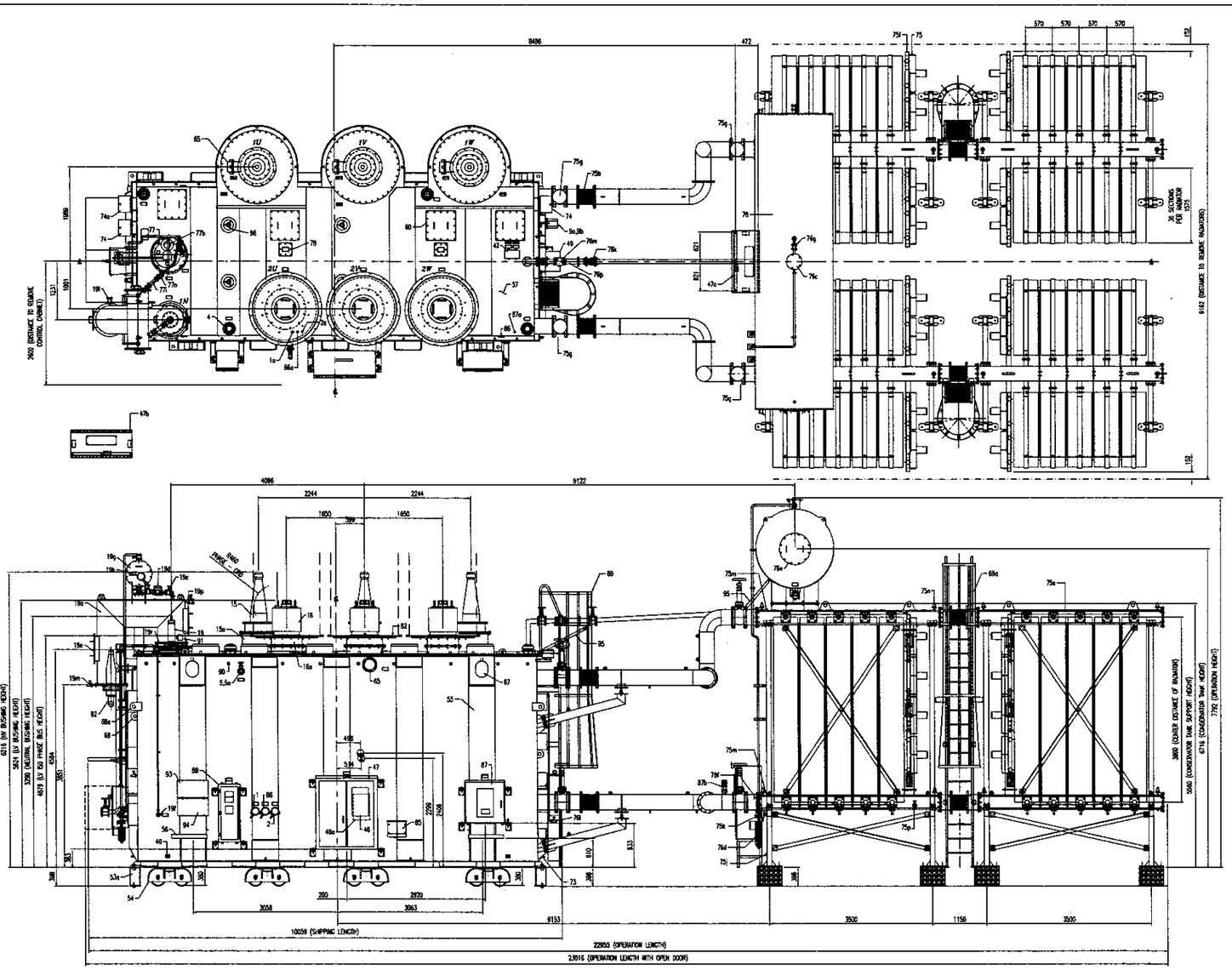
JOB ORDER NO.	INDEX	PLANT NO.	DRAWING NUMBER	SHEET NO.	REV. NO



QTY.	ITEM	DESCRIPTION
1	1	HIGHT VOLTAGE WINDING TEMPERATURE INDICATOR, MESSKO (49T-1).
1	1a	THERMO-WELL FOR WINDING TEMPERATURE INDICATOR.
1	2	LIQUID TEMPERATURE INDICATOR, MESSKO (26D-1).
1	2a	THERMO-WELL FOR LIQUID TEMPERATURE INDICATOR
* 4	4	MAIN TANK PRESSURE RELIEF DEVICE, QUALITROL, LPRD06-00027329(12 PSI X63PR-2...5).
* 1	5	RAPID PRESSURE RELAY 900-014-05, QUALITROL, 900-014-05 (63PR-1)
1	5a	RAPID PRESSURE RELAY VALVE (40 ø)
1	9a	HYDRAN M2.
1	9b	HYDRAN (40 ø) VALVE
* 3	15	H.V. BUSHING, ABB, GSBK-420-1250-0. 6,
* 3	15a	H.V. REMOVABLE BUSHING TURRET
* 3	16	L.V. BUSHING, TRENCH 52 KV HETA-52/12500-3
* 3	16a	L.V. REMOVABLE BUSHING TURRET
* 1	19	NEUTRAL BUSHING, ABB GSA-145-00-2000-0.5, LF135145-FC
* 1	19a	NEUTRAL BUSHING BUS DUCT COMPARTMENT.
* 1	19b	NEUTRAL SILICA-GEL SHUT OFF VALVE (25 ø).
* 1	19c	NEUTRAL SILICA-GEL BREATHER
* 1	19d	NEUTRAL PROTECTIVE RELAY BUCHHOLZ (63BH-3)
* 2	19e	NEUTRAL CONSERVATOR TANK TO NEUTRAL BUSHING BUS DUCT VALVE (25 ø).
1	19f	NEUTRAL GAS SAMPLING DEVICE VALVE
* 1	19g	CONSERVATOR TANK FOR HO BUS DUCT.
1	19h	CONSERVATOR FILL VALVE (25 ø)
1	19J	CONSERVATOR DRAIN VALVE (25 ø) WITH SAMPLING DEVICE (15 ø) AND PLUG.
* 1	19k	NEUTRAL CONSERVATOR MAGNETIC LIQUID LEVEL GAUGE (71Q-3)
1	19l	DRAIN VALVE (25 ø).
1	19m	COMPLETE DRAIN VALVE (15 ø).
3	19n	INSPECTION RECTANGULAR
1	19p	FILL VALVE (25 ø).
* 1	19r	NEUTRAL REMOVABLE BUSHING TURRET
* 4	40	GROUND PAD
1	42	CORE GROUND BUSHING TERMINAL BOX (MAIN UNIT & FRAME) WITH WARNING PLATE.
1	46	NAMEPLATE
1	46a	CT'S NAMEPLATE
1	47	MAIN CONTROL CABINET WITH ANTI-VIBRATION MOUNTINGS. (SEE DWG G204401D905)
* 1	47a	FANS CONTROL CABINET FOR RELAYS & CONTACTS. (SEE DWG G204401D911)
* 1	47b	INTCC CONTROL CABINET (SEE DWG G204401D910)
1	49	AUTOMATIC NITROGEN EQUIPMENT FOR SHIPMENT.
1	51	BASE SKIDS (4 DIRECTION)
4	53	TRANSFORMER ANCHOR PADS
* 4	53a	EXPANSE FOR TRANSFORMER ANCHOR PADS
* 8	54	BASE RAIL WHEELS, SEE DRAWING G204401B811
22	55	TANK & COVER BRACES
4	56	JACKING PADS AND PULLING EYES
1	57	MAIN COVER
* 4	60	INSPECTION RECTANGULAR MANHOLE (COVER) (500 x 500)
1	60a	INSPECTION RECTANGULAR MANHOLE (WALL) (500 X 500)
3	60b	INSPECTION RECTANGULAR MANHOLE (WALL) (400 X 836)
* 4	65	CT TERMINAL BOX
4	66	LIFTING EYE COVER ONLY
* 4	67	LIFTING LUGS COMPLETELY ASSEMBLED TRANSFORMER
4	68	SHIPPING LUGS
4	68a	SHIPPING LUGS
* 1	69	REMOVABLE LADDER WITH BARRIER
* 2	69a	REMOVABLE LADDER WITH BARRIER
1	72	LOCKABLE TOP FILTER PRESS VALVE (80 ø).
1	73	LOCKABLE MAIN TANK DRAIN VALVE (80 ø).
2	74	IMPACT RECORDER FOR SHIPPING
1	74a	ELECTRONIC IMPACT RECORDER FOR SHIPPING
64	75	COOLING FAN, AUMINGZ, FB2-P4-D700, 0.5 HP, 3 PH, 480 V., 9300 CFM, 1750 RPM. (56F-TA...TBR).
* 4	75a	RADIATOR MANIFOLD
* 40	75b	GALVANIZED RADIATORS, SUPPORTS AND BRACES
40	75c	RADIATOR VENT
80	75d	RADIATOR, THROTTLE VALVE-TYPE
40	75e	RADIATOR DRAIN, VALVE (25 ø).
8	75f	COOLING FANS SUPPORT.
* 8	75g	OIL ISOLATION VALVE GATE (300 ø).
* 8	75h	EXPANSION JOINT
2	75j	GROUND PAD
* 4	75k	LIQUID TEMPERATURE INDICATOR, MESSKO (26D-2...5). FOR RADIATORS.
4	75m	THERMO-WELL FOR LIQUID TEMPERATURE INDICATOR FOR RADIATORS.
16	75n	MANFOULD DRAIN, VALVE AND PLUG
2	75o	OIL SAMPLING MANIFOULD, VALVE AND PLUG
* 1	76	CONSERVATOR TANK WITH INTERNAL BLADDER, PRONAL.
1	76b	MAIN CONSERVATOR MAGNETIC LIQUID LEVEL GAUGE (71Q-1)
1	76c	HANDHOLE TO INSTALL BLADDER
* 1	76d	SILICA-GEL BREATHER, MESSKO, P/N 686-11-00-000-00
1	76e	CONSERVATOR MANHOLE
* 1	76f	MAIN TANK SILICA-GEL SHUT OFF VALVE (25 ø).
1	76g	CONSERVATOR PRESSURE EQUALIZATION VALVE (25 ø).
1	76h	CONSERVATOR FILL VALVE (40 ø).
1	76i	CONSERVATOR DRAIN VALVE (25 ø).
1	76j	CONSERVATOR TANK PIPE COUPLING W/CAP.
* 2	76k	CONSERVATOR TANK TO MAIN TANK VALVE (80 ø).
2	76l	GAS SAMPLING DEVICE VALVE
* 1	76m	PROTECTIVE RELAY BUCHHOLZ (63BH-1)
* 1	76p	EXPANSION JOINT FOR BUCHHOLZ PIPING
1	77	OA-LOAD TAP-CHANGER, MR, MH 600Y-170/DE-12233WP.
1	77a	LTC MAGNETIC LIQUID LEVEL GAUGE (71Q-2)
* 1	77b	LTC PRESSURE RELIEF DEVICE (63PR-1).
1	77g	LTC TOP FILTER PRESS VALVE (25 ø) GLOBE-TYPE
1	77h	LTC DRAIN VALVE (25 ø) WITH SAMPLING DEVICE (15 ø) AND PLUG
* 1	77i	LTC PROTECTIVE RELAY RS-2003 (63BH-2)
* 1	77j	LTC SILICA-GEL BREATHER
1	77k	LTC MOTOR DRIVE CABINET WITH ANTI-VIBRATION MOUNTINGS.
* 1	77l	LTC CONSERVATOR TANK
* 1	77m	LTC SILICA-GEL SHUT OFF VALVE (25 ø).
* 2	77n	LTC VALVE (25 ø).
1	77p	LTC VALVE (25 ø).
1	77q	SUNSHIELD.
2	78	TETHER POLE MOUNTING PLATE
* 3	82	L.V. ISO-PHASE BUS FLANGE (DEMOUNTABLE)
1	85	CONTROL TRANSFORMER CPT-1
1	86	LV WINDING TEMPERATURE INDICATOR, MESSKO (49T-2)
1	86a	THERMO-WELL FOR WINDING TEMPERATURE INDICATOR
1	87	DYNAMIC RATING CONTROL CABINET WITH ANTI-VIBRATION MOUNTINGS. (SEE DWG G204401B905)
1	87a	TEMPERATURE SENSOR RTD-1
* 1	87b	AMBIENT TEMPERATURE RTD
1	88	AUTOMATIC TRANSFORMER SWITCH CABINET WITH ANTI-VIBRATION MOUNTINGS.
1	89	TOP OIL SAMPLING DEVICE VALVE (19 ø)
1	89c	MEDIUM OIL SAMPLING DEVICE VALVE (15 ø)
1	89b	LOW OIL SAMPLING DEVICE VALVE (15 ø)
24	90	SAFETY RAIL SUPPORTS (SAFETY-RAIL PROVIDED BY OTHERS).
1	91	TEST TAP ADAPTER GSA14500 & TERMINAL BOX CEDASPE SM2-XS.
* 1	92	SEALING END BUSHING BRUGG, TT 1.170-11 OIL-AIR
1	93	LOCATION DRAWING OF VALVES AND PLUGS
1	94	PROCESS EQUIPMENT SETUP FOR OIL FILLING UNDER VACUUM
* 2	95	BRACES TO SUPPORT
16	96	CORE SUPPORTS
1	97	DEW POINT FOR SHIPPING

NOTES

REFERENCE DRAWINGS

DRAWING TITLE	DRAWING NO.

AS-BUILT BY _____ DATE _____

REV. NO.	DATE	BY	DESCRIPTION	CHKD.	CERT.	APPD.

DRAWN BY _____ CHECKED BY _____ SCALE: _____

DATE STARTED _____ DATE COMPLETED _____

OPR'G. DEPT. _____ ENG. DEPT. _____

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APPROVAL/CERTIFICATION INFORMATION

BY _____ REV. NO. _____

CERTIFIED FINAL DRAWING

PROLEC

ENGINEERING DEPARTMENT

GE / Saudi Electricity Company
Building 5B, 1 River Road
Schenectady, New York
Project PENDING
PROLEC GE Serial N° : G2044-16

GENERATOR UNIT TRANSFORMER
130/180 MVA, ONAN/ONAF, 50 Hz.
THREE PHASE, 43°C AVERAGE WINDING RISE,
UP TO 1000 MASL.
PRIMARY : 400/230.94 KV
SECONDARY : 18 KV

http://www.geprolec.com

Rev.	Issue Date	Issue Purpose	Description of Revision

GE Energy

GENERAL ELECTRIC COMPANY
GENERAL ELECTRIC INTERNATIONAL, INC
POWER GENERATION – POWER PLANT SYSTEMS

TRANSFORMER'S OUTLINE

PROJECT NAME: Qurayyah II

STATION: Saudi Arabia

IPS NO:

SIZE D

DWG NO G204416D801

MDL NO

SCALE NONE

SHEET 1 of 2

Sec : 80

Drawn : 07/01/04

Chkd :

Appd :

Sheet : 1 of 2

Rev : 0

Title : TRANSFORMER'S OUTLINE

PROLEC

Drawing No. G204416D801

JOB ORDER NO.	INDEX	PLANT NO.	DRAWING NUMBER	SHEET NO.	REV. NO.

SEC CAD-A (2004/04)

CADA04

No.	Initial	Dated

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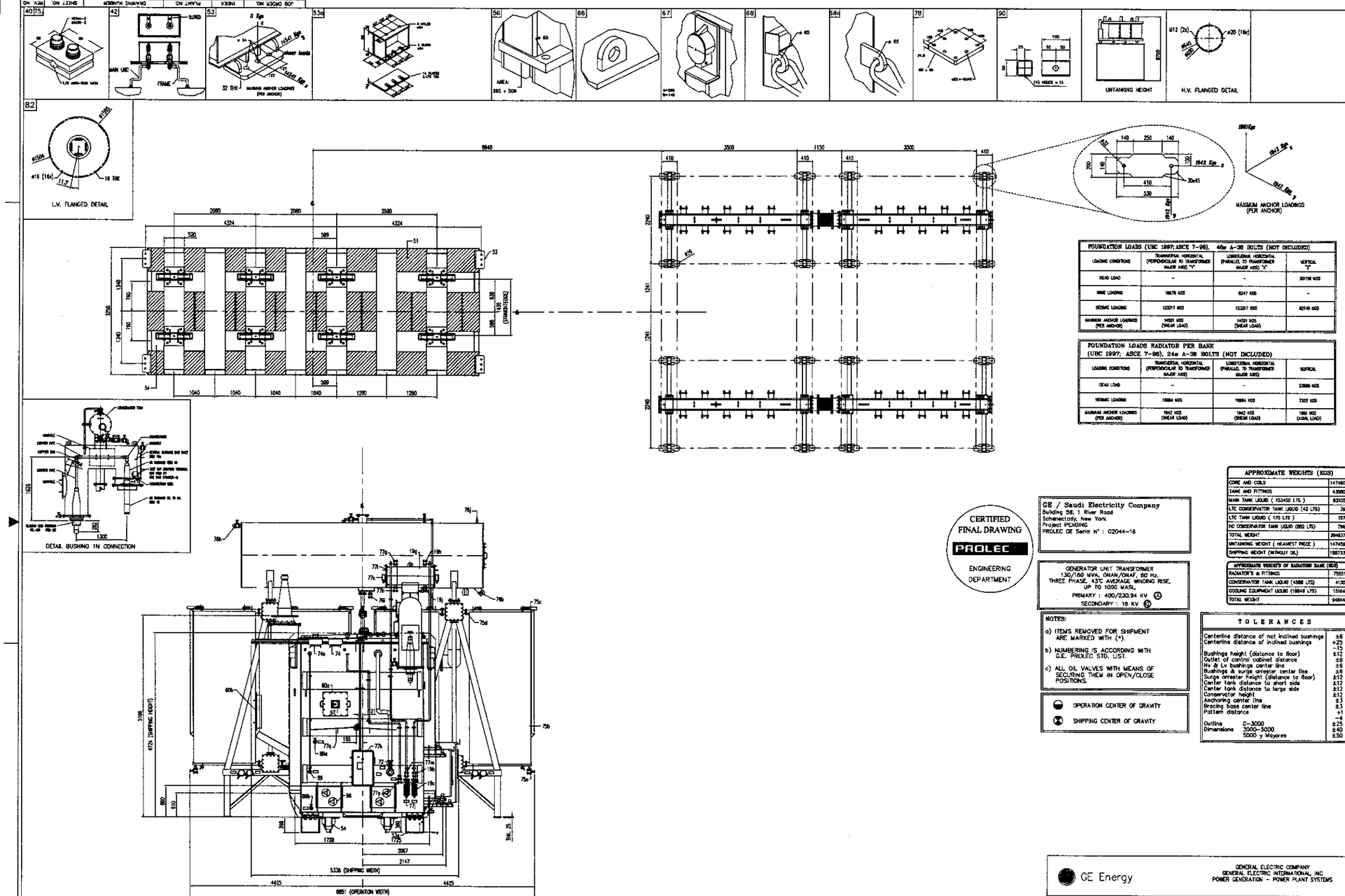

FOUNDATION LOADS (UBC 1997; ASCE 7-98), 40ea A-36 BOLTS (NOT INCLUDED)			
LOADING CONDITIONS	TRANSVERSAL HORIZONTAL (PERPENDICULAR TO TRANSFORMER MAJOR AXIS) "Y"	LONGITUDINAL HORIZONTAL (PARALLEL TO TRANSFORMER MAJOR AXIS) "X"	VERTICAL "Z"
DEAD LOAD	-	-	30116 KGS
WIND LOADING	18678 KGS	8247 KGS	-
SEISMIC LOADING	12327 KGS	12327 KGS	8245 KGS
MAXIMUM ANCHOR LOADINGS (PER ANCHOR)	14521 KGS (SHEAR LOAD)	14521 KGS (SHEAR LOAD)	

FOUNDATION LOADS RADIATOR PER BANK (UBC 1997; ASCE 7-98), 24ea A-36 BOLTS (NOT INCLUDED)			
LOADING CONDITIONS	TRANSVERSAL HORIZONTAL (PERPENDICULAR TO TRANSFORMER MAJOR AXIS)	LONGITUDINAL HORIZONTAL (PARALLEL TO TRANSFORMER MAJOR AXIS)	VERTICAL
DEAD LOAD	-	-	33885 KGS
SEISMIC LOADING	10884 KGS	10884 KGS	7322 KGS
MAXIMUM ANCHOR LOADINGS (PER ANCHOR)	1942 KGS (SHEAR LOAD)	1942 KGS (SHEAR LOAD)	1884 KGS (AXIAL LOAD)

APPROXIMATE WEIGHTS (KGS)	
CORE AND COILS	147460
TANK AND FITTINGS	43080
MAIN TANK LIQUID (103450 LTS)	93105
LTC CONSERVATOR TANK LIQUID (42 LTS)	39
LTC TANK LIQUID (170 LTS)	157
NO CONSERVATOR TANK LIQUID (862 LTS)	796
TOTAL WEIGHT	284637
UNTANKING WEIGHT (HEAVIEST PIECE)	147459
SHIPPING WEIGHT (WITHOUT OIL)	188733

APPROXIMATE WEIGHTS OF RADIATORS BANK (KGS)	
RADIATOR'S & FITTINGS	75551
CONSERVATOR TANK LIQUID (4388 LTS)	4130
COOLING EQUIPMENT LIQUID (18849 LTS)	15184
TOTAL WEIGHT	94864

CERTIFIED FINAL DRAWING
PROLEC
ENGINEERING DEPARTMENT

GE / Saudi Electricity Company
Building 58, 1 River Road
Schenectady, New York
Project PENDING
PROLEC GE Serial N° : G2044-16

GENERATOR UNIT TRANSFORMER
130/160 MVA, ONAN/ONAF, 60 Hz.
THREE PHASE. 43°C AVERAGE WINDING RISE.
UP TO 1000 MASL.
PRIMARY : 400/230.94 KV
SECONDARY : 18 KV

NOTES:

a) ITEMS REMOVED FOR SHIPMENT ARE MARKED WITH (*).

b) NUMBERING IS ACCORDING WITH G.E. PROLEC STD. LIST.

c) ALL OIL VALVES WITH MEANS OF SECURING THEM IN OPEN/CLOSE POSITIONS.

OPERATION CENTER OF GRAVITY

SHIPPING CENTER OF GRAVITY

TOLERANCES	
Centerline distance of not inclined bushings	±6
Centerline distance of inclined bushings	+25 -10
Bushings height (distance to floor)	±12
Outlet of control cabinet distance	±6
Hv & Lv bushings center line	±6
Bushings & surge arrester center line	±6
Surge arrester height (distance to floor)	±12
Center tank distance to short side	±12
Center tank distance to large side	±12
Conservator height	±12
Anchoring center line	±3
Bracing base center line	±3
Pattern distance	+1 -4
Outline Dimensions 0-3000	±25
Outline Dimensions 3000-5000	±40
Outline Dimensions 5000 y Mayores	±50

NOTES

REFERENCE DRAWINGS

DRAWING TITLE	DRAWING NO.

AS-BUILT BY _____ DATE _____

REV. NO.	DATE	BY	DESCRIPTION	CHKD.	CERT.	APPD.

GE Energy

GENERAL ELECTRIC COMPANY
GENERAL ELECTRIC INTERNATIONAL, INC
POWER GENERATION - POWER PLANT SYSTEMS

TRANSFORMER'S OUTLINE

PROJECT NAME: Qurayyah II
STATION: Saudi Arabia
IPS NO:
SIZE D

DWG NO G204416D801
MDL NO

SCALE NONE | SHEET 2 of 2
Drn: 07/05/03 Chkd: Appd: CCV
Sheet : 2 of 2
Rev. : 0
Title : TRANSFORMER'S OUTLINE
Third Angle Projection
Scale : NONE
Dimensions in : mm.
Sec : 80
Drawing No. G204416D801

PROLEC

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APPROVAL/CERTIFICATION INFORMATION
BY _____ REV. NO. _____

DRAWN BY _____ CHECKED BY _____ SCALE: _____
DATE STARTED _____ DATE COMPLETED _____
OPR'G. DEPT. _____ ENG. DEPT. _____

Rev.	Issue Date	Issue Purpose	Description of Revision

JOB ORDER NO.	INDEX	PLANT NO.	DRAWING NUMBER	SHEET NO.	REV. NO.

SEC CAD-A (2004/04)
CADA04

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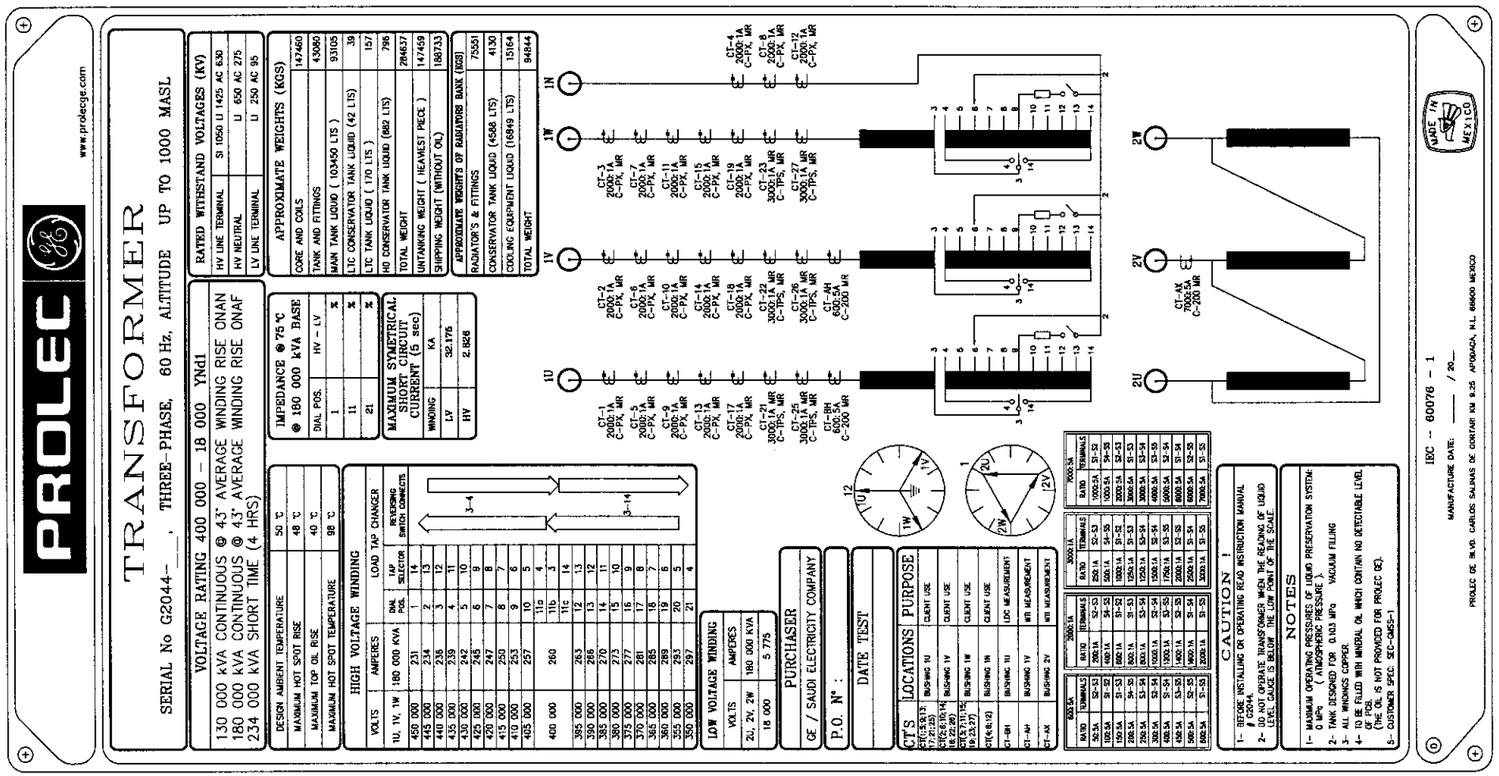

"TRANSFORMER DESIGNED FOR A NOMINAL HV – LV IMPEDANCE OF 14.75% @ 180 MVA (TOLERANCE +/– 5%). THE ACTUAL MEASURED IMPEDANCE VALUE WILL BE SHOWN ON THE NAMEPLATE AFTER TESTS".

CERTIFIED FINAL DRAWING
PROLEC
ENGINEERING DEPARTMENT

GE / Saudi Electricity Company
Building 2B, 1 River Road
Schenectady, New York
P.O. No.:
GE Ref. #:
Qurayyah II Project
GE PROLEC Serial N° : G2044-16

GENERATOR UNIT TRANSFORMER
130/180 MVA, ONAN/ONAF, 60 Hz
THREE PHASE, 43°C AVERAGE WINDING RISE.
UP TO 1000 MASL.
PRIMARY : 400/330.94 KV
SECONDARY : 18 KV

GE Energy
GENERAL ELECTRIC COMPANY
GENERAL ELECTRIC INTERNATIONAL, INC
POWER GENERATION – POWER PLANT SYSTEMS

NAMEPLATE

PROJECT NAME: Qurayyah II

STATION: Saudi Arabia

IPS NO: 504668

SIZE B		DWG NO	G204416D802
		MDL NO	
SCALE	NONE	SHEET	1 of 1

REV.	REV.	REV.	REV.	REV.
9	7	5	3	1
10	8	6	4	2

Drfm : RDM 05/05/05
Chkd : FGG 05/05/05
Appd :
Sheet : 1 of 1
Rev. : 0

Title : NAMEPLATE

PROLEC

Scale : ==*==
Dimensions : ==*==
Sec : 80
Drawing No. G204416D802

JOB ORDER NO.	INDEX	PLANT NO.	DRAWING NUMBER	SHEET NO.	REV. NO.

SEC CAD–A (2004/04)
CADAD4

NOTES

REFERENCE DRAWINGS

DRAWING TITLE	DRAWING NO.

AS–BUILT BY ____ DATE ____

REV. NO.	DATE	BY	DESCRIPTION	CHKD.	CERT.	APPD.

DRAWN BY ____ CHECKED BY ____ SCALE: ____
DATE STARTED ____ DATE COMPLETED ____
DRWG. DEPT. ____ ENG. DEPT. ____

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BY ____ REV. NO. ____

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