

पावर ग्रिड कारपोरेशन ऑफ इंडिया लिमिटेड
(भारत सरकार का उद्यम)
POWER GRID CORPORATION OF INDIA LIMITED
(A Government of India Enterprise)



केन्द्रीय कार्यालय : "सौदामिनी" प्लॉट सं. 2, सैक्टर-29, गुडगाँव-122 001, हरियाणा
फोन : 2571700 - 719, फैक्स : 2571760, 2571761 तार 'नेटग्रिड'
Corporate Office : "Saudamini" Plot No. 2, Sector-29, Gurgaon-122 001, Haryana
Tel. : 2571700 - 719, Fax : 2571760, 2571761 Gram : 'NATGRID'

संदर्भ संख्या/Ref. Number

संदर्भ / Ref: C-ENG/Tr.Core/SIEMENS/TR/01

दिनांक / Date: 08/03/2013

सेवा में /To M/s SIEMENS Limited
Energy Sector, Transformer Works, Thane Belapur Road
Kalwa, Thane - 400601, Maharashtra, India

Kind Attn: Mr. PC Ajishkumar, Manager - Marketing

विषय / Sub: 7 x 500MVA, (765/√3)/(400/√3)/33kV Single Phase Auto Transformer
Transformer Package (P325-TR01) for 765/400kV Kurnool Substation (New) under
Transmission System associated with Krishnapatnam UMPP Part C1
LOA No: CC-CS/325-SR1/TR-1787/1/G5/CA-I/4572 Dated 18.02.2013

Dear Sir,

कृपया उपरोक्त विषय पर अपने ईमेल दिनांक 13/02/2013 का अवलोकन करे दस्तावेजों पर टिप्पणियों / अनुमोदन संलग्नित पेज में दिया गया है ।

Please refer to your email dated 13/02/2013. We are herein conveying comments/approval / Comment code of each drawing. Please refer the category indicated in remarks/category column of the attached sheet.

अगर हमारे द्वारा वांछित संशोधन के आलावा आप कोई संशोधन करना चाहते हैं तो कृपया उसे पूर्ण तर्कसंगत के साथ हाईलाइट करे एवं दस्तावेज को पुनः अनुमोदन हेतु दुबारा प्रेषित करे ।

In case of any modification other than those desired by us are carried out, the same shall be highlighted with full justification thereof and resubmitted for approval.

दस्तावेजों में जो टिप्पणी / अनुमोदन दिया गया है उससे संविदाकार अपनी संविदा जिम्मेदारियों से और समय- समय पर लागू भारतीय स्टेचुरी कानून के अंतर्गत उसकी जिम्मेदारियों जैसे डायमें की यथार्थताएँ निर्माण में इस्तेमाल की गई सामग्री वजन मात्राएँ अभिकल्प व्योरा (design details) असम्बल फिट्स निष्पादन व्योरा और सामग्री पूर्ति से मुक्त नहीं होगा तथा क्रेता का इस संविदा के अधीन कोई भी अधिकार प्रतिबंधित नहीं होगा ।

Approval/Comments conveyed herein neither relieve the contractor of his contractual obligations and his responsibilities, weights, quantities, design details assemble fits, performance particulars and conformity of the supplies with the Indian Statutory Laws as may be applicable, nor does it limits the purchaser's right under the contract.

अन्य टिप्पणी यदि कोई हो तो: Additional REMARKS (if any) :

सधन्यवाद ।

Thanking you.

भवदीय,

Yours truly,

(Sudhir Agarwal)
DGM (Engg-S/s)



क.सं. Sl. No.	व्हेडर की ड्राईंग/ दस्तावेज संख्या Vendor Drg./Doc. No.	पुनरीक्षण संख्या Rev. No.	शीर्षक Title	श्रेणी Category / Remarks
7 x 500MVA, (765/√3)/(400/√3)/33kV Single Phase Auto Transformer Kurnool s/s				
1	I09 02 366	A	Guaranteed Technical Particulars. (Sheet 01 To 09)	CAT – I
2	I00 02 340	-	General Arrangement Drawing (Sheet 01 To 07).	CAT – I
3	I00 02 341	-	Bill Of Material (Sheet 01 of 04)	CAT – I
4	I02 02 342	-	Foundation Details	CAT – I
5	I01 02 343	-	Valve Schedule Plate	CAT – II
6	I06 02 344	-	Transport Detail	CAT – IV
7	I01 02 345	-	Air Cell Type Conservator Oil Filling Plate	CAT – IV
8	I09 02 346	-	Core Assembly	CAT – IV
9	I09 02 347	-	Oil Flow Diagram	CAT – IV
10	I09 02 348	-	Winding Cross Section	CAT – IV
11	I03 02 349	-	List of Bushings	CAT – I
12	I03 02 353	-	36kV, 3150A Neutral Bushing Assembly.	CAT – I
13	I01 02 365	-	Rating And Diagram Plate (English) (Sheet 01 To 02)	CAT – II
14	-	-	Write-Up on OLTC Control Scheme (Sheet 01 To 05)	-
15	I04 02 354	-	OLTC Control Scheme (Sheet 01 To 02)	CAT – II
16	I04 02 355	-	GA of RTCC Panel (Sheet 01 To 02)	CAT – II
17	I04 02 356	-	Interconnection Scheme	CAT – II
18	I04 02 358	-	Cooler Control Scheme. (Sheet 01 To 28)	CAT – I
19	I04 02 359	-	Layout Of Instruments on Cooler Control Kiosk	CAT – I
20	I04 02 360	-	Marshalling Kiosk Scheme. (Sheet 01 To 08)	CAT – I
21	I04 02 361	-	Layout Of Instruments On Marshalling Kiosk	CAT – I
22	I04 02 362	-	Common Marshalling Box (Sheet 01 To 11)	CAT – I
23	I04 02 363	-	Layout of Instruments on Common Marshalling Box	CAT – I
24	I04 02 364	-	Interconnection Between Panels For Supply.	CAT – IV
25	I09 02 367	-	Over fluxing Curve, (Sheet 01 To 02)	CAT – IV
26	ITP/765/01	-	Transformer Test Procedure. (Sheet 01 To 16)	CAT – II
27	I04 02 487	-	List of Spare.	CAT – IV

श्रेणीयां /Categories:

- I. फेब्रिकेशन/निर्माण/टाईप टेस्टिंग हेतु अनुमोदित/ जारी ।

Approved/released for fabrication/construction.

- II. फेब्रिकेशन/निर्माण/टाईप टेस्टिंग हेतु अनुमोदित/ जारी बशर्ते दिये गये टिप्पणियों एवं आशोधनों को सम्मिलित किया जाए ।
कृपया रिवाइज्ड दस्तावेज अनुमोदनार्थ प्रस्तुत करें ।

Approved/released for fabrication/construction subject to incorporation of comments and modification as noted. Revised drawing required.



- III. टिप्पणियों सम्मिलित करने के उपरांत दस्तावेज को अनुमोदनार्थ प्रस्तुत करें ।
To be resubmitted for approval after incorporating the comments.
- IV. सूचनार्थ एवं रिकार्ड हेतु ।
For information and record.
- V. अनुमोदित नहीं ।
Not Approved.

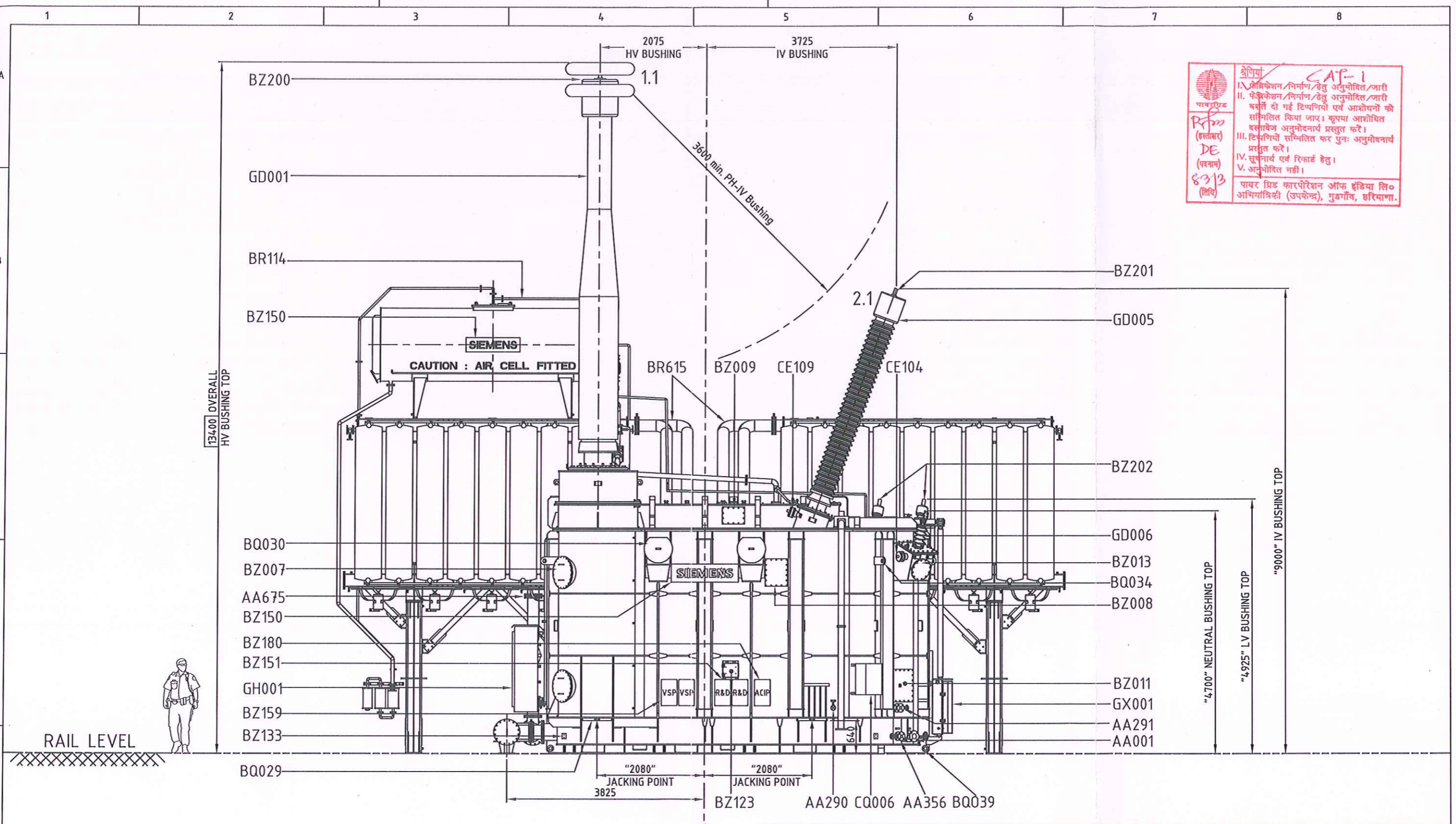
नोट : इस पत्र के अनुसार दस्तावेज में दिये गये अनुमोदन द्वारा किसी भी मद के सबवेन्डर का अनुमोदन नहीं किया गया है । यह अनुमोदन गुणवत्ता विश्वास विभाग द्वारा प्राप्त करें ।

Note: The approval of the drawing conveyed vide this letter does not cover the approval of sub-vendor for make of the items. The approval in this respect is to be obtained from Quality Assurance Group.

(हस्ताक्षर)
(Signature)

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Dimensions in millimeters (mm) except marked differently



श्रेणियाँ CAP-1
 पावर ग्रिड कारपोरेशन ऑफ इंडिया लि.
 I. प्रोत्साहन/निर्माण हेतु अनुमोदित/जादी
 II. फेडरेशन/निर्माण हेतु अनुमोदित/जादी
 बसते दो गई टिप्पणियों एवं आशोपनों को
 सम्मिलित किया जाए। कृपया आशोपित
 बसने अनुमोदनाय प्रस्तुत करें।
 III. टिप्पणियों सम्मिलित कर पुनः अनुमोदनाय
 प्रस्तुत करें।
 IV. सुचनाय एवं रिकार्ड हेतु।
 V. अनुमोदित नहीं।
 पावर ग्रिड कारपोरेशन ऑफ इंडिया लि.
 अभियानिकी (उपकेन्द्र), गुडगाँव, हरियाणा.

A30-297 x 420

HV SIDE (SIDE-1)

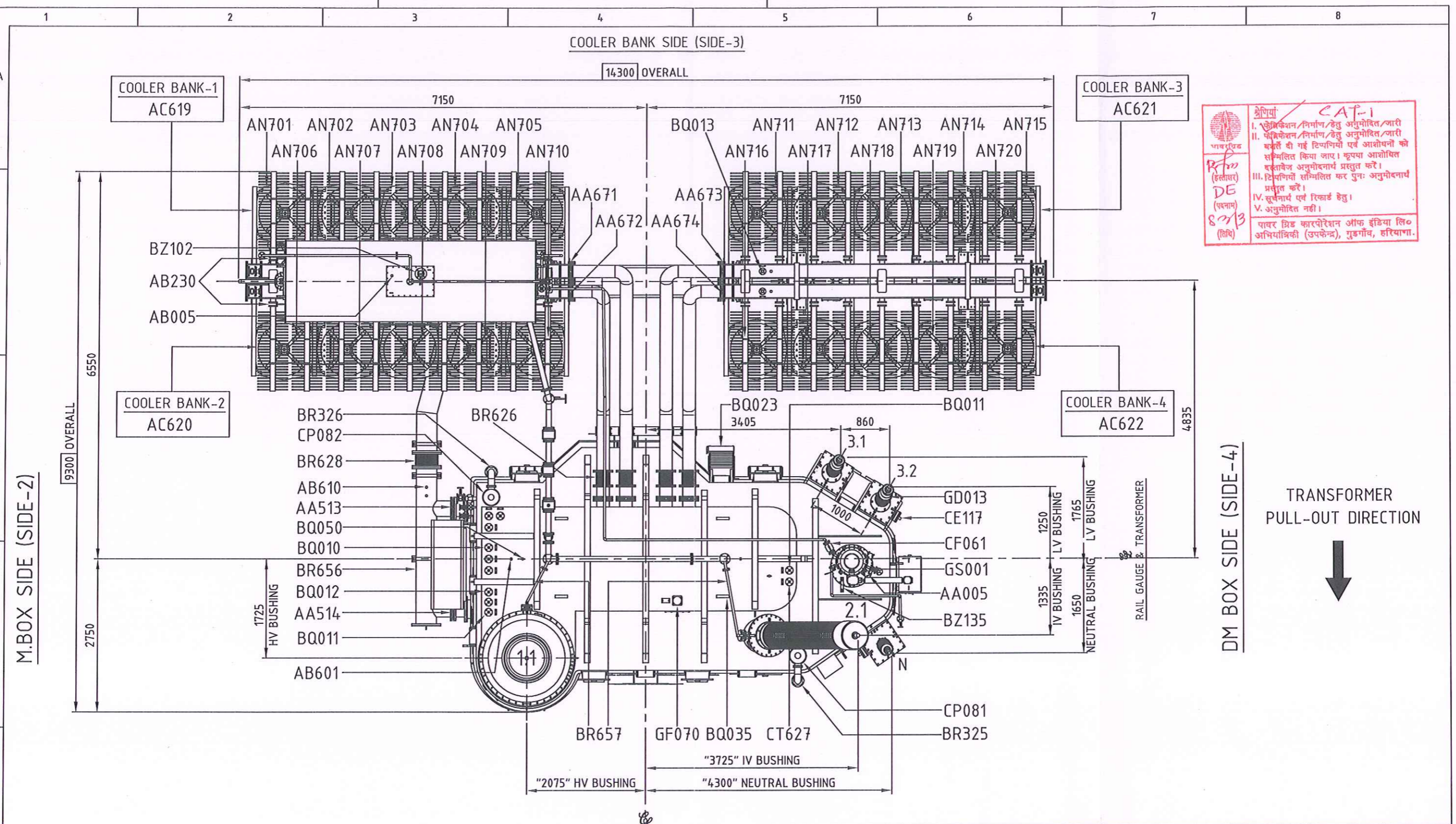
REV. NO.	DESCRIPTION	DATE	SIGN
POWER GRID CORPORATION OF INDIA LIMITED (A Government of India Enterprise)			
Date	05.02.2013	Approved	General tolerances --
Distr. Team	STI	vide stamp: release status	Scale N.T.S.
Des'd	DIVAKAR	VMV	Project 300/400/500MVA, 765/400/33kV AUTO TRANSFORMER
Ch'kd	MBP		W.D. No. I130100
SIEMENS		ET TR	Language EN AutoCAD
EMPLOYER : POWER GRID CORPORATION OF INDIA LTD. (A Government of India Enterprise) PROJECT : On Shore Supply Contract for Auto Transformer package (P325 - TR01) for 7 x 500MVA Single phase Auto Transformers at 765/400kV Kurmool (NEW) Sub-Station under Transmission System Associated with Krishnapatnam UMPP - Prat - C1 SPECIFICATION NO. : CC - CS / 325 - SR1 / TR - 1787 / 1 / G5 PO NO. : CC - CS / 325 - SR1 / TR - 1787 / 1 / G5 / NOA - 1 / 4572 Dt.24.01.2013		Title GENERAL ARRANGEMENT FOR 500 MVA 765kV AUTO TRANSFORMER (FRONT VIEW) Dwg. No. I00 02 340 Rev. -- Sheet No. 01+	

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Dimensions in millimeters (mm) except marked differently

A30-297 x 420



श्रेणियां / CAP-1

1. अनुमोदन/निर्माण हेतु अनुमोदित/जारी

2. फेरिकेशन/निर्माण हेतु अनुमोदित/जारी

3. बंधन ही गई टिप्पणियों एवं आशयनों को सम्मिलित किया जाए। कृपया आशयित बंधनानुमोदनार्थ प्रस्तुत करें।

4. टिप्पणियों सम्मिलित कर पुनः अनुमोदनार्थ प्रस्तुत करें।

5. सुसंभार एवं रिकार्ड हेतु।

6. अनुमोदित नहीं।

पावर ग्रिड कारपोरेशन ऑफ इंडिया लि०

अभियंत्रिकी (उपकेन्द्र), गुडगाँव, हरियाणा.

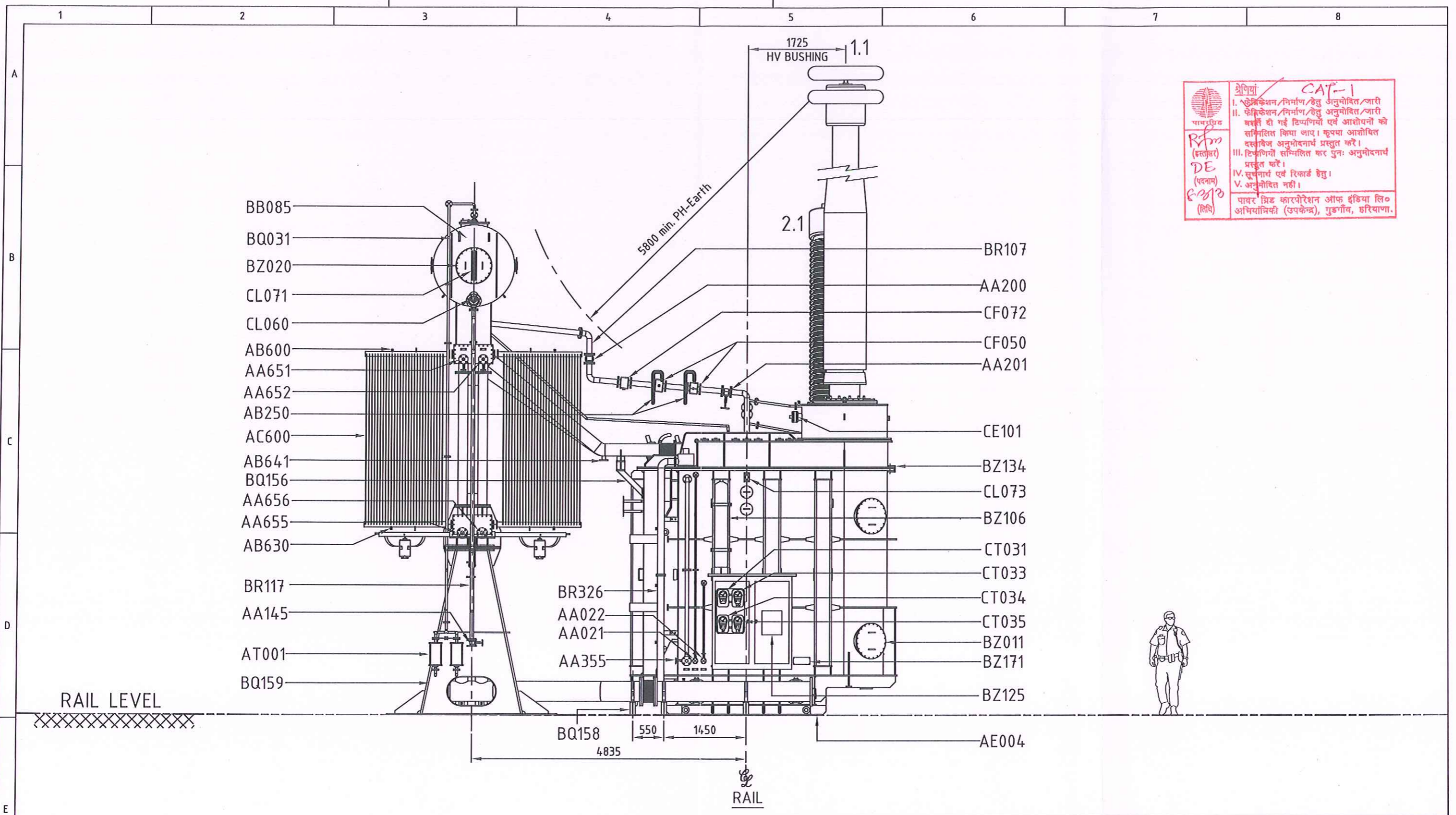
REV. NO.	DESCRIPTION	DATE	SIGN
-	-	-	-
POWER GRID CORPORATION OF INDIA LIMITED (A Government of India Enterprise)			
Date	05.02.2013	Approved	General tolerances --
Distr. Team	STI	vide stamp: release status	Scale N.T.S.
Des'd Chk'd	DIVAKAR MBP	VMV	Project 300/400/500MVA, 765/400/33kV AUTO TRANSFORMER
SIEMENS		ET TR	W.D. No. I130100
			Title GENERAL ARRANGEMENT FOR 500 MVA 7650kV AUTO TRANSFORMER (TOP VIEW)
EMPLOYER : POWER GRID CORPORATION OF INDIA LTD. (A Government of India Enterprise) PROJECT : On Shore Supply Contract for Auto Transformer package (P325 - TR01) for 7 x 500MVA Single phase Auto Transformers at 765/400kV Kurnool (NEW) Sub-Station under Transmission System Associated with Krishnapatnam UMPP - Prat - C1 SPECIFICATION NO. : CC - CS / 325 - SR1 / TR - 1787 / 1 / G5 PO NO. : CC - CS / 325 - SR1 / TR - 1787 / 1 / G5 / NOA - I / 4572 Dt.24.01.2013		Projection method Language EN AutoCAD Dwg. No. I00 02 340 Rev. - Sheet No. 02+	

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A30-297 x 420



M.BOX SIDE (SIDE-2)

श्रेणियाँ / CAT-1
 पावर ग्रिड
 Rfm (हस्ताक्षर)
 DE (पदनाम)
 6/2/13 (दिनांक)

I. प्रोजेक्शन/निर्माण/हेतु अनुमोदित/जारी
 II. प्रोजेक्शन/निर्माण/हेतु अनुमोदित/जारी बसनें दी गई दिश्यागिरी एवं आशोपनों को सम्मिलित किया जाए। कृपया आशोपित बसनें अनुमोदनार्थ प्रस्तुत करें।
 III. दिश्यागिरी सम्मिलित कर पुनः अनुमोदनार्थ प्रस्तुत करें।
 IV. सुधनार्थ एवं रिकार्ड हेतु।
 V. अनुमोदित नहीं।

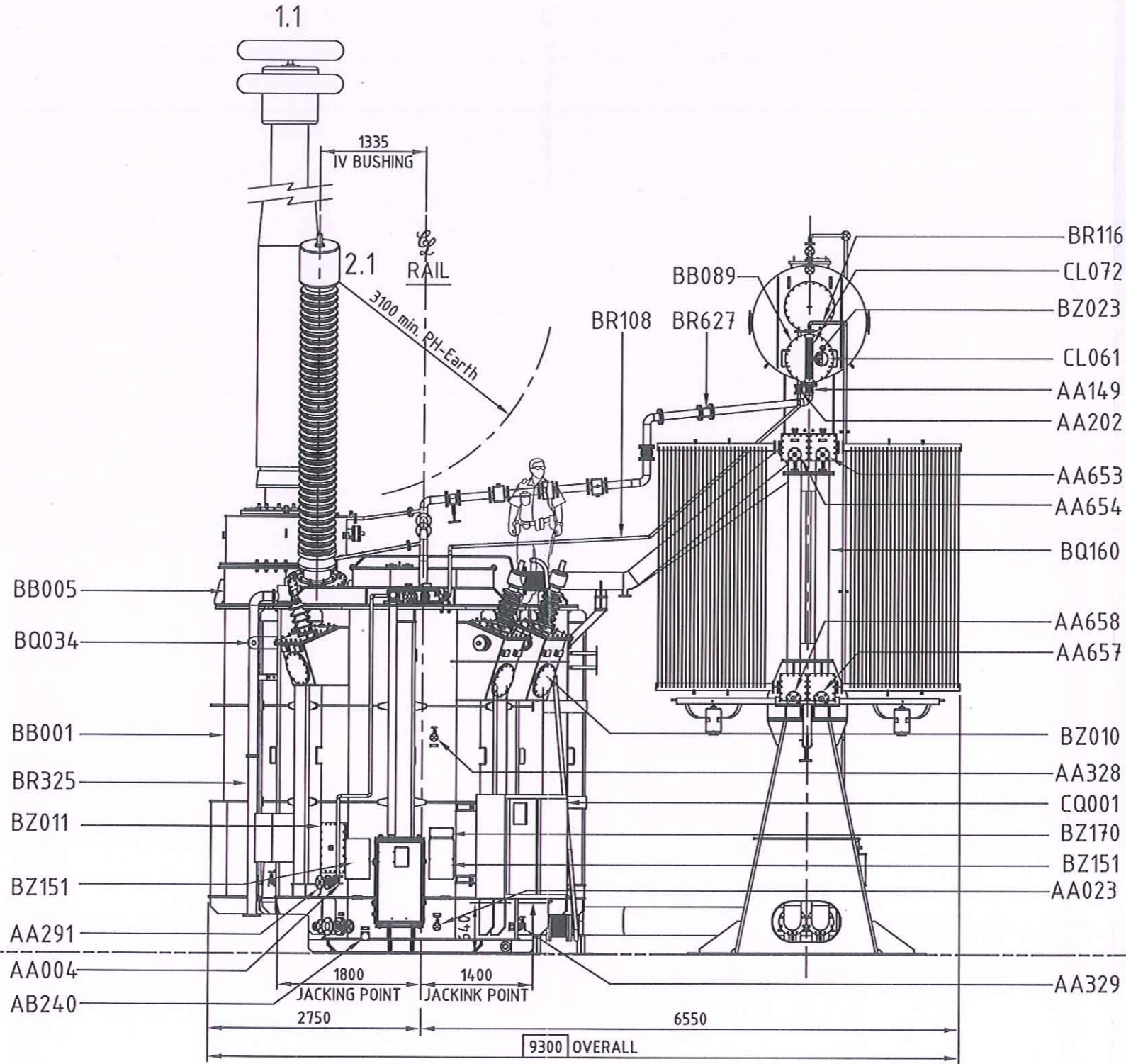
पावर ग्रिड कारपोरेशन ऑफ इंडिया लि०
 अभियांत्रिकी (उपकेन्द्र), गुडगाँव, हरियाणा.



REV. NO.	DESCRIPTION	DATE	SIGN
-	-	-	-
POWER GRID CORPORATION OF INDIA LIMITED (A Government of India Enterprise)			
Date	05.02.2013	Approved	General tolerances --
Distr. Team	STI	vide stamp: release status	Scale N.T.S.
Des'd Chk'd	DIVAKAR MBP	VMV	Project 300/400/500MVA, 765/400/33kV AUTO TRANSFORMER
SPECIFICATION NO. : CC - CS / 325 - SR1 / TR - 1787 / 1 / G5		SIEMENS	W.D. No. I130100
PO NO. : CC - CS / 325 - SR1 / TR - 1787 / 1 / G5 / NOA - 1 / 4572 Dt.24.01.2013		ET TR	Title GENERAL ARRANGEMENT FOR 500 MVA 7650kV AUTO TRANSFORMER (SIDE VIEW)
			Projektion method
			Language EN AutoCAD
			Dwg. No. I00 02 340
			Rev. - - Sheet No. 03+

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श्रेणियां / CAT-I
 I. चित्रकेशन/निर्माण/हेतु अनुमोदित/जारी
 II. फेब्रिकेशन/निर्माण/हेतु अनुमोदित/जारी
 चर्चित ही गई टिप्पणियों एवं आशयनों को
 सम्मिलित किया जाए। कृपया आशयित
 बदलाव अनुमोदनाथ प्रस्तुत करें।
 III. टिप्पणियों सम्मिलित फर पुनः अनुमोदनाथ
 प्रस्तुत करें।
 IV. सुधनाथ एवं रिकार्ड हेतु।
 V. अनुमोदित नहीं।
 पावर ग्रिड कारपोरेशन ऑफ इंडिया लि०
 अभियांत्रिकी (उपकेन्द्र), गुडगाँव, हरियाणा.

DM BOX SIDE (SIDE-4)

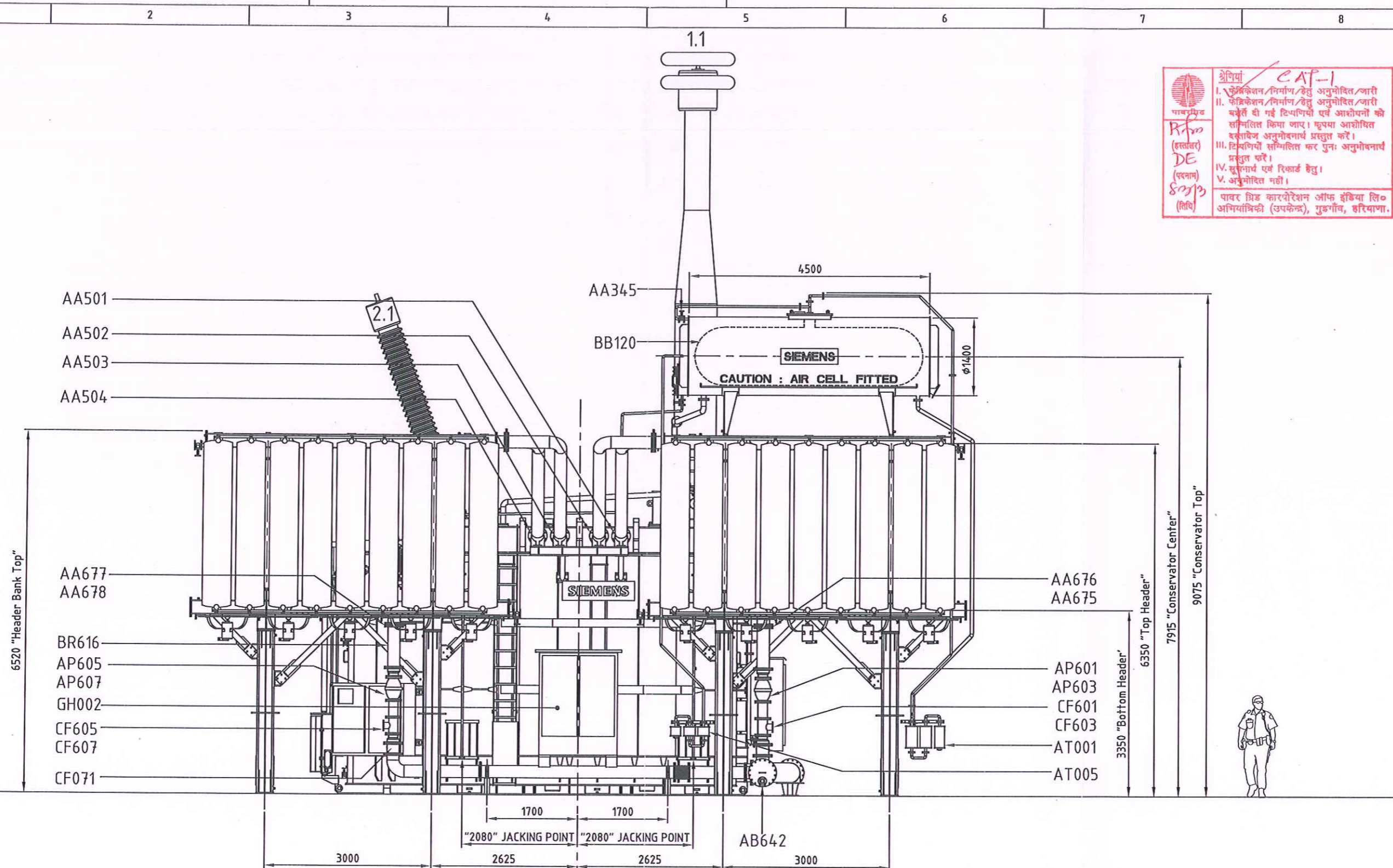
REV. NO.	DESCRIPTION	DATE	SIGN
-	-	-	-
POWER GRID CORPORATION OF INDIA LIMITED (A Government of India Enterprise)			
EMPLOYER : POWER GRID CORPORATION OF INDIA LTD. (A Government of India Enterprise)	Date 05.02.2013 Dist. Team STI Des'd DIVAKAR Chk'd MBP	Approved vide stamp: release status VMV	General tolerances -- Scale N.T.S. Project 300/400/500MVA, 765/400/33kV AUTO TRANSFORMER W.D. No. I130100 Title GENERAL ARRANGEMENT FOR 500 MVA 7650kV AUTO TRANSFORMER (SIDE VIEW)
PROJECT : On Shore Supply Contract for Auto Transformer package (P325 - TR01) for 7 x 500MVA Single phase Auto Transformers at 765/400kV Kurnool (NEW) Sub-Station under Transmission System Associated with Krishnapatnam UMPP - Prat - C1 SPECIFICATION NO. : CC - CS / 325 - SR1 / TR - 1787 / 1 / G5 PO NO. : CC - CS / 325 - SR1 / TR - 1787 / 1 / G5 / NOA - 1 / 4572 Dt. 24.01.2013	SIEMENS ET TR	Projection method	Language EN AutoCAD Dwg. No. 100 02 340 Sheet No. 04+

A30-297 x 420

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श्रेणियाँ / CAP-1
 पावर ग्रिड
 Rf (सततता)
 DE (पदनाम)
 8/2/13 (तिथि)

- I. प्रेरित/निर्माण/हेतु अनुमोदित/जारी
- II. फेरित/निर्माण/हेतु अनुमोदित/जारी
- III. टिप्पणियाँ सम्मिलित कर पुनः अनुमोदनाय प्रस्तुत करे।
- IV. सुधार एवं रिकार्ड हेतु।
- V. अनुमोदित नहीं।

पावर ग्रिड कारपोरेशन ऑफ इंडिया लि०
 अभियांत्रिकी (उपकेन्द्र), गुडगाँव, हरियाणा.

COOLER BANK SIDE (SIDE-3)

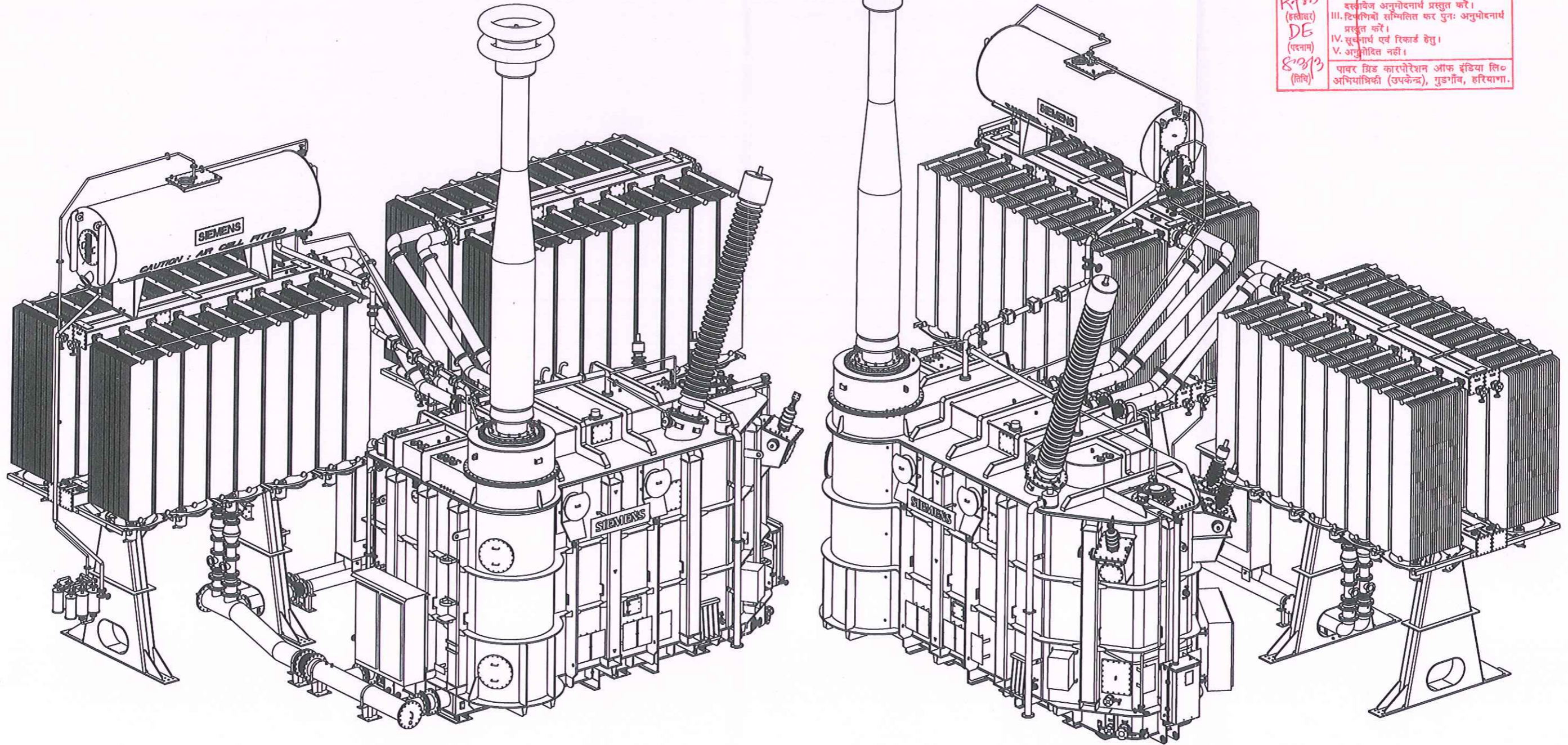
REV. NO.	DESCRIPTION	DATE	SIGN
-	-	-	-
POWER GRID CORPORATION OF INDIA LIMITED (A Government of India Enterprise)			
EMPLOYER : POWER GRID CORPORATION OF INDIA LTD. (A Government of India Enterprise) PROJECT : On Shore Supply Contract for Auto Transformer package (P325 - TR01) for 7 x 500MVA Single phase Auto Transformers at 765/400kV Kurnool (NEW) Sub-Station under Transmission System Associated with Krishnapatnam UMPP - Prat - C1 SPECIFICATION NO. : CC - CS / 325 - SR1 / TR - 1787 / 1 / G5 PO NO. : CC - CS / 325 - SR1 / TR - 1787 / 1 / G5 / NOA - I / 4572 Dt.24.01.2013	Date 05.02.2013 Distr. Team STI Des'd DIVAKAR Chk'd MBP	Approved vide stamp: [Signature] release status VMV	General tolerances -- Scale N.T.S. Project 300/400/500MVA, 765/400/33kV AUTO TRANSFORMER W.D. No. I130100 Title GENERAL ARRANGEMENT FOR 500 MVA 765kV AUTO TRANSFORMER (BACK VIEW)
		Projection method	Language EN AutoCAD
		Dwg. No. I00 02 340	Rev. - Sheet No. 05+

A30-297 x 420

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श्रेणियां / CAT-1
 पावर ग्रिड
 R/10
 (हस्ताक्षर)
 DE
 (रचनात्मक)
 8/2/13
 (दिनांक)

I. प्रेरित/निर्माण/हेतु अनुमोदित/जारी
 II. प्रेरित/निर्माण/हेतु अनुमोदित/जारी
 बसने दी गई दिशानिर्देश एवं आशयनों को
 सम्मिलित किया जाए। कृपया आशयित
 बसने अनुमोदनार्थ प्रस्तुत करें।
 III. दिशानिर्देश सम्मिलित कर पुनः अनुमोदनार्थ
 प्रस्तुत करें।
 IV. सुव्यवस्था एवं रिकार्ड हेतु।
 V. अनुमोदित नहीं।

पावर ग्रिड कारपोरेशन ऑफ इंडिया लि.
 अभियांत्रिकी (उपकेन्द्र), गुडगाँव, हरियाणा.

A30-297 x 420

REV. NO.	DESCRIPTION	DATE	SIGN
-	-	-	-
POWER GRID CORPORATION OF INDIA LIMITED (A Government of India Enterprise)			
EMPLOYER : POWER GRID CORPORATION OF INDIA LTD. (A Government of India Enterprise) PROJECT : On Shore Supply Contract for Auto Transformer package (P325 - TR01) for 7 x 500MVA Single phase Auto Transformers at 765/400kV Kurnool (NEW) Sub-Station under Transmission System Associated with Krishnapatnam UMPP - Prat - C1 SPECIFICATION NO. : CC - CS / 325 - SR1 / TR - 1787 / 1 / G5 PO NO. : CC - CS / 325 - SR1 / TR - 1787 / 1 / G5 / NOA - 1 / 4572 Dt.24.01.2013	Date 05.02.2013 Distr. Team STI Des'd DIVAKAR Chk'd MBP	Approved vide stamp: release status VMV	General tolerances -- Project 300/400/500MVA, 765/400/33kV AUTO TRANSFORMER W.D. No. I130100 Title GENERAL ARRANGEMENT FOR 500 MVA 7650kV AUTO TRANSFORMER (3D VIEW)
Scale N.T.S. Projection method		Language EN AutoCAD	Dwg. No. I00 02 340 Rev. - Sheet No. 06+
SIEMENS		ET TR	-

A30

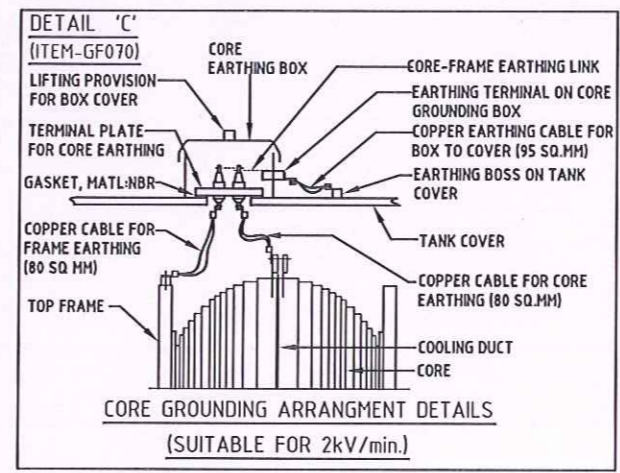
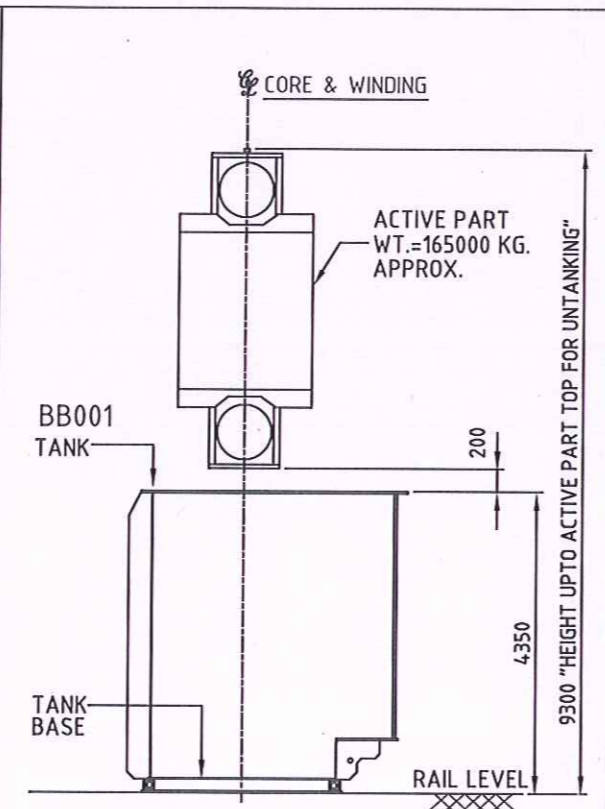
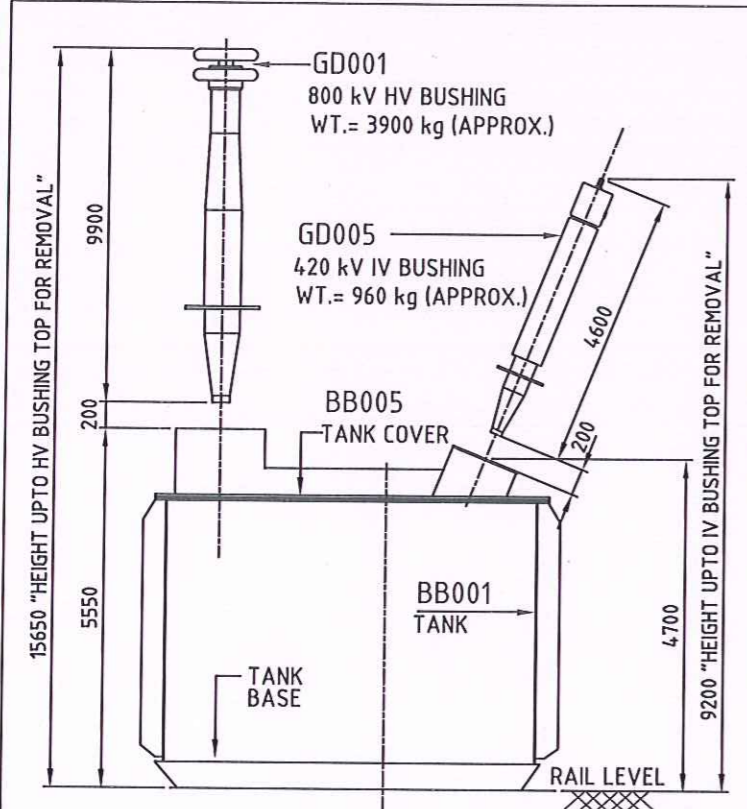
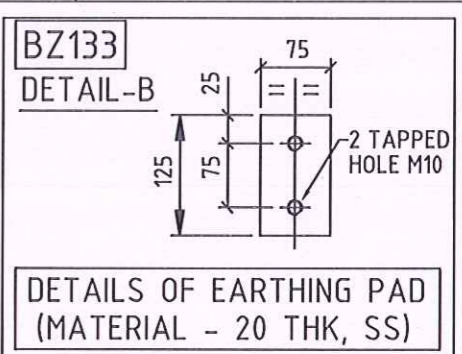
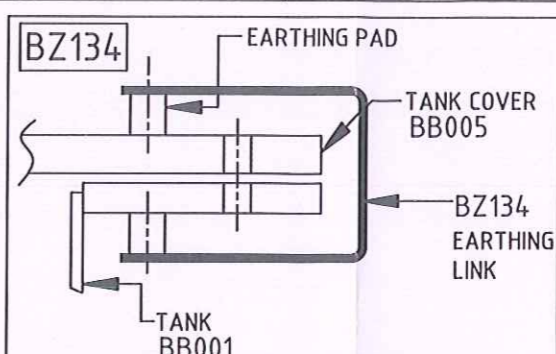
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Dimensions in millimeters (mm) except marked differently

APPROX. WEIGHT & OIL QUANTITY	
CORE AND WINDING ASSEMBLY	165,000 kg.
TANK FITTINGS AND ACCESSORIES	77,000 kg.
OIL QUANTITY (FOR FIRST FILLING)	68,000 kg.
TOTAL WEIGHT OF TRANSFORMER INC. FITTINGS & ACCESSORIES WITH OIL	310,000 kg.
TRANSPORT WEIGHT (DRY-AIR FILLED)	205,000 kg.

MINIMUM ELECTRICAL CLEARANCE IN AIR AS PER CBIP				
SYSTEM VOLTAGE	BIL OF TRANSFORMER	PHASE TO PHASE	PHASE TO EARTH	PHASE TO OTHER WDG.
765 kV (H.V. BUSHING)	1950 kVp	--	5800 mm	3600 mm
400 kV (L.V. BUSHING)	1300 kVp	--	3100 mm	2400 mm
33 kV (L.V. BUSHING)	250 kVp	530 mm	480 mm	--
(NEUTRAL BUSHING)	--	--	320 mm	--

TRANSFORMER RATING	
MVA	300 / 400 / 500
VOLTAGE RATIO	765/√3 / 400/√3 / 33 kV
PHASES	1φ
FREQUENCY	50 Hz
VECTOR GROUP	YNaoD11
TYPE OF COOLING	ONAN / ONAF / ODAF



CAFI
 I. प्रोजेक्ट/निर्माण/केतु अनुमोदित/जारी
 II. प्रोजेक्ट/निर्माण/केतु अनुमोदित/जारी
 बसके दी गई डिप्लोमा एवं आसोयनों को
 सम्मिलित किया जाय। फुपया आसोयित
 बसके अनुमोदनाय प्रस्तुत करे।
 III. डिप्लोमा सम्मिलित कर पुनः अनुमोदनाय
 प्रस्तुत करे।
 IV. सुचयार्थ एवं रिकार्ड हेतु।
 V. अनुमोदित नही।
 पावर ग्रिड कारपोरेशन ऑफ इंडिया लि०
 अभियांत्रिकी (उपकेन्द्र), गुडगाँव, हरियाणा.

NOTES:

- ALL DIMENSIONS ARE IN mm AND ARE SUBJECT TO TOLERANCE OF ±5%.
- WHEN REFERING THIS DRG. STATE 500MVA, 765/400/33kV AUTO TRANSFORMER, SIEMENS W.O. NO. 1130100.
- WIRING UPTO MARSHALLING BOX FROM VARIOUS ACCESSORIES ARE SUPPLIED BY SIEMENS BUT NOT SHOWN IN THIS DRAWING FOR CLARITY.
- FOUNDATION BOLTS & HARDWARES ARE NOT IN SIEMENS SCOPE OF SUPPLY.
- TRANSFORMER TANK SHALL BE CONVENTIONAL TYPE WITH BOLTED COVER.
- OUTSIDE PAINTING SHALL BE AS PER RAL 7035 (LIGHT GREY).
- VALVE FOR EQUALISING (AA005) TRANSFORMER TANK WITH OLTC DIVERTER TANK IS TO BE KEPT OPEN. DURING VACUUM OPERATION & OIL FILLING IN TRANSFORMER TANK AND IT IS TO BE KEPT CLOSED DURING NORMAL OPERATION OF TRANSFORMER.
- ALL EXTERNAL HARDWARES SHALL BE OF HOT DIP GALVANISED / STAINLESS STEEL.
- WHILE MOUNTING THE BUCHHOLZ RELAY IT IS TO BE ENSURED THAT THE ARROW IS TOWARDS CONSERVATOR.
- FOR BILL OF MATERIAL FOR GA DRG. REFER SHEET 100 02 341 PAGE 01 TO 04.
- DIMENSIONS MARKED ARE OVERALL DIMENSIONS.

A30-297 x 420

EMPLOYER	: POWER GRID CORPORATION OF INDIA LTD. (A Government of India Enterprise)
PROJECT	: On Shore Supply Contract for Auto Transformer package (P325 - TR01) for 7 x 500MVA Single phase Auto Transformers at 765/400kV Kurnool (NEW) Sub-Station under Transmission System Associated with Krishnapatnam UMPP - Prat - C1
SPECIFICATION NO.	: CC - CS / 325 - SR1 / TR - 1787 / 1 / G5
PO NO.	: CC - CS / 325 - SR1 / TR - 1787 / 1 / G5 / NOA - I / 4572 Dt.24.01.2013

REV. NO.	DESCRIPTION	DATE	SIGN
-	-	-	-
POWER GRID CORPORATION OF INDIA LIMITED (A Government of India Enterprise)			
Date	05.02.2013	Approved	General tolerances --
Distr. Team	STI	vide stamp: release status	Scale N.T.S.
Des'd Chk'd	DIVAKAR MBP	VMV	Project 300/400/500MVA, 765/400/33kV AUTO TRANSFORMER
SIEMENS		ET TR	W.D. No. I130100
Title			Projection method
GENERAL ARRANGEMENT FOR 500 MVA 7650kV AUTO TRANSFORMER			Language EN AutoCAD
Dwg. No. I00 02 340			Rev. --
Sheet No. 07-			

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Dimensions in millimeters (mm) except marked differently

ITEM	QTY	DESCRIPTION
AA001	1	DRAIN VALVE FOR TANK DN100, GATE TYPE, MATERIAL - GUN METAL
AA004	1	DRAIN/FILL VALVE FOR DIVERTER SWITCH DN25, GATE TYPE, MATERIAL - GUN METAL
AA005	1	DIVERTER SWITCH TO TANK EQUILLISING VALVE, DN25, GATE TYPE, MATERIAL - GUN METAL
AA021	2	OIL SAMPLING VALVE TOP DN15, GLOBE TYPE, MATERIAL - GUN METAL
AA022	2	OIL SAMPLING VALVE MIDDLE DN15, GLOBE TYPE, MATERIAL - GUN METAL
AA023	2	OIL SAMPLING VALVE BOTTOM DN15, GLOBE TYPE, MATERIAL - GUN METAL
AA145	1	VALVE FOR DRAINING CONSERVATOR OF TANK DN50, GATE TYPE, MATERIAL - GUN METAL
AA149	1	VALVE FOR DRAINING CONSERVATOR OF DIVERTER SWITCH DN25, GATE TYPE, MATERIAL - GUN METAL
AA200	1	VALVE BETWEEN BUCHHOLZ RELAY (CF050) AND CONSERVATOR DN80, GATE TYPE, MATERIAL - GUN METAL
AA201	1	VALVE BETWEEN BUCHHOLZ RELAY (CF050) AND TANK DN80, GATE TYPE, MATERIAL - GUN METAL
AA202	1	VALVE BETWEEN PROTECTION RELAY AND OLTC CONSERVATOR DN25, GATE TYPE, MATERIAL - GUN METAL
AA290	1	VALVE FOR ONLINE DISSOLVED GAS MONITORING SYSTEM DN15, GLOBE TYPE, MATERIAL - GUN METAL
AA291	1	VALVE FOR ONLINEDISSOLVED GAS MONITORING SYSTEM DN50, GATE TYPE, MATERIAL - GUN METAL
AA328	1	VALVE FOR ONLINE INSULATING OIL DRYING SYSTEM DN15, GLOBE TYPE, MATERIAL - GUN METAL
AA329	1	VALVE FOR ONLINE INSULATING OIL DRYING SYSTEM DN15, GLOBE TYPE, MATERIAL - GUN METAL
AA345	1	VALVE BETWEEN CONSERVATOR AND AIR BAG DN25, GATE TYPE, MATERIAL - GUN METAL
AA355	1	VALVE FOR MAIN TANK OIL TREATMENT DN50, GATE TYPE, (TOP) MATERIAL - GUN METAL
AA356	1	VALVE FOR MAIN TANK OIL TREATMENT DN50, (BOTTOM) GATE TYPE, MATERIAL - GUN METAL
AA501	1	VALVE BETWEEN TANK TOP TO COOLER-1 MANIFOLD DN200, BUTTERFLY TYPE
AA502	1	VALVE BETWEEN TANK TOP TO COOLER-2 MANIFOLD DN200, BUTTERFLY TYPE
AA503	1	VALVE BETWEEN TANK TOP TO COOLER-3 MANIFOLD DN200, BUTTERFLY TYPE
AA504	1	VALVE BETWEEN TANK TOP TO COOLER-4 MANIFOLD DN200, BUTTERFLY TYPE
AA513	1	VALVE BETWEEN COOLER MANIFOLD TO TANK BOTTOM DN250, BUTTERFLY TYPE
AA514	1	VALVE BETWEEN COOLER MANIFOLD TO TANK BOTTOM DN250, BUTTERFLY TYPE
AA651	1	VALVE FOR COOLER BANK-1 TOP OIL TREATMENT & DRAIN DN50, GATE TYPE, MATERIAL - GUN METAL
AA652	1	VALVE FOR COOLER BANK-2 TOP OIL TREATMENT & DRAIN DN50, GATE TYPE, MATERIAL - GUN METAL

ITEM	QTY	DESCRIPTION
AA653	1	VALVE FOR COOLER BANK-3 TOP OIL TREATMENT & DRAIN DN50, GATE TYPE, MATERIAL - GUN METAL
AA654	1	VALVE FOR COOLER BANK-4 TOP OIL TREATMENT & DRAIN DN50, GATE TYPE, MATERIAL - GUN METAL
AA655	1	VALVE FOR COOLER BANK-1 BTM. OIL TREATMENT & DRAIN DN50, GATE TYPE, MATERIAL - GUN METAL
AA656	1	VALVE FOR COOLER BANK-2 BTM. OIL TREATMENT & DRAIN DN50, GATE TYPE, MATERIAL - GUN METAL
AA657	1	VALVE FOR COOLER BANK-3 BTM. OIL TREATMENT & DRAIN DN50, GATE TYPE, MATERIAL - GUN METAL
AA658	1	VALVE FOR COOLER BANK-4 BTM. OIL TREATMENT & DRAIN DN50, GATE TYPE, MATERIAL - GUN METAL
AA671	1	VALVE FOR ISOLATING COOLER BANK-1, TOP, DN200, BUTTERFLY TYPE
AA672	1	VALVE FOR ISOLATING COOLER BANK-2, TOP, DN200, BUTTERFLY TYPE
AA673	1	VALVE FOR ISOLATING COOLER BANK-3, TOP, DN200, BUTTERFLY TYPE
AA674	1	VALVE FOR ISOLATING COOLER BANK-4, TOP, DN200, BUTTERFLY TYPE
AA675	1	VALVE FOR ISOLATING COOLER BANK-1, BTM, DN200, BUTTERFLY TYPE
AA676	1	VALVE FOR ISOLATING COOLER BANK-2, BTM, DN200, BUTTERFLY TYPE
AA677	1	VALVE FOR ISOLATING COOLER BANK-3, BTM, DN200, BUTTERFLY TYPE
AA678	1	VALVE FOR ISOLATING COOLER BANK-4, BTM, DN200, BUTTERFLY TYPE
AB005	1	AIR VENT PLUG ON CONSERVATOR DIN 42558 SIZE 12
AB230	72	VALVE FOR RADIATOR ISOLATION DN80, BUTTERFLY TYPE
AB240	1	RESIDUAL OIL DRAIN DEVICE FOR TANK M52X2
AB250	2	BUCHHOLZ RELAY GAS COLLECTING PIPE WITH BLEED VALVE (1/4") & Gas collecting pot. ✓
AB600	36	AIR VENT PLUG ON RADIATOR DIN 42558 SIZE 12
AB601	3	AIR VENT PLUG ON TANK COVER DIN 42558 SIZE 12
AB610	4+1	AIR VENT PLUG ON TOP COOLER PIPE & BOTTOM MANIFOLD DIN 42558 SIZE 12
AB630	36	DRAIN PLUG ON RADIATOR DIN 42558 SIZE 12A
AB641	4	DRAIN PIPE WITH FLANGE ON TOP COOLER PIPING 50NB
AB642	1	DRAIN PIPE WITH FLANGE ON BOTTOM COOLER MANIFOLD 50NB
AC600	36	RADIATORS ✓

श्रेणियाँ CAP-1
 I. कौशल/निर्माण/हेतु अनुमोदित/जारी
 II. फेरिकेशन/निर्माण/हेतु अनुमोदित/जारी
 बरतें दी गई दिष्टियाँ एवं आशोधनों को
 सम्मिलित किया जाए। कृपया आशोधित
 दस्तावेज अनुमोदनार्थ प्रस्तुत करें।
 III. दिष्टियों सम्मिलित कर पुनः अनुमोदनार्थ
 प्रस्तुत करें।
 IV. सुधारार्थ एवं रिक्त हेतु।
 V. अनुमोदित नहीं।
 पावर ग्रिड कारपोरेशन ऑफ इंडिया लि०
 अभियांत्रिकी (उपकेन्द्र), गुडगाँव, हरियाणा.

EMPLOYER : POWER GRID CORPORATION OF INDIA LTD.
 (A Government of India Enterprise)
 PROJECT : On Shore Supply Contract for Auto Transformer
 package (P325 - TR01) for 7 x 500MVA Single phase
 Auto Transformers at 765/400kV Kurnool (NEW)
 Sub-Station under Transmision System Associated
 with Krishnapatnam UMPP - Prat - C1
 SPECIFICATION NO. : CC - CS / 325 - SR1 / TR - 1787 / 1 / G5
 PO NO. : CC - CS / 325 - SR1 / TR - 1787 / 1 / G5 / NOA - I / 4572
 Dt.24.01.2013

REV. NO.	DESCRIPTION	DATE	SIGN
-	-	-	-
POWER GRID CORPORATION OF INDIA LIMITED (A Government of India Enterprise)			
Date	05.02.2013	Approved	General tolerances --
Distr. Team	STI	vide stamp: release status	Scale N.T.S.
Des'd	DIVAKAR	VMV	Project 300/400/500MVA, 765/400/33kV AUTO TRANSFORMER
Chk'd	MBP		W.D. No. I130100
SIEMENS		ET TR	Language EN AutoCAD
Title			Dwg. No. I00 02 341
BILL OF MATERIAL FOR 500 MVA 7650kV AUTO TRANSFORMER			Rev. --
			Sheet No. 01+

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Dimensions in millimeters (mm) except marked differently

ITEM	QTY	DESCRIPTION
AC619	1	RADIATOR BANK-1 (33%)
AC620	1	RADIATOR BANK-2 (33%)
AC621	1	RADIATOR BANK-3 (33%)
AC622	1	RADIATOR BANK-4 (33%)
AE004	1	SKID BASE
AN701	1	COOLING FAN 1 (COOLER BANK-1)
AN702	1	COOLING FAN 2 (COOLER BANK-1)
AN703	1	COOLING FAN 3 (COOLER BANK-1)
AN704	1	COOLING FAN 4 (COOLER BANK-1)
AN705	1	COOLING FAN 5 (COOLER BANK-1)
AN706	1	COOLING FAN 6 (COOLER BANK-2)
AN707	1	COOLING FAN 7 (COOLER BANK-2)
AN708	1	COOLING FAN 8 (COOLER BANK-2)
AN709	1	COOLING FAN 9 (COOLER BANK-2)
AN710	1	COOLING FAN 10 (COOLER BANK-2)
AN711	1	COOLING FAN 11 (COOLER BANK-3)
AN712	1	COOLING FAN 12 (COOLER BANK-3)
AN713	1	COOLING FAN 13 (COOLER BANK-3)
AN714	1	COOLING FAN 14 (COOLER BANK-3)
AN715	1	COOLING FAN 15 (COOLER BANK-3)
AN716	1	COOLING FAN 16 (COOLER BANK-4)
AN717	1	COOLING FAN 17 (COOLER BANK-4)
AN718	1	COOLING FAN 18 (COOLER BANK-4)
AN719	1	COOLING FAN 19 (COOLER BANK-4)
AN720	1	COOLING FAN 20 (COOLER BANK-4)

ITEM	QTY	DESCRIPTION
AP601	1	AXIAL FLOW COOLING PUMP 1 (COOLER BANK-1)
AP603	1	AXIAL FLOW COOLING PUMP 2 (COOLER BANK-2)
AP605	1	AXIAL FLOW COOLING PUMP 3 (COOLER BANK-3)
AP607	1	AXIAL FLOW COOLING PUMP 4 (COOLER BANK-4)
AT001	2	DEHYDRATING BREATHING ASSLY. FOR MAIN CONSERVATOR, TYPE - 3 IN SERIES,
AT005	1	DEHYDRATING BREATHING ASSLY. FOR OLTC CONSERVATOR, TYPE - 2 IN SERIES,
BB001	1	TANK
BB005	1	TOP COVER
BB085	1	CONSERVATOR FOR MAIN TANK (AIR CELL TYPE)
BB089	1	CONSERVATOR FOR DIVERTER TANK (CONVENTIONAL)
BB120	1	AIR BAG IN CONSERVATOR FOR MAIN TANK
BQ010	4	THERMOMETER POCKET FOR (CT031, CT033, CT034, CT035)
BQ011	2	THERMOMETER POCKET (MIG, CT627 + SPARE)
BQ012	3	THERMOMETER POCKET FOR RTD
BQ013	8	THERMOMETER POCKET ON AC619 - AC622
BQ023	1	DETACHABLE LADDER WITH ANTI-CLIMBING BARRIER
BQ029	4	JACKING PAD
BQ030	4	LIFTING LUGS FOR COMPLETE TRANSFORMER (CAPACITY - 150 TON)
BQ031	4	LIFTING LUGS FOR COMPLETE CONSERVATOR
BQ034	12	LASHING LUGS (50φ)
BQ035	4	LIFTING LUGS TO LIFT TANK COVER ONLY
BQ039	4	PULLING EYE (50φ)
BQ050	3	HOOK FOR SAFETY BELT ON BB005

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श्रेणियाँ CAP-1
 I. अंशिकेशन/निर्माण/हेतु अनुमोदित/जारी
 II. फेब्रिकेशन/निर्माण/हेतु अनुमोदित/जारी
 बर्तते दो गई टिप्पणियों एवं आशोधनों को
 सम्मिलित किया जाए। कृपया आशोधित
 दस्तावेज अनुमोदनाथ प्रस्तुत करें।
 III. टिप्पणियों सम्मिलित कर पुनः अनुमोदनाथ
 प्रस्तुत करें।
 IV. सुचनाथ एवं रिफाई हेतु।
 V. अनुमोदित नहीं।
 पावर गिड कारपोरेशन ऑफ इंडिया लि०
 अभियांत्रिकी (उपकेन्द्र), गुडगाँव, हरियाणा.

EMPLOYER : POWER GRID CORPORATION OF INDIA LTD.
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 Dt.24.01.2013

REV. NO.	DESCRIPTION	DATE	SIGN
-	-	-	-
POWER GRID CORPORATION OF INDIA LIMITED (A Government of India Enterprise)			
Date	05.02.2013	Approved	General tolerances --
Distr. Team	STI	vide stamp: release status	Scale N.T.S.
Des'd Chk'd	DIVAKAR MBP	VMV	Project 300/400/500MVA, 765/400/33kV AUTO TRANSFORMER
SIEMENS		ET TR	W.D. No. I130100
Title		BILL OF MATERIAL FOR 500 MVA 7650kV AUTO TRANSFORMER	
Dwg. No.		100 02 341	
Ret.		-	
Sheet No.		02+	

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Dimensions in millimeters (mm) except marked differently

ITEM	QTY	DESCRIPTION
BQ156	2	BRACKET FOR TOP COOLER PIPE SUPPORT
BQ158	5	BRACKET FOR BOTTOM MANIFOLD
BQ159	4	BRACKET FOR COOLER BANK
BQ160	4	BRACKET FOR COOLER BANK
BR107	1	PIPE BETWEEN TANK & MAIN CONSERVATOR, DN80
BR108	1	PIPE BETWEEN DIVERTER SWITCH & OLTC CONSERVATOR, DN25
BR114	1	PIPE BETWEEN DEHYDRATING BREATHER AND MAIN CONSERVATOR, DN25
BR116	1	PIPE BETWEEN DEHYDRATING BREATHER AND OLTC CONSERVATOR, DN25
BR117	1	PIPE BETWEEN DRAIN VALVE (AA145) AND MAIN CONSERVATOR (BB085), DN50
BR325	1	DRAIN PIPE FOR PRESSURE RELIEF VALVE (CP081)
BR326	1	DRAIN PIPE FOR PRESSURE RELIEF VALVE (CP082)
BR615	4	PIPE FROM TANK TO TOP HEADER
BR616	4	PIPE FROM RADIATOR BANK BOTTOM MANIFOLD
BR626	6	FLEXIBLE EXPANSION JOINTS, DN200
BR627	1	FLEXIBLE EXPANSION JOINTS, DN80
BR628	1	FLEXIBLE EXPANSION JOINTS, DN350
BR656	1	MANIFOLD (OIL OUTLET), 350SQ
BR657	1	AIR VENT PIPE BETWEEN HV, IV DOME AND CONSERVATOR
BZ007	1	INSPECTION WINDOW FOR HV BUSHING-1.1
BZ008	1	INSPECTION WINDOW FOR IV BUSHING-2.1
BZ009	1	INSPECTION WINDOW FOR CORE GROUNDING TERMINAL
BZ010	2	INSPECTION WINDOW FOR LV BUSHING-3.1 & 3.2
BZ011	2	INSPECTION WINDOW FOR SERVICE (MANHOLE)
BZ013	1	INSPECTION WINDOW FOR NEUTRAL BUSHING-N
BZ020	2	HAND HOLE FOR CLEANING MAIN CONSERVATOR

ITEM	QTY	DESCRIPTION
BZ023	1	HAND HOLE FOR CLEANING OLTC CONSERVATOR
BZ102	1	VACUUM CONNECTION PORT ON CONSERVATOR-150 NB
BZ106	1	REFILLING DEVICE FOR DRY AIR WITH PRESSURE REGULATOR, DURING TRANSPORT
BZ123	1	SHOCK RECORDER DURING TRANSPORT (ON RETURNABLE BASIS)
BZ125	1	FIBRE OPTIC TEMP. SENSING INSTRUMENT.
BZ133	4	TERMINAL FOR TANK EARTHING
BZ134	6	EARTHING LINK BETWEEN COVER & TANK
BZ135	1	EARTHING LINK BETWEEN OCTC HEAD & COVER
BZ150	2	SIEMENS MONOGRAM PLATE
BZ151	2	RATING PLATE
BZ152	2	CONNECTION DIAGRAM PLATE
BZ159	2	VALVE SCHEDULE PLATE
BZ170	1	OCTC WARNING PLATE
BZ171	1	INSTRUCTION PLATE FOR UNTANKING
BZ180	1	AIRCELL INSTRUCTION PLATE
BZ200	1	TERMINAL CONNECTOR FOR HV BUSHING (GD001)
BZ201	1	TERMINAL CONNECTOR FOR IV BUSHING (GD005)
BZ202	2	TERMINAL CONNECTOR FOR LV BUSHING (GD013)
CE101	1	CURRENT TRANSFORMER CONNECTION (HV-1.1)
CE104	1	CURRENT TRANSFORMER CONNECTION (HV-N)
CE109	1	CURRENT TRANSFORMER CONNECTION (IV-2.1)
CE117	1	CURRENT TRANSFORMER CONNECTION (LV-3.2)
CF050	2	BUCHHOLZ RELAY, DOUBLE FLOAT TYPE WITH BLEED & TEST VALVE, DN80 (GOR-3)
CF061	1	PROTECTION (SURGE) RELAY FOR DIVERTER SWITCH
CF071	4	REVERSE FLOW BLOCKING DEVICE (NON-RETURN VALVE)
CF072	1	PNRV (Flow sensitive non Return Valve) ✓

श्रेणियां CAP-1
 I. प्रतिकेसन/निर्माण/हेतु अनुमोदित/जारी
 II. फेरिकेसन/निर्माण/हेतु अनुमोदित/जारी
 कर्तव्य ही गई टियरिंगियो एवं आशोपनी को सम्मिलित किया जाए। कृपया आशोपित इलाके अनुमोदनाथ प्रस्तुत करें।
 III. विम्विगी सम्मिलित कर पुनः अनुमोदनाथ प्रस्तुत करें।
 IV. सूचनाथ एवं रिकार्ड हेतु।
 V. अनुमोदित नही।
 पावर ग्रिड कारपोरेशन ऑफ इंडिया लि०
 अभियंत्रिकी (उपकेन्द्र), गुडगाँव, हरियाणा.

EMPLOYER : POWER GRID CORPORATION OF INDIA LTD. (A Government of India Enterprise)
 PROJECT : On Shore Supply Contract for Auto Transformer package (P325 - TR01) for 7 x 500MVA Single phase Auto Transformers at 765/400kV Kurmool (NEW) Sub-Station under Transmision System Associated with Krishnapatnam UMPP - Prat - C1
 SPECIFICATION NO. : CC - CS / 325 - SR1 / TR - 1787 / 1 / G5
 PO NO. : CC - CS / 325 - SR1 / TR - 1787 / 1 / G5 / NOA - I / 4572 Dt.24.01.2013

REV. NO.	DESCRIPTION	DATE	SIGN
POWER GRID CORPORATION OF INDIA LIMITED (A Government of India Enterprise)			
Date	05.02.2013	Approved	General tolerances --
Dist. Team	STI	vide stamp: release status	Scale N.T.S.
Des'd Chk'd	DIVAKAR MBP	VMV	Project 300/400/500MVA, 765/400/33kV AUTO TRANSFORMER
SIEMENS		ET TR	W.D. No. I130100
			Language EN AutoCAD
			Title BILL OF MATERIAL FOR 500 MVA 7650kV AUTO TRANSFORMER
			Dwg. No. I00 02 341
			Rev. - Sheet No. 03+

A30-297 x 420

A30

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Dimensions in millimeters (mm) except marked differently

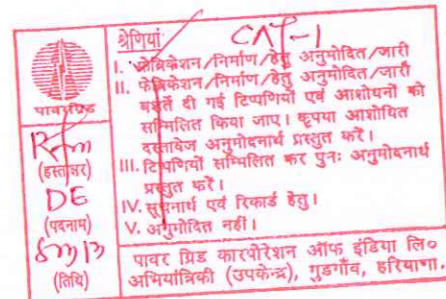
ITEM	QTY	DESCRIPTION
CF601	1	OIL FLOW INDICATOR (T-B) (COOLER BANK-1)
CF603	1	OIL FLOW INDICATOR (T-B) (COOLER BANK-2)
CF605	1	OIL FLOW INDICATOR (T-B) (COOLER BANK-3)
CF607	1	OIL FLOW INDICATOR (T-B) (COOLER BANK-4)
CL060	1	MAGNETIC OIL LEVEL INDICATOR FOR MAIN CONSERVATOR
CL061	1	MAGNETIC OIL LEVEL INDICATOR FOR OLTC CONSERVATOR
CL071	1	PRISMATIC OIL LEVEL GAUGE ON MAIN CONSERVATOR
CL072	1	PRISMATIC OIL LEVEL GAUGE ON OLTC CONSERVATOR
CL073	1	PRISMATIC OIL LEVEL GAUGE ON TANK
CP081	1	SPRING OPERATED SELF RESETTING TYPE PRESSURE RELIEF DEVICE ON TANK WITH DIRECTIONAL SHROUD
CP082	1	SPRING OPERATED SELF RESETTING TYPE PRESSURE RELIEF DEVICE ON TANK WITH DIRECTIONAL SHROUD
CQ001	1	ONLINE INSULATING OIL DRYING SYSTEM ✓
CQ006	1	HYDROGEN AND MOISTURE MONITORING STSEM ✓
CT031	1	OIL TEMPETRATURE INDICATOR
CT033	1	WINDING TEMPETRATURE INDICATOR-HV
CT034	1	WINDING TEMPETRATURE INDICATOR-IV
CT035	1	WINDING TEMPETRATURE INDICATOR-LV
CT627	2	BRASS ENCASED ALCOHOL IN GLASS THERMOMETER
GD001	1	HV BUSHING (1.1) CONDENSER TYPE, 800 kV, 2500A
GD005	1	IV BUSHING (2.1) CONDENSER TYPE, 420kV, 2500A
GD006	1	NEUTRAL BUSHING (N), OIL COMMUNICATING TYPE 36 kV, 3150A
GD013	2	LV BUSHING (3.1 & 3.1), CONDENSER TYPE, 52 kV, 3150A
GF070	1	TERMINAL ARRANGEMENT FOR CORE GROUNDING
GH001	1	MARSHALLING BOX
GH002	1	COOLER CONTROL CUBICLE BOX
GS001	1	ON LOAD TAP CHANGER
GX001	1	MOTOR DRIVE FOR ON LOAD TAP CHANGER

NOTES :-

1) REFER OUTLINE DRAWING FOR W.O. 1130100, DRAWING NUMBER I00 02 340.

NOTE:

Make and model of sub-vendor items are subjected to 'Q&B' POWERGRID approval.



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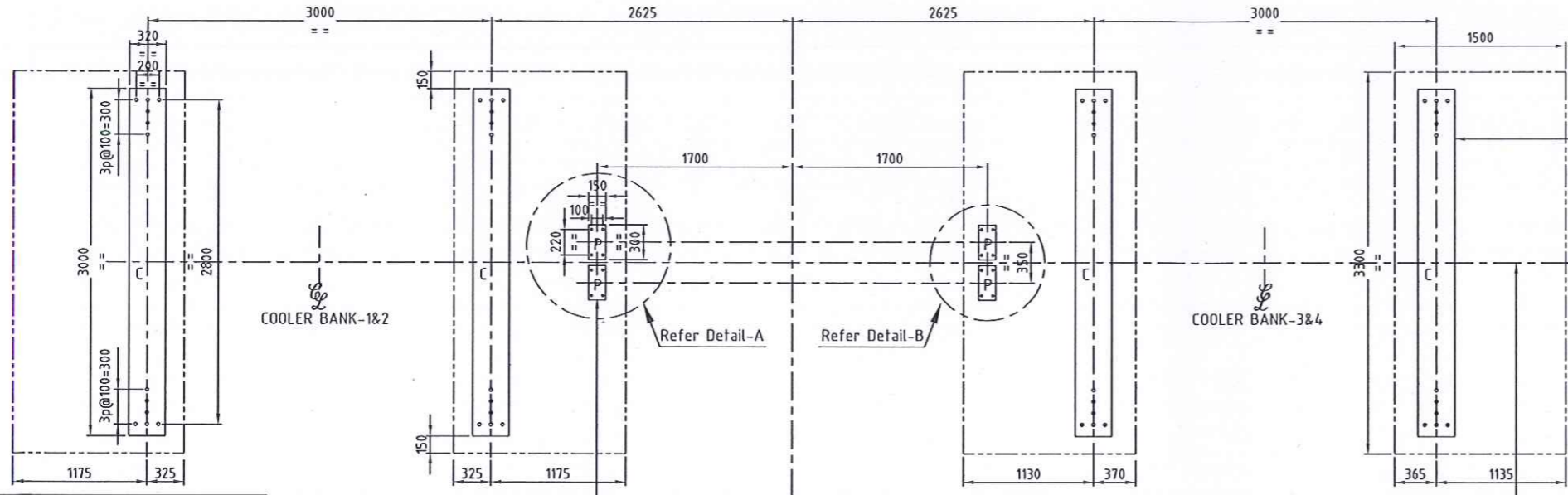
REV. NO.	DESCRIPTION	DATE	SIGN
-	-	-	-
POWER GRID CORPORATION OF INDIA LIMITED (A Government of India Enterprise)			
Date	05.02.2013	Approved	General tolerances --
Distr. Team	STI	vide stamp: release status	Scale N.T.S.
Des'd	DIVAKAR	VMV	Project 300/400/500MVA, 765/400/33kV AUTO TRANSFORMER
Chk'd	MBP		W.D. No. I130100
SIEMENS		ET TR	Projection method
Title			Language EN AutoCAD
BILL OF MATERIAL FOR 500 MVA 7650kV AUTO TRANSFORMER			Dwg. No. I00 02 341
Rev. --			Sheet No. 04+

A30-297 x 420

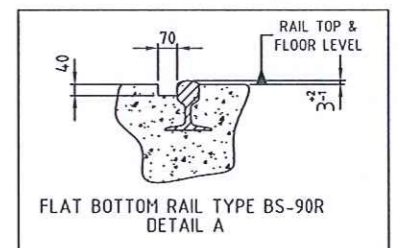
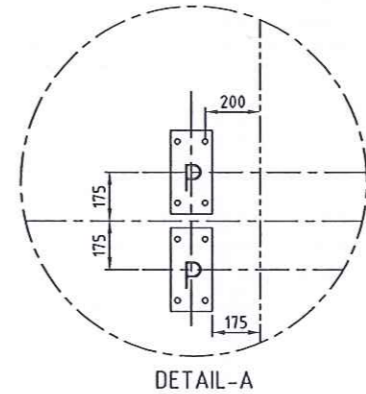
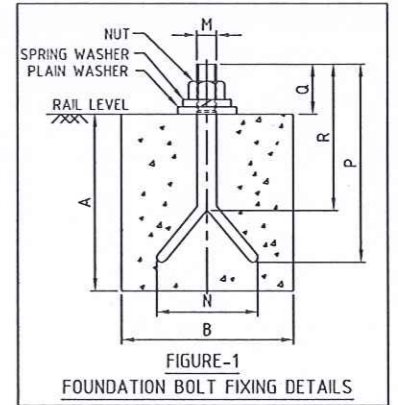
A30

COOLER BANK SIDE

SR.NO.	DESCRIPTION	DIMENSIONS						QTY. (NOS.)	
		M	N	P	Q	R	A		B
1	RADIATOR HEADER SUPPORT FRAME (C)	M24	75	380	100	340	380	350	48
2	COOLER PIPE SUPPORT (P)	M16	50	280	70	250	280	150	28

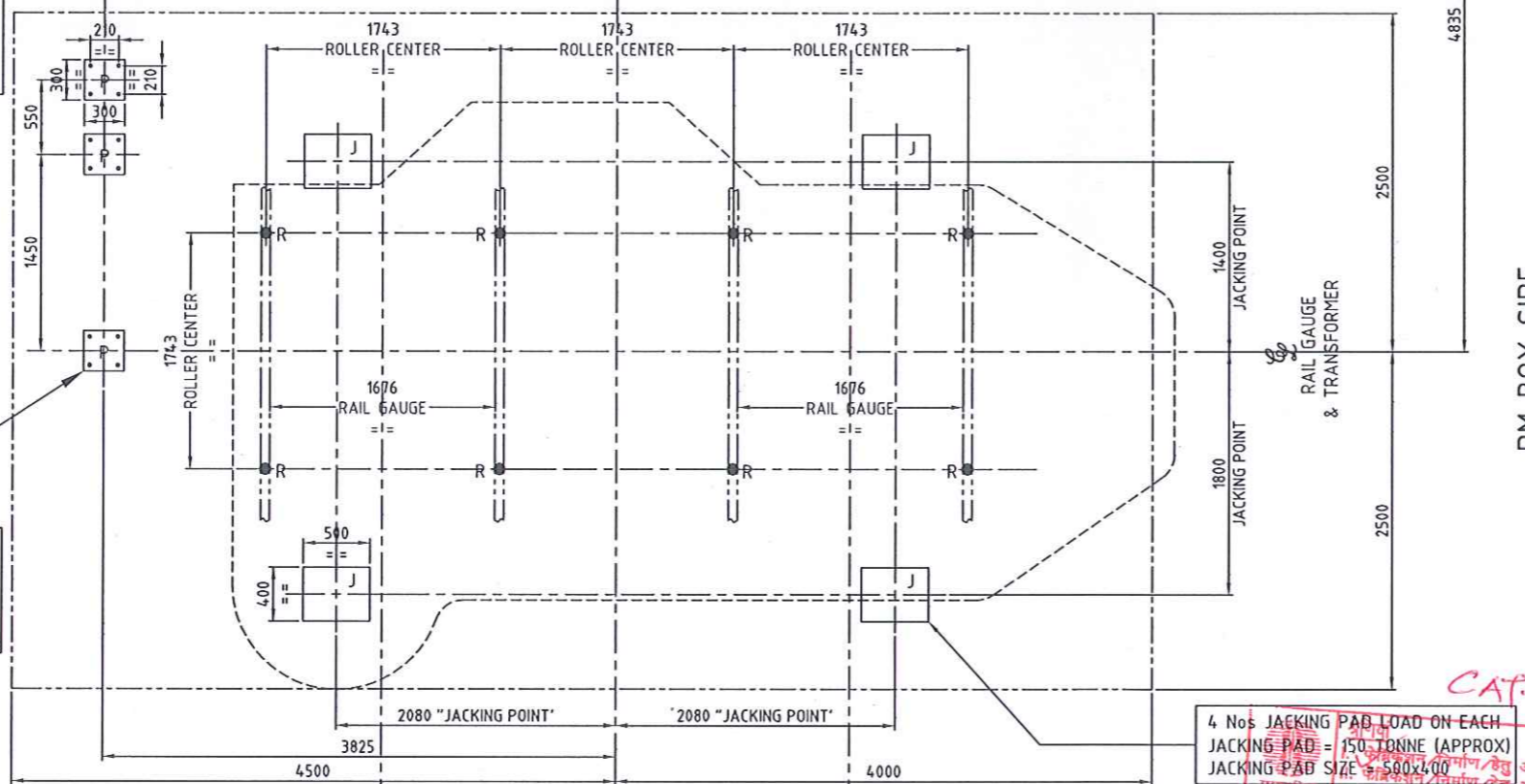


4 SUPPORTS WITH 12 NOS - M24 FOUNDATION BOLTS FOR COOLER BANKS SUPPORT
 MAXIMUM WEIGHT = 17500 KGS (APPROX)
 BASE PLATE SIZE = 20THK. x 320 x 3000

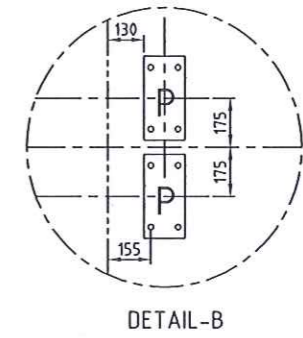


4 NOS OF SUPPORTS WITH 4 NOS M16 FOUNDATION BOLTS FOR COOLER PIPE SUPPORT.
 MAXIMUM WEIGHT = 1000KG
 BASE PLATE SIZE = 10THKx300x150

3 NOS OF SUPPORTS WITH 4 NOS M16 FOUNDATION BOLTS FOR COOLER PIPE SUPPORT.
 MAXIMUM WEIGHT = 2000KG
 BASE PLATE SIZE = 10THKx300x300



TRANSFORMER PULL-OUT DIRECTION

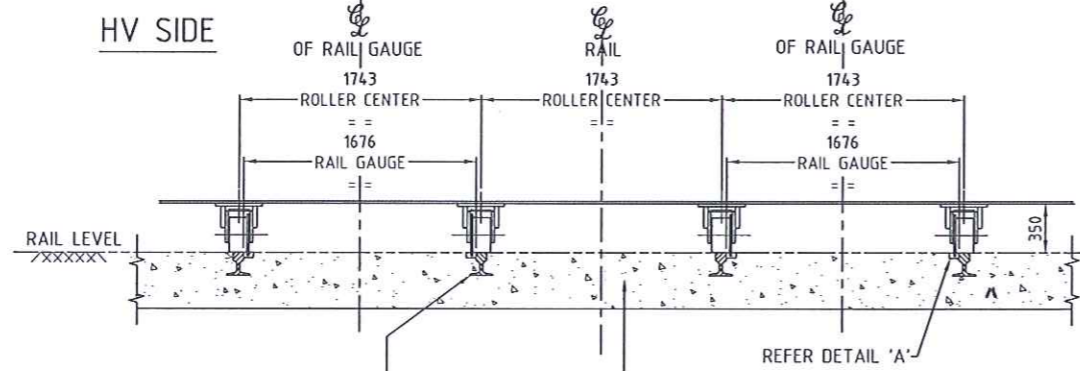


- NOTES:
- 1). ALL DIMENSIONS ARE IN mm.
 - 2). GROUTING OF FOUNDATION BOLTS SHALL BE DONE ONLY AFTER FINAL ERECTION OF THE STRUCTURE.
 - 3). FOUNDATION BOLTS & HARDWARES SHALL NOT BE SUPPLIED BY SIEMENS.
 - 4). LEVEL OF ALL FOUNDATION SHALL BE KEPT IN LINE WITH RAIL LEVEL.
 - 5). LOAD ON EACH FOUNDATION BASE IS GIVEN ON THE HIGHER SIDE FOR FOUNDATION PURPOSE ONLY.
 - 6). FOR GENERAL ARRANGEMENT REFER DRAWING NO. 100 02 340.
 - 7). "-----" INDICATES TANK PROFILE.
 - 8). "-----" INDICATES LAYOUT OF PGCIL STANDARD FOUNDATION DRAWING (SKETCH) FOR 500MVA, 765kV 1Ph ICT.

4 Nos JACKING PAD LOAD ON EACH JACKING PAD = 150 TONNE (APPROX)
 JACKING PAD SIZE = 500x400

पॉवर ग्रिड कॉर्पोरेशन ऑफ इंडिया लि०
 अभियांत्रिकी (उपकेन्द्र), गुडगाँव, हरियाणा.

बखत दो गई टिप्पणियों एवं आशोधनों को सम्मिलित किया जाए। कृपया आशोधित दस्तावेज अनुमोदनाथ प्रस्तुत करें।
 III. टिप्पणियों सम्मिलित कर पुनः अनुमोदनाथ प्रस्तुत करें।
 IV. सुधार एवं रिकार्ड हेतु।
 V. अनुमोदित नहीं।



STANDARD FLAT BOTTOM RAIL TYPE BS-90R. NOT IN SIEMENS SCOPE.

FOUNDATION BELOW EACH RAIL SHOULD BE SUITABLE FOR 2,75,000 KGS, TOTAL WEIGHT OF TRANSFORMER

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POWER GRID CORPORATION OF INDIA LIMITED (A Government of India Enterprise)

REV. NO.	DESCRIPTION	DATE	SIGN
Date 05.02.2013	General tolerances -		
Distr. Team STI	Approved vide stamp, release status	Scale NTS	Projection method
Des'd Chk'd DIVAKAR MBP	Project 300/400/500MVA, 765/400/33kV AUTO TRANSFORMER	W.D. No. 1130100	Language EN
			AutoCAD
			Dwg. No. 102 02 342
			Sheet No. 01-

SIEMENS ET TR FOUNDATION DETAILS