BROWNSVILLE
PUBLIC UTILITIES BOARD

Date: February 16, 2023
To: All Vendors
Subject: Addendum #2

REFERENCE: **B 024-23 SUBSTATION POWER TRANSFORMER FIELD SERVICE**

This Addendum forms part of the contract and clarifies, corrects or modifies the original bid document. Brownsville PUB needs an additional work at the Filter Plant Substation, see scope of service attached.

Question 1: Does Brownsville expect bidders to include the price of a full LTC contact kit in bid price, or is Brownsville expecting the bidders to inspect, report and recommend corrective actions for a future bid/maintenance?

Answer 1: As per page 66 in the Scope of Services, Brownsville PUB is requesting bidders inspect, report and recommend corrective actions. If the gassing problem can be fixed by replacing the kit, then as OPTIONAL/ADDITIONAL costs, please include the price of the LTC kit and labor costs to replace/repair the kit.

Question 2: Since liquidated damages are referenced, please confirm that bidders will not be held responsible for issues with the LTC that cannot be fixed onsite without additional parts/materials, outside of replacing contacts, since the actual source of problem cannot be confirmed until inspection is completed.

Answer 2: As per page 13, liquidated damages apply if the contractor fails to commence work based upon the Notice to Proceed, and for each consecutive calendar day thereafter.

Question 3: What is the allowable duration of outage for each unit in this bid?

Answer 3: Brownsville PUB anticipates 2-3 days outage for each transformer, however, the outages will be planned/confirmed with the BPUB awarded vendor for these jobs. Note: both transformers are currently de-energized and will remain de-energized until the issues are resolved.

Question 4: No electrical testing is referenced in scope. Is any electrical testing required after inspection/repair?

Answer 4: Yes, electrical testing is expected after repairs are made (Doble, Excitation Current, TTR).

Question 5: Brownsville PUB is requesting "to replace any gaskets if needed," however, it is a broad statement. Re-gasketing can significantly extended scheduled allotment, so it is important

for bidders to know what gaskets are known to be leaking in advance. Please clarify what their expectation is exactly when they say "replace any gaskets if needed" – do you perhaps mean only the gaskets disturbed for openings accessed in the performance of the work scope?

Answer 5: Brownsville PUB expects the awarded Vendor to repair/replace any gaskets that the vendor may damage in the process of opening the transformers for inspection.

Question 6: Because this bid must be mailed, and cannot be sent electronically, and question deadline is not until the 17th, this does not allow enough time after questions are answered to finalize bid and mail out. Can the bid be extended by at least a week, please?

Answer 6: Yes, bid is extended as follows:

NEW SUBMISSION DATE & TIME: March 1, 2023 by 5:00 PM
NEW OPENING DATE & TIME: March 2, 2023 at 10:30 AM

Complete the attached Cost Sheet – "Additional Material" along with the original cost sheet provided when submitting bid response.

DO NOT FILL PRICING WHEN ACKNOWLEDGING RECEIPT OF THIS ADDENDUM.

The signature of the company agent, for the acknowledgement of this addendum, shall be required. **Complete information below and return via e-mail to: hlopez@brownsville-pub.com or e-fax (956) 574-6109.**

I hereby acknowledge receipt of this addendum.

Company: _____

Agent Name: _____

Agent Signature: _____

Address: _____

City: _____ **State:** _____ **Zip:**_____

Phone Number: _____ **E-mail address:**_____

If you have any further questions about the Bid, call 956-983-6375.

Hugo E. Lopez

BY: Hugo E. Lopez
Purchasing

REVISED BID SCHEDULE
BASE BID – B024-23
BROWNSVILLE PUBLIC UTILITIES BOARD

To: Public Utilities Board, Brownsville, Texas (hereinafter called the "Owner".)

Attention: Diane Solitaire
Purchasing Department
1155 FM 511,
Olmito, TX 78575

1. The undersigned (hereinafter called the "Bidder") hereby proposes to furnish and deliver services for
Substation Power Transformers Field Services. (hereinafter called the "Service") described in the Scope of Work attached hereto and made a part hereof for the following prices:

See Technical Specifications in page 64

Item	Substation	Qty.	Estimated Timeframe [days]	Investigation Cost	Repair Service Cost	Oil Samples Cost	Extended Cost (1)
1	Airport (LTC)	1					
2	South Plant (main tank)	1					
3	Filter Plant Substation	1					
4	Mobilization	1					
(1) Includes all items in the Scope of Work					**Total Cost Line Items 1-4 =**		

TOTAL AMOUNT OF BID (ITEMS 1-4): $_____

_____

(written in words)

Does the vendor have any comments, clarifications, or exceptions in the Service Contract?
____Yes ____No. If yes, please provide details in a separate attachment.

Does the vendor have any comments, clarifications, or exceptions in the scope of work?
____ Yes ____No. If yes, please provide details in a separate attachment.

2. The Owner is exempt from Texas sales tax on materials. The prices quoted shall exclude such sales and use tax.

Such service shall be made within _____days after the receipt of the purchase order of

SCOPE OF SERVICES – FILTER PLANT

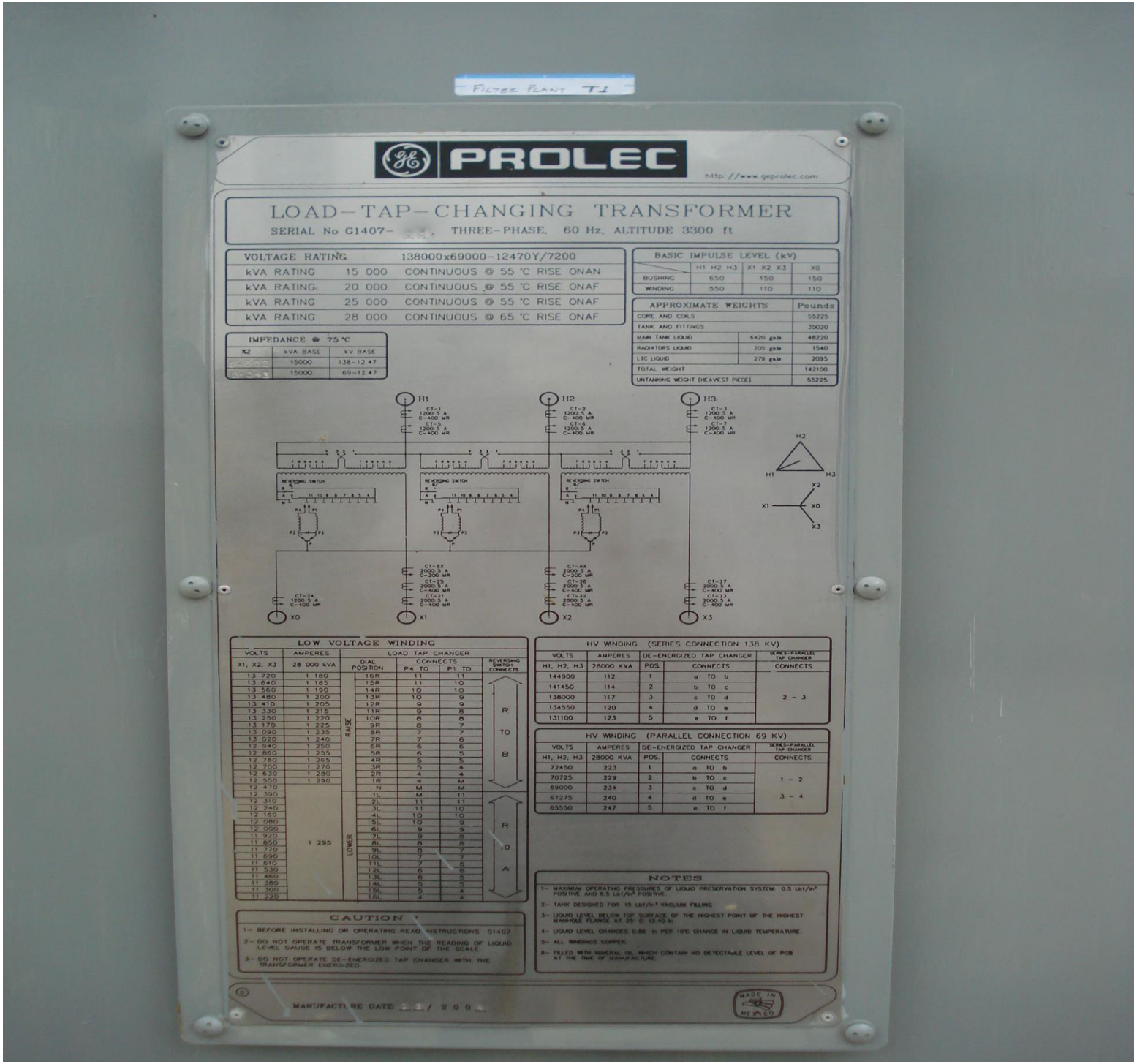
To replace gaskets for one 25 KV bushing (X0) on a 138 – 12.47/7.2 KV transformer at Filter Plant Substation, located at 1495 Robinhood Dr, Brownsville, TX. 78521.

Bushing info: Serial #: 1ZUA7C10696001; Manufacturer: ABB; Type: O+C; Rated KV: 25 KV; Rated Amps: 2000 amps; BIL: 150 KV.

Transformer Info: Manufacturer: GE-Prolec; Voltage Rating: 138x69 – 12.47/7.2 KV.

Perform electrical tests on the transformer after work is done (Doble, Excitation Current, TTR, Bushings C1 & C2 (High and Low side)).

FILTER PLANT SUBSTATION



GE PROLEC

http://www.geprolec.com

LOAD-TAP-CHANGING TRANSFORMER

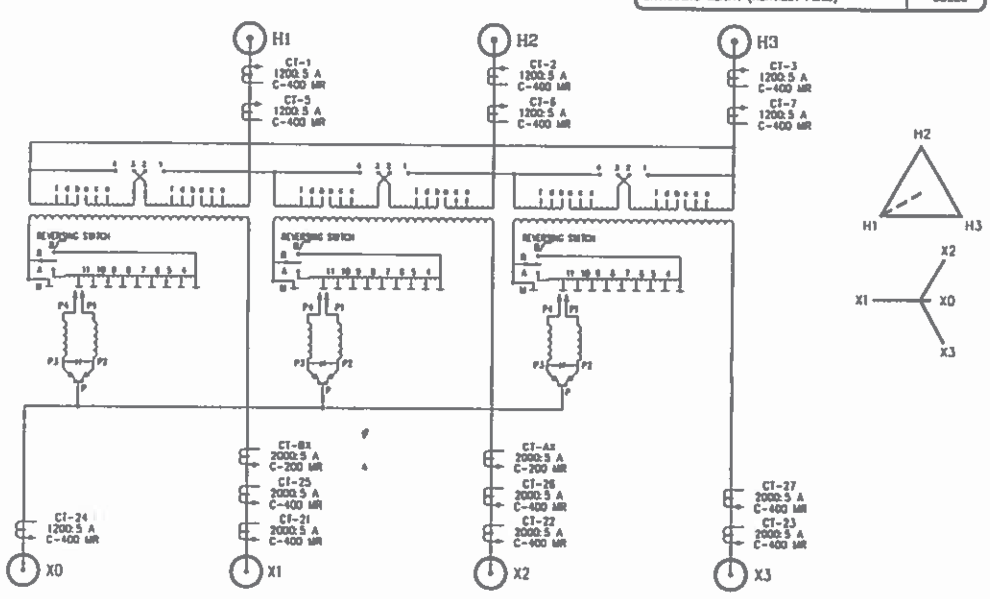
SERIAL No G1407- __ . THREE-PHASE, 60 Hz, ALTITUDE 3300 ft

VOLTAGE RATING		138000x69000-12470Y/7200
kVA RATING	15 000	CONTINUOUS @ 55 °C RISE ONAN
kVA RATING	20 000	CONTINUOUS @ 55 °C RISE ONAF
kVA RATING	25 000	CONTINUOUS @ 55 °C RISE ONAF
kVA RATING	28 000	CONTINUOUS @ 65 °C RISE ONAF

BASIC IMPULSE LEVEL (kV)	H1 H2 H3	X1 X2 X3	X0
BUSHING	650	150	150
WINDING	550	110	110

APPROXIMATE WEIGHTS		Pounds
CORE AND COILS		55225
TANK AND FITTINGS		35020
MAIN TANK LIQUID	6420 gals	48220
RADIATORS LIQUID	205 gals	1540
LTC LIQUID	279 gals	2095
TOTAL WEIGHT		142100
UNTANKING WEIGHT (HEAVIEST PIECE)		55225

IMPEDANCE @ 75 °C		
%Z	kVA BASE	kV BASE
	15000	138-12.47
	15000	69-12.47



LOW VOLTAGE WINDING

VOLTS X1, X2, X3	AMPERES 28 000 kVA		DIAL POSITION	CONNECTS P4 TO	CONNECTS P1 TO	REVERSING SWITCH CONNECTS
13 720	1 180	RAISE	16R	11	11	R TO B
13 640	1 185		15R	11	10	
13 560	1 190		14R	10	10	
13 480	1 200		13R	10	9	
13 410	1 205		12R	9	9	
13 330	1 215		11R	9	8	
13 250	1 220		10R	8	8	
13 170	1 225		9R	8	7	
13 090	1 235		8R	7	7	
13 020	1 240		7R	7	6	
12 940	1 250		6R	6	6	
12 860	1 255		5R	6	5	
12 780	1 265		4R	5	5	
12 700	1 270		3R	5	4	
12 630	1 280		2R	4	4	
12 550	1 290		1R	4	M	
12 470	1 295		N	M	M	
12 390		LOWER	1L	M	11	R TO A
12 310			2L	11	11	
12 240			3L	11	10	
12 160			4L	10	10	
12 080			5L	10	9	
12 000			6L	9	9	
11 920			7L	9	8	
11 850			8L	8	8	
11 770			9L	8	7	
11 690			10L	7	7	
11 610			11L	7	6	
11 530			12L	6	6	
11 460			13L	6	5	
11 380			14L	5	5	
11 300			15L	5	4	
11 220			16L	4	4	

HV WINDING (SERIES CONNECTION 138 KV)

VOLTS H1, H2, H3	AMPERES 28000 KVA	DE-ENERGIZED TAP CHANGER POS.	DE-ENERGIZED TAP CHANGER CONNECTS	SERIES-PARALLEL TAP CHANGER CONNECTS
144900	112	1	a TO b	2 - 3
141450	114	2	b TO c	
138000	117	3	c TO d	
134550	120	4	d TO e	
131100	123	5	e TO f	

HV WINDING (PARALLEL CONNECTION 69 KV)

VOLTS H1, H2, H3	AMPERES 28000 KVA	DE-ENERGIZED TAP CHANGER POS.	DE-ENERGIZED TAP CHANGER CONNECTS	SERIES-PARALLEL TAP CHANGER CONNECTS
72450	223	1	a TO b	1 - 2
70725	229	2	b TO c	3 - 4
69000	234	3	c TO d	
67275	240	4	d TO e	
65550	247	5	e TO f	

CAUTION !

1- BEFORE INSTALLING OR OPERATING READ INSTRUCTIONS G1407

2- DO NOT OPERATE TRANSFORMER WHEN THE READING OF LIQUID LEVEL GAUGE IS BELOW THE LOW POINT OF THE SCALE.

3- DO NOT OPERATE DE-ENERGIZED TAP CHANGER WITH THE TRANSFORMER ENERGIZED.

NOTES

1- MAXIMUM OPERATING PRESSURES OF LIQUID PRESERVATION SYSTEM: 0.5 Lb/in² POSITIVE AND 6.5 Lb/in² POSITIVE.

2- TANK DESIGNED FOR 15 Lb/in² VACUUM FILLING

3- LIQUID LEVEL BELOW TOP SURFACE OF THE HIGHEST POINT OF THE HIGHEST MANHOLE FLANGE AT 25° C: 12.40 in

4- LIQUID LEVEL CHANGES: 0.86 in PER 10°C CHANGE IN LIQUID TEMPERATURE.

5- ALL WINDINGS COPPER.

6- FILLED WITH MINERAL OIL WHICH CONTAIN NO DETECTABLE LEVEL OF PCB AT THE TIME OF MANUFACTURE.

MANUFACTURE DATE: __/ 2 0 __

MADE IN MEXICO

TRANSFORMER DESIGNED FOR NOMINAL IMPEDANCE VOLTS OF 9.50 % AT 15 000 kVA THE ACTUAL MEASURED IMPEDANCE VALUE WILL BE SHOWN ON THE NAMEPLATE.

MATERIAL: STAINLESS STEEL
DIMENSIONS: 24" x 12"

PS

CERTIFIED FINAL DRAWING PROLEC ENGINEERING DEPARTMENT

BUSH SUPPLY CO.
P.O. # 65151670
CONTRACT NUMBER: 65151670
GE REQ. # TD4-31905
GE PROLEC SERIAL N°: G1407-01

STEP DOWN TRANSFORMER
ONAN/ONAF/ONAF
15/20/25 (28 @65°C) MVA, 55/65°C, 60 HZ
THREE PHASE, 3300 FASL
69 x 138 kV Δ / 12.47 kV <

REV. 1	REV. 3
REV. 2	REV. 4

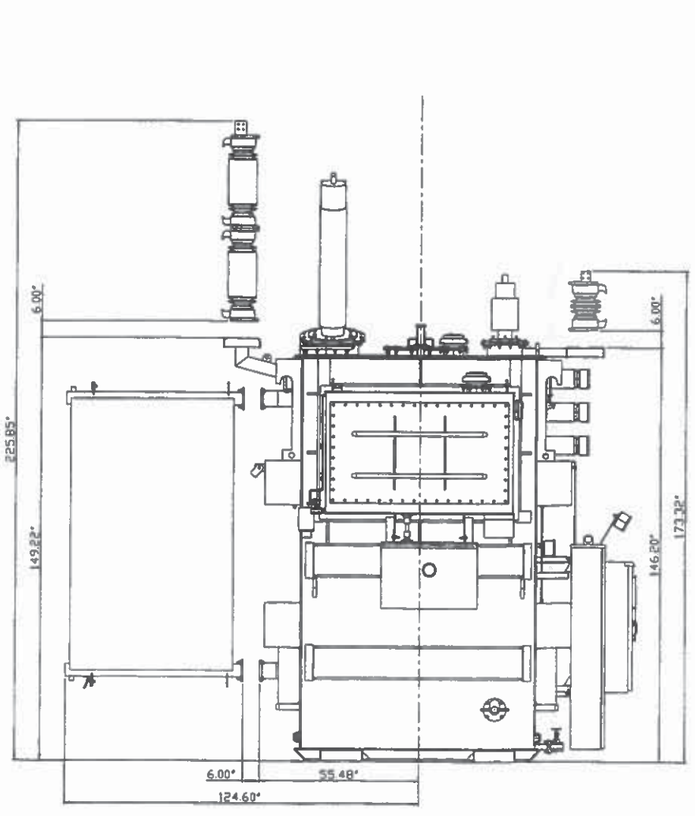
Drwn: MALE | Chkd: JMPE | Appd | Sheet: 1 of 1 | Rev: 0

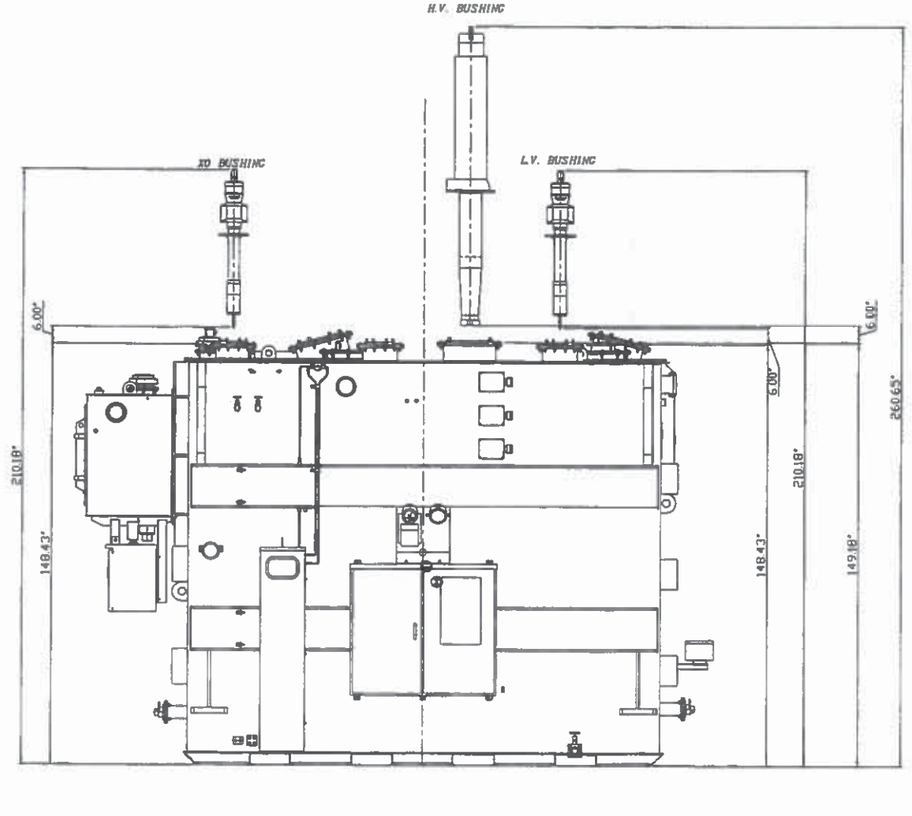
Title: NAMEPLATE

PROLEC

Third Angle Projection | Scale | Dimensions | Sec: 80

Drawing No. G140701D802





CERTIFIED FINAL DRAWING
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THREE PHASE, 3300 FASL
69 x 138 kV Δ / 12.47 kV Y

REV.		REV.	
1	LV SURGE ARRESTER HEIGHT ADD. MONTOYA	3	
2		4	

Drawn MONTOYA
Chkd
Appd
Sheet of 1
Rev.

Title: CLEARANCE & UNTANKING

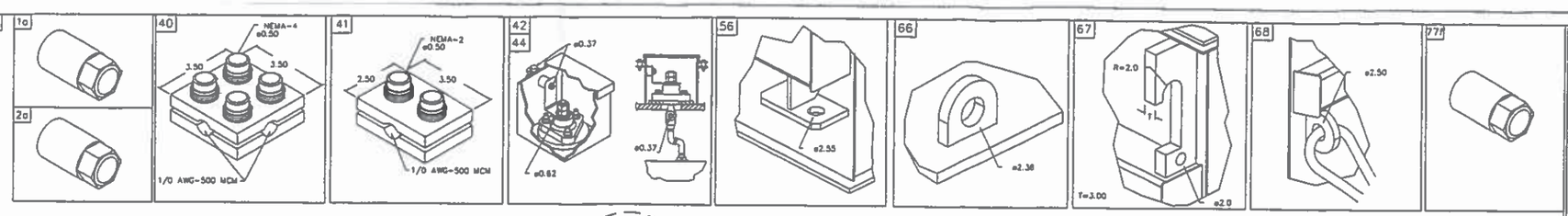
Third Angle Projection
Scale
Dimensions in IN

Sec 80

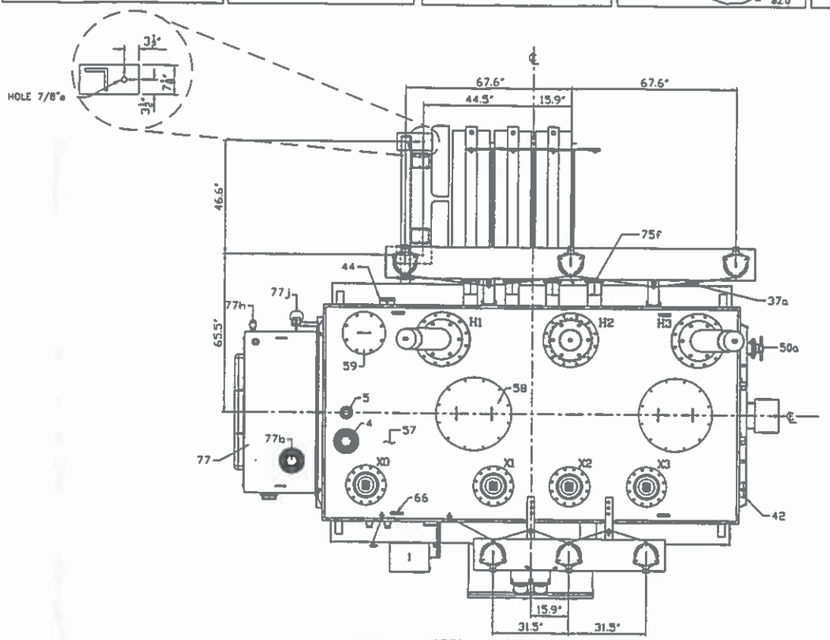
PROLEC

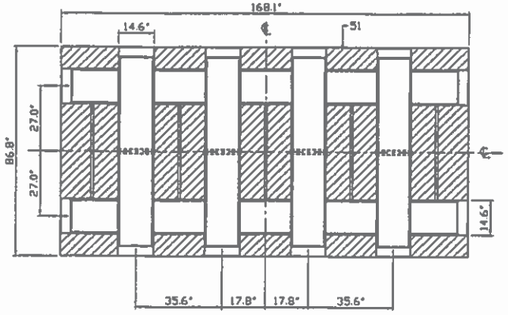
Drawing No G140701D805

http://www.geprolec.com

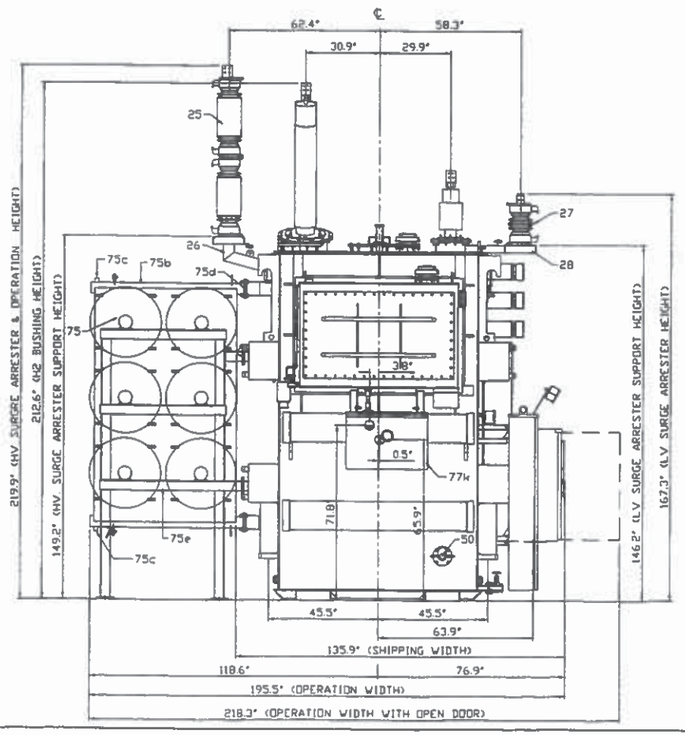


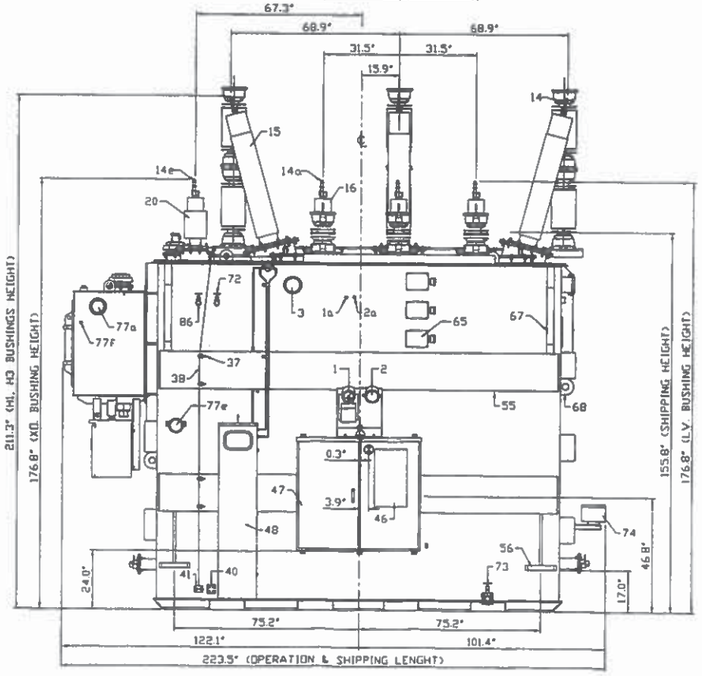
QTY	ITEM	DESCRIPTION
1	1	WINDING TEMPERATURE INDICATOR, WESSKO, MT-ST150WRM/TT/4C (49T-1)
1	1a	THERMO WELL WINDING TEMPERATURE INDICATOR
1	2	LIQUID TEMPERATURE INDICATOR, WESSKO MT-ST160RM (26Q-1)
1	2a	THERMO WELL LIQUID TEMPERATURE INDICATOR
1	3	MAGNETIC LIQUID LEVEL GAUGE, WESSKO MTO-ST160RM/2U/ (71Q-1)
1	4 -	PRESSURE RELIEF DEVICE, QUALITROL, LPRD00-00008306 (63PR-1)
1	5	RAPID PRESSURE RELAY, QUALITROL 910-014-05 (63FP-1)
* 3	14	H.V. BUSHING CONNECTOR, DELTA PM36C12-1-4M4-E
* 3	14a	L.V. BUSHING CONNECTOR, DELTA, PM60C12-1-M3-E
* 1	14e	NEUTRAL BUSHING XO CONNECTOR, DELTA, PM60C12-1-MJ-E
* 3	15	H.V. BUSHING, ABB 12UA138012-AAA-SEEABB
* 3	16	L.V. BUSHING, ABB 025W2000BE
* 1	20	NEUTRAL BUSHING XO, ABB 025W2000BE
* 3	25	H.V. SURGE-ARRESTERS, 9L11ZTC1085 GE
* 1	26	H.V. SURGE-ARRESTER SUPPORT
* 3	27	L.V. SURGE-ARRESTER, COOPER, AZES002G012015
* 1	28	L.V. SURGE-ARRESTER SUPPORT
* 14	37	GROUND CABLE CONNECTOR
* 1	37a	GROUND CABLE CONNECTOR (T)
* 3	38	GROUND CABLE 1/0 COPPER
2	40	GROUND PAD
2	41	GROUND PAD TO SURGE ARRESTERS
1	42	CORE GROUND BUSHING TERMINAL BOX (MAIN UNIT)
1	44	CORE GROUND BUSHING BOX (REACTOR UNIT)
1	46	NAMEPLATE
1	47	CONTROL CABINET
1	48	AUTOMATIC NITROGEN EQUIPMENT FOR OPERATION (63P-1)
1	50	DE-ENERGIZED TAP-CHANGER, ABB, DTUC
1	50a	DE-ENERGIZED TAP-CHANGER, ABB, DTUC (DUAL VOLTAGE)
1	51	BASE SKIDS (4 DIRECTION)
9	55	TANK BRACES
4	56	JACKING PADS AND PULLING EYES
1	57	MAIN COVER
2	58	INSPECTION MANHOLE (COVER) (25-1/4" ø)
1	59	INSPECTION HANDHOLE (COVER)
3	65	CT TERMINAL BOX
4	66	LIFTING EYE COVER ONLY
4	67	LIFTING LUGS COMPLETELY ASSEMBLED TRANSFORMER
4	68	SHIPPING LUGS
1	72	OIL FILLING VALVE (1" ø) GLOBE-TYPE
1	73	MAIN TANK DRAIN VALVE (2" ø) GLOBE-TYPE WITH SAMPLING DEVICE (3/8" ø) AND PLUG
1	74	IMPACT RECORDER FOR SHIPPING
* 6	75	COOLING FAN KRENZ, F28D-A9712, 1/3 HP, 1140 RPM, 240 VAC, 1 ø, 60 HZ, 7400 CFM, (88F-1A...2C)
* 3	75b	RADIATORS SUPPORTS AND BRACES
6	75c	RADIATOR VENT AND DRAIN PLUG (1" ø)
6	75d	RADIATOR VALVE FLAPPER-TYPE (5" ø)
* 1	75e	COOLING FAN SUPPORT.
2	75f	RADIATOR VALVE FLAPPER-TYPE (5" ø)
1	77	ON-LOAD TAP-CHANGER, MR RMV-II-1500-15
1	77a	LTC MAGNETIC LIQUID LEVEL GAUGE (71Q-2)
1	77b	LTC PRESSURE RELIEF DEVICE, QUALITROL, LPRD00-00008306 (63PR-4)
1	77e	LTC LIQUID TEMPERATURE INDICATOR, WESSKO MT-ST160RM (26Q-2)
1	77f	LTC THERMO-WELL LIQUID TEMPERATURE INDICATOR
1	77h	LTC DRAIN VALVE (1" ø) GLOBE-TYPE WITH SAMPLING DEVICE (3/8" ø) AND PLUG
* 1	77j	LTC SILICA-GEL BREATHER
1	77k	LTC MOTOR DRIVE CABINET
1	86	VACUUM VALVE (1" ø) GLOBE-TYPE





"BOTTOM VIEW"
THE HATCHED AREA REPRESENT THE BOTTOM OF THE TRANSFORMER, THIS AREA DOESN'T SIT ON THE FLOOR.





NOTES:
a) ITEMS REMOVED FOR SHIPMENT WITHOUT OIL ARE MARKED WITH (*).
b) NUMBERING IS ACCORDING WITH G.E. PROLEC STD. LIST.
c) TOTAL GALLONS OF OIL LOSS REQUIRED TO TRIP LOW OIL ALARM : 178 GLS
TRIP LOW LOW ALARM : 219 GLS
d) GALLONS OF OIL REQUIRED TO COVER CORE AND COIL : 5890 GLS
e) ITEM 50a BOARD CONNECTION FOR SHIPPING: 69 KV SEE DWG. G140701D802 TO CONNECTION

APPROXIMATE WEIGHTS	POUNDS
CORE AND COILS:	55225
TANK AND FITTINGS:	35020
MAIN TANK LIQUID (6420 GALS):	48220
RADIATORS LIQUID (205 GALS):	1540
LTC LIQUID (279 GALS)	2095
TOTAL MASS:	142100
UNTANKING MASS (HEAVIEST PIECE):	55225
SHIPPING MASS (WITHOUT OIL):	82680

OPERATION CENTER OF GRAVITY
SHIPPING CENTER OF GRAVITY

CERTIFIED FINAL DRAWING
PROLEC
ENGINEERING DEPARTMENT

BUSH SUPPLY CO.
P.O. # 65151670
CONTRACT NUMBER: 65151670
GE REQ. # TD4-31905
GE PROLEC SERIAL N° : G1407-01

STEP DOWN TRANSFORMER
ONAN/ONAF/ONAF
15/20/25 (28 @65°C) MVA, 55/65°C, 60 HZ
THREE PHASE, 3300 FASL
69 ± 138 kV Δ / 12.47 kV Y

TOLERANCES	
Centerline distance of not inclined bushings	±1/4"
Centerline distance of inclined bushings	+1" -5/8"
Bushings height (distance to floor)	±1/2"
Outlet of control cabinet distance	±1/4"
Hv & Lv bushings center line	±1/4"
Bushings & surge arrester center line	±1/4"
Surge arrester height (distance to floor)	±1/2"
Center tank distance to short side	±1/2"
Center tank distance to large side	±1/2"
Conservator height	±1/2"
Anchoring center line	±1/8"
Bracing base center line	±1/8"
Pattern distance	+1/16" -3/16"
Outline 0"-118"	±1"
Dimensions 118"-197"	±1 1/2"
197" & Above	±2"

REV.	
1	ITEM 58 HEIGHT CHANGE
2	ITEM 75e MODIFIED, ITEM 37a ADD
3	
4	

Dftm: Montoya
Chkd:
Appd:
Sheet: 1 of 1
Rev.: 2

TRANSFORMER'S OUTLINE

Third Angle Projection
Scale: 1 40
Dimensions in: IN
Sec 80
Drawing No. G140701D801

PROLEC