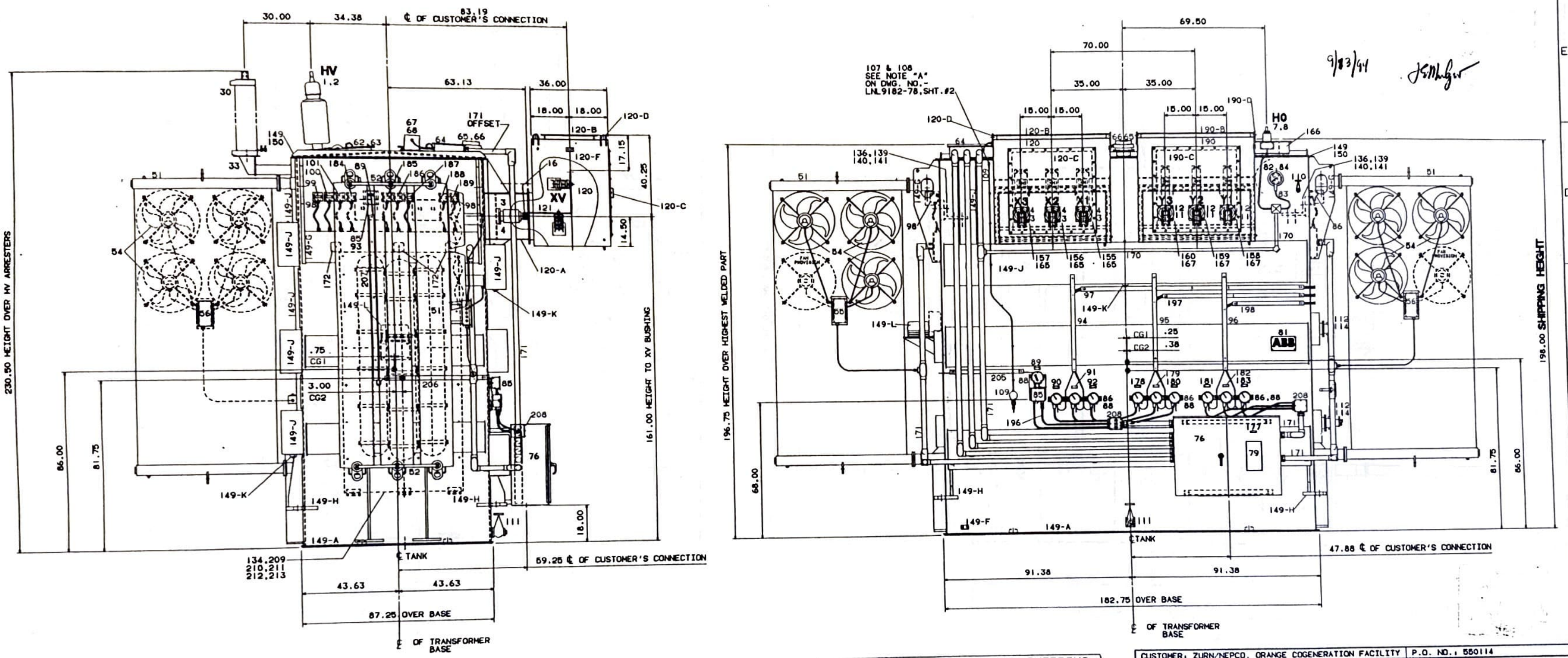
9/13/91

LNL9182-02

S O	LNL9182	1
D	LNL9182-09	
IT.	CHANGE	

2 — ITEM NUMBERS AND NOTE ADDED FOR OUTSIDE ASSEMBLY DRAWING LNL9182-78
ED. JASPER 04/15/94
J. BEES 04/15/94
G. DEL FRATTE 04/15/94

3 — REV. XV A.T.C. PER CHANGE NOTICE NO.1 - DATED 4/29/94, AND CUSTOMER'S RETURNED APPROVAL DWG'S. DATED 4/21/94
REV. YV A.T.C. PER CHANGE NOTICE NO.1 - DATED 4/29/94, AND CUSTOMER'S RETURNED APPROVAL DWG'S. DATED 4/21/94
ED. JASPER 05/04/94
J. BEES 05/04/94
G. DEL FRATTE 05/04/94



CG1=COMPLETE CENTER OF GRAVITY
CG2=SHIPPING CENTER OF GRAVITY

FOR PLAN VIEW, NOTES AND SHIPPING DIMENSIONS, SEE DWG. NO. LNL9182-01

ITEM NUMBERS ON TRANSFORMER VIEWS THAT ARE NOT LISTED IN THE FITTINGS AND DESCRIPTIONS COLUMN, ARE LISTED ON OUTSIDE ASSEMBLY DRAWING LNL9182-78, SHEET 1.

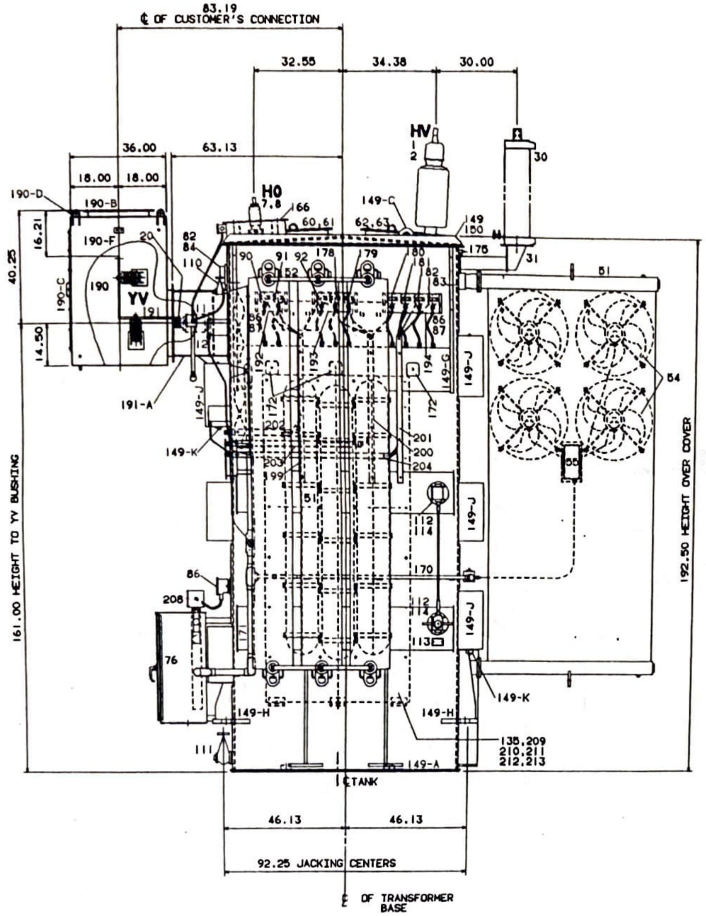
CUSTOMER: ZURN/NEPCO, ORANGE COGENERATION FACILITY		P.O. NO.: 550114
CONTRACT: # 2055	FILE NO.: 208.1	EQUIPMENT TAG NO.: 216E100
SHOP ORDER: LNL9182	GENERAL ORDER# PES0114	FINISH COLOR: ANSI# 70 GRAY
H.V. 350 KV BIL	X.V. 110 KV BIL	H.V. NEUTRAL 110 KV BIL

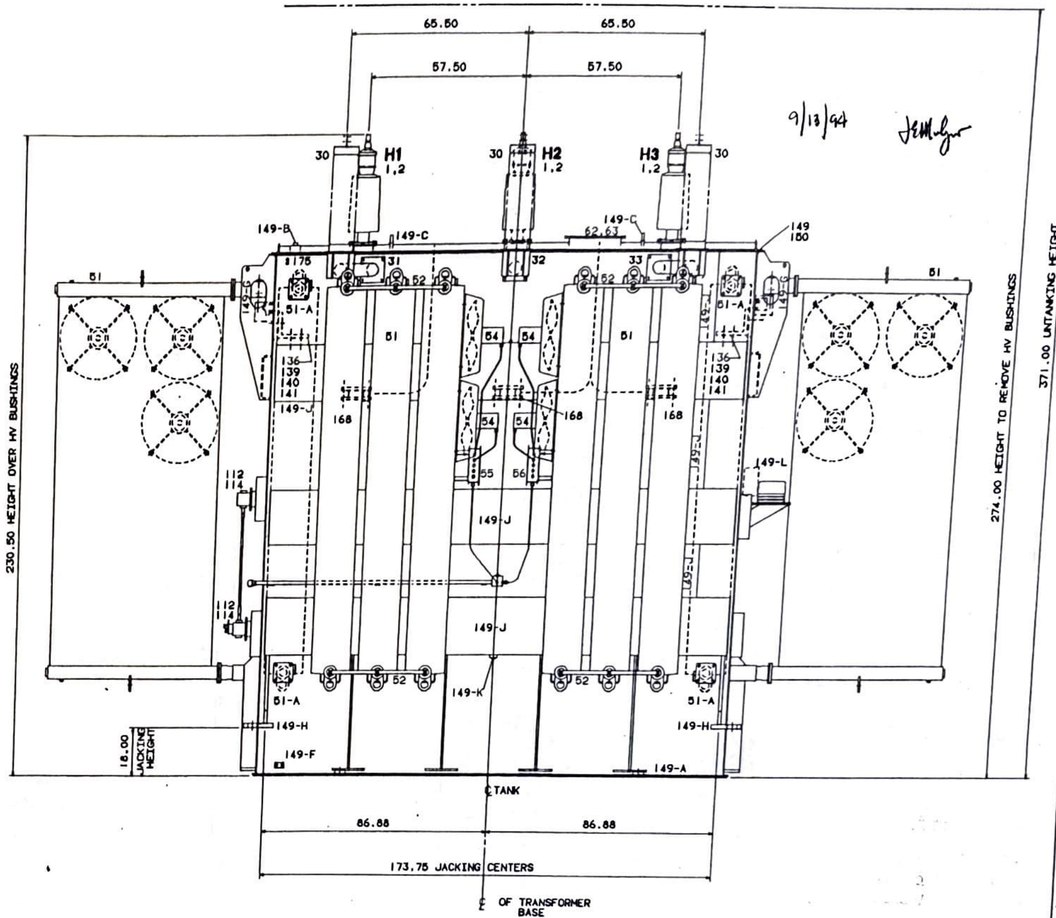
ABB POWER T&D COMPANY INC.
OUTLINE - CORE FORM OUTDOOR TRANSFORMER - TYPE SL, GSU
CLASS OA/FA, 3 PHASE, 60 HERTZ
APPARATUS 55° RISE KVA 76000/101333 - 65° RISE KVA 85120/113450
HV 72500GRD.Y/41860 VOLTS, XV 13800 VOLTS, YV 13800 VOLTS
DIMENSIONS IN INCHES-SCALE NTS — SUB 3
DFTR ED. JASPER 03/31/94 — CHKD JOE BEES 04/06/94
L.O. ED. JASPER 03/31/94 — APPD
ENGR RAJ SEKHAR 04/06/94 — APPD G. DEL FRATTE 03/31/94
POWER TRANSFORMER DIVISION — MUNCIE,IN./ ST.LOUIS,MO.

LNL 9182-02

THIS DWG. TO BE CHANGED ON GRAPHICS SYSTEM ONLY

9/13/94





9/13/94

FOR PLAN VIEW, NOTES AND SHIPPING DIMENSIONS, SEE DWG. NO. LNL9182-01

ITEM NUMBERS ON TRANSFORMER VIEWS THAT ARE NOT LISTED IN THE FITTINGS AND DESCRIPTIONS COLUMN, ARE LISTED ON OUTSIDE ASSEMBLY DRAWING LNL9182-78, SHEET 1.

LNL9182-03

S D LNL9182
D LNL9182-09

IT.	CHANGE
1	
2	ITEM NUMBERS AND NOTE ADDED FOR OUTSIDE ASSEMBLY DRAWING LNL9182-78. ED. JASPER 04/15/94, J. BEES 04/15/94, G. DEL FRATTE 04/15/94
3	REV. YV A.T.C. PER CHANGE NOTICE NO. 1 DATED 4/29/94, AND CUSTOMER'S RETURNED APPROVAL DWG'S. DATED 4/21/94. ED. JASPER 05/04/94, J. BEES 05/04/94, G. DEL FRATTE 05/04/94

CUSTOMER: ZURN/NEPCO, ORANGE COGENERATION FACILITY		P.O. NO.: 550114
CONTRACT: # 2055	FILE NO.: 208.1	EQUIPMENT TAG NO.: 216E100
SHOP ORDER: LNL9182	GENERAL ORDER# PES0114	FINISH COLOR: ANSI# 70 GRAY
H.V. 350 KV BIL	X.V. 110 KV BIL	H.V. NEUTRAL 110 KV BIL

ABB POWER T&D COMPANY INC.

OUTLINE - CORE FORM OUTDOOR TRANSFORMER - TYPE SL, GSU CLASS OA/FA, 3 PHASE, 60 HERTZ

APPARATUS 55° RISE KVA 76000/101333 - 65° RISE KVA 85120/113450

HV 72600GRD.Y/41860 VOLTS, XV 13800 VOLTS, YV 13800 VOLTS

DIMENSIONS IN INCHES-SCALE NTS — SUB 3

DFTR ED. JASPER	03/31/94	CHKD JOE BEES	04/06/94
L.D. ED. JASPER	03/31/94	APPD	
ENGR RAJ SEKHAR	04/06/94	APPD G. DEL FRATTE	03/31/94

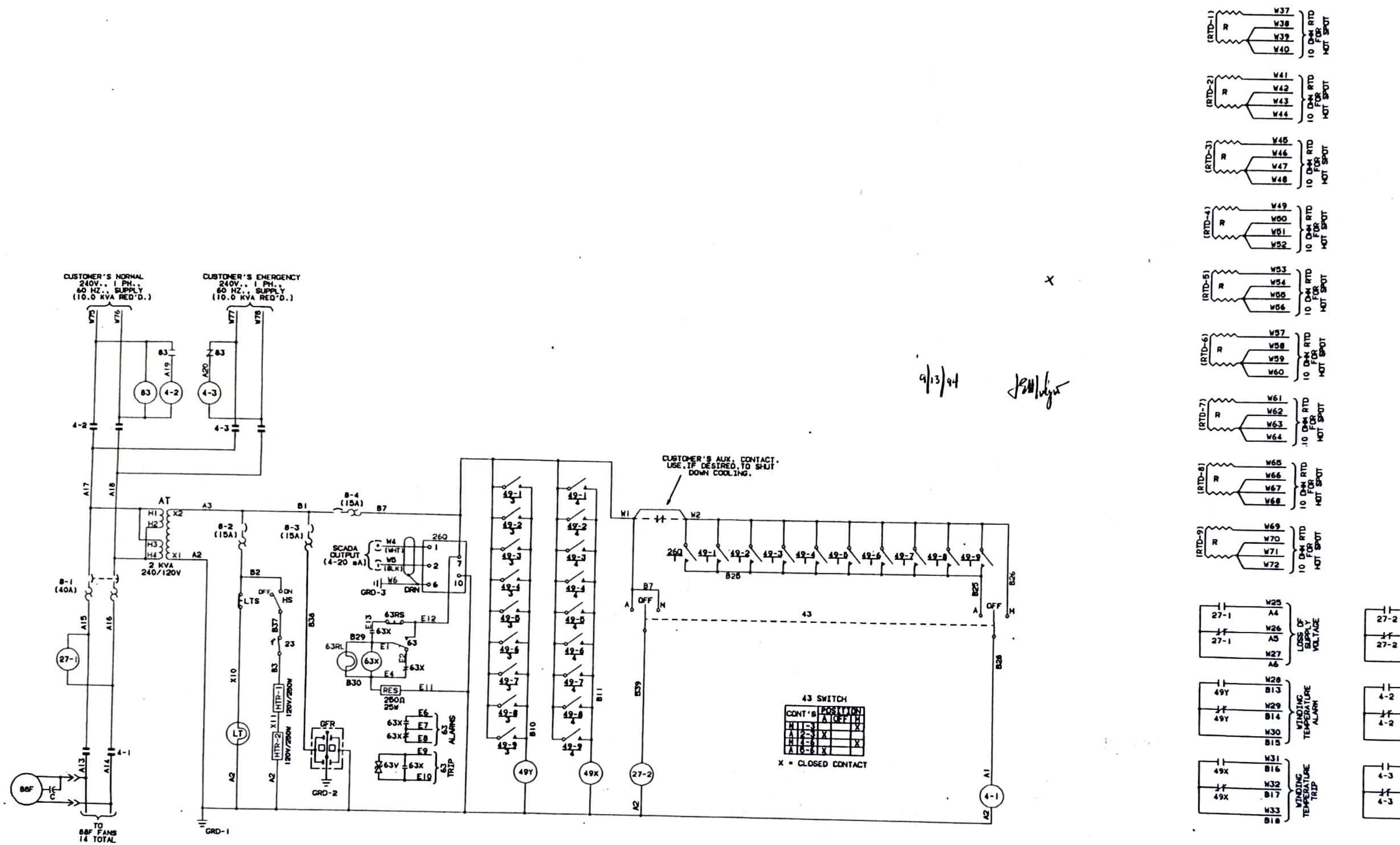
TOOL REF DWG / ENGRG REF DWG / REF BK SEC / BOOK# / APPROVED

PRINTS TO: 1, 2 A, 3, 4, 5 A, 6, 7, 8, 9, 10 A, 11, 12, 13, 14, 15, 16 A, 17, 18

LNL 9182-03

POWER TRANSFORMER DIVISION — MUNCIE, IN./ ST.LOUIS, MO.

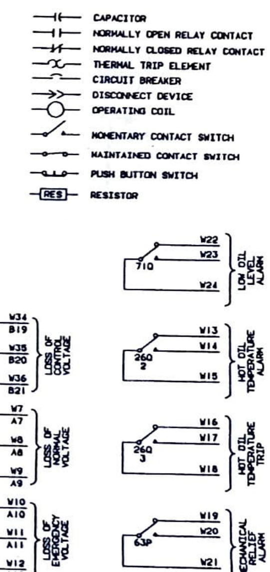
THIS DWG. TO BE CHANGED ON GRAPHICS SYSTEM ONLY



THIS DIAGRAM MUST NOT BE USED TO DETERMINE THE EXACT LOCATION OF APPARATUS, WIRES OR CABLES. ALL APPARATUS IS SHOWN IN DE-ENERGIZED POSITION.

-LEGEND-

4-1		COOLER CONTACTOR
4-2,3		SUPPLY CONTACTORS
8		CIRCUIT BREAKER
23		HEATER THERMOSTAT
26Q		HOT OIL THERMOMETER
	1	FAN CONTACT (65°C)
	2	ALARM CONTACT (70°C)
	3	TRIP CONTACT (100°C)
27-1,2		LOSS OF VOLTAGE RELAY
43		COOLER CONTROL SWITCH
49		THERMAL DEVICE
	1	FAN CONTACT (70°C)
	2	FAN CONTACT (75°C) NOT USED
	3	ALARM CONTACT (117°C.)
	4	TRIP CONTACT (125°C.)
	H	HEATER ELEMENT
	X,Y	AUXILIARY RELAY
49TS		THERMAL DEVICE CURRENT TEST SWITCH
63		SUDDEN PRESSURE RELAY
	RL	TRIP INDICATION LIGHT (RED)
	RS	RESET SWITCH
	V	VOLTRAP
	X	SEAL-IN RELAY
63P		MECHANICAL RELIEF DEVICE
71Q		LIQUID LEVEL GAUGE
83		AUTOMATIC TRANSFER RELAY
88F		FAN MOTOR WITH THERMOGUARD
AT		AUXILIARY TRANSFORMER (240/120V.)
CBA		CURRENT BALANCING AUTOTRANSFORMER
GFR		GROUND FAULT RECEPTACLE
HS		HEATER SWITCH
HTR		COMPARTMENT HEATER
LT		COMPARTMENT LIGHT
LTS		COMPARTMENT LIGHT SWITCH
RTD		RES. TEMPERATURE DETECTOR FOR HOT OIL
	H	HEATER ELEMENT
	R	RESISTANCE ELEMENT



FOR CURRENT TRANSFORMER SCHEME SEE LNL9182-04 SHEET 2

CUSTOMER - ZURN/NEPCO
- EQUIPMENT TAG NO. 216E100
- ZURN/NEPCO ORANGE COGENERATION FACILITY
- CONTRACT NO. 2055, FILE NO. 208.1, P.O. NO. 550114

G.O.#PSE0114

REF SCHEM.WIR.DIAGRAM LNL9182-04,SHT.2,CONN.WIR.DIAGRAM LNL9182-05,SHT.1 AND 2

ABB POWER T&D COMPANY, INC.

APPARATUS OA/FA TRANSFORMER

SCHEMATIC WIRING DIAGRAM

DIMENSIONS IN INCHES-SCALE NTS — SUB 2

DFTR J.S.WELCH 03-11-94 APPD

APPD

CHKD — APPD R.SEKHAR 03-14-94

MEDIUM POWER TRANSFORMER DIVISION

LNL9182-04

SHEET 1 OF 2 SHEETS

ST.LOUIS,MO.

PRINTS TO			
1		10	A
2	A	11	
3		12	
4		13	
5	A	14	
6		15	
7		16	A
8		17	
9		18	

TOOL REF DWG

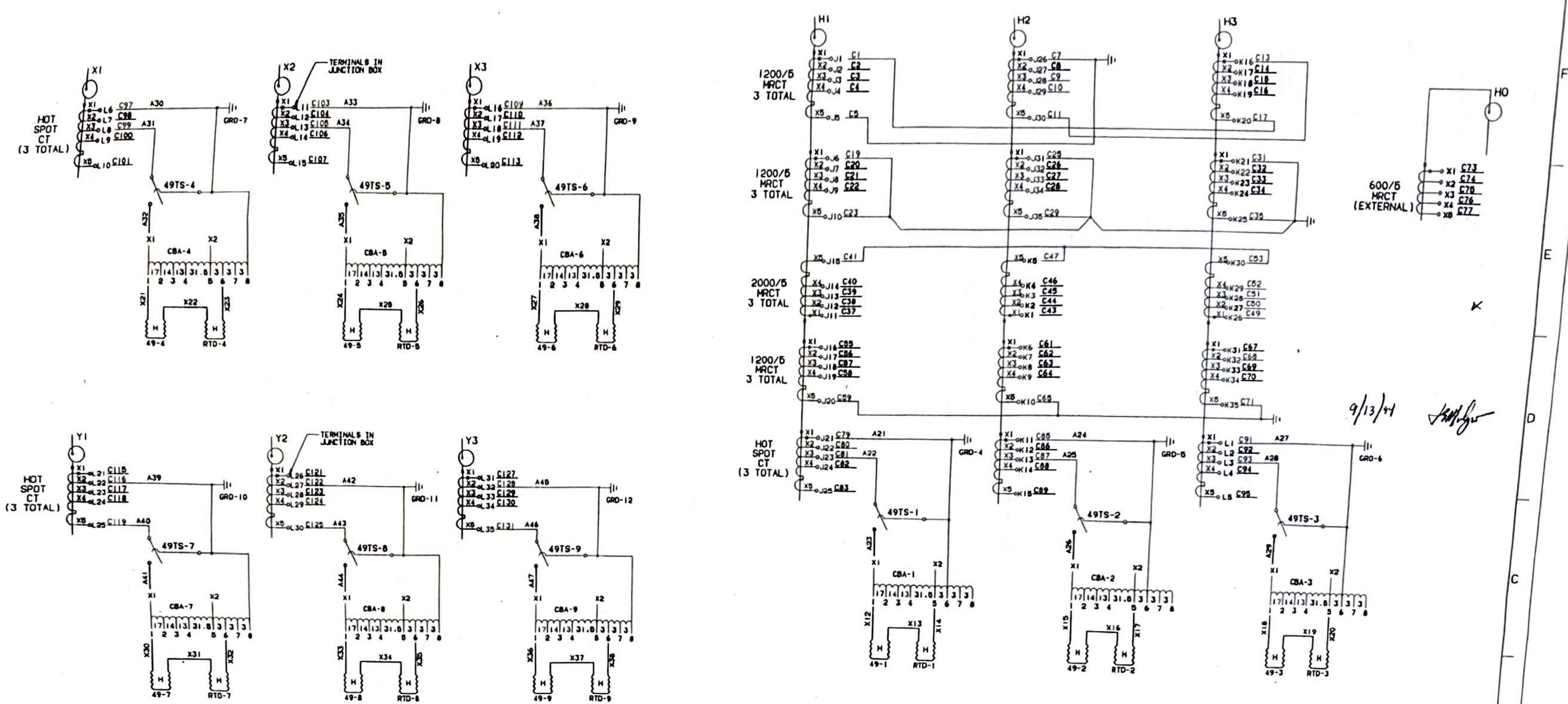
ENGRG REF DWG

REF BK SEC

BOOK# APPROVED

LNL9182-04

S O	LNL9182	1
D	LNL9182-29	
IT.	CHANGE	
	LNL9182 WIRE CODES WERE NOT ON DRAWING. J.S.WELCH 03-29-94	2



600/5 MRCT	
NOMINAL RATIO	LEADS ON
50 TO 5	X2-X3
100 TO 5	X1-X2
150 TO 5	X1-X3
200 TO 5	X4-X5
250 TO 5	X3-X4
300 TO 5	X2-X4
400 TO 5	X1-X4
450 TO 5	X3-X5
500 TO 5	X2-X5
600 TO 5	X1-X5

1200/5 MRCT	
NOMINAL RATIO	LEADS ON
100 TO 5	X2-X3
200 TO 5	X1-X2
300 TO 5	X1-X3
400 TO 5	X4-X5
500 TO 5	X3-X4
600 TO 5	X2-X4
800 TO 5	X1-X4
900 TO 5	X3-X5
1000 TO 5	X2-X5
1200 TO 5	X1-X5

2000/5 MRCT	
NOMINAL RATIO	LEADS ON
300 TO 5	X3-X4
400 TO 5	X1-X2
500 TO 5	X4-X5
800 TO 5	X2-X3
1100 TO 5	X2-X4
1200 TO 5	X1-X3
1500 TO 5	X1-X4
1600 TO 5	X2-X5
2000 TO 5	X1-X5

HV HOT SPOT CT	
NOMINAL RATIO	LEADS ON
[illegible] TO 5	X2-X3
[illegible] TO 5	X1-X3
[illegible] TO 5	X2-X4
[illegible] TO 5	X1-X4
[illegible] TO 5	X2-X5
2096 TO 5	X1-X5

XV AND YV HOT SPOT CT	
NOMINAL RATIO	LEADS ON
[illegible] TO 5	X2-X3
[illegible] TO 5	X1-X3
[illegible] TO 5	X2-X4
[illegible] TO 5	X1-X4
[illegible] TO 5	X2-X5
4680 TO 5	X1-X5

FOR WINDING CONNECTIONS AND RATINGS SEE DIAGRAM NAMEPLATES LNL9182-10

FOR CONTROL SCHEME, ALARMS AND LEGEND SEE LNL9182-04, SHEET 1

CUSTOMER - ZURN/NEPCO G.O. #PSE0114
- EQUIPMENT TAG NO. 216E100
- ZURN/NEPCO ORANGE COGENERATION FACILITY
- CONTRACT NO. 2058, FILE NO. 208.1, P.O. NO. 550114

LNL9182-04	
S D: LNL9182 / LNL9182-29	1
IT.	CHANGE
LNL9182 WIRE CODES WERE NOT ON DRAWING. J.S.WELCH 03-29-94	2
LNL9182 1200/5 CT'S WERE 600/5, DELTA AND WYE CONN'S WERE NOT ON DRAWING. J.S.WELCH 08-03-94	3
LNL9182 REVISED HV CT WIRING. J.S.WELCH 08-25-94	4

REF SCHEM.WIR.DIAGRAM LNL9182-04,SHT.1,CONN.WIR.DIAGRAM LNL9182-08,SHT.1 AND 2

ABB POWER T&D COMPANY, INC.

APPARATUS: OA/FA TRANSFORMER

SCHEMATIC WIRING DIAGRAM

DIMENSIONS IN INCHES-SCALE NTS | SUB 4

DFTR J.S.WELCH 03-11-94 | APPD
CHKD | APPD | APPD R.SEKHAR 03-14-94

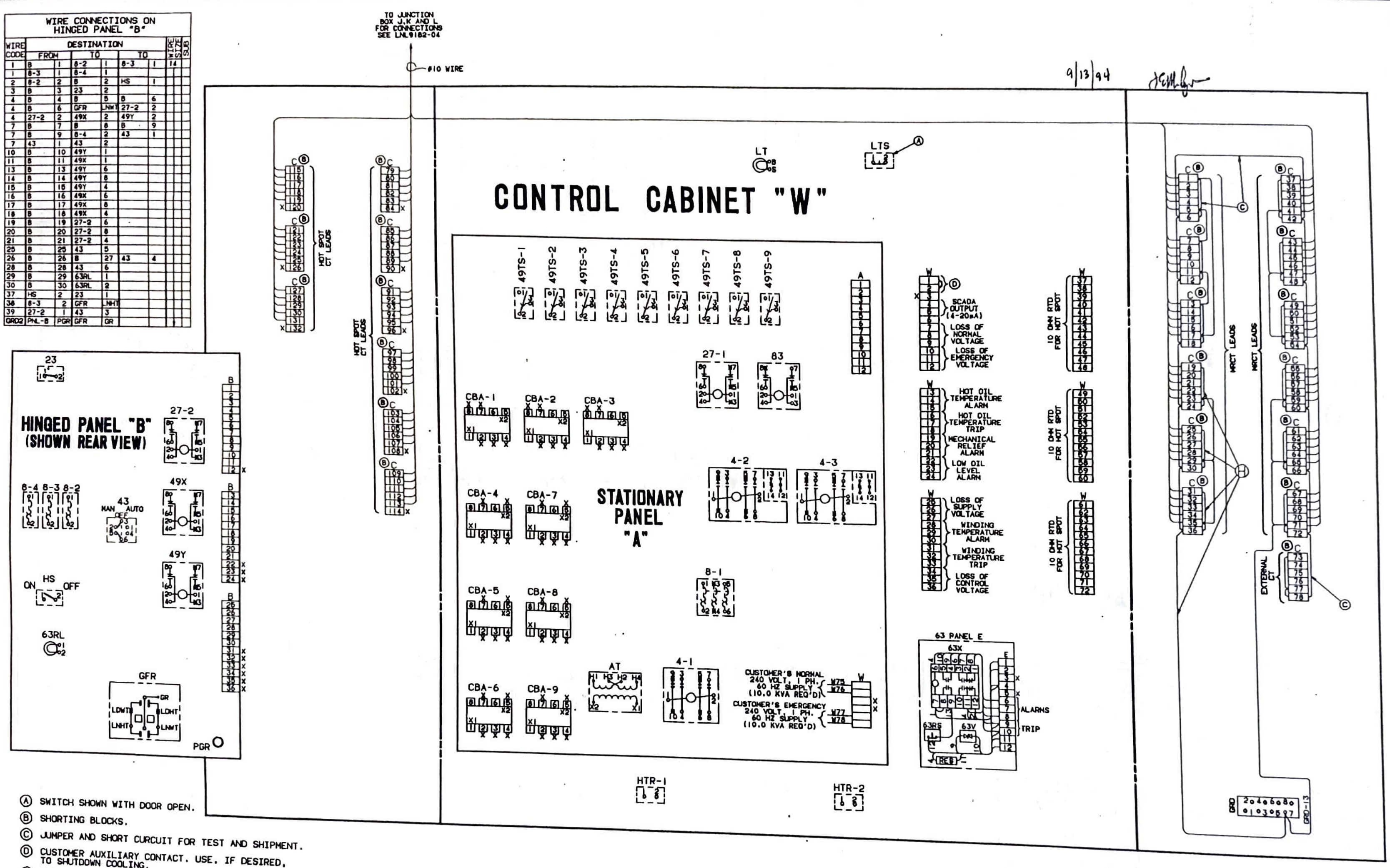
LNL9182-04 SHEET 2 OF 2 SHEETS

MEDIUM POWER TRANSFORMER DIVISION — ST.LOUIS,MO

THIS DWG. TO BE CHANGED ON GRAPHICS SYSTEM ONLY

WIRE CONNECTIONS ON HINGED PANEL "B"

WIRE CODE	DESTINATION FROM		TO		TO		WIRE SIZE	SUB
1	B	1	8-2	1	8-3	1	14	
1	8-3	1	8-4	1				
2	8-2	2	B	2	HS	1		
3	B	3	23	2				
4	B	4	B	5	B	6		
4	B	6	GFR	LNWT	27-2	2		
4	27-2	2	49X	2	49Y	2		
7	B	7	B	8	B	9		
7	B	9	8-4	2	43	1		
7	43	1	43	2				
10	B	10	49Y	1				
11	B	11	49X	1				
13	B	13	49Y	6				
14	B	14	49Y	8				
15	B	15	49Y	4				
16	B	16	49X	6				
17	B	17	49X	8				
18	B	18	49X	4				
19	B	19	27-2	6				
20	B	20	27-2	8				
21	B	21	27-2	4				
25	B	25	43	5				
26	B	26	B	27	43	4		
28	B	28	43	6				
29	B	29	63RL	1				
30	B	30	63RL	2				
37	HS	2	23	1				
38	8-3	2	GFR	LNHT				
39	27-2	1	43	3				
GRD2	PNL-B	PGR	GFR	GR				



Ⓐ SWITCH SHOWN WITH DOOR OPEN.
Ⓑ SHORTING BLOCKS.
Ⓒ JUMPER AND SHORT CURCUIT FOR TEST AND SHIPMENT.
Ⓓ CUSTOMER AUXILIARY CONTACT. USE, IF DESIRED, TO SHUTDOWN COOLING.
Ⓗ THESE JUMPERS AND GROUND CONNECTION SHOULD REMAIN FOR OPERATION, CT'S ARE SPARES.

WIRE CONNECTIONS ON STATIONARY PANEL "A"

WIRE CODE	DESTINATION FROM		TO		TO		WIRE SIZE	SUB
1	A	1	4-1	1			14	
2	4-1	2	A	2	AT	X1		
3	A	3	AT	X2				
4	A	4	27-1	6				
5	A	5	27-1	8				
6	A	6	27-1	4				
7	A	7	4-2	11				
8	A	8	4-2	13				
9	A	9	4-2	12	4-2	14		
10	A	10	4-3	11				
11	A	11	4-3	13				
12	A	12	4-3	12	4-3	14		
15	4-1	3	8-1	2			10	
15	4-1	3	27-1	1			14	
16	4-1	7	8-1	6			10	
16	4-1	7	27-1	2			14	
17	4-2	4	8-1	1	4-3	4	10	
17	4-2	4	AT	H1	AT	H3	14	
18	4-2	8	8-1	5	4-3	8	10	
18	4-2	8	AT	H2	AT	H4	14	
19	83	6	4-2	1				
20	83	7	4-3	1				
21	49TS-1	3	CBA-1	6			10	
23	49TS-1	1	CBA-1	X1				
24	49TS-2	3	CBA-2	6				
26	49TS-2	1	CBA-2	X1				
27	49TS-3	3	CBA-3	6				
29	49TS-3	1	CBA-3	X1				
30	49TS-4	3	CBA-4	8				
32	49TS-4	1	CBA-4	X1				
33	49TS-5	3	CBA-5	8				
35	49TS-5	1	CBA-5	X1				
36	49TS-6	3	CBA-6	8				
38	49TS-6	1	CBA-6	X1				
39	49TS-7	3	CBA-7	8				
41	49TS-7	1	CBA-7	X1				
42	49TS-8	3	CBA-8	8				
44	49TS-8	1	CBA-8	X1				
45	49TS-9	3	CBA-9	8				
47	49TS-9	1	CBA-9	X1				
W75	W	75	4-2	3				
W75	4-2	3	83	1	83	4	14	
W76	W	76	4-2	7			10	
W76	4-2	7	4-2	2	83	2	14	
W77	W	77	4-3	3			10	
W77	4-3	3	83	3			14	
W78	W	78	4-3	7			10	
W78	4-3	7	4-3	2			14	

CUSTOMER - ZURN/NEPCO
- EQUIPMENT TAG NO. 216E100
- ZURN/NEPCO ORANGE COGENERATION FACILITY
- CONTRACT NO. 2055, FILE NO. 208.1, P.O. NO. 550114

G.O.#PES0114

LNL9182-05		
S O	LNL9182	1
D	LNL9182-29	
IT.	CHANGE	
2	LNL9182 REVISED CT CONN'S. J.S.WELCH 08-03-94	
3	LNL9182 REVISED CT CONN'S. J.S.WELCH 08-25-94	

WIRE - 62111BY
TERMINALS - AMP PRE-INSULATED RING TONGUE
CODE MARKERS - ADHESIVE

EXPLANATION

CHARTS OF THE WIRE CONNECTIONS ADJOIN THE PHYSICAL LAYOUT OF THE PANEL, COMPARTMENT, OR GENERAL AREA TO WHICH THEIR LISTING APPLY.

WIRE CODE NO'S. CORRESPOND TO THOSE APPEARING ON THE SCHEMATIC DIAGRAM.

"X" PLACED AT THE DEVICE TERMINAL INDICATES AN UNUSED TERMINAL.

SCHEMATIC — DEVICE — TERM. NO.

WIRE CONN. ON PANEL C

WIRE CODE	DESTINATION FROM		TO		TO	
1	L	5	R	1		
2	L	6	L	2	R	2

PRINTS TO			
1		10	A
2	A	11	
3		12	
4		13	
5	A	14	
6		15	
7		16	A
8		17	
9		18	

TOOL REF DWG
ENGRG REF DWG
REF BK SEC
BOOK# APPROVED

REF. SCHEM. WIR. DIAGRAM LNL9182-04, SHT. 1 & 2, CONN. WIR. DIAGRAM LNL9182-05, SHT. 2

ABB POWER T&D COMPANY INC.

APPARATUS OA/FA TRANSFORMER

CONNECTION WIRING DIAGRAM

DIMENSIONS IN INCHES-SCALE NTS — REV 3

DFTR: J.S. WELCH	03-28-94	APPD	
CHKD:		APPD	
CHKD:		APPD:	

MEDIUM POWER TRANSFORMER DIVISION

LNL9182-05

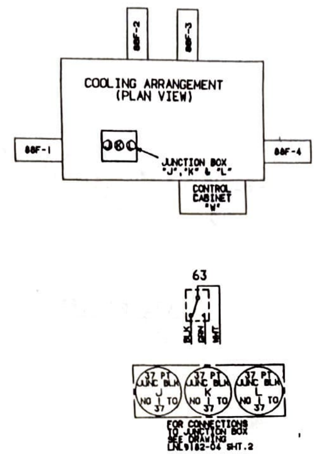
SHEET 1 OF 2 SHEETS

WIRE CONNECTIONS EXTERNAL TO CONTROL CABINET "W"

WIRE CODE	DESTINATION FROM		TO		TO		WIRE SIZE	SUB
A2	B	6	TB1	10			14	
A13	88F-1	BLK	4-1	4			12	
A13	4-1	4	88F-4	BLK	88F-3	BLK	10	
A13	88F-3	BLK	88F-2	BLK			12	
A14	88F-1	WHT	4-1	8			12	
A14	4-1	8	88F-4	WHT	88F-3	WHT	10	
A14	88F-3	WHT	88F-2	WHT			12	
B10	49-9	BLU	49-8	BLU	49-7	BLU	14	
B10	49-7	BLU	B	10	49-6	BLU		
B10	49-6	BLU	49-5	BLU	49-4	BLU		
B10	49-4	BLU	49-3	BLU	49-2	BLU		
B10	49-2	BLU	49-1	BLU				
B11	49-9	BRN	49-8	BRN	49-7	BRN		
B11	49-7	BRN	B	11	49-6	BRN		
B11	49-6	BRN	49-5	BRN	49-4	BRN		
B11	49-4	BRN	49-3	BRN	49-2	BRN		
B11	49-2	BRN	49-1	BRN				
B25	49-9	BLK	49-8	BLK	49-7	BLK		
B25	49-7	BLK	B	25	49-6	BLK		
B25	49-6	BLK	49-5	BLK	49-4	BLK		
B25	49-4	BLK	49-3	BLK	49-2	BLK		
B25	49-2	BLK	49-1	BLK	26Q	RED		
B29	B	29	63	WHT				
C73	C	73	XCT	X1			10	
C74	C	74	XCT	X2				
C75	C	75	XCT	X3				
C76	C	76	XCT	X4				
C77	C	77	XCT	X5				
E2	E	2	63	BLK			14	
W1	B	7	TB1	7				
W1	63	GRN	B	8	49-6	YEL		
W1	49-6	YEL	49-6	ORN	49-5	YEL		
W1	49-5	YEL	49-5	ORN	49-4	YEL		
W1	49-4	YEL	49-4	ORN	49-3	YEL		
W1	49-3	YEL	49-3	ORN	49-2	YEL		
W1	49-2	YEL	49-2	ORN	49-1	YEL		
W1	49-2	YEL	49-2	ORN	49-1	YEL		
W1	49-1	YEL	49-1	ORN				
W1	B	9	49-7	YEL	49-7	ORN		
W1	49-7	ORN	49-8	YEL	49-8	ORN		
W1	49-8	ORN	49-9	YEL	49-9	ORN		
W2	49-9	WHT	49-8	WHT	49-7	WHT		
W2	49-7	WHT	B	27	49-6	WHT		
W2	49-6	WHT	49-5	WHT	49-4	WHT		
W2	49-4	WHT	49-3	WHT	49-2	WHT		
W2	49-2	WHT	49-1	WHT	26Q	WHT		
W4	W	4	TB1	1	(WHT)		Ⓢ	
W5	W	5	TB1	2	(BLK)			
W6	W	6	TB1	6	(ORN)			
W13	W	13	26Q	BRN			14	
W14	W	14	26Q	YEL				
W15	W	15	26Q	BLK				
W16	W	16	26Q	BLU				
W17	W	17	26Q	GRN				
W18	W	18	26Q	ORN				
W19	W	19	63P	BLK				
W20	W	20	63P	GRN				
W21	W	21	63P	WHT				
W22	W	22	71Q	BLK				
W23	W	23	71Q	GRN				
W24	W	24	71Q	WHT				

WIRE CODE	DESTINATION FROM		TO		TO		WIRE SIZE	SUB
W37	W	37	RTD-1	RED			10	
W38	W	38	RTD-1	GRN				
W39	W	39	RTD-1	BLU				
W40	W	40	RTD-1	YEL				
W41	W	41	RTD-2	RED				
W42	W	42	RTD-2	GRN				
W43	W	43	RTD-2	BLU				
W44	W	44	RTD-2	YEL				
W45	W	45	RTD-3	RED				
W46	W	46	RTD-3	GRN				
W47	W	47	RTD-3	BLU				
W48	W	48	RTD-3	YEL				
W49	W	49	RTD-4	RED				
W50	W	50	RTD-4	GRN				
W51	W	51	RTD-4	BLU				
W52	W	52	RTD-4	YEL				
W53	W	53	RTD-5	RED				
W54	W	54	RTD-5	GRN				
W55	W	55	RTD-5	BLU				
W56	W	56	RTD-5	YEL				
W57	W	57	RTD-6	RED				
W58	W	58	RTD-6	GRN				
W59	W	59	RTD-6	BLU				
W60	W	60	RTD-6	YEL				
W61	W	61	RTD-7	RED				
W62	W	62	RTD-7	GRN				
W63	W	63	RTD-7	BLU				
W64	W	64	RTD-7	YEL				
W65	W	65	RTD-8	RED				
W66	W	66	RTD-8	GRN				
W67	W	67	RTD-8	BLU				
W68	W	68	RTD-8	YEL				
W69	W	69	RTD-9	RED				
W70	W	70	RTD-9	GRN				
W71	W	71	RTD-9	BLU				
W72	W	72	RTD-9	YEL				

WIRE CODE	DESTINATION FROM		TO		TO		WIRE SIZE	SUB
X12	CBA-1	1	H-1	WHT			10	
X13	H-1	BLK	RTD-1	WHT				
X14	CBA-1	5	RTD-1	BLK				
X15	CBA-2	1	H-2	WHT				
X16	H-2	BLK	RTD-2	WHT				
X17	CBA-2	5	RTD-2	BLK				
X18	CBA-3	1	H-3	WHT				
X19	H-3	BLK	RTD-3	WHT				
X20	CBA-3	5	RTD-3	BLK				
X21	CBA-4	1	H-4	WHT				
X22	H-4	BLK	RTD-4	WHT				
X23	CBA-4	6	RTD-4	BLK				
X24	CBA-5	1	H-5	WHT				
X25	H-5	BLK	RTD-5	WHT				
X26	CBA-5	6	RTD-5	BLK				
X27	CBA-6	1	H-6	WHT				
X28	H-6	BLK	RTD-6	WHT				
X29	CBA-6	6	RTD-6	BLK				
X30	CBA-7	1	H-7	WHT				
X31	H-7	BLK	RTD-7	WHT				
X32	CBA-7	6	RTD-7	BLK				
X33	CBA-8	1	H-8	WHT				
X34	H-8	BLK	RTD-8	WHT				
X35	CBA-8	6	RTD-8	BLK				
X36	CBA-9	1	H-9	WHT				
X37	H-9	BLK	RTD-9	WHT				
X38	CBA-9	6	RTD-9	BLK				

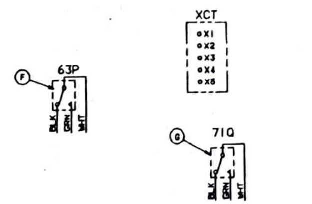


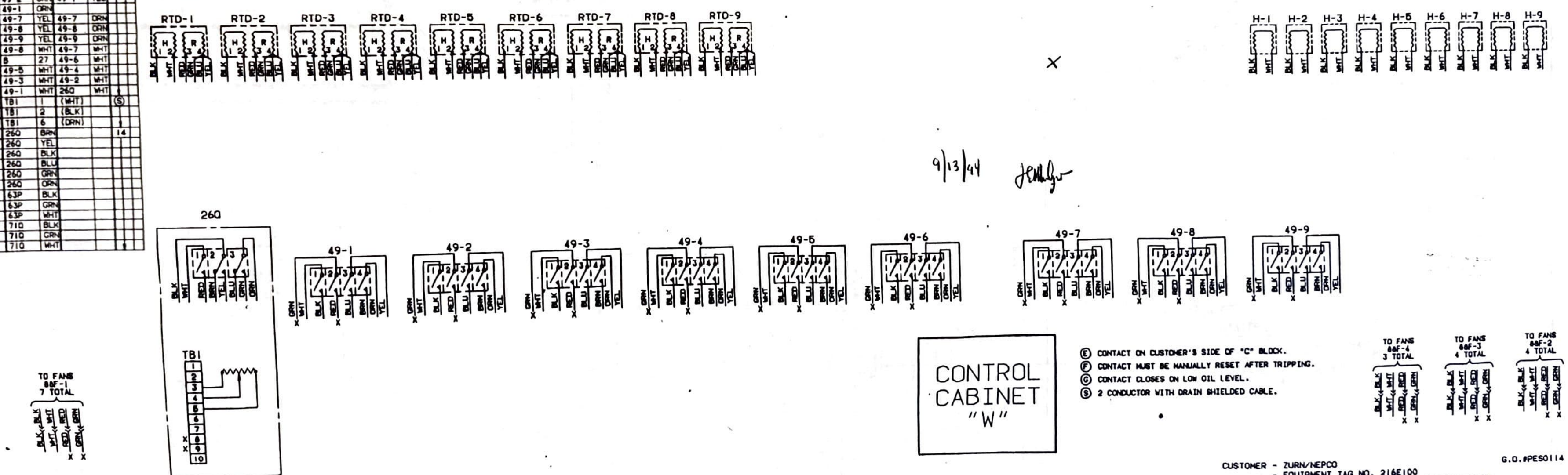
WIRE CONNECTIONS IN CONTROL CABINET "W"

WIRE CODE	DESTINATION FROM		TO		TO		WIRE SIZE	SUB
A1	A	1	B	28			14	
A2	B	4	A	2	E	11		
A2	LT	5	B	5	HTR-2	2		
A3	A	3	B	1				
A21	49TS-1	3	C	79	Ⓔ		10	
A22	49TS-1	2	C	81				
A24	49TS-2	3	C	85				
A25	49TS-2	2	C	87				
A27	49TS-3	3	C	91				
A28	49TS-3	2	C	93				
A30	49TS-4	3	C	97				
A31	49TS-4	2	C	99				
A33	49TS-5	3	C	103				
A34	49TS-5	2	C	105				
A36	49TS-6	3	C	109				

WIRE CODE	DESTINATION FROM		TO		TO		WIRE SIZE	SUB
A37	49TS-6	2	C	111	Ⓔ		10	
A39	49TS-7	3	C	116				
A40	49TS-7	2	C	119				
A42	49TS-8	3	C	122				
A43	49TS-8	2	C	125				
A45	49TS-9	3	C	128				
A46	49TS-9	2	C	131				
B2	B	2	LTS	1			14	
B3	B	3	HTR-1	1				
B29	B	29	E	1				
B30	B	30	E	4				
W1	E	12	W	1	B	7		
W2	W	2	B	26				
W7	W	7	A	7				
W8	W	8	A	8				

WIRE CODE	DESTINATION FROM		TO		TO		WIRE SIZE	SUB
W9	W	9	A	9			14	
W10	W	10	A	10				
W11	W	11	A	11				
W12	W	12	A	12				
W25	W	25	A	4				
W26	W	26	A	5				
W27	W	27	A	6				
W28	W	28	B	13				
W29	W	29	B	14				
W30	W	30	B	15				
W31	W	31	B	16				
W32	W	32	B	17				
W33	W	33	B	18				
W34	W	34	B	19				
W35	W	35	B	20				
W36	W	36	B	21				
X10	LTS	2	LT	5				
X11	HTR-1	2	HTR-2	1				
GRD1	GRD	1	B	4				
GRD2	GRD	2	PNL-B	PGR				
GRD3	GRD	3	W	6				
GRD4	GRD	4	CBA-1	6			10	
GRD5	GRD	4	CBA-2	6				
GRD6	GRD	5	CBA-3	6				
GRD7	GRD	5	CBA-4	5				
GRD8	GRD	6	CBA-5	5				
GRD9	GRD	6	CBA-6	5				
GRD10	GRD	7	CBA-7	5				
GRD11	GRD	8	CBA-8	5				
GRD12	GRD	8	CBA-4	5				





9/13/94 [signature]

Ⓔ CONTACT ON CUSTOMER'S SIDE OF "C" BLOCK.
Ⓕ CONTACT MUST BE MANUALLY RESET AFTER TRIPPING.
Ⓖ CONTACT CLOSES ON LOW OIL LEVEL.
Ⓢ 2 CONDUCTOR WITH DRAIN SHIELDED CABLE.

CUSTOMER - ZURN/NEPCO
- EQUIPMENT TAG NO. 216E100
- ZURN/NEPCO ORANGE COGENERATION FACILITY
- CONTRACT NO. 2055, FILE NO. 208.1, P.O. NO. 550114

G.O.#PES0114

REF. SCHEM.WIR.DIAGRAM LNL9182-04,SHT 1 & 2,CONN.WIR.DIAGRAM LNL9182-05,SHT.1

WIRE - 62111BY
TERMINALS - AMP PRE-INSULATED RING TONGUE
CODE MARKERS - ADHESIVE

CHARTS OF THE WIRE CONNECTIONS ADJOIN THE PHYSICAL LAYOUT OF THE PANEL, COMPARTMENT, OR GENERAL AREA TO WHICH THEIR LISTING APPLY.

WIRE CODE NO'S. CORRESPOND TO THOSE APPEARING ON THE SCHEMATIC DIAGRAM.

"X" PLACED AT THE DEVICE TERMINAL INDICATES AN UNUSED TERMINAL.

EXPLANATION

SCHEMATIC | DEVICE | TERM.NO.

PRINTS TO				
1		10	A	
2	A	11		
3		12		
4		13		
5	A	14		
6		15		
7		16	A	
8		17		
9		18		

TOOL REF DWG
ENGRG REF DWG
REF BK SEC
BOOK# | APPROVED

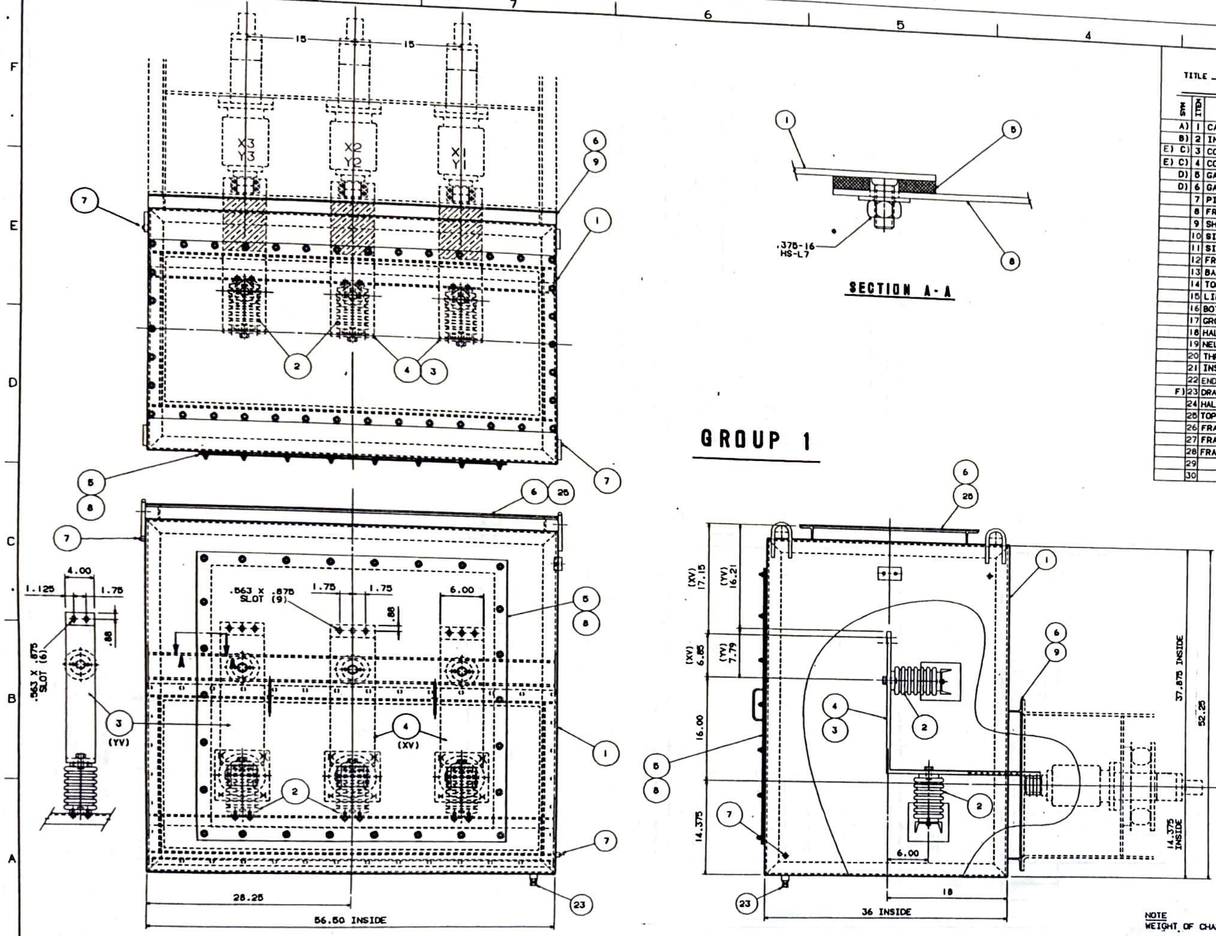
ABB POWER T&D COMPANY INC.

APPARATUS OA/FA TRANSFORMER
CONNECTION WIRING DIAGRAM
DIMENSIONS IN INCHES-SCALE NTS | REV 1
DFTR: J.S.WELCH | 03-28-94 | APPD
CHKD: | APPD
CHKD: | APPD:

LNL9182-05
SHEET 2 OF 2 SHEETS
MEDIUM POWER TRANSFORMER DIVISION | ST.LOUIS,MO.

THIS DWG. TO BE CHANGED ON GRAPHICS SYSTEM ONLY

LNL9182-05 | I
S.O. LNL9182
D LNL9182-29
IT. CHANGE



TITLE LV AIR FILLED TERMINAL CHAMBER 110 KV - TOP ENTRANCE

FIN CHT 2320493 DFTR ED. JASPER

SYM	ITEM	DESC	SIZE AND MATERIALS	MAT. CODE DRAWING	ITEM GR.	1	2	3	4	5	6	7	8	9	10	ROUTING	DEL TO
A)	1	CASE															
B)	2	INSULATOR		LNL9182-96	G02	1											
E) C)	3	CONNECTOR	.625" X 4" FLEX COPPER (YV)			6											
E) C)	4	CONNECTOR	.500" X 6" FLEX COPPER (XV)			REF											
D)	5	GASKET	(FRONT COVER)			REF											
D)	6	GASKET	(TOP ENTRANCE FLANGE)	761C438A-2-F		1											
	7	PIPE PLUG	(.25 IN. BRASS)	761C438A-2-F		2											
	8	FRONT COVER		713108PK03		2											
	9	SHIP. COVER		234D826	G06	1											
	10	SIDE WALL	52.25 X 36 X .13 TK S PLT	234D826	H28	1											
	11	SIDE WALL	52.25 X 36 X .13 TK S PLT	10101BC8HP			1										
	12	FRONT WALL	56.50 X 52.25 X .13 TK S PLT	10101BC8HP			1										
	13	BACK WALL	56.50 X 52.25 X .13 TK S PLT	10101BC8HP			1										
	14	TOP WALL	56.50 X 36.13 X .13 TK S PLT	10101BC8HP			1										
	15	LIFT. LOOP	10.00 OF .50 DIA. STL ROD	10101BC8HP			1										
	16	BOTTM WALL	56.50 X 36 X .13 TK S PLT	10105AK5EG			4										
	17	GROUND PAD		10101BC8HP			1										
	18	HALF COUPL.	(.25 IN.)	575A959	G01		2										
	19	NELS. STUD	(.375-16 X 1.125)	71310E8503			2										
	20	THROAT		2320377	G21		26										
	21	INSUL. SUPT	56.0 OF 4" CHANNEL @ 5.4#/FT.	234D826	G05		2										
	22	END PLATE	6" X 6" X .25" TK. STL. PLT.	10109AA			2										
F)	23	DRAIN/BRTHR	.5 DRAIN C-H #ECD18 S S	10110AU0J9			4										
	24	HALF COUPL	.5 INCH			1											
	25	TOP COVER	51.75 X 26.75 X .25TK. SL.PT.	575A317	H03		1										
	26	FRAME	56.5 OF .25 X 2 X 2 ST. ANGLE	10110AU0J9		1											
	27	FRAME	52.25 OF .25 X 2 X 2 ST. ANGLE				4										
	28	FRAME	36.0 OF .25 X 2 X 2 ST. ANGLE				4										
	29						4										
	30																

COMPONENT CODE

A) FINISH; PER. LP83689 XA-XG ADDENDUM STD00X.
B) LAPP CATALOG NO. 48938-70.
C) REMOVE FOR SHIPMENT.
D) GASKETS (ITEM 5 & 6) TO BE CEMENTED TO TERMINAL CHAMBER.
E) ORDER ON 78 DRAWING.
F) CROUSE HINDS CATALOG #ECD18, COMBINATION DRAIN BREATHER.

9/13/94

NOTE:
XV & YV AIR TERMINAL CHAMBERS ARE SIMILAR EXCEPT FOR ITEMS NO. 3 & 4 FLEX CONNECTOR.
ITEM NO. 3 FOR YV.
ITEM NO. 4 FOR XV.

NOTE
WEIGHT OF CHAMBER 1350 LBS. CASE ONLY.

LNL9182-96

S O LNL9182
D LNL9182-09

IT.	CHANGE
	1
	2
23	BALLOON 23 WAS - BALLOON 27
4	REV. FLEX CONNECTOR PER CUSTOMER'S RETURNED APPROVAL DWG'S. 4/21/94
3	WAS N.M.SL. SUPT.
21	WAS 2 X 2 X.25 STL. ANG.
22	WAS 2 X 2 X.25 STL. ANG.
25	ADDED TO DWG. ADDED XV & YV NOTE. ED. JASPER 5/02/94 G. DEL FRATTE 5/02/94
	3
26 27 28	ADDED ANGLE FRAME .25 X 2 X 2 TO CASE ED. JASPER 5/16/94 G. DEL FRATTE 5/16/94

PRINTS TO: TOOL REF DWG; ENGRG REF DWG

REF BK SEC — BOOK# — APPROVED

ABB POWER T&D COMPANY INC.

APPARATUS XV & YV AIR FILLED TERMINAL CHAMBER 110 KV - TOP ENTRANCE

DIMENSIONS IN INCHES-SCALE NTS — SUB 3

DFTR ED. JASPER 03/26/94 — APPD G. DELFRATTE 03/26/94

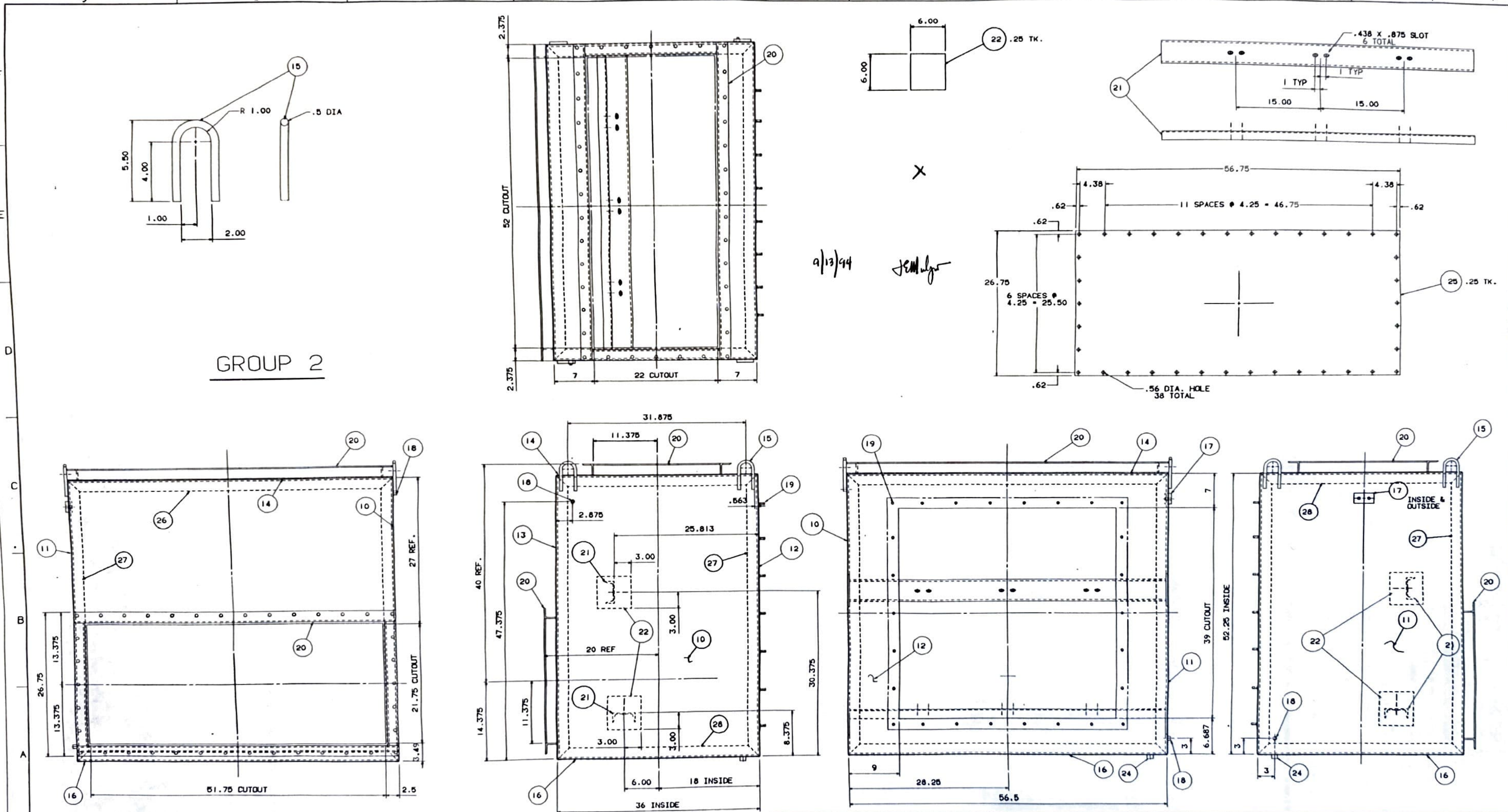
L.O. — APPD

CHKD R. NIENI 03/26/94 — APPD

POWER TRANSFORMER DIVISION — MUNCIE, IN./ ST.LOUIS, MO.

LNL9182-96 SHEET 1 OF 2 SHEETS

THIS DWG. TO BE CHANGED ON GRAPHICS SYSTEM ONLY



LNL9182-96	
S D LNL9182	1
D LNL9182-09	
IT. CHANGE	2

24 BALLOON 24 IN SIDE VIEW WAS BALLOON 27
21 WAS 2 X 2 X .25 STL. ANG.
22 WAS 2 X 2 X .25 STL. ANG.
25 ADDED TO DWG.
ED. JASPER 5/02/94
G. DEL FRATTE 5/02/94

3

26 27 28 ADDED ANGLE FRAME .25 X 2 X 2 TO CASE
ED. JASPER 5/16/94
G. DEL FRATTE 5/16/94

9/13/94

PRINTS TO				
1		10		
2	A	11		
3		12		
4		13		
5	A	14		
6		15		
7		16	A	
8		17		
9		18		

TOOL REF DWG
ENGRG REF DWG
REF BK SEC
BOOK# APPROVED

ABB POWER T&D COMPANY INC.

APPARATUS LV AIR FILLED TERMINAL CHAMBER
110 KV - TOP ENTRANCE

DIMENSIONS IN INCHES-SCALE NTS				SUB 3
DFTR ED. JASPER	03/26/94	APPD G. DELFRATTE	03/26/94	**LNL 9182-96**
L.O.		APPD		SHEET 2 OF 2 SHEETS
CHKD R. NIEMI	03/26/94	APPD		

POWER TRANSFORMER DIVISION — MUNCIE, IN./ ST.LOUIS, MO.

THIS DWG. TO BE CHANGED ON GRAPHICS SYSTEM ONLY

COMMENT=SCMI4

ABB

ASEA BROWN BOVERI

ABB POWER T & D COMPANY INC.

THREE PHASE
60 HERTZ
TYPE SL
GSU TRANSFORMER
CLASS OA/FA
INSULDUR INSULATION

WINDING	55° C. AVG. RISE	65° C. AVG. RISE
72500GRD.Y/41860 VOLTS	76000/101330 KVA	85120/113450 KVA
13800 VOLTS	33000/44000 KVA	36960/49240 KVA
13800 VOLTS	43000/57330 KVA	48160/64210 KVA

L-SPEC LNL9182-08
WIRING DIAGRAM LNL9182-04

SERIAL

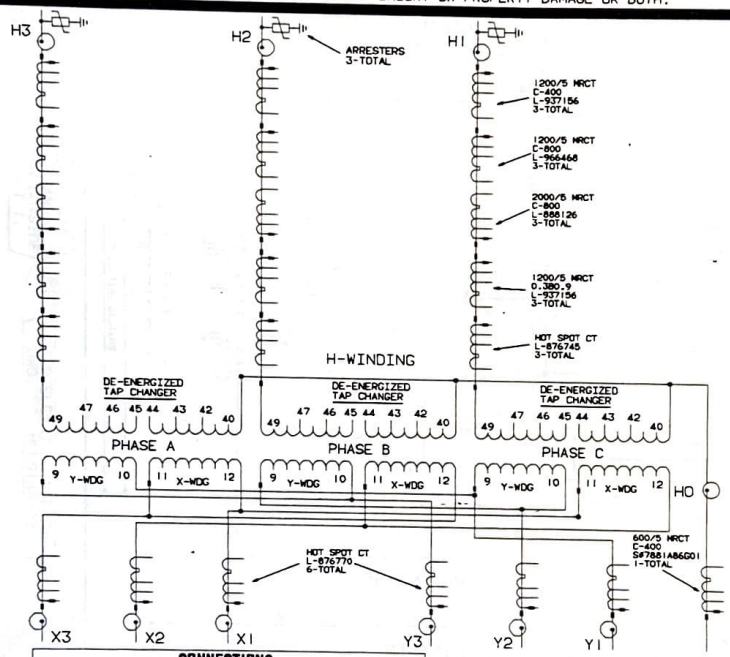
GALLONS OIL; TRANS. TANK

IMPEDANCE	13.07	% AT 33000 KVA. 72500 TO 13800(Y) VOLTS
IMPEDANCE	17.18	% AT 43000 KVA. 72500 TO 13800(X) VOLTS
IMPEDANCE	24.23	% AT 33000 KVA. 13800(X) TO 13800(Y) VOLTS

FULL WAVE IMPULSE TEST LEVEL: H-WDG. 350 KV, X-WDG. 110 KV, Y-WDG. 110 KV, HO NEUTRAL AND BUSHING 110 KV.

APPROX. WEIGHT IN LBS. CORE AND COILS | CASE | OIL | TOTAL

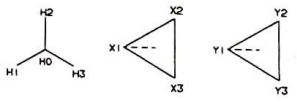
CAUTION : DO NOT ATTEMPT TO HANDLE, INSTALL, USE OR SERVICE THIS TRANSFORMER BEFORE READING INSTRUCTION BOOK LNL9182-12. TO DO SO MAY LEAD TO BODILY INJURY OR PROPERTY DAMAGE OR BOTH.



CONNECTIONS

WINDING	VOLTAGE	AMPERES AT 113450 KVA	DE-ENERGIZED TAP CHANGER POS.	DE-ENERGIZED TAP CHANGER CONNECTS IN EACH PHASE
H.V. GRD. WYE	76125	860	1	44 TO 45
	74310	881	2	43 TO 45
	72500	903	3	43 TO 46
	70690	927	4	42 TO 46
	68875	951	5	42 TO 47
Y.V. DELTA	13800	AMPERES AT 49240 KVA 2062		
X.V. DELTA	13800	AMPERES AT 64210 KVA 2687		

PHASOR DIAGRAM:



THE 25°C LIQUID LEVEL IS 14.50 INCHES BELOW TOP OF HIGHEST MANHOLE FLANGE. LIQUID LEVEL CHANGES 1.02 INCHES FOR EACH 10°C CHANGE IN AVERAGE LIQUID TEMPERATURE.

THE TRANSFORMER MUST NOT BE ENERGIZED FROM ANY VOLTAGE SOURCE WHEN DE-ENERGIZED TAP CHANGERS ARE OPERATED.

THE HIGH VOLTAGE WINDING NEUTRAL MUST BE PERMANENTLY GROUNDED EITHER DIRECTLY OR THROUGH A LOW IMPEDANCE. IF AN IMPEDANCE IS PLACED IN THE GROUND CIRCUIT, THE VOLTAGE FROM NEUTRAL TO GROUND DURING A FAULT MUST NOT EXCEED 15000 VOLTS.

THE TRANSFORMER IS DESIGNED FOR OPERATION BETWEEN PRESSURE LIMITS OF 6.5 POUNDS PER SQUARE INCH POSITIVE AND 6.5 POUNDS PER SQUARE INCH NEGATIVE.

THE TRANSFORMER TANK IS DESIGNED TO WITHSTAND COMPLETE VACUUM AND AN INTERNAL PRESSURE OF 10 POUNDS PER SQUARE INCH.

CONDUCTOR MATERIALS H.V. CU., X.V. CU., Y.V. CU. UNTANKING WEIGHT (HEAVIEST PIECE) 152650 LBS.

MADE IN U.S.A. MFG. DATE NP# LNL9182-10 SUB C

.032 STAINLESS STEEL #6240-SATIN FINISH-ETCHED-FILLED WITH BLACK ENAMEL.
REDUCE TO 7-1/2 IN.X 15 IN. 1/4 IN. HOLE (4 TOTAL)
PROPORTION 2:1 14-7/16 IN. BETWEEN CENTERS OF HOLES ON LONG EDGE OF PLATE.
ASSEMB. SEC. ST.LOUIS 6-15/16 IN. BETWEEN CENTERS OF HOLES ON SHORT EDGE OF PLATE.

SUB											
B	LNL9182 CHANGED HV-CT'S PER CUSTOMER. ADDED T.V. TO CONDUCTOR MATERIALS.		C	LNL9182 ADDED IMPEDANCE TO NAMEPLATE.							
	N.P.DRAFT.	F.T. GROSS	DATE 5-23-94	N.P.DRAFT.	ED. JASPER	DATE 6-30-94	N.P.DRAFT.		DATE	N.P.DRAFT.	DATE
	CHKD.			CHKD.			CHKD.			CHKD.	
	ENGINEER	RAJ BEKHAR	5-23-94	ENGINEER	RAJ BEKHAR	6-30-94	ENGINEER			ENGINEER	

LNL9182-10 | A | LNL9182-09 | B

PRINTS TO: 1 10 A; 2 A 11; 3 12; 4 13; 5 A 14; 6 15; 7 16 A; 8 17; 9 18

TOOL REF: DWG; ENGRG REF: DWG

REF BK SEC | BOOK# | APPROVED

ABB POWER T&D COMPANY INC.

APPARATUS TRANSFORMER
INSTRUCTION NAMEPLATE

DIMENSIONS IN INCHES-SCALE NTS | SUB C

DFTR F.T. GROSS 3/15/94 APPD RAJ BEKHAR 3/16/94

CHKD R. NIEMI 3/15/94 APPD

POWER TRANSFORMER DIVISION | MUNCIE,IN./ ST. LOUIS, MO

LNL9182-10

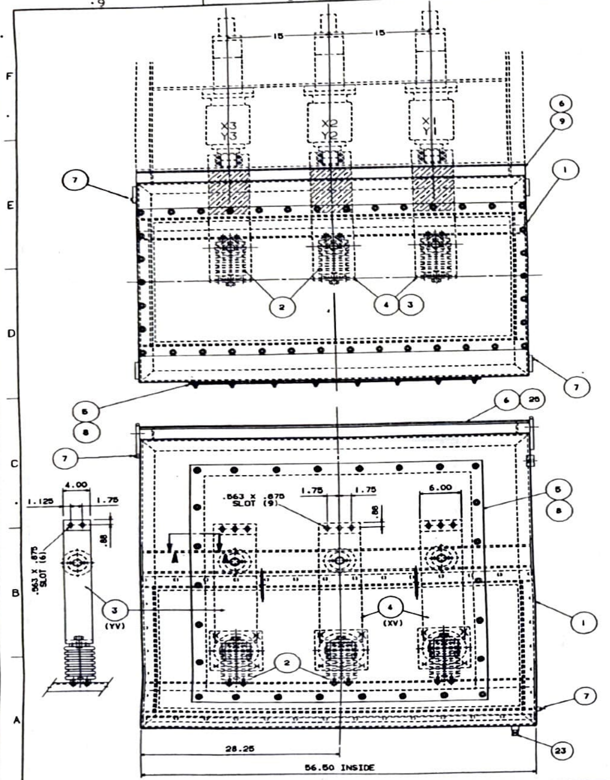
SYM	ITEM	DESC	SIZE AND MATERIALS	MAT. CODE DRAWING	ITEM GR.	GR	1	2	3	4	5	6	7	8	9	10	ROUTING	DEL TO
A)	1	CASE		LNL9182-96	G02		1											
B)	2	INSULATOR					6											
E) C)	3	CONNECTOR	.625" X 4" FLEX COPPER (YV)				REF											
E) C)	4	CONNECTOR	.500" X 6" FLEX COPPER (XV)				REF											
D)	5	GASKET	(FRONT COVER)	761C438A-2-P			1											
D)	6	GASKET	(TOP ENTRANCE FLANGE)	761C438A-2-P			2											
	7	PIPE PLUG	(.25 IN. BRASS)	713108PK03			2											
	8	FRONT COVER		234D826	G06		1											
	9	SHIP. COVER		234D826	H28		1											
	10	SIDE WALL	52.25 X 36 X .13 TK S PLT	10101BCBHP				1										
	11	SIDE WALL	52.25 X 36 X .13 TK S PLT	10101BCBHP				1										
	12	FRONT WALL	56.50 X 52.25 X .13 TK S PLT	10101BCBHP				1										
	13	BACK WALL	56.50 X 52.25 X .13 TK S PLT	10101BCBHP				1										
	14	TOP WALL	56.50 X 36.13 X .13 TK S PLT	10101BCBHP				1										
	15	LIFT. LOOP	10.00 OF .50 DIA. STL ROD	10105AK5EG				4										
	16	BOTTM WALL	56.50 X 36 X .13 TK S PLT	10101BCBHP				1										
	17	GROUND PAD		575A959	G01			2										
	18	HALF COUPL.	(.25 IN.)	71310EB503				2										
	19	NELS. STUD	(.375-16 X 1.125)	232D377	G21			26										
	20	THROAT		234D826	G05			2										
	21	INSUL. SUPT	56.0 OF 4" CHANNEL @ 5.4#/FT.	10109AA				2										
	22	END PLATE	6" X 6" X .25" TK. STL. PLT.	10110AU0J9				4										
F)	23	DRAIN/BRTHR	.5 DRAIN C-H #ECD18 S S					1										
	24	HALF COUPL	.5 INCH	578A317	H03			1										
	25	TOP COVER	61.75 X 26.75 X .25TK. SL.PT.	10110AU0J9				1										
	26	FRAME	56.5 OF .25 X 2 X 2 ST. ANGLE					4										
	27	FRAME	52.25 OF .25 X 2 X 2 ST. ANGLE					4										
	28	FRAME	36.0 OF .25 X 2 X 2 ST. ANGLE					4										
	29																	
	30																	

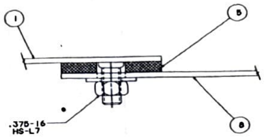
TITLE LV AIR FILLED TERMINAL CHAMBER 110 KV - TOP ENTRANCE

FIN CHT 232D493 DFTR ED. JASPER

COMPONENT CODE

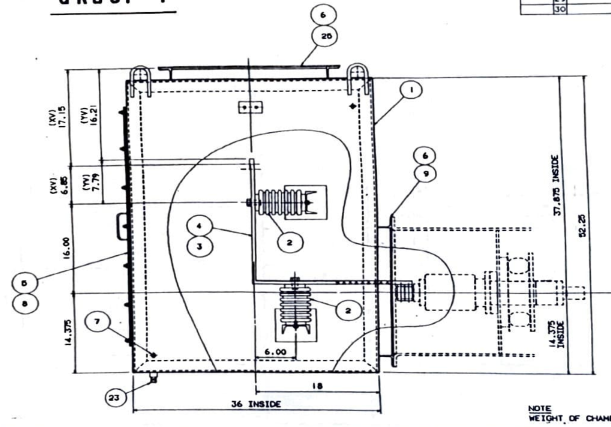
A) FINISH, PER. LP83689 XA-XG ADDENDUM STD00X.
B) LAPP CATALOG NO. 48938-70.
C) REMOVE FOR SHIPMENT.
D) GASKETS (ITEM 5 & 6) TO BE CEMENTED TO TERMINAL CHAMBER.
E) ORDER ON 78 DRAWING.
F) CROUSE HINDS CATALOG #ECD18, COMBINATION DRAIN BREATHER.





SECTION A-A

GROUP 1



9/13/94

NOTE:
XV & YV AIR TERMINAL CHAMBERS ARE SIMILAR EXCEPT FOR ITEMS NO. 3 & 4 FLEX CONNECTOR. ITEM NO. 3 FOR YV. ITEM NO. 4 FOR XV.

NOTE
WEIGHT OF CHAMBER 1350 LBS. CASE ONLY.

LNL9182-96

S O LNL9182
D LNL9182-09

IT.	CHANGE
	1
	2
23	BALLOON 23 WAS - BALLOON 27
4	REV. FLEX CONNECTOR PER CUSTOMER'S RETURNED APPROVAL DWG'S. 4/21/94
3	WAS N.M.SL. SUPT.
21	WAS 2 X 2 X.25 STL. ANG.
22	WAS 2 X 2 X.25 STL. ANG.
25	ADDED TO DWG.
	ADDED XV & YV NOTE.
	ED. JASPER 5/02/94
	G. DEL FRATTE 5/02/94
	3
26 27 28	ADDED ANGLE FRAME .25 X 2 X 2 TO CASE
	ED. JASPER 5/16/94
	G. DEL FRATTE 5/16/94

PRINTS TO			
1		10	
2	A	11	
3		12	
4		13	
5	A	14	
6		15	
7		16	A
8		17	
9		18	

TOOL REF DWG
ENGRG REF DWG
REF BK SEC
BOOK# | APPROVED

ABB POWER T&D COMPANY INC.

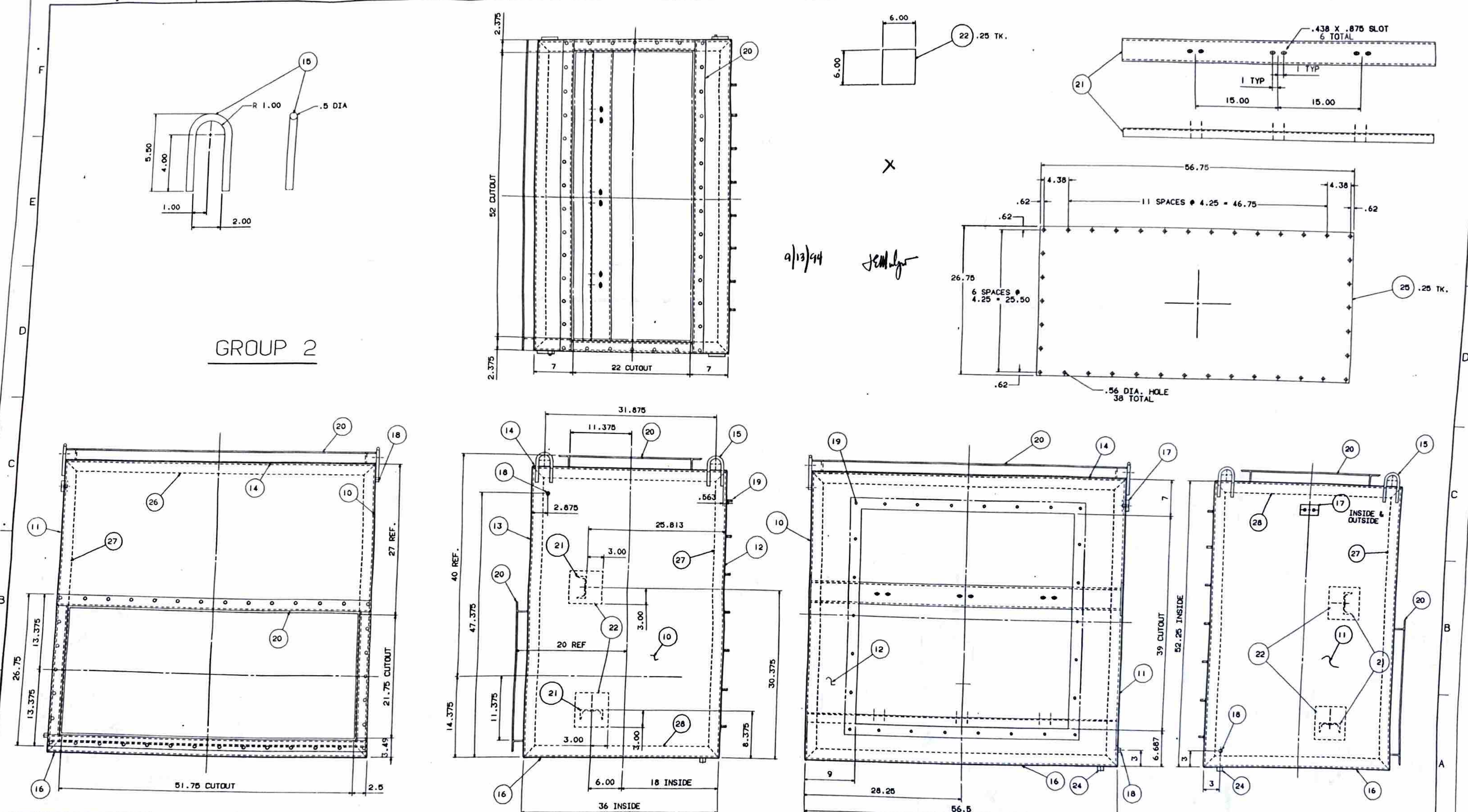
APPARATUS XV & YV AIR FILLED TERMINAL CHAMBER 110 KV - TOP ENTRANCE

DIMENSIONS IN INCHES-SCALE NTS				SUB 3
DFTR ED. JASPER	03/26/94	APPD G. DELFRATTE	03/26/94	
L.O.		APPD		
CHKD R. NIEMI	03/26/94	APPD		

LNL 9182-96
SHEET 1 OF 2 SHEETS

POWER TRANSFORMER DIVISION MUNCIE, IN./ ST.LOUIS, MO.

THIS DWG. TO BE CHANGED ON GRAPHICS SYSTEM ONLY



LNL9182-96

IT.	CHANGE	
S O	LNL9182	1
D	LNL9182-09	
		2
24	BALLOON 24 IN SIDE VIEW WAS BALLOON 27	
21	WAS 2 X 2 X .25 STL. ANG.	
22	WAS 2 X 2 X .25 STL. ANG.	
25	ADDED TO DWG. ED. JASPER 5/02/94 G. DEL FRATTE 5/02/94	
		3
26 27 28	ADDED ANGLE FRAME .25 X 2 X 2 TO CASE ED. JASPER 5/16/94 G. DEL FRATTE 5/16/94	

PRINTS TO				
1		10		
2	A	11		
3		12		
4		13		
5	A	14		
6		15		
7		16	A	
8		17		
9		18		

TOOL REF DWG
ENGRG REF DWG
REF BK SEC
BOOK# | APPROVED

ABB POWER T&D COMPANY INC.

APPARATUS LV AIR FILLED TERMINAL CHAMBER
110 KV - TOP ENTRANCE

DIMENSIONS IN INCHES-SCALE NTS				SUB 3
DFTR ED. JASPER	03/26/94	APPD G. DELFRATTE	03/26/94	**LNL 9182-96** SHEET 2 OF 2 SHEETS
L.O.		APPD		
CHKD R. NIEMI	03/26/94	APPD		
POWER TRANSFORMER DIVISION				MUNCIE, IN./ ST.LOUIS, MO.

THIS DWG. TO BE CHANGED ON GRAPHICS SYSTEM ONLY