

**BIHAR STATE POWER TRANSMISSION COMPANY LTD., PATNA**

A subsidiary company of Bihar State Power (Holding) Company Ltd., Patna

CIN - U74110BR2012SGC018889

[SAVE ENERGY FOR BENEFIT OF SELF AND NATION]

Head Office, Vidyut Bhawan, Bailey Road, Patna - 800021

E-mail address - ceplanningengg@gmail.com,

Website - www.bsptcl.in

Letter no. C.E. (P&E)/15/2023 / BSPTCL, Patna

Dated _____

From,

Kumar Prasant
Chief Engineer (Planning & Engineering)

To,

M/s KantiPrasad Mittal, Meerut (Lead)
In JV with M/s MKB Power Construction Pvt. Ltd.
Head Office: 454, P.C. Colony,
Kankarbagh, Patna-20 (Bihar)
E-mail: mkbpowerconstruction@gmail.com

Sub.:- Regarding final approval of GTP & drawing of 33KV PT of make M/S Vishal Transformer & Switchgear Pvt. Ltd., towards R&M of 02 nos. of 220/132/33kV GSS Khagaul and Bodhgaya against NIT no.-24/PR/BSPTCL/2022 and R&M of 04 nos. of 132/33kV GSS Jehanabad, Banjari, Sheikhpura & Hajipur against NIT no.-25/PR/BSPTCL/2022.

- Ref.:-**
1. NIT No. - 24/PR/BSPTCL/2022
 2. NIT No-25/PR/BSPTCL/2022
 3. NOA No-03 & 04 dated-02/12/2023
 4. NOA No-01 & 02 dated-09/01/2023
 5. This office letter no-223, dated-24.04.2023
 6. Your Letter No. KPM-Infra/MKB/JV/BSPTCL/23-24/25/209, dated: 07.03.2024
 7. This office letter no-99, dated-22.02.2024

Sir,

With reference to above, this is to inform that your request for final approval of GTP & drawing of 33KV PT of make M/S Vishal Transformer & Switchgear Pvt. Ltd., towards R&M of 02 nos. of 220/132/33kV GSS Khagaul and Bodhgaya against NIT no.-24/PR/BSPTCL/2022 and R&M of 04 nos. of 132/33kV GSS Jehanabad, Banjari, Sheikhpura & Hajipur against NIT no.-25/PR/BSPTCL/2022 is hereby accorded on risk and responsibility of M/s Kanti Prasad Mittal, Meerut (Lead) In JV with M/s MKB Power Construction Pvt. Ltd. subject to compliance of technical specification of instant NITs.

Detail of drawing is as follows:-

S. No	Description of Item	Drawing No
1.	General arrangement drawing for 33KV PT	GA-023323-043A
2.	Rating & circuit diagram plate for 33KV PT	NP-023323-043A
3.	Secondary terminal box for 33KV PT	SBOX-0233
4.	Emergence of primary terminal for 33KV PT	PRI.TER-030
5.	Porcelain insulator for 33KV PT	INS-33
6.	GTP	----

Please note that this approval and issue of this letter does not absolve you from any contractual responsibility in terms of quality and correctness of the material and should be strictly in accordance with the tender specifications/ISS/IEC and CBIP manual. If at any time, any abnormality is observed, BSPTCL reserves the right to withdraw this approval with immediate effect without any pre-intimation.

Encl: As above.

Yours faithfully

Sd/-

(Kumar Prasant)

Chief Engineer (P&E)

Dated _____

Memo No/BSPTCL, Patna

Copy forwarded to GM-cum-CE, Trans. Zone Patna/GM-cum-CE, Transmission Zone, Muzaffarpur/ESE, Tr. Circle, Biharsharif/ESE, Tr. Circle, Gaya/ESE, Tr. Circle, Dehri-on-Sone/ESE, Tr. Circle, Hajipur for kind information and necessary action.

Sd/-

(Kumar Prasant)

Chief Engineer (P&E)

1233

SCHEDULE OF THE GUARANTEED TECHNICAL PARTICULARS FOR 33KV POTENTIAL TRANSFORMERS

S.No	Description	33kV PT
1.	Name of Manufacturer	Vishal Transformers & Switchgears Pvt. Ltd.
2.	Type & designation	Vishal make 33kV Single Phase Outdoor Oil cooled PT
3.	Governing Standard	IEC: 61869/IS: 16227
4.	Nominal system voltage	33kV
5.	Highest system voltage	36kV
6.	Rated primary voltage	33kV/ $\sqrt{3}$
7.	Rated secondary current	
	Winding - I	110/ $\sqrt{3}$ Volts
	Winding - II	110/ $\sqrt{3}$ Volts
	Winding - III	110/ $\sqrt{3}$ Volts
8.	One minute power frequency withstand voltage kV (rms)	
	i) Dry	70kV (rms)
	ii) Wet	70kV (rms)
9.	1.2 x 50 Microsecond Impulse withstand voltage (kVp)	170kV (Peak)
10.	No. of Secondary windings	Three
11.	Accuracy Class	
	Winding - I	3P
	Winding - II	3P
	Winding - III	0.2
12.	Rated Burden not less than	50 VA
	Winding - I	50 VA
	Winding - II	50 VA
	Winding - III	50 VA
13.	Temperature rise at 1.1 times rated voltage with rated burden	40° C
14.	Maximum ratio error with rated burden and 5% normal primary voltage	As per IS: 3156
15.	Maximum phase angle error with rated burden and 5% normal primary voltage	As per IS: 3156
16.	Variation of ratio and phase angle error due to variation in	
	a) Voltage by 10%	As per IEC: 61869/IS: 16227
	b) Frequency by 1 Hz.	As per IEC: 61869/IS: 16227
17.	Total Creepage distance in mm	> 900 mm
	a) Moderately polluted atmosphere.	> 900 mm
	b) Heavily polluted atmosphere	

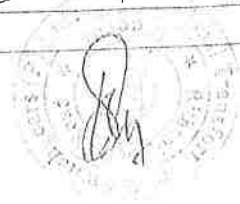
APPROVED

Subject to the condition that you are not absolved of the responsibility for correctness of the materials supplied as per specification

Electrical Superintending Engineer
(Planning and Engineering)
Bihar State Power Transmission Company Ltd.
Vidyal Bhawan, Patna-800021



Adopted 10/12/23
N.T. - 10/12/23
3/4/24



	i) Total	> 900 mm
	ii) Protected	450
18.	One minute power frequency withstand voltage (kV rms) for secondary	3kV - 3KV ✓
19.	Whether corona shield provided or not	Yes
20.	Weight of oil	18 ± 2 Kg
21.	Total weight	140 ± 20 Kg
22.	Mounting details	As per enclosed drawing
23.	Overall dimensions	As per enclosed drawing

24. One min. power freq. withstand voltage in 10KV for exposed terminal and 4KVrms for terminal enclosed in a weather proof box.
(i) Between LV terminal and Earth terminal



25. All secondary terminals to be extended with cable upto metering box and plus 20% spare terminals evenly distributed on all TBs

APPROVED

Subject to the condition that you are not absolved of the responsibility for correctness of the materials supplied as per specification

Sanjiv
Electrical Superintending Engineer
(Planning and Engineering)
Bihar State Power Transmission Company Limited
Vidyut Bhawan, Patna-800021

26. Rated total thermal burden - 75 VA

27. Phase angle error - ± 20 minutes (max) for metering core

Adopted for
NIT 10/PR 15 SPTCL 12023
3/4/23

DRAWING NO:- GA-023323-043A

REV. 00

BILL OF MATERIAL

S.No.	ITEM	MATE. / SPEC.	QTY.
1.	PRIMARY TERMINAL	TINNED COPPER Ø20 x 80 LENGTH	1No.
2.	DOVE SHAPE RAIN COVER	M.S.	1No.
3.	OIL FILLING PORT	M.S. (HDG)	1No.
4.	PRESSURE RELIEF VALVE	BRASS	1No.
5.	OIL EXPANSION CHAMBER	M.S., 26mm	1No.
6.	OIL LEVEL INDICATOR	ALUMINIUM & GLASS	1No.
7.	H.T. BUSHING	FORCELAIN MAKE: TEL / PRESS / JAMES GLENN (APPROVED)	1No.
8.	LIFTING LUGS	M.S.	4Nos.
9.	MAIN TANK	M.S.	1No.
10.	RATING PLATE	AL. ANODISED	1No.
11.	SECONDARY TERMINAL BOX	M.S.	1No.
12.	SECONDARY TERMINALS	NICKELLED BRASS, M6	As Req.
13.	MOUNTING CHANNEL	M.S., 75x40mm	2Nos.
14.	EARTHING TERMINAL	M.S., M12 x 40	2Nos.
15.	LT GLAND WITH REMOVABLE PLATE	NICKELLED BRASS, 1"	1No.

NOTE: 1) CREEPAGE DISTANCE OF BUSHING : 900mm (MIN.)
2) ALL FERROUS PARTS INCLUDING TANK SHALL BE HOT DIP GALVANIZED.

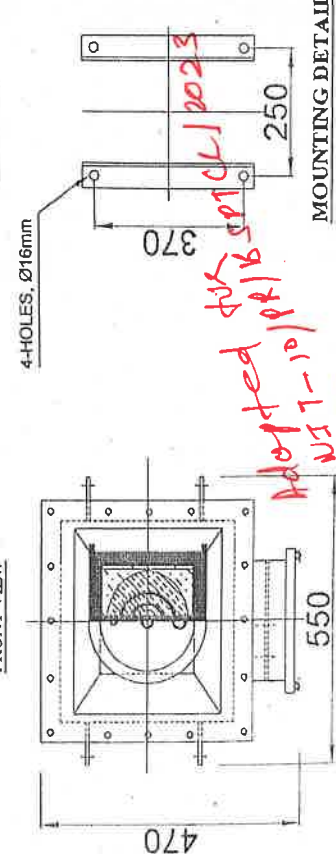
APPROVED

Subject to the condition that you are not absolved of
the responsibility for correctness of the materials
supplied as per specification

Electrical Superintending Engineer
(Planning and Engineering)
Bihar State Power Transmission Corporation Limited
Vidhyut Bhawan

SIDE VIEW

FRONT VIEW



MOUNTING DETAIL

SIDE VIEW

REV. NO.	DESCRIPTION	REV. BY	APPD. BY	DATE
01	37/28			
TOLERANCE: ±10%		WEIGHT:- 140±20 Kg.		

ALL DIMENSIONS ARE IN MM.

VISHAL TRANSFORMERS & SWITCHGEARS (P) LTD.
RITHANI, DELHI ROAD, MEERUT U.P. (INDIA)



SCALE
N.T.S.

MATERIAL
SEE TABLE

DRN.	NAME	SIGN.	DATE
ANUJ	ANUJ		06.03.24
CHK.	CHK.	CHK.	CHK.
ARVIND	ARVIND		
APPD.	APPD.	APPD.	APPD.
M.P. S.	M.P. S.		
DRG. REF. NO.	DRG. REF. NO.	DRG. REF. NO.	DRG. REF. NO.
DRAWING NO.-	DRAWING NO.-	DRAWING NO.-	DRAWING NO.-
GA-023323-043A	GA-023323-043A		
REV.	REV.	REV.	REV.
SHEET NO.-	SHEET NO.-	SHEET NO.-	SHEET NO.-
00	00		

DRAWING NO:- NP-023323-043A

REV.

00

33KV POTENTIAL TRANSFORMER

SERIAL No.	MADE TO	IS : 3156	
RATIO	33000/3/110/3-110/3-110/3V	CONNECTION	PHASE TO EARTH
LINE VOLTAGE	33 KV. ✓	TYPE	OUT DOOR O/C
B.I.L.	36 / 70 / 170 KV ✓	Nos. OF PHASE	ONE
BURDEN	50 / 50 / 50 VA ✓	FREQUENCY	50 Hz.
ACC. CLASS	3P / 3P / 0.2 ✓	EARTHING SYSTEM	☉ SOLIDLY EARTH
CLASS OF INS.	A ✓	YEAR OF MFG.	20..
VOLTAGE FACTOR	1.2 CONT. & 1.5 FOR 30 SEC. ✓	TOTAL WEIGHT	140±20 Kg. ✓
PO. NO.	PROP. OF		

MFD. BY: VISHAL TRANSFORMERS & SWITCHGEARS PVT. LTD.
RITHANI, DELHI ROAD, MEERUT (INDIA) 250103

Adopted for NIT-10 / PR / BSPTCL / 2021

37/123

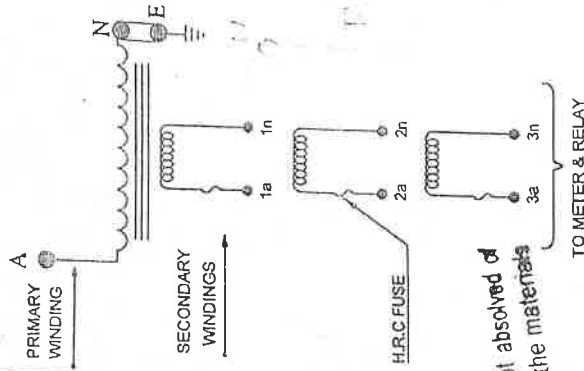
REV. NO. DESCRIPTION REV. BY APPD. BY DATE

ALL DIMENSIONS ARE IN MM.

TOLERANCE:-

WEIGHT:-

CONNECTION DIAGRAM



APPROVED

Subject to the condition that you are not absolved of the responsibility for correctness of the materials supplied as per specification

Electrical Superintending Engineer

(Planning and Engineering Limited)

Bihar State Power Transmission Company Limited

Patna-800021

Customer

Name

NIT No. -

NOA No. -

Project Name -

under State Plan against NIT No. 24/PR/BSPTCL/2022

Date

03 & 04 dated 02.12.2022

R&M of 02 nos. of 2201132/33 KV GSS Bodhgaya ant Khatgaol

under State Plan against NIT No. 24/PR/BSPTCL/2022

VISHAL TRANSFORMERS & SWITCHGEARS (P) LTD.

RITHANI, DELHI ROAD, MEERUT U.P. (INDIA)



SCALE

N.T.S

MATERIAL

ALUMINIUM

TITLE

RATING & CIRCUIT DIAGRAM PLATE

FOR 33KV 1-Ø PT

NAME

SIGN.

DATE

DRN.

CHK

APPD.

M.P. S.

DRG. REF. NO. GA-023323-043A

DRAWING NO. -

REV.

NP-023323-043A

SHEET NO. -

70

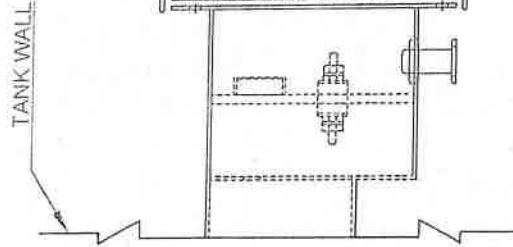
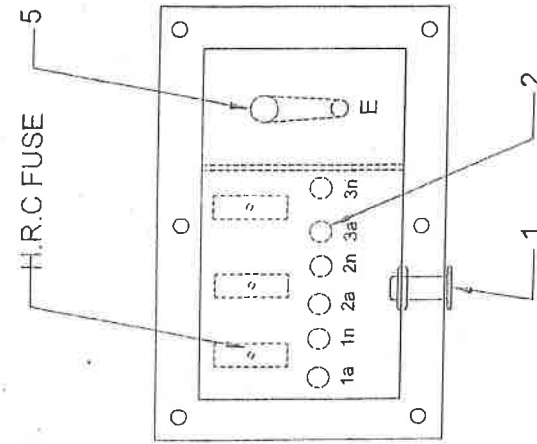
DRAWING NO.: SBOX-0233

REV

00

BILL OF MATERIAL

S.No	ITEM	MATE. / SPEC.	QTY.
1.	CABLE ENTRY HOLE WITH GLAND	NICKELED BRASS, 1"	1No.
2.	L.T. TERMINAL BUSHING	NICKELED BRASS, M-6	As Req.
3.	COVER	M.S.	1No.
4.	GASKET FOR SEC. TERMINAL BOX	NEOPRENE RUBBER	1No.
5.	H.T. NEUTRAL	NICKELED BRASS, M-6	1No.



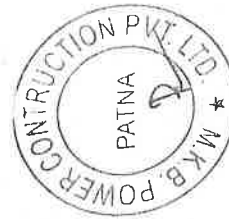
NIT- 10/PR/BSPTCL/2023

Adopted for

34/24

APPROVED

Subject to the condition that you are not absolved of the responsibility for correctness of the materials supplied as per specification



Electrical Superintending Engineer
(Planning and Engineering)
Bihar State Power Transmission Company Limited
Vidhyut Bhawan, Patna-800021

S/-

VISHAL TRANSFORMERS & SWITCHGEARS (P) LTD.
RITHANI, DELHI ROAD, MEERUT U.P (INDIA)

SCALE
N.T.SBOM NO.
SEE TABLE

TITLE

SECONDARY TERMINAL BOX
FOR 33 KV 1-Ø PT

DRAWING NO.:
SBOX-0233

REV.

ALL DIMENSIONS ARE IN MM.

TOLERANCE:-

WEIGHT:-

REV. NO.

DESCRIPTION

REV. BY

DATE

DRG. REF.

GA-023323-043A

SHEET NO:-

00

229

DRAWING NO.: PRI.TER-030

REV.

00

PRIMARY TERMINAL

TOP COVER

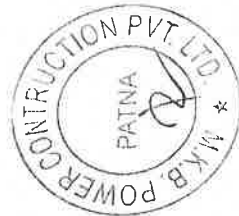
M.S BUSH

PRIMARY WINDING LEAD

APPROVED

Subject to the condition that you are not absolved of the responsibility for correctness of the materials supplied as per specification

Electrical Superintending Engineer
(Planning and Engineering)
Bihar State Power Transmission Company Limited
Vidhyut Bhawan, Patna-800021



SL

Adopted
10/10/2021
3/12/21

Client	BSPTCL
Customer Name	M/s Kanti Prasad Mittal JV With M/s. MKB Power Construction Pvt Ltd
NOA No.-	NIT 00.23 24/PR/BSPTCL/2022
Project Name	R&M of 02 nos. of 2201132/33 KV GSS Bodhgaya ant Khagaul under State Plan against NIT No. 24/PR/BSPTCL/2022

VISHAL TRANSFORMERS & SWITCHGEARS (P) LTD.
RITHIAN, DELHI ROAD, MEERUT U.P (INDIA)

DRN.	ANUJ	SIGN.	DATE
CHK.	ARVIND		06.03.24
APPD.	M.P. S.		

SCALE	BOM NO.
N.T.S	SEE TABLE

DRAWING NO.:	REV.
PRI.TER-030	
SHEET NO.:-	00

TITLE
EMERGENCE OF PRIMARY TERMINAL FOR 33 KV 1-Ø PT

REV NO.	DESCRIPTION	REV. BY	APPD. BY	DATE
TOLERANCE:-	WEIGHT:-			

ALL DIMENSIONS ARE IN MM

2

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2

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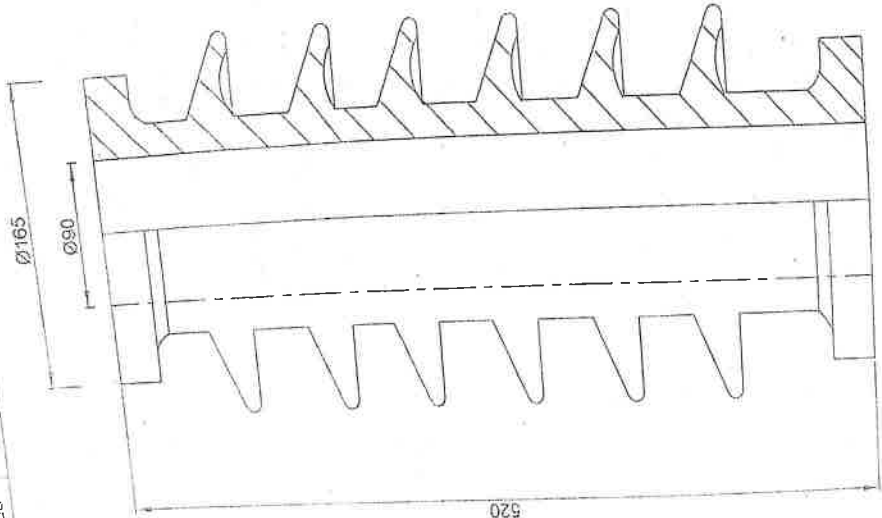
X

Y

Z

DRAWING NO:- **INS-33**

REV. 00



NOTE :-

- * MATERIAL : PORCELAIN
- * CREEPAGE DISTANCE : 900mm.(min.)
- * CREEPAGE DISTANCE : 900mm.(min.)
- * HT. BUSHING : CJT / GENESIS / JAIPUR GLASS / ADPRO / REPUTED MAKE
- * VOLTAGE CLASS : 36KV.

(As requested)
APPROVED
Subject to the condition that you are not absolved of the responsibility for correctness of the materials supplied as per specification

Electrical Superintending Engineer
(Planning and Engineering)
Bihar State Power Transmission Company Limited
Vidhyut Bhawan, Patna-800023
SK

BSPTCL	Customer Name
M/s Kanti Prasad Mittal JV With M/s. MKB Power Construction Pvt.Ltd	
24/PR/BSPTCL/2022	Project Name
03 & 04 dated-02.12.2022	
R&M of 02 nos. of 2201132/33 KV GSS Bodhgaya ant Khagaul	
under State Plan against NIT No. 24/PR/BSPTCL/2022	



VISHAL TRANSFORMERS & SWITCHGEARS (P) LTD.
RITHANI, DELHI ROAD, MEERUT U.P (INDIA)

SCALE	BOM NO.
N.T.S	SEE NOTES

TITLE
PROCELAIN INSULATOR FOR
33KV1-Ø PT

DRAWING NO:- **INS-33**

SHEET NO:-

ALL DIMENSIONS ARE IN MM.

REV NO.	DESCRIPTION
1	As per specification

TOLERANCE:- ±5%

DRN.	CHK.	APPD.	NAME	SIGN.	DATE
			ANUJ		06.03.24
			ARVIND		
			M.P. S.		

DRG. REF. GA-023323-043A

REV. 00

664

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37/4/24