

SUBSTATION TRANSFORMER DRAWINGS 20/26.66/33.33/37.33 MVA, 230KV / 6.9KV

BY

SIEMENS ENERGY, INC.

FOR

TRANSCANADA PIPELINE LTD.

KXL PROJECT

FOX VALLEY PUMP STATION -
3 PUMP ARRANGEMENT

DRAWING LIST:

DRAWING NO.	REV.	DESCRIPTION
SEI-KXL-TXF-0138-FXVLY	4	TITLE SHEET
D-7936	6	NAME PLATE
D-7940	6	OUTLINE DIMENSIONS
D-8882	0	LV BOX CONNECTION
D-7928	5	ACCESSORIES ONE
D-7929	4	SCHEMATIC MOTOR DRIVE
D-7931	5	CONTROLS LAYOUT CONNECTIONS LEFT COMPARTMENT
D-7927	4	SCHEMATIC CONTROL COOLING
D-7930	1	AUTO CONTROL
D-7932	3	CONTROLS LAYOUT MOTOR DRIVE COMPARTMENT
D-7933	3	CONTROLS LAYOUT CONNECTIONS RIGHT COMPARTMENT
T230M0800UT	3	TYPE 0 Plus C, IEEE, CONDENSER BUSHING (230KV)
T015R000AN	1	TYPE A, IEEE, BULK BUSHING (15KV)
S00357-000	2	STATION CLASS SURGE ARRESTER, 217752-5001, 152KV MOV
B-10874	0	PLACA IDENTIFICACION TAG



25472-101-V1A-MPC0-W0077

05

Supplier Document Status

Code 1

Code 1 = Work may proceed.

Code 2 = Revise and resubmit. Work may proceed subject to resolution of indicated comments

Code 3 = Revise and resubmit. Work may not proceed.

Code 4 = Review not required. Work may proceed.

Permission to proceed does not constitute acceptance or approval of design details, calculations, analyses, test methods, or materials developed or selected by the Supplier and does not relieve the Supplier from full compliance with contractual obligations.

Responsible Engineer - Landry, Nicole

Date Signed - 3/26/2012 00:00:00

VP TL - VPTL-03639

Equipment No. - 126-FXVLY-B0-T-01

NOTES

THIS DRAWING SET PERTAINS TO THE FOLLOWING PUMP STATIONS:		
STA #	STATION NAME	EQUIPMENT TAG
PS-6	FOX VALLEY STA.	126-FXVLY-B0-T-01

REFERENCE DRAWINGS

SIEMENS	Siemens Energy Inc. Oil & Gas
TransCanada Pipeline	
Doc Number SEI-KXL-TXF-0138-FXVLY	
Release 4	
Issued by	Melinda Pitts

REV.	DATE	DESCRIPTION	BY	CHK	APP
4	12/03/12	Per cust. comments, add SA info	BW	MB	BW
3	12/02/01	Per customer comments	BW	MB	BW
2	11/04/06	Code2 comments, 12/15/2010 addressed	SUP	MB	BW
1	10/12/01	For approval	FW	MB	BW
0	10/11/01	For approval	FW	MB	BW

REVISION HISTORY

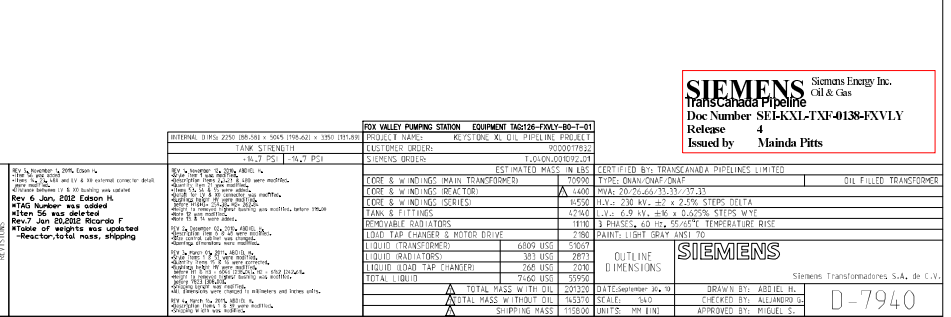
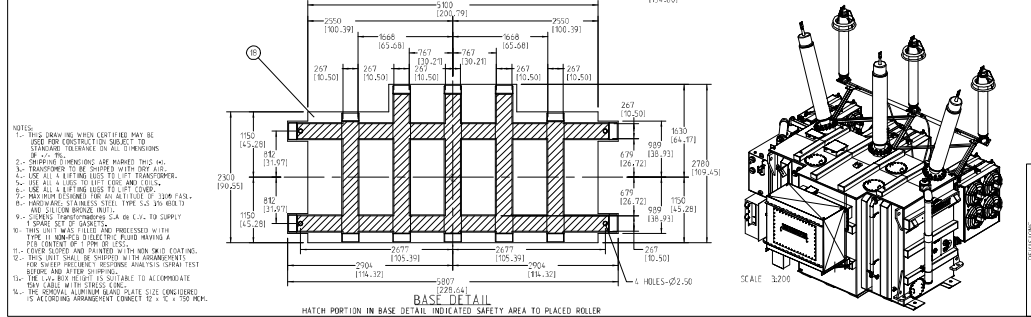
SIEMENS

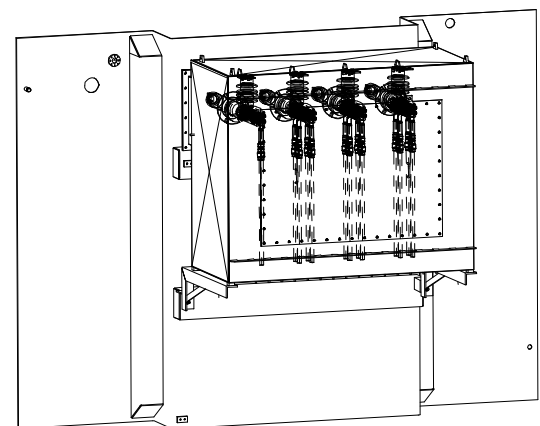
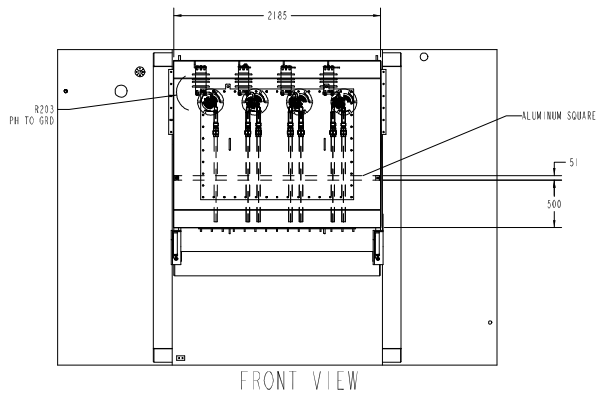
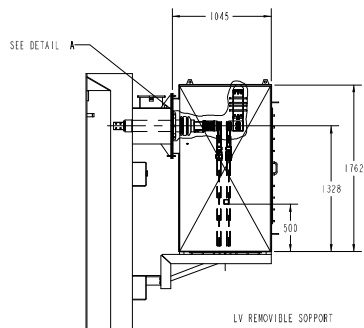
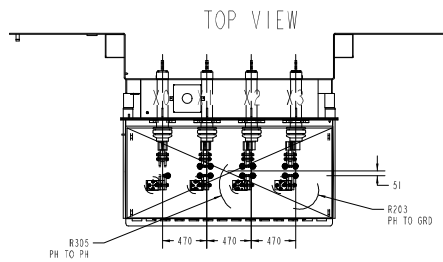
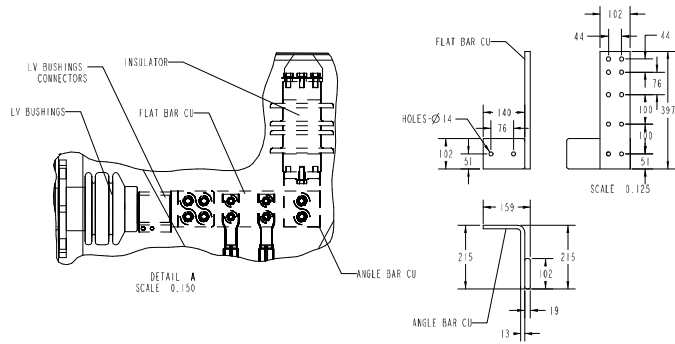
Siemens Energy, Inc. / Oil & Gas
15000 N. Barkers Landing Houston, TX 77079
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TITLE
SUBSTATION TRANSFORMER DRAWINGS

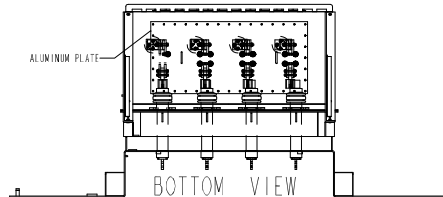
TITLE SHEET
FOX VALLEY PUMPING STATION PS-6

PROJECT TCPL KEYSTONE - KXL PROJECT		SCALE 1.0=1.0	
DRAWING NO. SEI-KXL-TXF-0138-FXVLY	SHT 1	OF 15	REV 4

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LEFT VIEW



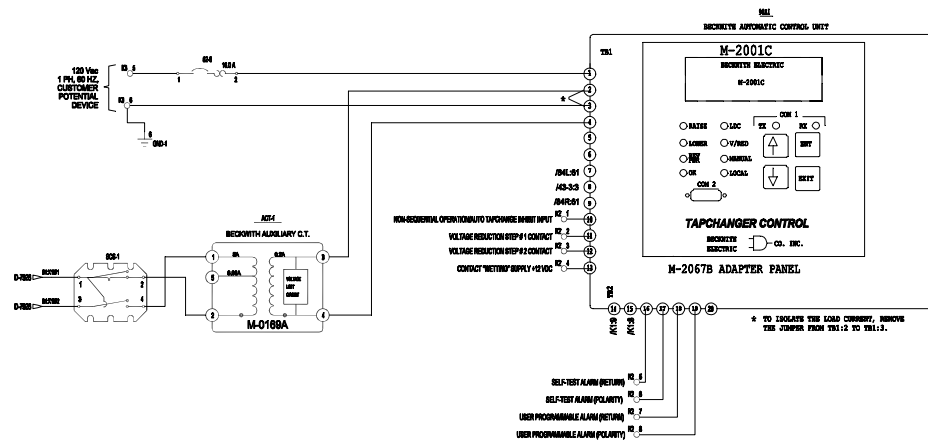
BOTTOM VIEW

P.O. 9000017832
TAG 126-FXVLY-B0-T-01 Fox Valley Unit 1092.01

SIEMENS Siemens Energy Inc.
Oil & Gas
TransCanada Pipeline
Doc Number: SELKXLT-XF-0138-FXVLY
Release 4
Issued by Maïnda Pitts

SIEMENS				
REVISIONS				
LV BOX CONNECTION				
REV	DATE	BY	CHKD	APPD
001	09-20-11	MAHDEKA		
002	03-01-12	D-8892		

DEVICE NUMBER	ACCESSORY	RATING	MODEL	MANUFACTURER
BGP-1	SWITCH	30 A	202-C	STATS
	SHORTING SWITCH W/TEST POINT			
ACT-1	BEZMATH	IN 6 A 8.88 - OUT 0.2 A, 5 VA		BECKWITH
	ALUMINUM CURRENT TRANSFORMER INPUT (6 A) 8.88 A OUTPUT (0.2 A) 5 VA			
WAT	RESISTOR	250 W	202-100W	BECKWITH
	CATHODE TAPCHANGER CONTROLLER (AUTO VOLTAGE REGULATION)			
ADDITION	Adapter Panel	M-2057B	M-2057B	BECKWITH
	ADAPTER PANEL M-2057B			
GRD-1	GROUND BAR	19 Helix Compression Clamp	D-08015	Silo
	GROUND BAR EXTRUDED COPPER (PLATE & UNFINISHED)			
K1-2	TERMINAL BLOCK	16-24	UT 8	PHOENIX CONTACT
	TERMINAL BLOCK (16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46, 48, 50, 52, 54, 56, 58, 60, 62, 64, 66, 68, 70, 72, 74, 76, 78, 80, 82, 84, 86, 88, 90, 92, 94, 96, 98, 100)			
BK-8	BREAKER	240 Volts, 80.0 A	8020117	SIEMENS
	1 POLE THERMAL MAGNETIC BREAKER, 10 kA @ 240 Volts 24 to 80 Volts			

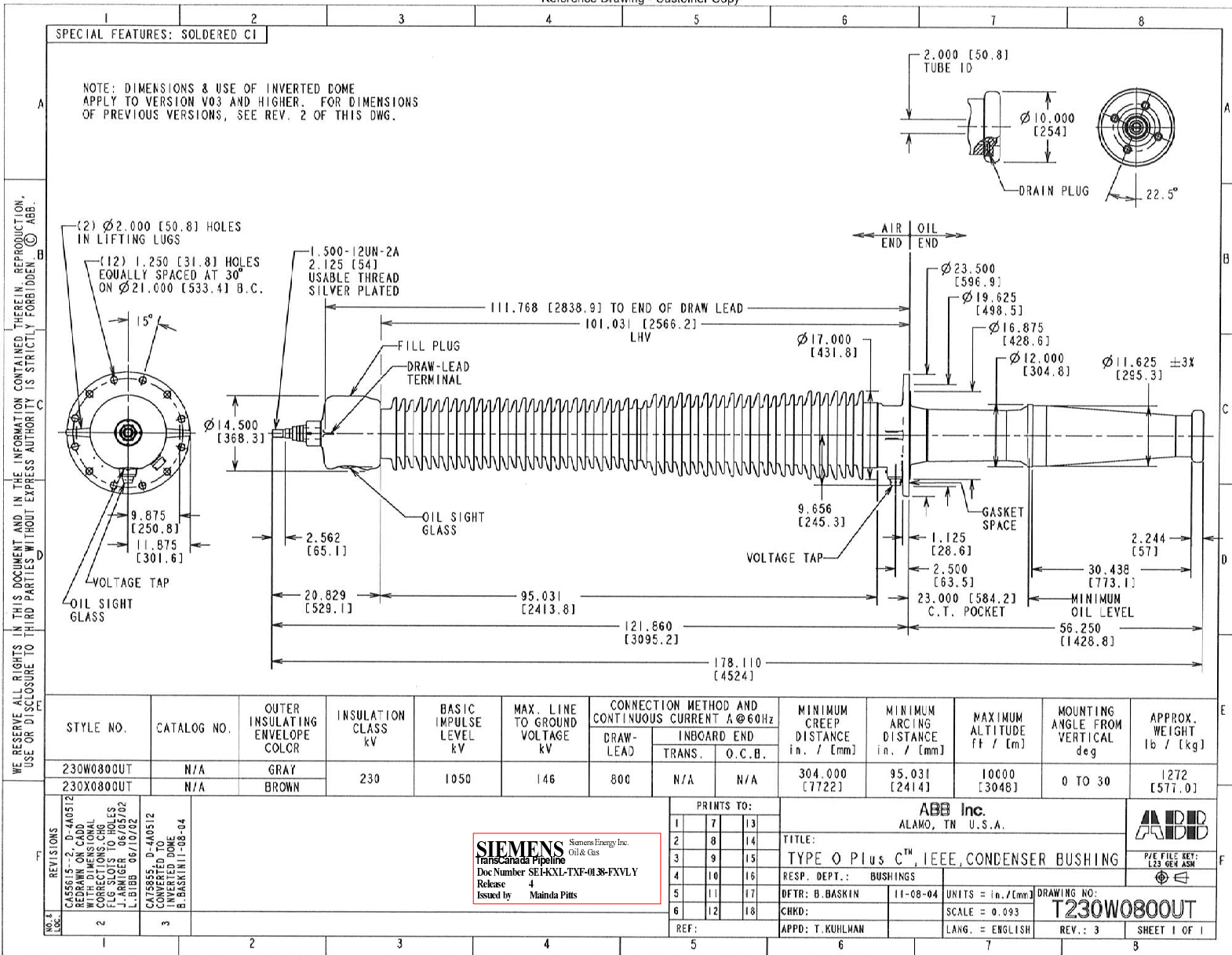


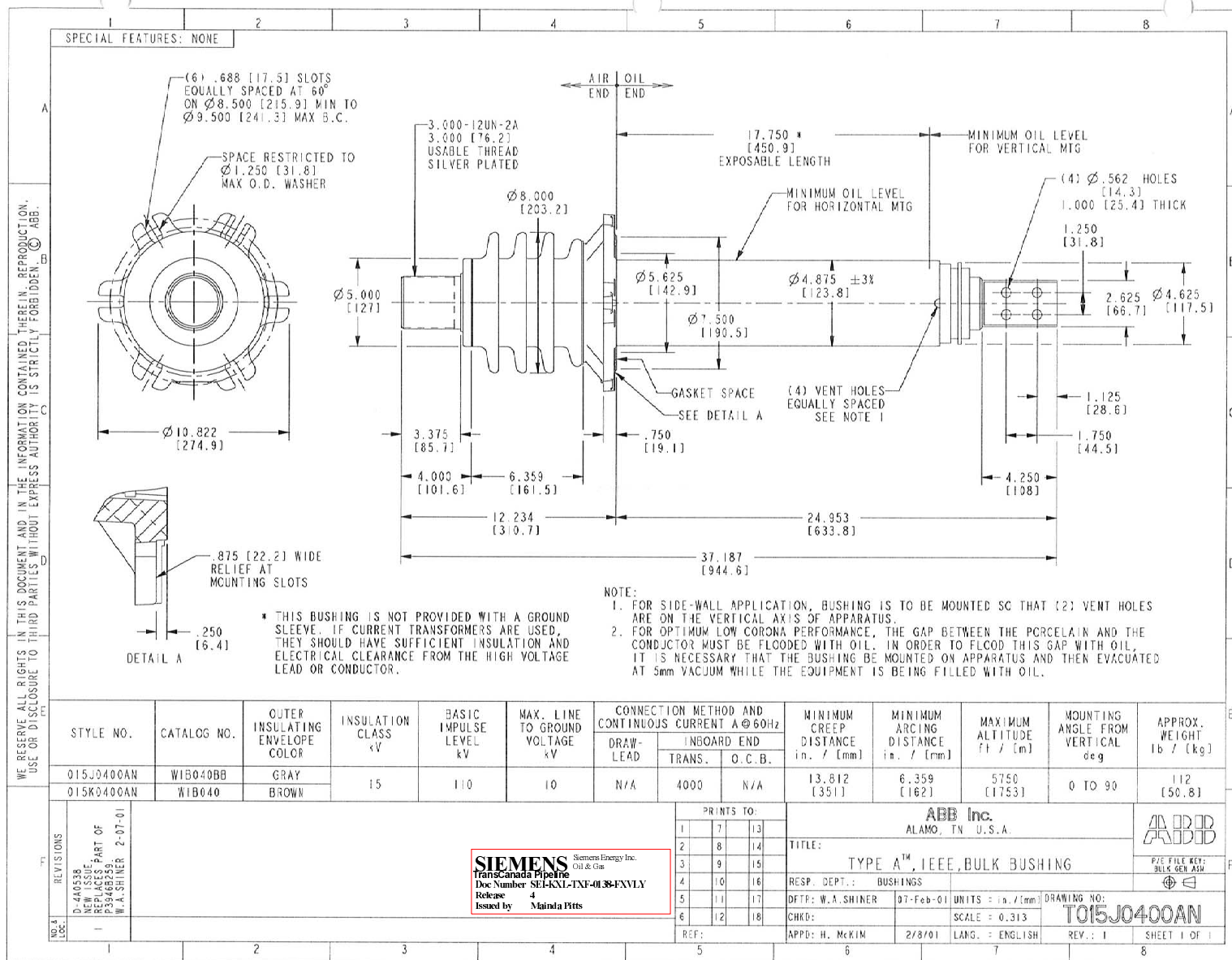
REFERENCE DWOR: D-7928,D-7929,D-7932,D-7933,D-7934

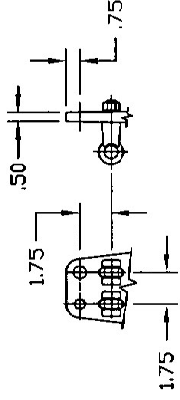
REV. 1
MODIFIED: INFORMATION IN THE
SQUARE.
NOV-12-10 IBAAC.

SIEMENS Siemens Energy Inc.
transCanada Pipeline Oil & Gas
Doc Number SEI-KXL-TXF-0138-FXVLY
Release 4
Issued by Mainda Pitts

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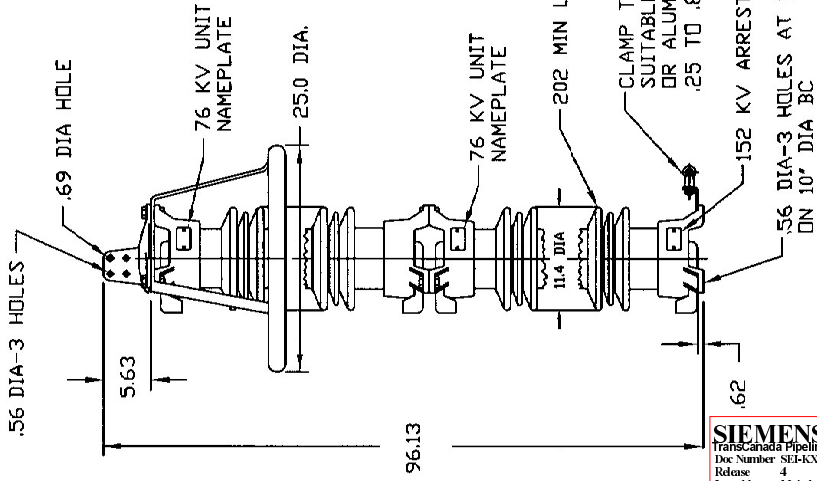






CAP DETAIL

CLAMP TYPE LINE TERMINALS SUITABLE FOR USE WITH COPPER OR ALUMINUM CONDUCTOR .25 TO .81 DIA



- NOTES:
- 1 ARRESTER PACKAGED FOR DOMESTIC SHIPMENT
 - 2 NET WEIGHT 479 LB
 - 3 MAXIMUM CONTINUOUS LINE TO GROUND OPERATING VOLTAGE, 152KV RMS
 - 4 DIMENSIONS SUBJECT TO $\pm 3\%$ TOLERANCE
 - 5 DUTY CYCLE VOLTAGE RATING 192 KV RMS

ANSI-70 GREY GLAZE
ALTITUDE TO 12,000 FT

SIEMENS
TransCanada Pipeline
Doc Number SEP-KXXL-INT-0138-FIN/LY
Release 4
Issued by Mainda Pitts

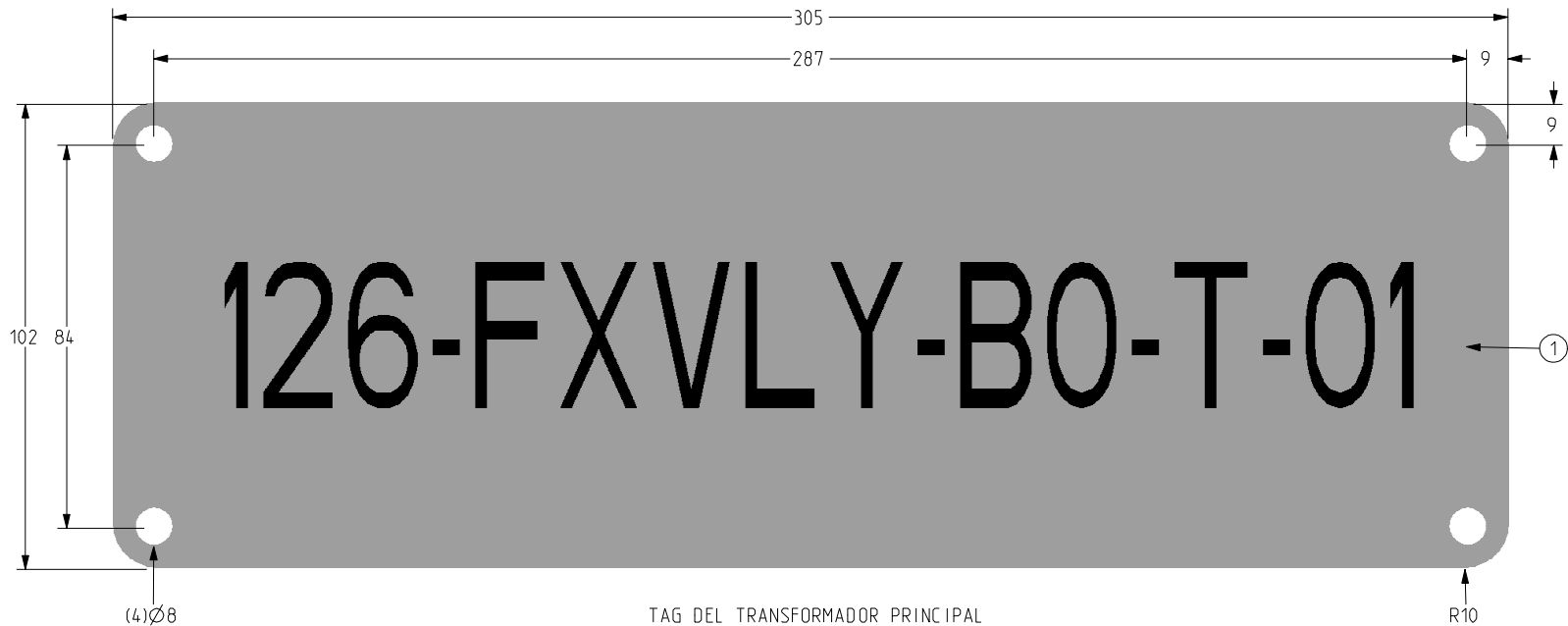
.5 μ SEC 10KA IR KV	1 KA SURGE IR KV	MAXIMUM 8/20 DISCHARGE VOLTAGE - KV AT					
		1.5 KA	3.0 KA	5 KA	10 KA	20 KA	40 KA
476	365	377	401	412	440	477	531

STATION CLASS SURGE ARRESTER	HUBBELL/THE OHIO BRASS CO. 8711 WADSWORTH ROAD, WADSWORTH, OHIO	
	PART NAME	SCALE
	VN 152KV MCOV 217752-5001	.06-1

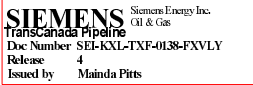
DESIGN DWL	DATE 10/06/93	DWG. NO.	REV. NO.
DRAWN JVR	DATE 08/08/98	S006367-00	02

Approved 08-14-1998

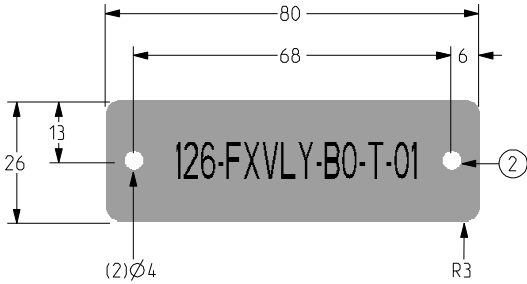
E	"ING,PER,MEC,ACC,ELE" Parte/Ensamble referencia para ingenieria solamente.			Parte
Cons	Part/Ens No	Material No	Parte/Material Description.	Ctd
1	NA	SS-316	STAINLESS STEEL (0.031") 0.787mm THK	1
2	NA	SS-316	STAINLESS STEEL (0.031") 0.787mm THK	1



TAG DEL TRANSFORMADOR PRINCIPAL



- NOTAS:
- 1. FABRICACION DE ACUERDO A ANSI C57.12.00.
 - 2. MATERIAL: ACERO INOXIDABLE RESISTENTE A LA CORROSION.
 - 3. LETRAS GRABADAS Y PINTADAS EN FONDO NEGRO Y CUBIERTAS POR UNA CAPA DE BARNIZ RESISTENTE A LAS CONDICIONES AMBIENTALES DE SOL, LLUVIA, HUMEDAD Y CORROSION.



TAG DEL LTC

---A MENOS QUE OTRA COSA SEA ESPECIFICADA
TODAS LAS DIMENSIONES ESTAN EN MILIMETROS

ESTE DIBUJO CONTIENE INFORMACION PROPIEDAD DE Siemens Transformadores S.A. de C.V.
QUEDA PROHIBIDA LA REPRODUCCION TOTAL O PARCIAL, SIN AUTORIZACION.

FORMA: Ing_B_h_2cartas //Dibujos_Estandar/Formato/

REV: 0 88/88/88, NOMBRE

SIEMENS		Siemens Transformadores S.A. de C.V.		
TITULO DEL DIBUJO:				
PLACA IDENTIFICACION TAG				
PESO (Kg):	FECHA:	DIBUJO:	REVISO:	APROBO:
NA	25-Apr-11	LUVIANO C		
DIBUJO ESCALA:	DIBUJO NUMERO:	TP. NUMERO:	HOJA:	
1:1	B-10674	1092.01	1/1	