



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 , engg.dept@bsptcl.bihar.gov.in

Website - www.bsptcl.in

Letter No. C.E. (P&E) 153/2023(Part-I) 664 / BSPTCL, Patna

Dated 04/12/23

From,

Kumar Prasant
Chief Engineer (P&E)

To,

**JV of M/s ABN Tower & Transmission Pvt. Ltd.(Lead partner)
and M/s BinodConstruction(JV partner)
Godrej Genesis Building, Unit No.609, Plot No.XI,
6th Floor, Block EP & GP, Sector-V, Salt Lake
Kolkata-700091**

Email:- info@abntower.com

Sub.:- Adoption of vendor alongwith GTP & Drawing of 132KV & 33KV Isolators and 33KV HG Fuse of make M/s G. Nandy & Company, Howrah, West Bengal Construction of 2x50MVA, 132/33KV GSS Bhorey (Dist.Gopalganj) including residential quarter with construction of associated 02 nos. 132KV Line bays at GSS Hathua & Construction of its associated 132KV D/C Bhorey-Hathua Tr. Line with ACSR Panther Conductor (Line length-60RKM) on turnkey basis under state plan against NIT-10/PR/BSPTCL/2023 .

- Ref.:- 1. NIT No.- 10/PR/BSPTCL/2023.
2. NOA No.- 13(service), Dated-01.09.23 & 12(supply), Dated-01.09.23
3. T.O.L. No-157, Dated- 18.02.2022
3.Your Letter no.- ABN/23-24/10/BSPTCL/RL-1163, Dated-23.11.2023.

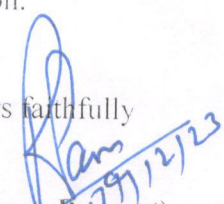
Sir,

With reference to subject noted above, your request for adoption of vendor along with GTP & Drawing of 132KV & 33KV Isolators and 33KV HG Fuse of make M/s G. Nandy & Company, Howrah, West Bengal from NIT- 13/PR/BSPTCL/2021 for Construction of 2x50MVA, 132/33KV GSS Bhorey (Dist-Gopalganj) including residential quarter with construction of associated 02 nos. 132KV Line bays at GSS Hathua & Construction of its associated 132KV D/C Bhorey-Hathua Tr. Line with ACSR Panther Conductor (Line length-60RKM) on turnkey basis under state plan against NIT-10/PR/BSPTCL/2023 is hereby considered **with correction** on the risk and responsibility of **M/s ABN Tower & Transmission Pvt. Ltd.(Lead partner) JV with M/s Binod Construction(JV partner)**. Details of approved drawings are being annexed separately.

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. 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


(Kumar Prasant)
Chief Engineer(P&E)

Annexure of Drawings of 132KV & 33KV Isolators

Sl. No	Description	Document No.
145KV Isolator		
1	GTP of 145KV Isolator	
2	G.A of 145KV 1600/2500A Double Break Isolator with one earth switch (Clockwise close)	DRG No. GNC/145/1
3	G.A of 145KV 1600/2500A Double Break Isolator without earth switch	DRG No. GNC/145/2
4	G.A of 145KV Tandem Isolator	DRG No. GNC/145/3
5	Main switch contact details of 145KV 1600A Isolator	DRG No. GNC/145/4
6	Earth switch contact details of double break isolator	DRG No. GNC/145/5
7	Motor drive mechanism for 145KV Isolator Main Switch	DRG No. GNC/145/6
8	Scheme of motor control mechanism for 145KV isolator main switch	DRG No. GNC/145/7
9	Operating mechanism box for 145KV isolator earth switch	DRG No. GNC/145/11
10	Motor drive mechanism for 145KV isolator earth switch	DRG No. GNC/145/14
11	Scheme of motor control mechanism for 145KV isolator earth switch	DRG No. GNC/145/15
12	Moving contact blade of 145KV 1600A isolator	DRG No. GNC/145/21
13	Main switch contact details of 145KV 2500A isolator	DRG No. GNC/145/25
14	Moving contact blade of 145KV 2500A isolator	DRG No. GNC/145/26
36KV Isolator		
1	GTP of 36KV Isolator	
2	G.A of 145KV 1600/2500A Double Break Isolator without earth switch	DRG No. GNC/33/1
3	G.A of 145KV 1600/2500A Double Break Isolator with earth switch	DRG No. GNC/33/2
4	G.A of 33KV Double Break Tandem Isolator	DRG No. GNC/33/3
5	Main switch contact details of 36KV 1600A Isolator	DRG No. GNC/33/4
6	Motor drive mechanism for 36KV Isolator Main Switch	DRG No. GNC/33/6
7	Scheme of motor control mechanism for 33KV isolator main switch	DRG No. GNC/33/7
8	Operating mechanism box for 33KV isolator earth switch	DRG No. GNC/33/11
9	Moving contact blade of 33KV 1600A isolator	DRG No. GNC/33/21
10	Main switch contact details of 33KV 2500A isolator	DRG No. GNC/33/25
11	Moving contact blade of 33KV 2500A isolator	DRG No. GNC/33/26
12	Contact details of earth switch for 33KV Isolator	DRG No. GNC/33/30
13	GA of 36KV Horn gap fuse	DRG No. 202811

54

Project:	Construction of 2X 50 MVA, 132/33 KV Grid Sub-station, Daudnagar (Block:-Daudnagar, Dist-Aurangabad) & 3X 50 MVA, 132/33 KV Grid Sub-station, Nabinagar (Block:-Nabinagar, Dist-Aurangabad).
Client:	BIHAR STATE POWER TRANSMISSION CO. LTD
NIT No.	13/PR/BSPTCL/2021
Contractor:	LIVINDIA INFRA PRIVATE LIMITED
Title:	GUARANTEED TECHNICAL PARTICULARS FOR 145KV ISOLATOR

Sl	Description	145kV
		Double break, centre post rotating
2	Type of designation	IS: 9921
3	Covering Standards	Outdoor
4	Class (Outdoor/Indoor)	132kV
5	Rated Voltage	50
6	Frequency (HZ)	1600/2500A
7	Rated current of Isolator under site conditions	3
8	No. of Poles	
9	Maximum capacity for interrupting magnetizing current of transformers or charging current of line when equipped with arcing contacts (amps)	0.7A at 0.15 PF
10	(a) Maximum Capacity for interrupting magnetizing current of transformers or charging current of line when not equipped with arcing contacts Details of deviation from the tender specification if any.	0.7A at 0.15 PF
	(b) No. of operations possible without deterioration of contacts	1000
11	Rated short time current (kA rms) for 3 second	15.5
12	Rated Peak short circuit current (kA Peak)	80
13	Rated Current which can be made by earthing Switch (Amps)	Same STC as Isolator
14	Type of mounting	Horizontal upright
15	Phase Centers (mm)	3000
16	Minimum Phase to phase clearance (mm)	3000
17	(a) Minimum phase to ground Clearance (mm)	1500
	(b) Minimum phase to Earth Clearance (mm)	5100
18	No. of Pedestal insulators per phase	3
19	No. of Break/Phase	3
20	Type of Interlock between isolating switch and circuit breaker	Electrical
21	Creepage distance (mm) for heavily polluted atmosphere	3625
22	Main Contacts (Fixed and Moving)	
	(a) Type	Reverse loop type fixed contact and tubular type moving contact
	(b) Material	HDE Copper
	(c) Whether contacts are silver plated	Yes
	(d) Thickness of silver Coating	Min. 25 microns
	(e) Contact Pressure in Kg cm ²	30kg/cm ²
	(f) Current Carrying capacity in Amps.	1600
23	Type of Bearings	Ball/Taper Roller
24	Location of Bearings	Centre of base channel at bottom of rotating post
25	Type of Lubricants	Bearing Oil

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
Vidya Bhawan, Patna-800021

10 FEB 2022

Adopted by NIT



Pg - 1

26	Size and Weight of switch base per pole (mm), (kg)	80 APPROX
27	Weight for one complete pole (kg)	270 approx
28	Operating Mechanism	
	(a) Height of operating handle above foundation (mm)	1200
	(b) Force required for three phase operation (Kg)	20
29	Auxiliary Switches	
	(i) Number of normally open and normally closed contacts for main switch	5NO+5NC exclusively for Employer's use in future
	(ii) Number of normally open and normally closed contacts for Earth switch	3NO+3NC exclusively for Employer's use in future
	(iii) Rated voltage	250 V
	(iv) Rated Current	10A
	(v) Test Voltage	2kV
30	Insulation Levels Isolator	
	i) 1.2/50 microsecond dry impulse withstand Voltage (Positive and Negative Polarity) kVpeak	
	a) Across the isolating distance with Isolator open	750
	b) To earth and between the poles	650
	ii) One minute dry power frequency Withstand Voltage (kV rms)	
	a) Across the Isolating distance with Isolator open	315
	b) To earth and between the poles	275
	iii) One minute wet power frequency withstand Voltage (KV rms)	275
31	Insulation strength of auxiliary gear (kV rms)	NA
32	Maximum temp. rise of main contact at rated current corresponding to an ambient temp. of air in shade	65°C as per IS:9921
33	Galvanization	
	i) Governing Standard	2629-1995
	ii) Method of Galvanization	Hot dip
	iii) Weight of Zinc coating gm/cm square	As per IS: 4759
34	Weight of 3 phase Isolator complete with operating mechanism but without support structure & frame works etc.	950 kg approx

Adopted for 115-10/ PR/BS/2023
4/12/23

→ Maximum current density - Cu - 1.6 A/sq mm

→ Maximum operating time - 12 sec

→ Mechanical endurance class - Isolator - M2
E/S - M0

→ All contacts & control circuits are to be wired up to spare terminals already allotted.

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

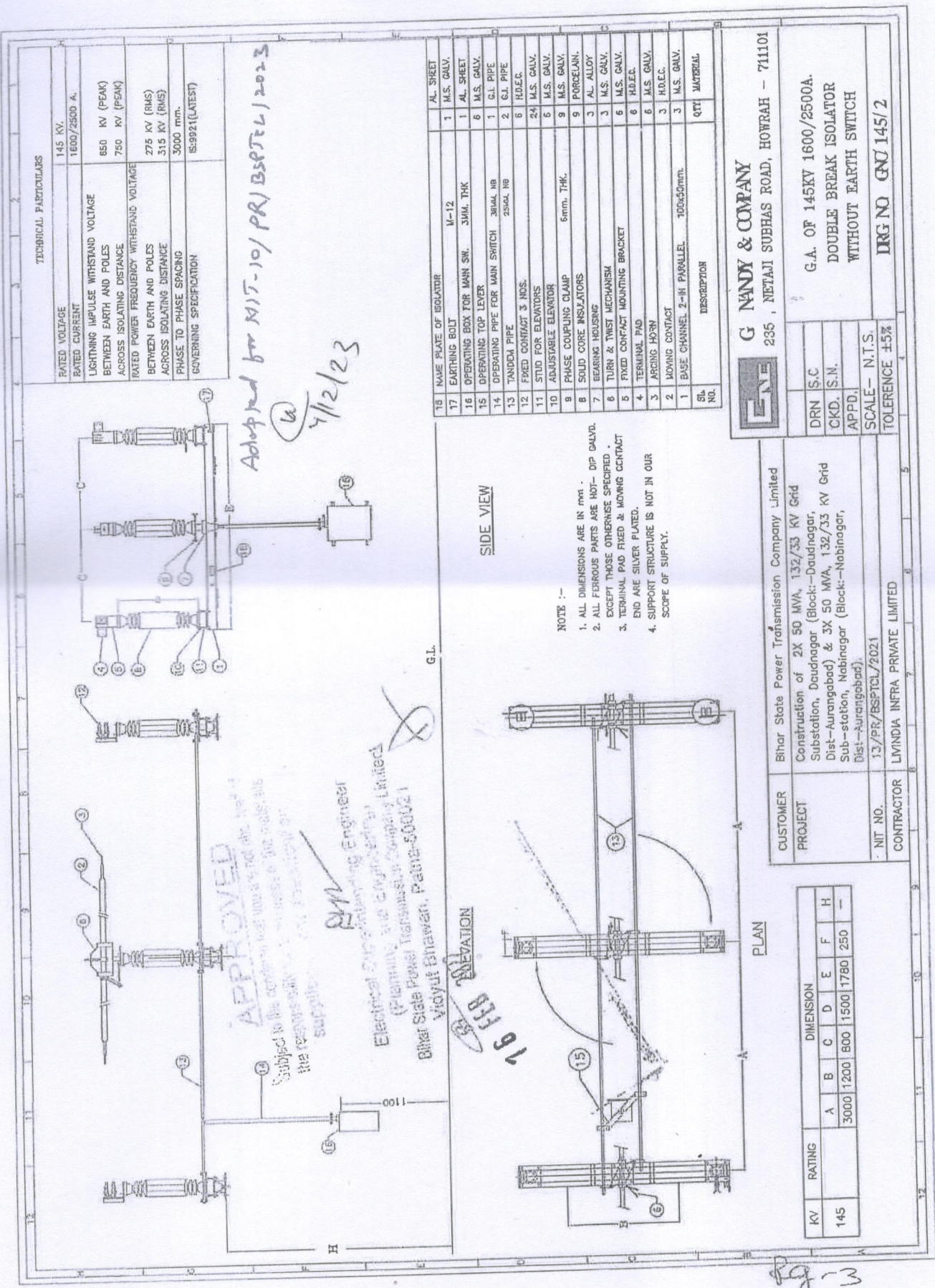
Electrical Superintending Engineer
(Planning and Engineering)
Bihar State Power Transmission Company Ltd
Vidyut Bhawan, Patna-800021



16 FEB 2022

pg-2

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Adopted for MIT-10/PR/BSPTCL/2023
(u)
7/12/23

APPROVED
Submitted to the authority for approval and the same shall be subject to the approval of the authority.
Electrical Engineering Engineer
(Planning and Engineering)
Bihar State Power Transmission Company Limited
Vidyal Bhawan, Patna-800021

Sl. No.	DESCRIPTION	QTY	MATERIAL
1	BASE CHANNEL 2-IN PARALLEL 100x50mm.	3	M.S. GALV.
2	MOVING CONTACT	3	H.D.E.C.
3	ARCING HORN	6	H.D.E.C.
4	TERMINAL PAD	6	H.D.E.C.
5	FIXED CONTACT MOUNTING BRACKET	6	M.S. GALV.
6	TURN & TWIST MECHANISM	3	M.S. GALV.
7	BEARING HOUSING	3	AL. ALLOY
8	SOLID CORE INSULATORS	9	PORCELAIN.
9	PHASE COUPLING CLAMP	9	M.S. GALV.
10	ADJUSTABLE ELEVATOR	6	M.S. GALV.
11	STUD FOR ELEVATORS	24	M.S. GALV.
12	FIXED CONTACT 3 NOS.	6	H.D.E.C.
13	TANDUM PIPE	2	G.I. PIPE
14	OPERATING PIPE FOR MAIN SWITCH	1	G.I. PIPE
15	OPERATING TOP LEVER	6	M.S. GALV.
16	OPERATING BOX FOR MAIN SW.	1	AL. SHEET
17	EARTHING BOLT	1	M.S. GALV.

SIDE VIEW

- NOTE :-
1. ALL DIMENSIONS ARE IN mm.
 2. ALL FERROUS PARTS ARE HOT- DIP GALV.
 3. EXCEPT THOSE OTHERWISE SPECIFIED.
 4. SUPPORT STRUCTURE IS NOT IN OUR SCOPE OF SUPPLY.

ELEVATION

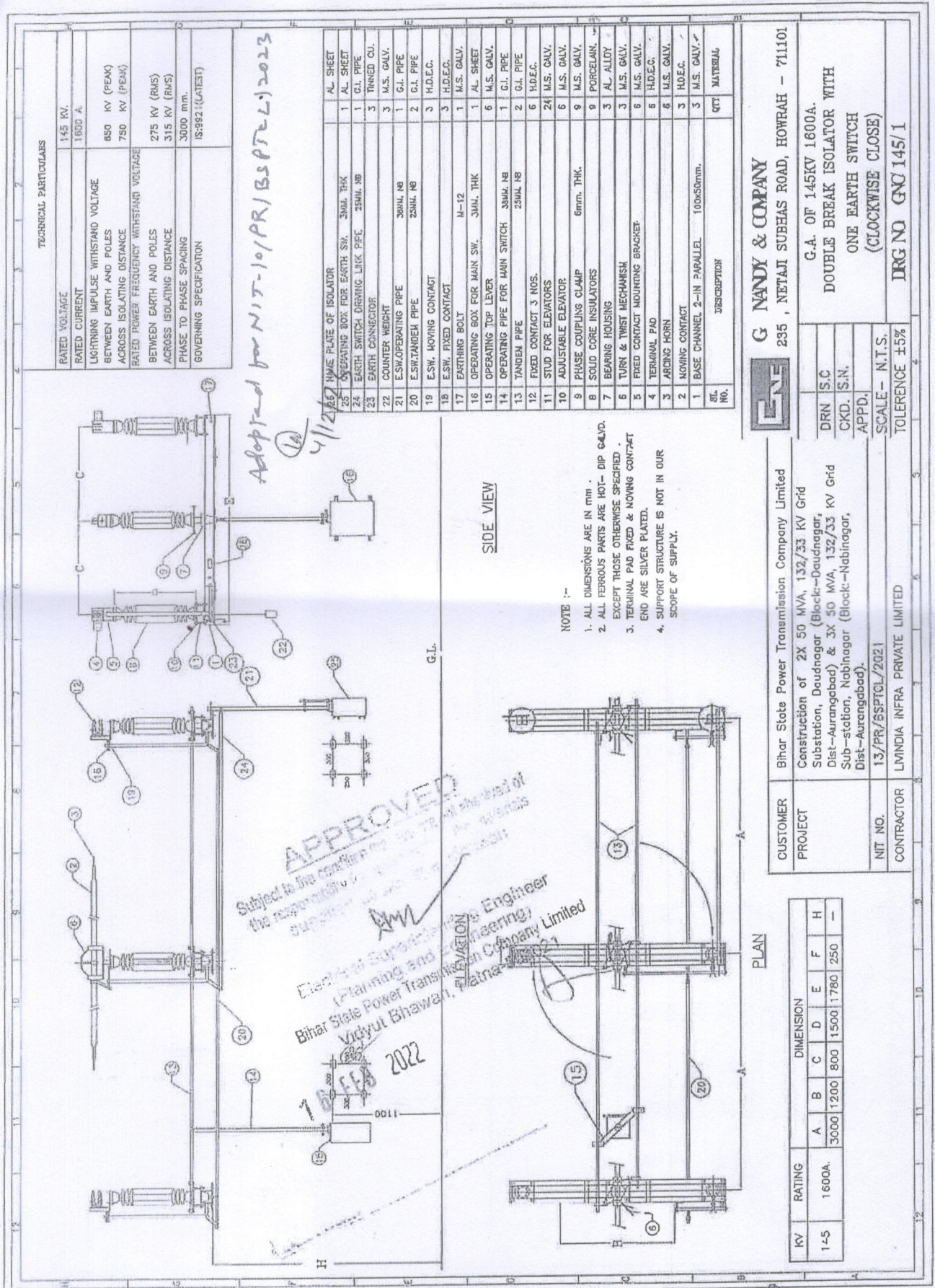
G NAWY & COMPANY
235, NETAJI SUBHAS ROAD, HOWRAH - 711101

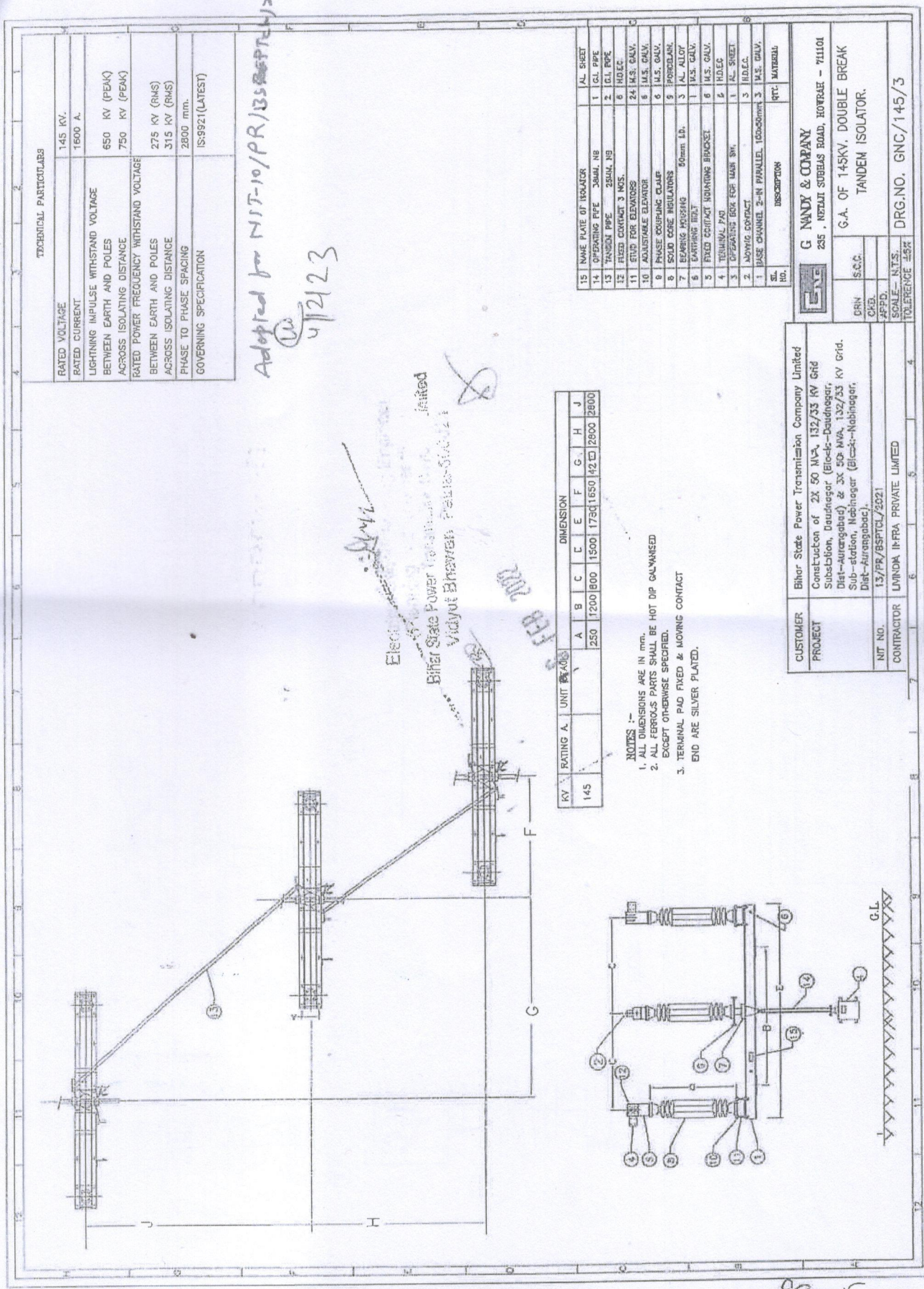
G.A. OF 145KV 1600/2500A.
DOUBLE BREAK ISOLATOR
WITHOUT EARTH SWITCH

DRG NO GND 145/2

CUSTOMER	Bihar State Power Transmission Company Limited
PROJECT	Construction of 2X 50 MVA, 132/33 KV Grid Substation, Daudnagar (Block:-Daudnagar, Dist:-Aurangabad) & 3X 50 MVA, 132/33 KV Grid Sub-station, Nabinagar (Block:-Nabinagar, Dist:-Aurangabad).
NIT NO.	13/PR/BSPTCL/2021
CONTRACTOR	LIVINDIA INFRA PRIVATE LIMITED

KV	RATING	DIMENSION						
		A	B	C	D	E	F	H
145		3000	1200	800	1500	1780	250	—





TECHNICAL PARTICULARS

RATED VOLTAGE	145 KV.
RATED CURRENT	1600 A.
LIGHTNING IMPULSE WITHSTAND VOLTAGE BETWEEN EARTH AND POLES ACROSS ISOLATING DISTANCE	650 KV (PEAK)
RATED POWER FREQUENCY WITHSTAND VOLTAGE BETWEEN EARTH AND POLES ACROSS ISOLATING DISTANCE	750 KV (PEAK)
PHASE TO PHASE SPACING	275 KV (RMS)
GOVERNING SPECIFICATION	315 KV (RMS)
	2800 mm.
	IS:9921(LATEST)

Adopted for NIT-10/PR/13555/2023
 4/12/23

Bihar State Power Transmission Company Limited
 Vidyut Bhawan Patna-800 001

KV	RATING A	UNIT 個/箱	DIMENSION									
			A	B	C	E	F	G	H	J		
145			250	1200	800	1500	1750	1650	420	2800	2800	

- NOTES :-
1. ALL DIMENSIONS ARE IN mm.
 2. ALL FERROUS PARTS SHALL BE HOT DIP GALVANIZED EXCEPT OTHERWISE SPECIFIED.
 3. TERMINAL PAD FIXED & MOVING CONTACT END ARE SILVER PLATED.

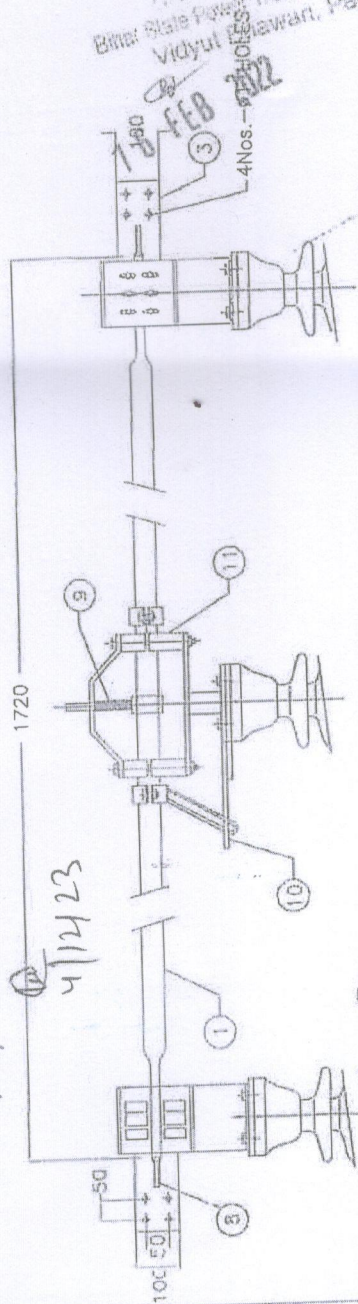
SL. NO.	DESCRIPTION	QTY.	MATERIAL
15	NAME PLATE OF ISOLATOR	1	AL. SHEET
14	OPERATING PIPE 30mm. NB	1	100. PIPE
13	TANDEM PIPE 25mm. NB	2	100. PIPE
12	FIXED CONTACT 3 NOS.	6	100. PIPE
11	STUD FOR ELEVATORS	24	1/2" S. GALV.
10	ADJUSTABLE ELEVATOR	6	1/2" S. GALV.
9	PHASE COUPLING CLAMP	6	1/2" S. GALV.
8	SOLID CORE INSULATORS	9	100. PIPE
7	BEARING HOUSING 50mm I.D.	3	AL. ALLOY
6	BEARING BALL	1	1/2" S. GALV.
5	FIXED CONTACT HANGING BRACKET	6	1/2" S. GALV.
4	TERMINAL PAD	2	100. PIPE
3	OPERATING BOX FOR MAIN SW.	1	AL. SHEET
2	MOVING CONTACT	3	100. PIPE
1	BASE CHANNEL 2-IN. PARALLEL, 100x100mm	3	1/2" S. GALV.

CUSTOMER	Bihar State Power Transmission Company Limited
PROJECT	Construction of 2X 50 MVA, 132/33 KV Grid Substation, Daudnagar (Block-Daudnagar, Dist-Aurangabad) & 3X 50 MVA, 132/33 KV Grid, Sub-station, Nabinagar (Block-Nabinagar, Dist-Aurangabad).
NIT NO.	13/PR/BSPTCL/2021
CONTRACTOR	LIVINDA INFRA PRIVATE LIMITED

G. NADY & COMPANY	235, NEZAR SUBHAS ROAD, HOWRAH - 711001
DRN	S.C.C.
CHKD.	
APPRO.	
SCALE - N.T.S.	
TOLERANCE	±0.5%
DRG.NO.	GNC/145/3

G.L. ~~~~~

Fig-5



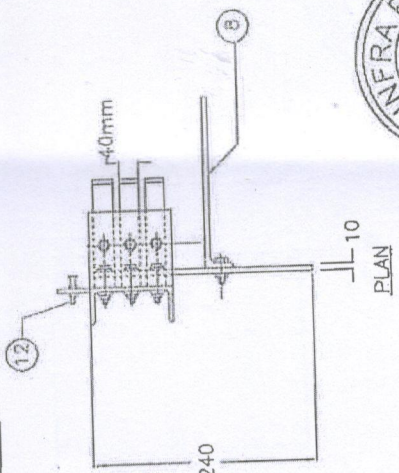
1720

4/12/23

Bihar State Power
Vidyut Nigam Ltd.
FEB 1980
4 Nos. - 7110165

(As corrected)
APPROVED
Submitted for review for approval of the project
submitted by Mr. S. K. Singh
Enrolled Surveying Engineer
(Planning and Engineering)
Bihar State Power Transmission Company Limited
Vidyal Mahawan, Patna-800021
S. K. Singh
A

ELEVATION

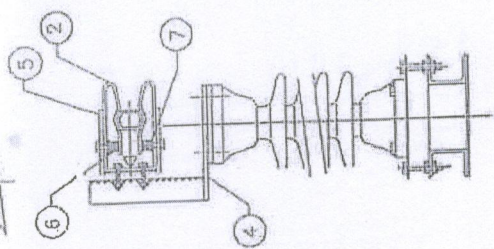


PLAN

NOTES :-

1. ALL DIMENSIONS ARE IN mm.
2. CONTACT PORTIONS ARE SILVER PLATED.
3. ALL FERROUS PARTS ARE HOT DIP GALVANISHED.

SIDE VIEW



12	STGTPPER	6	NYLON
11	BLADE HOLDER CLAMP	6	AL ALLOY
10	TWISTING LEVER	4	M.S. GALV.
9	POSITION HOLDER SPRING	4	S.S.
8	ARCING HORN	6	M.S. GALV.
7	INSULATION BUSH	36	NYLON
6	SPRING	36	S.S.
5	CONTACT COVER	6	M.S. GALV.
4	JAW HOLDER STAND	6	M.S. GALV.
3	TERMINAL PAD	6	AL-PAT 1/16"
2	FIXED CONTACT JAW	6	H.D.E.C.
1	MOVING BLADE	3	H.D.E.C.
SL. NO.	DESCRIPTION	QTY	MATERIAL



CUSTOMER	Bihar State Power Transmission Company Limited
PROJECT	Construction of 2X 50 MVA, 132/33 KV Grid Substation, Daudnagar (Block)-Daudnagar, Dist-Aurangabad) & 3X 50 MVA, 132/33 KV Grid Sub-station, Nabinagar (Block:-Nabinagar, Dist-Aurangabad).
NIT NO.	13/PR/ESPTOL/2021
CONTRACTOR	LIVINDIA INFRA PRIVATE LIMITED

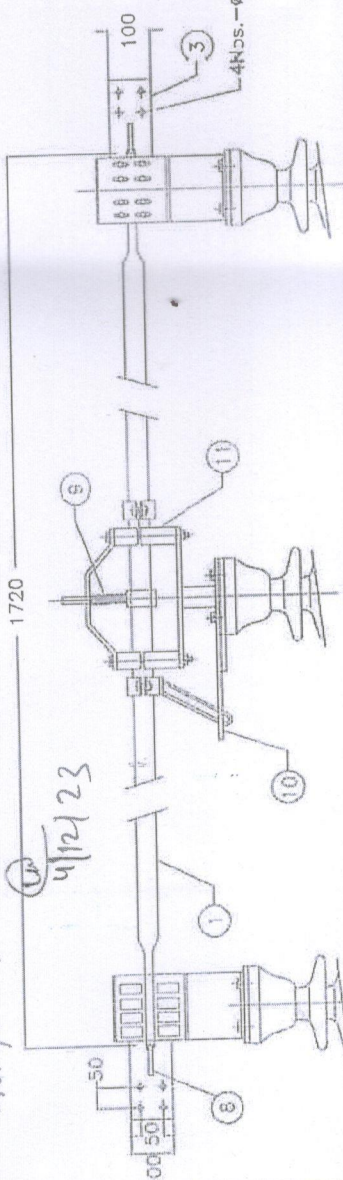
G N **NANDY & COMPANY**
235, NETAJI SUBHAS ROAD, HOWRAH - 711101

MAIN SWITCH CONTACT DETAILS OF
145KV 1600A ISOLATOR

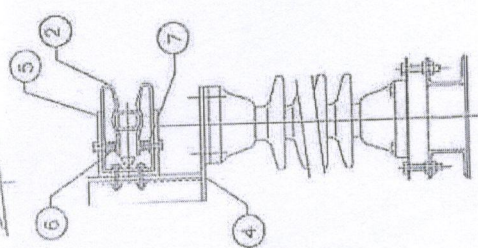
IRG NO GND 145/4

SCALE-- N.T.S.
TOLERANCE $\pm 5\%$

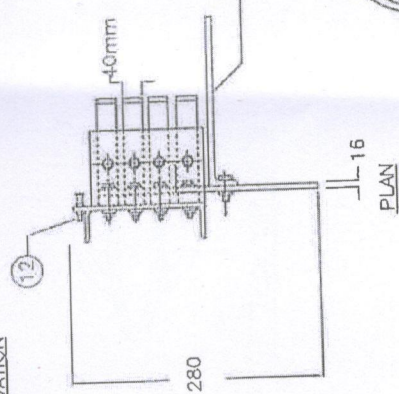
Adopted for NIT-10/PR/BSPTCL/2023



ELEVATION



SIDE VIEW



PLAN

NOTES :-

1. ALL DIMENSIONS ARE IN mm.
2. CONTACT PORTIONS ARE SILVER PLATED.
3. ALL FERROUS PARTS ARE HOT DIP GALVANIZED.

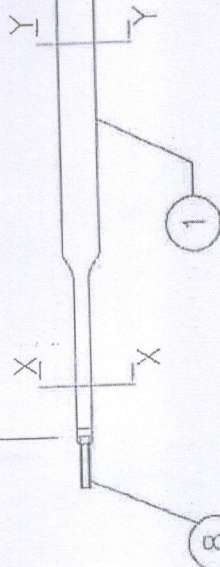
SL. NO.	DESCRIPTION	QTY.	MATERIAL
12	STOPPER	8	NYLON
11	BLADE HOLDER	6	AL. ALLOY
10	TWISTING LAYER	4	M.S. GALV.
9	POSITION HOLDER SPRING	4	S.S.
8	ARCING HORN	6	M.S. GALV.
7	INSULATION BUSH	36	NYLON
6	SPRING	36	S.S.
5	CONTACT COVER	6	M.S. GALV.
4	JAW HOLDER STAND	6	M.S. GALV.
3	TERMINAL PAD	6	H.D.E.C.
2	FIXED CONTACT JAW	6	H.D.E.C.
1	MOVING BLADE	3	H.D.E.C.



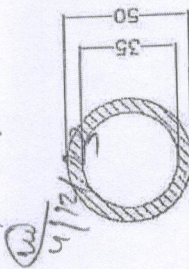
G NANDY & COMPANY 235, NETAJI SUBHAS ROAD, HOWRAH - 711101	
DRN S.C.	MAIN SWITCH CONTACT DETAILS OF 145KV 2500A. ISOLATOR
CKD. S.N.	
APPD.	
SCALE - N.T.S.	DRG NO GNC 145/25
TOLERANCE ±5%	

CUSTOMER	Bihar State Power Transmission Company Limited
PROJECT	Construction of 2X 50 MVA, 132/53 KV Grid Substation, Daudnagar (Block:-Daudnagar, Dist:-Aurangabad) & 3X 50 MVA, 132/53 KV Grid Sub-station, Nabinagar (Block:-Nabinagar, Dist:-Aurangabad).
NIT NO.	13/PR/BSPTCL/2021
LINDIA INFRA PRIVATE LIMITED	

1720



Adopted for NIT-10/PR/BSPTCL/2023



SECTION ON X-X

SECTION ON Y-Y



NOTES :-

1. ALL DIMENSIONS ARE IN mm.
2. BOTH ENDS ARE SILVER PLATED.
3. ALL FERROUS PARTS ARE HOT DIP GALVANISED.

APPROVED
 Engineer
 Bihar State Power Transmission Company Limited
 Vidyut Bhawan, Patna-200021

10 FEB 2022

SERIAL NO.	DESCRIPTION	QTY.	MATERIAL
2	ARCING HORN	6	H.D.E.C.
1	MOVING BLADE 50mm O.D. X 35mm I.D.	3	H.D.E.C.

G NANDY & COMPANY
 235, NETAJI SUBHAS ROAD, HOWRAH - 71101

DRN S.C.	MOVING CONTACT BLADE OF
CKD S.N.	145KV 1600A. ISOLATOR
APPD.	
SCALE- N.T.S.	DRG NO GN 145/21
TOLERANCE ±5%	

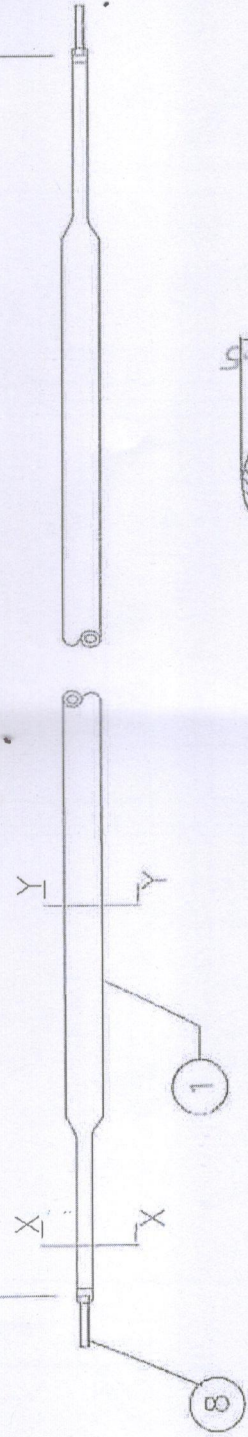
CUSTOMER	Bihar State Power Transmission Company Limited
PROJECT	Construction of 2X 50 MVA, 132/33 KV Grid Substation, Gaudnagar (Bhoksi-Gaudnagar, Dist-Aurangabad) & 3X 50 MVA, 132/33 KV GIC Sub-Station, Nabinagar (Bhoksi-Nabinagar, Dist-Aurangabad).
NIT NO.	13/PR/BSPTCL/2021
CONTRACTOR	LINDIA INFRA PRIVATE LIMITED

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Adopted for NIS-10/PR/BSPTCL/2023

4/12/23

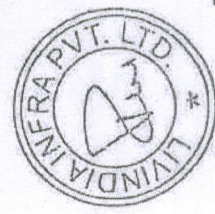
1720



SECTION ON Y-Y

SECTION ON X-X

SL. NO.	DESCRIPTION	QTY.	MATERIAL
1	MOVING BLADE	50mm Ø x 25mm ID.	H.D.E.C.
2	ARCING HORN		H.D.E.C.



G NANDY & COMPANY
235, NETAJI SUBHAS ROAD, HOWRAH - 711101

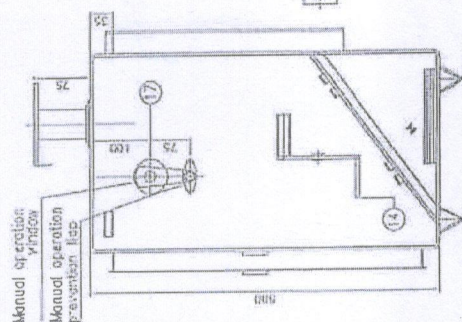
DRN	S.C.	MOVING CONTACT BLADE OF
CKD.	S.N.	145KV 2500A. ISOLATOR
APPD.		
SCALE-	N.T.S.	DRG NO. GN/145/26
TOLERANCE ±5%		

CUSTOMER	Bihar State Power Transmission Company Limited
PROJECT	Construction of 2X 50 MVA, 132/33 KV Grid Substation, Daudnagar (Block-Daudnagar, Patna-Aurangabad) & 3X 50 MVA, 132/33 KV Grid Sub-station, Nabinagar (Block-Nabinagar, Patna-Aurangabad).
HIT NO.	13/PR/BSPTCL/2021
CONTRACTOR	LINDIA INFRA PRIVATE LIMITED

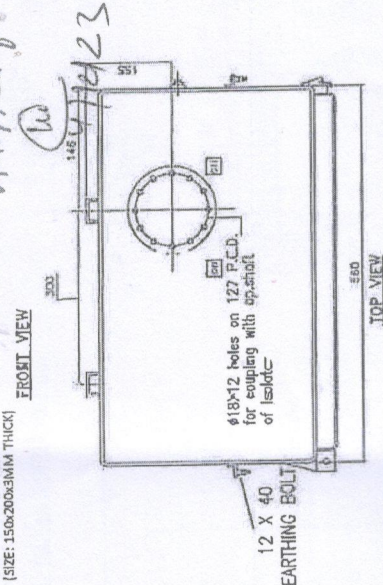
(As corrected)
APPROVED
Subject to the condition that you are not to be held responsible for any errors or omissions in the drawings supplied as per contract conditions.
NOTES:
1. ALL DIMENSIONS ARE IN MM.
2. ENDING AND ENDING ENDS ARE SILVER PLATED.
3. ALL POWER TRANSMISSION PARTS ARE HOT DIP GALVANIZED.
4. ALL PARTS ARE TO BE SUPPLIED AS PER CONTRACT CONDITIONS.

16 FEB 2022

46



Adopted for NIST-10/AR/BSPTel/2023



Rubber Gasket (EDPM)
(15MM THICK)

Schemo: Diagram
Lamination Printed

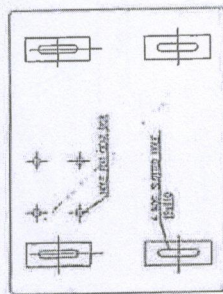
APPROVED
To the Condition that you are not absolved of
responsibility for correctness of the materials
supplied as per specification

[Signature]
Electrical Superintendent, Engineer
(Planning and Engineering)
Bihar State Power Transmission Company Limited
Vidya Bhawan, Patna-800021

2022

000



MOUNTING ARRANGEMENT

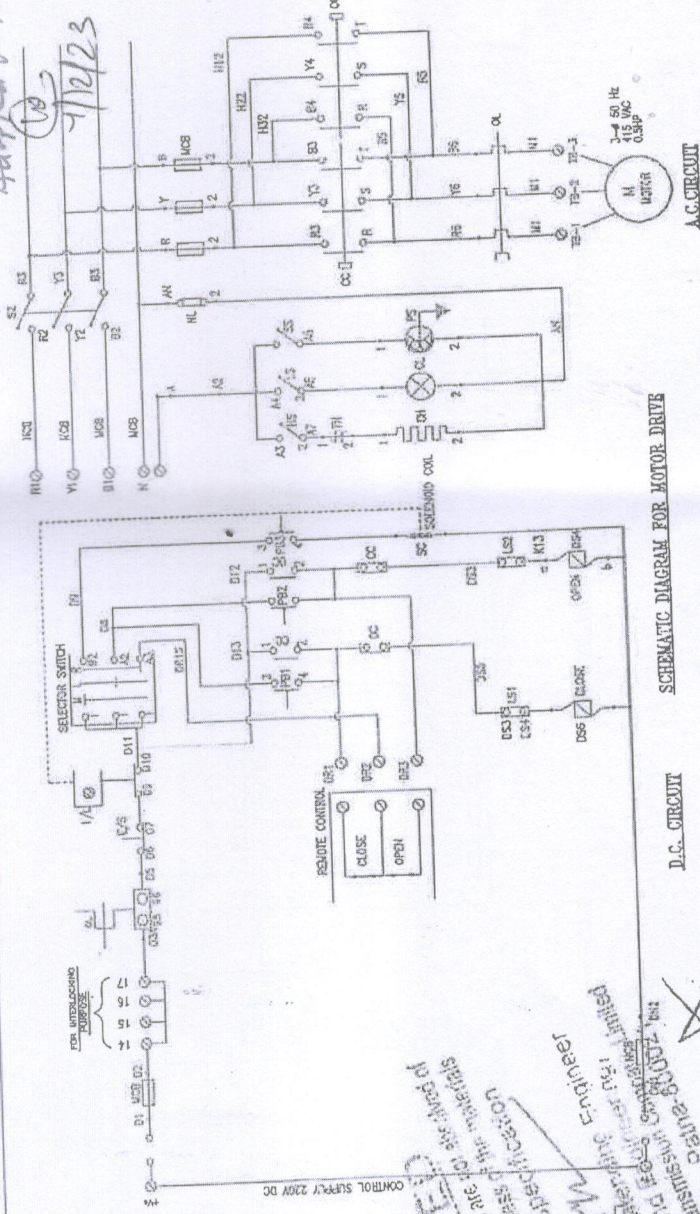
DETAIL - A

NOTES: 1. DIMENSIONS ARE IN MM UNLESS OTHERWISE AS STATED.
2. DEGREE OF PROTECTION IS P 55.
3. THE CONTROL CABINET SHALL BE 3MM THICK AL SHEET
4. THE RING SHALL BE DONE WITH 1150V GRADE 2.5 SQMM
CL-1 STRANDED PVC INSULATED CONDUCTOR.
5. WEIGHT OF THE OPERATING BOX: 16KG. APPROX
6. 10% SPARE TERMINAL SHALL BE PROVIDED.
7. TOLERANCE IN DIMENSIONS: ±5%
8. AL X. SWITCH: BRO-HMC
9. AL X. BUCK: ARE POWER COATED.

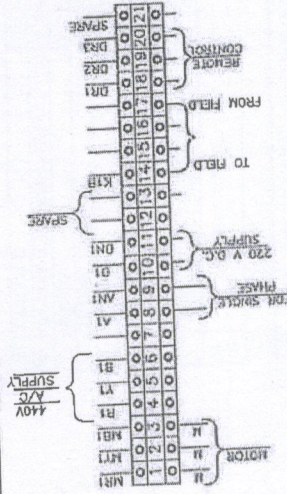
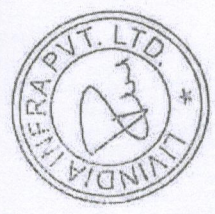
CUSTOMER	Bihar State Power Transmission Company Limited
PROJECT	Construction of 2X 50 MVA, 132/33 KV Grid Substation, Daudnagar (Beldok)-Daudnagar, (Dikt-Aurangabad) & 2X 50 MVA, 132/33 KV Grid Sub-station, Nabinagar (Beldok)-Nabinagar, (Dikt-Aurangabad).
NIT NO.	13/PR/BSPTCL/2021
CONTRACTOR	LIVINDIA INFRA PRIVATE LIMITED

Pg-10

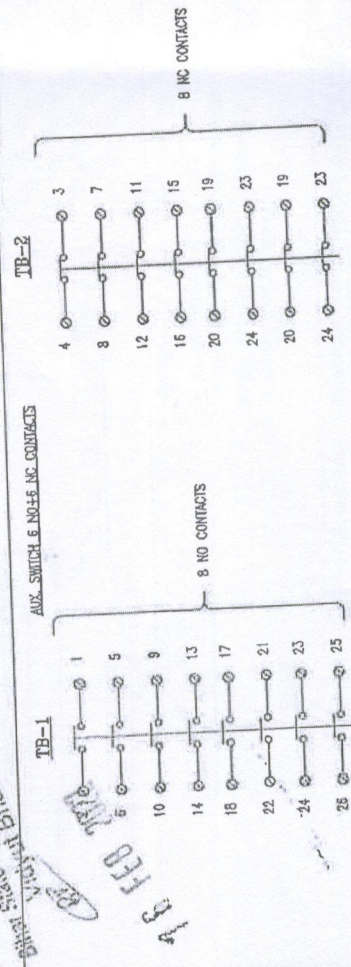
Adapted from NIT-19/PR/BSPT/2023



SCHMATIC DIAGRAM FOR MOTOR DRIVE



SUPPLY TERMINAL DIAGRAM

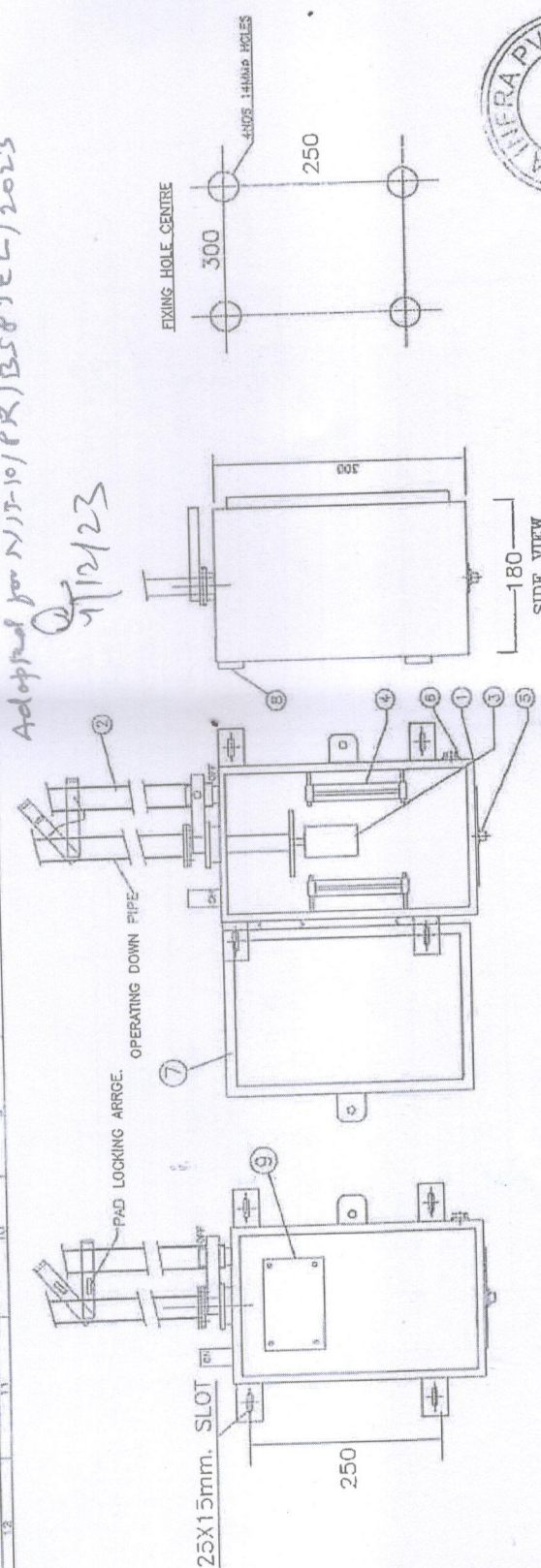


CUSTOMER	Bihar State Power Transmission Company Limited
PROJECT	Construction of 2X 50 MVA, 132/33 KV Grid Substation, Daudnagar (Block-Daudnagar, Dist-Munger) & 3X 50 MVA, 132/33 KV Grid Substation, Nabnagar (Block-Nabnagar, Dist-Munger).
NIT NO.	13/PR/ESPCL/2021
CONTRACTOR	LINDIA INFRA PRIVATE LIMITED
	G NANY & COMPANY 235, NETAJI SUBHAS ROAD, HOORAH - 71101
	SCHEME OF MOTOR CONTROL MECHANISM FOR 145KV ISOLATOR
	DRG. NO. GNC/145/7

APPROVED
Subject to the condition that you are to be held responsible for the condition of the materials supplied as per specification
Electrical Engineering Engineer
Bihar State Power Transmission Company Limited

Adopted for NIT-10/PR/BSPTCL/2023

12/23



9	NAME PLATE	1	AL.
8	MOUNTING PLATE 30X6mm FLAT	4	AL. FLAT
7	CASKETS	1	RUBBER
6	EARTHING BOLTS	1	M.S.
5	CABLE CLAND	1	BRASS
4	TERMINAL BOARD	2	BAKELITE
3	AUXILIARY SWITCH	1	CUL. BAKELITE
2	OPERATING HANDLE #30X500 LG.	1	G.I. PIPE
1	OPERATING MECH. BOX 3mm. THK.	1	AL. SHEET
SL. NO.	BILL OF MATERIAL		QTY. MATL.

G NANDY & COMPANY
235, N. S. ROAD, HOWRAH-711101

OPERATING MECHANISM BOX FOR
145 KV ISOLATOR EARTH SWITCH

DRG NO. GNC/145/11

APPROVED

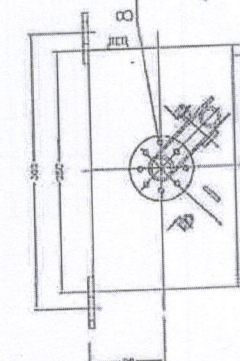
Subject to the condition that you are not absolved of the responsibility for correctness of the materials supplied as per specification

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

NOTE :-

- ALL DIMENSIONS ARE IN mm.
- MECH. BOX IS DUST. VERMIN & WATERPROOF.
- NO. OF AUX. CONTACT : 4NO+4N.C.
- WEIGHT : 6KGS.(Approx)

8 HOLES 14MM. 18 FEB 2022



PLAN

CUSTOMER PROJECT	Bihar State Power Transmission Company Limited
NIT NO.	13/PR/BSPTCL/2021
CONTRACTOR	LINDIA INFRA PRIVATE LIMITED
CONSTRUCTION	Construction of 2X 50 MVA-132/33 KV Grid Substation, Daudnagar (Block-Daudnagar, Dist-Aurangabad) & 3X 50 MVA, 132/33 KV Grid Sub-station, Nabinagar (Block-Nabinagar, Dist-Aurangabad).
DRAWN	
CHECKED	
APPROVED	
SCALE-N.T.S.	
TOLERANCE	±5%

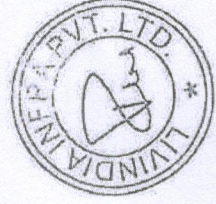
89-12

REF DRG NO. GNC/145/6		PART LIST		G NADY & COMPANY 235 , RETAIL SUBEAS ROAD, HOWRAH - 71101	
NO	DESCRIPTION	LEGEND	RATING	MAKE	
1	AUXILIARY SWITCH	--	10amp	OWN MAKE	
2	OPEN/CLOSE D.C CONTACTOR	OC & CC	220 V DC	HAVELLS/C &S/HPL/SIEMENS OR EQUIVALENT	
2a	THERMAL OVER LOAD RELAY	OL	1 TO 1.6	HAVELLS/C &S/HPL/CHINT OR EQUIVALENT	
3	3 PHASE INDUCTION MOTOR	M	0.5 HP	REMI/ELCEN/ELMO/DIVINE/HEXON OR EQUIVALENT	
4	LOCAL/REMOTE SELECTOR SWITCH	S2	6 AMP	KAYCEE/JAI BALAJI/RECOM OR EQUIVALENT	
5	OPEN/CLOSE LIMIT SWITCH	LS1 & LS2	10 AMP	KACEE/CEYONE/MICRO SWITCH OR EQUIVALENT	
6	MCB		10 AMP	JUVAS/C &S/HPL/ELMEC OR EQUIVALENT	
7	MECHANICAL INTER LOCK FOR MANUAL OPERATION	--	--	OWN MAKE	
8	PUSH BUTTON FOR CLOSE&OPEN	PB1 & PB2	--	KAYCEE/VSJ/ANAND/RECOM OR EQUIVALENT	
9	PUSH BUTTON FOR INTERLOCK	PB3	6 AMP	KAYCEE/VSJ/ANAND/RECOM OR EQUIVALENT	
10	SWITCH FOR PLUG SOCKET	SS	6 AMP	SUN(JOY)/SURAJ/CALONIX/SOYNIA OR EQUIVALENT	
11	THREE PIN SOCKET	PS	6 AMP	STRACO/ANCHOR /FRITAM OR EQUIVALENT	
12	PUSH BUTTON FOR EMERGENCY STOP	PE4	6 AMP	KAYCEE/VSJ/ANAND/RECOM OR EQUIVALENT	
13	TERMINAL SCREW TYPE / STUD TYPE	--	CUT-4/M3-4	ELMEX / CONNECWEILL OR EQUIVALENT	
14	MS HANDLE (HOT DIP GALVANIZED)	--	--	OWN MAKE	
15	M 12 EARTHING BOLT	--	--	OWN MAKE	
16	REDUCTION GEAR ASS.	--	--	OWN MAKE	
17	PREVENTION FLAP	--	--	OWN MAKE	

APPROVED

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

[Signature]
Electrical Supervisor, Engineer
Electricity and Power Engineering Limited
Bihar State Power Transmission Company Limited
Patna-800021
Vidhyut Bhawan, Patna-800021



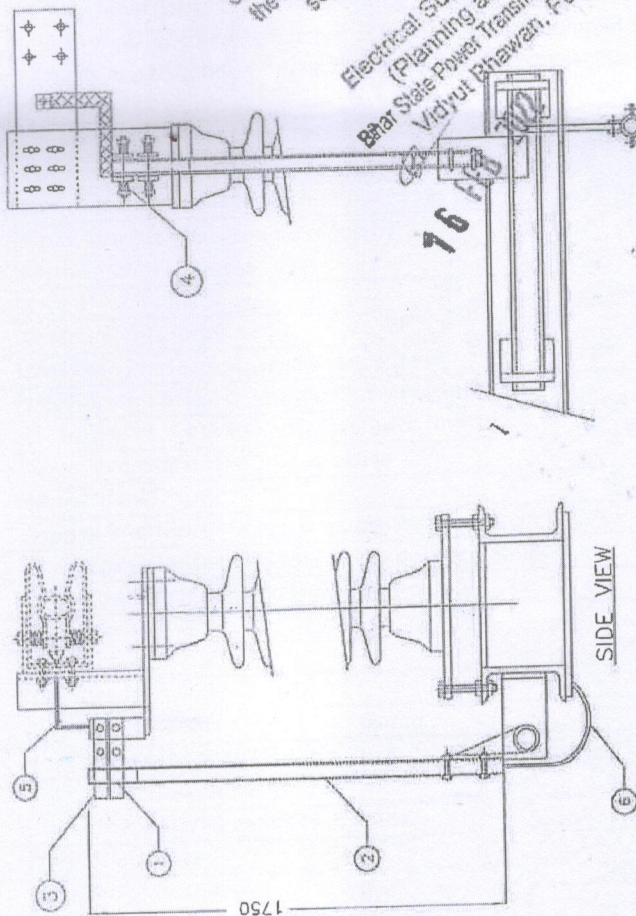
[Signature] 1/12/23

Adopted for NIT-10/PR/BSSTCL/2023

(as indicated)

Adopted for N13-10/PR/DSPTCL/2023

11/12/23



SIDE VIEW

PLAN

NOTES :

1. ALL DIMENSIONS ARE IN mm.
2. CONTACT PORTIONS ARE SILVER PLATED.
3. ALL FERROUS PARTS ARE 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 Company Limited
 Vidhyut Bhawan, Patna-800021

S.L. NO.	DESCRIPTION	QTY.	MATERIAL
1	EARTH SW. MOVING CONTACT 39mm Ø x 33mm I.D.	3	H.D.E.C. & MS GALV.
2	EARTH SW. MOVING CONTACT 39mm Ø x 33mm I.D.	3	H.D.E.C. & MS GALV.
3	FIXED CONTACT JAW 25x3mm.	12	H.D.E.C.
4	SPRING 12 SWG.	12	S.S.
5	CONNECTION FOR CONTACT 25x5mm.	3	TINNED CU.
6	EARTH CONNECTOR 25x5mm.	3	TINNED CU.



G NANDY & COMPANY
 235, NETAJI SUBHAS ROAD, HOWRAH - 711101

DRN S.C.
 CKD. S.N.
 APPD.
 SCALE- N.T.S.
 TOLERANCE ±5%
 DRG NO GN/145/5

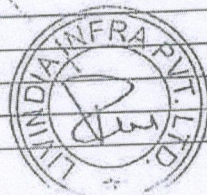
CUSTOMER	Bihar State Power Transmission Company Limited
PROJECT	Construction of 2X 50 MVA, 132/33 KV Grid Substation, Daudnagar (Block-Daudnagar, Dist-Aurangabad) & 3X 50 MVA, 132/33 KV Grid Sub-station, Nabinagar (Block-Nabinagar, Dist-Aurangabad).
NIT NO.	13/PR/BSPTCL/2021
CONTRACTOR	LIVINDIA INFRA PRIVATE LIMITED

40

Project:	Construction of 2X 50 MVA, 132/33 KV Grid Sub-station, Daudnagar (Block:-Daudnagar, Dist- Aurangabad) & 3X 50 MVA, 132/33 KV Grid Sub-station, Nabinagar (Block:-Nabinagar, Dist- Aurangabad).
Client:	BIHAR STATE POWER TRANSMISSION CO. LTD.
NIT No.	13/PR/BSPTCL/2021
Contractor:	LIVINDIA INFRA PRIVATE LIMITED
Title:	GUARANTEED TECHNICAL PARTICULARS FOR 36KV ISOLATOR

Adopted for NIT-10/PR/BSPTCL/2023

SI	Description	36kV
2	Type of designation	Double break, centre post rotating
3	Covering Standards	IS: 9921
4	Class (Outdoor/Indoor)	Outdoor
5	Rated Voltage	33kV
6	Frequency (HZ)	50
7	Rated current of Isolator under site conditions	1600/2500A
8	No. of Poles	3
9	Maximum capacity for interrupting magnetizing current of transformers or charging current of line when equipped with arcing contacts (amps)	0.7A at 0.15 PF
10	(a) Maximum Capacity for interrupting magnetizing current of transformers or charging current of line when not equipped with arcing contacts Details of deviation from the tender specification if any.	0.7A at 0.15 PF
	(b) No. of operations possible without deterioration of contacts	1000
11	Rated short time current (kA rms) for 3 second	25
12	Rated Peak short circuit current (kA Peak)	62.5
13	Rated Current which can be made by earthing Switch (Amps)	Same STC as Isolator
14	Type of mounting	Horizontal upright
15	Phase Centers (mm)	1500
16	Minimum Phase to phase clearance (mm)	1500
17	(a) Minimum phase to ground Clearance (mm)	500
	(b) Minimum phase to Earth Clearance (mm)	3000
18	No. of Pedestal insulators per phase	3
19	No. of Break/Phase	2
20	Type of Interlock between isolating switch and circuit breaker	Electrical
21	Creepage distance (mm) for heavily polluted atmosphere	900
22	Main Contacts (Fixed and Moving)	
	(a) Type	Reverse loop type fixed contact and tubular type moving contact
	(b) Material	HDE Copper
	(C) Whether contacts are silver plated	Yes
	(d) Thickness of silver Coating	Min. 25 microns
	(e) Contact Pressure in Kg cm ²	30kg/cm ²
	(f) Current Carrying capacity in Amps.	1600
23	Type of Bearings	Ball/Taper Roller
24	Location of Bearings	Centre of base channel at bottom of rotating post
25	Type of Lubricants	Bearing Oil



Pg-1

26	Size and Weight of switch base per pole (mm), (kg)	40 approx
27	Weight for one complete pole (kg)	70 approx
28	Operating Mechanism	
	(a) Height of operating handle above foundation (mm)	1200
	(b) Force required for three phase operation (Kg)	20
29	Auxiliary Switches	5NO+5NC exclusively for Employer's use in future
	(i) Number of normally open and normally closed contacts	
	(ii) Number of normally open and normally closed contacts for Earth switch	3NO+3NC exclusively for Employer's use in future
	(iii) Rated voltage	250 V
	(iv) Rated Current	10A
	(v) Test Voltage	2kV
30	Insulation Levels Isolator	
	i) 1.2/50 microsecond dry impulse withstand Voltage (Positive and Negative Polarity) kVpeak	195
	a) Across the isolating distance with Isolator open	170
	b) To earth and between the poles	
	ii) One minute dry power frequency Withstand Voltage (kV rms)	80
	a) Across the isolating distance with Isolator open	70
	b) To earth and between the poles	
	iii) One minute wet power frequency withstand Voltage (KV rms)	70
		NA
31	Insulation strength of auxiliary gear (kV rms)	
32	Maximum temp. rise of main contact at rated current corresponding to an ambient temp. of air in shade	65°C as per IS:9921
33	Galvanization	2629-1995
	i) Governing Standard	Hot dip
	ii) Method of Galvanization	As per IS: 4759
	iii) Weight of Zinc coating gm/cm square	
34	Weight of 3 phase Isolator complete with operating mechanism but without support structure & frame works etc.	350 kg approx

→ Maximum current density - $cu - 1.6 A/cm^2$

→ Maximum operating time - 12 sec

→ Mechanical endurance class. - Isolator - M2
E/S - M0

Adopted for NIT-10/PR/BSPCL

4/12/23

→ All contacts & control circuit are to be wired up to control cabinet evenly distributed.

APPROVED

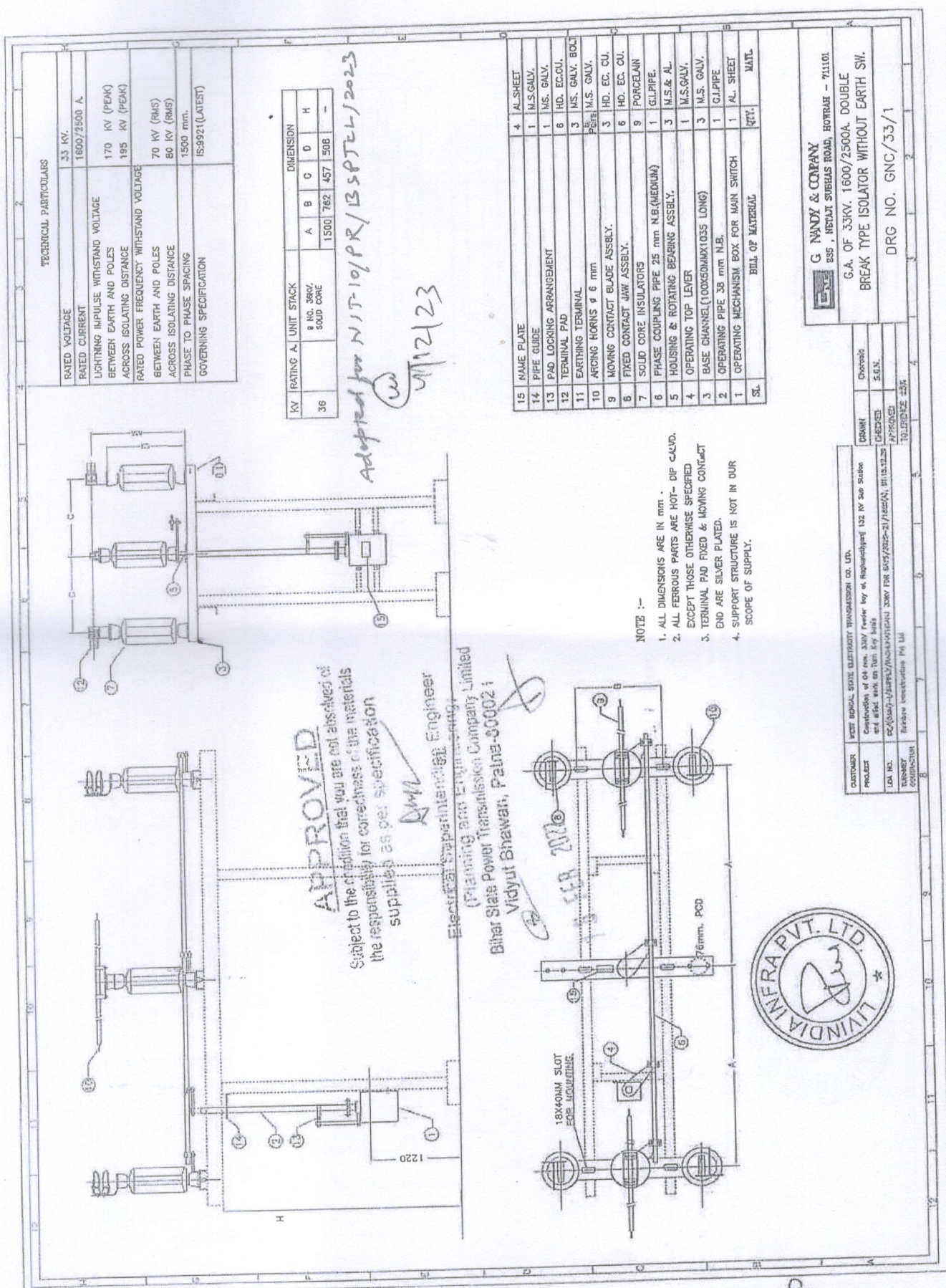
Subject to the condition that you are not absolved of the responsibility for correctness of the materials supplied as per specification

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

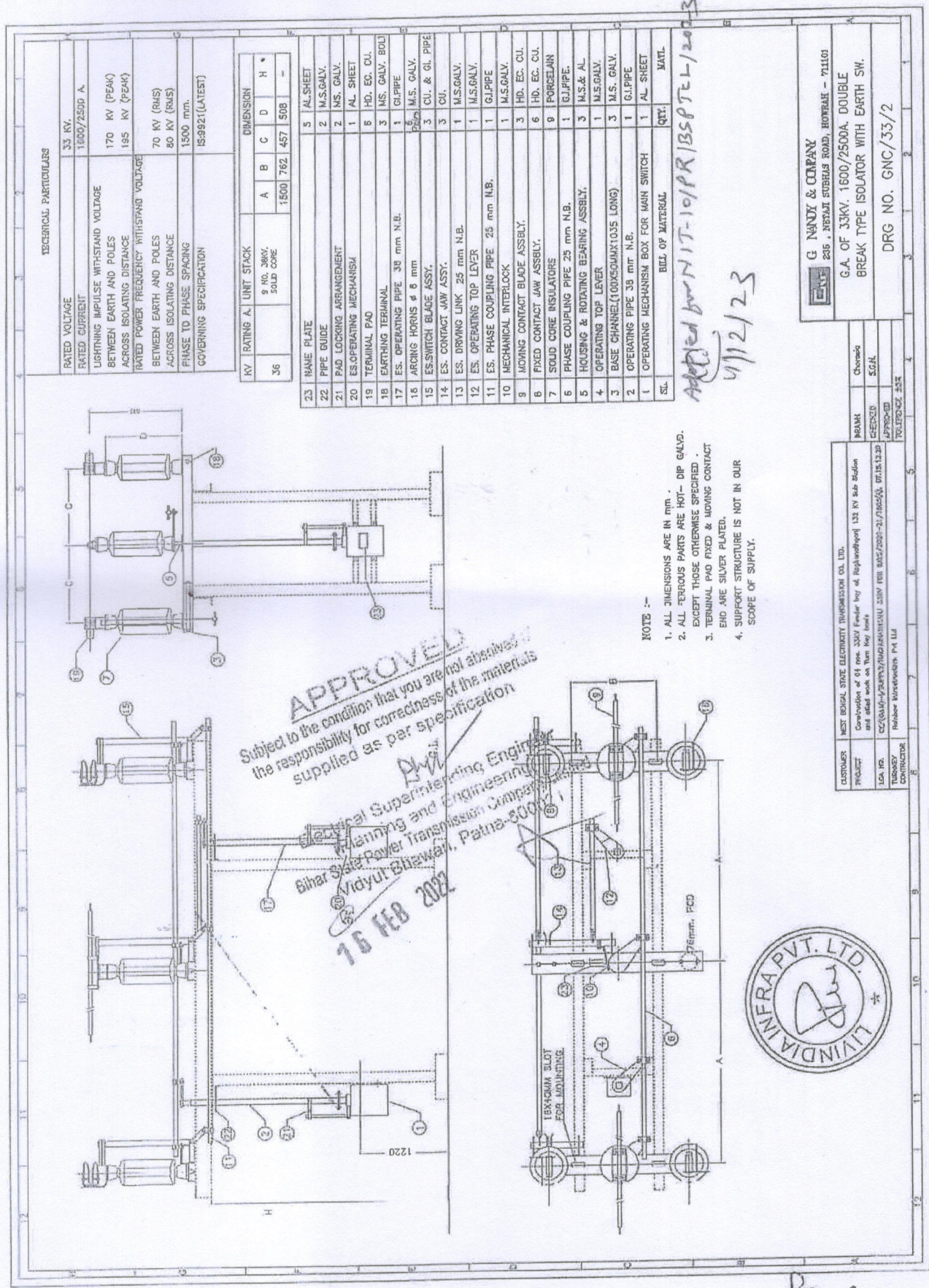
16 FEB 2022



Pg-2



pg-3



TECHNICAL PARTICULARS

RATED VOLTAGE	33 KV.
RATED CURRENT	1000/2500 A.
LIGHTNING IMPULSE WITHSTAND VOLTAGE BETWEEN EARTH AND POLES	170 KV (PEAK)
ACROSS ISOLATING DISTANCE	195 KV (PEAK)
RATED POWER FREQUENCY WITHSTAND VOLTAGE BETWEEN EARTH AND POLES	70 KV (RMS)
ACROSS ISOLATING DISTANCE	80 KV (RMS)
PHASE TO PHASE SPACING	1500 mm.
GOVERNING SPECIFICATION	IS:9921(LATEST)

KV	RATING A	UNIT STACK			
		9 NO. 38KV. SOLID CORE	A	B	C
36			1500	762	457

DIMENSION			
D	H		
457	508		

23	NAME PLATE	5	AL SHEET
22	PIPE GUIDE	2	M.S. GALV.
21	PAD LOCKING ARRANGEMENT	2	M.S. GALV.
20	ES. OPERATING MECHANISM	1	AL SHEET
19	TERMINAL PAD	6	HD. EC. CU.
18	EARTHING TERMINAL	3	M.S. GALV. BOLI
17	ES. OPERATING PIPE 38 mm N.B.	1	CL PIPE
16	ARCING HORNS 8 mm	6	M.S. GALV.
15	ES. SWITCH BLADE ASSY.	3	CU. & GL. PIPE
14	ES. CONTACT JAW ASSY.	3	CU.
13	ES. DRIVING LINK 25 mm N.B.	1	M.S. GALV.
12	ES. OPERATING TOP LEVER	1	M.S. GALV.
11	ES. PHASE COUPLING PIPE 25 mm N.B.	1	CL PIPE
10	MECHANICAL INTERLOCK	1	M.S. GALV.
9	MOVING CONTACT JAW ASSBLY.	3	HD. EC. CU.
8	FIXED CONTACT JAW ASSBLY.	6	HD. EC. CU.
7	SOLID CORE INSULATORS	9	FORGE IRON
6	PHASE COUPLING PIPE 25 mm N.B.	1	CL PIPE
5	HOUSING & ROTATING BEARING ASSBLY.	3	M.S. & AL
4	OPERATING TOP LEVER	1	M.S. GALV.
3	BASE CHANNEL (100x50x10x35 LONG)	3	M.S. GALV.
2	OPERATING PIPE 38 mm N.B.	1	CL PIPE
1	OPERATING MECHANISM BOX FOR MAIN SWITCH	1	AL SHEET
SL.	BILL OF MATERIAL	QTY.	MATL.

NOTE :-

1. ALL DIMENSIONS ARE IN mm.
2. ALL FERROUS PARTS ARE HOT-DIP GALV. EXCEPT THOSE OTHERWISE SPECIFIED.
3. TERMINAL PAD FIXED & MOVING CONTACT END ARE SILVER PLATED.
4. SUPPORT STRUCTURE IS NOT IN OUR SCOPE OF SUPPLY.

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

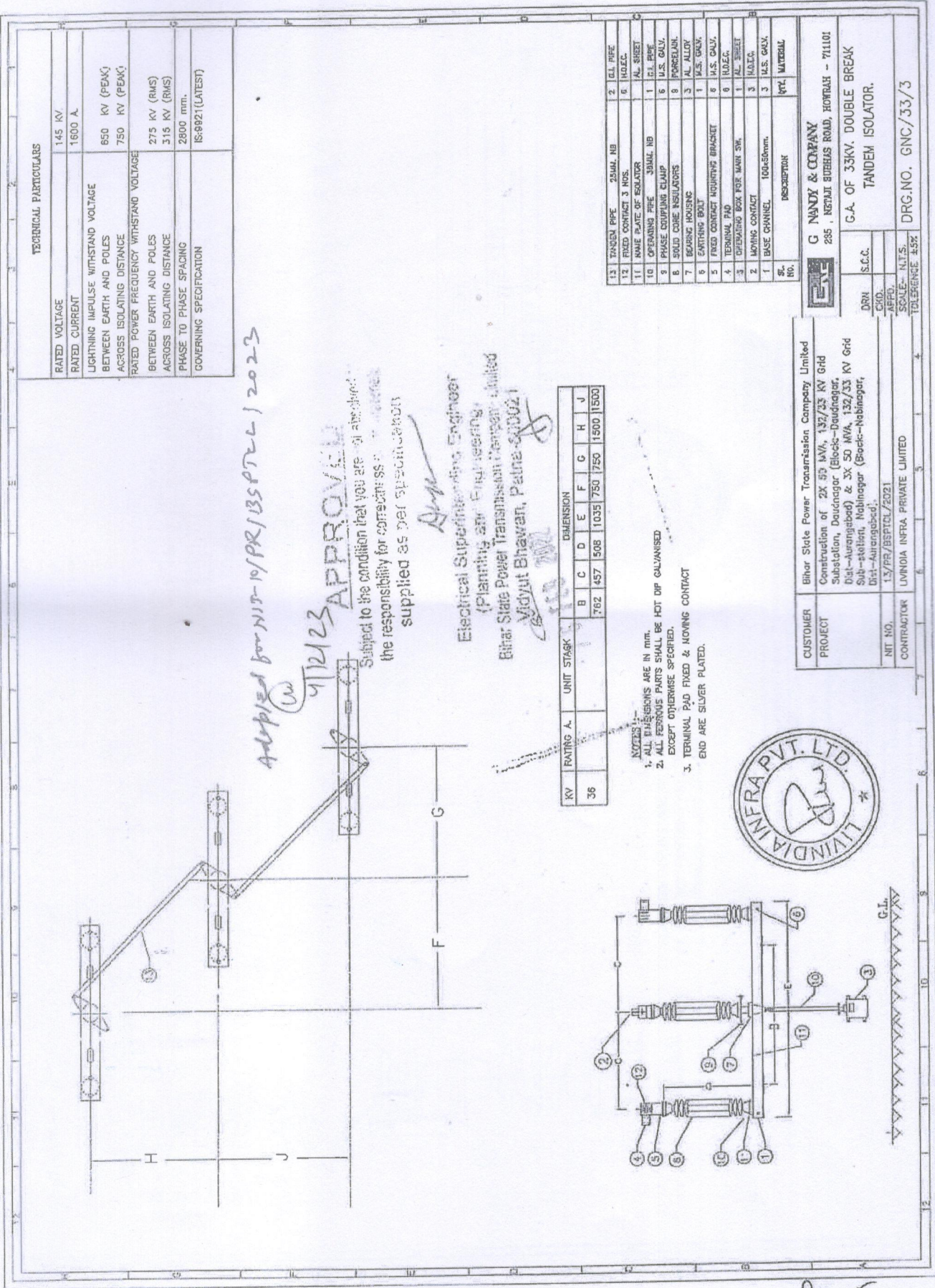
B. S. Singh
Electrical Superintending Engineer
Planning and Engineering
Bihar State Power Transmission Company
Vidyal Bhawan, Patna-800012

16 FEB 2022



G. NANDY & COMPANY
235, NEELAM SUBHAS ROAD, HOWRAH - 711001
G.A. OF 33KV. 1600/2500A. DOUBLE
BREAK TYPE ISOLATOR WITH EARTH SW.
DRG NO. GNC/33/2

CUSTOMER	BIHAR STATE ELECTRICITY TRANSMISSION CO. LTD.
PROJECT	Construction of 04 nos. 33KV Feeder by at Rajshahi Road 132 KV Sub Station and allied work on New Feeder lines
LCR NO.	CC/0401-2/2017/2/1000/04/07/15/13/20
TENDER	Reliance Infrastructure Pvt Ltd
APPROVED	RECEIVED
DATE	07/15/23



TECHNICAL PARTICULARS	
RATED VOLTAGE	145 KV
RATED CURRENT	1600 A
LIGHTNING IMPULSE WITHSTAND VOLTAGE BETWEEN EARTH AND POLES	650 KV (PEAK)
ACROSS ISOLATING DISTANCE	750 KV (PEAK)
RATED POWER FREQUENCY WITHSTAND VOLTAGE BETWEEN EARTH AND POLES	275 KV (RMS)
ACROSS ISOLATING DISTANCE	315 KV (RMS)
PHASE TO PHASE SPACING	2800 mm.
GOVERNING SPECIFICATION	IS:6921(LATEST)

Added for NIT-10/PR/135 PTL/2023

APPROVED

Subject to the condition that you are of absolute responsibility for correctness of the supplied as per specification

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

KV		DIMENSION										
RATING A		UNIT STAGK		B C D E F G H J								
36				762 457 508 1035 750 750 1500 1500								

- NOTES:-
1. ALL DIMENSIONS ARE IN mm.
 2. ALL FERRULE PARTS SHALL BE HOT DIP GALVANISED EXCEPT OTHERWISE SPECIFIED.
 3. TERMINAL PAD FIXED & MOVING CONTACT END ARE SILVER PLATED.

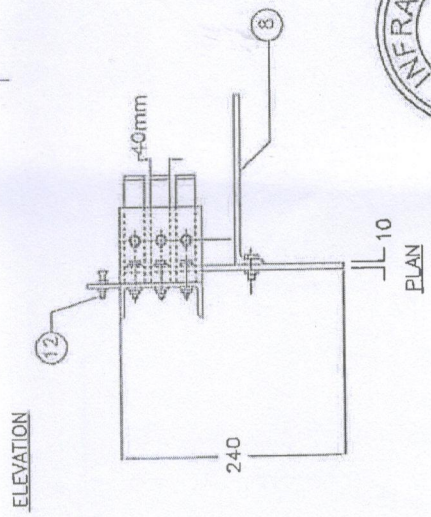
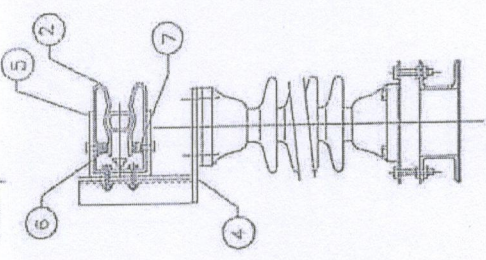
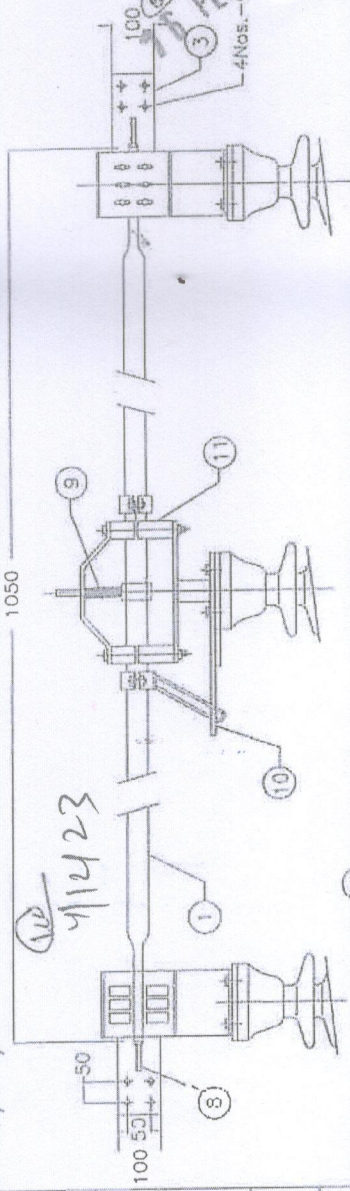
SL. NO.	DESCRIPTION	QTY.	MATERIAL	
13	TANDEM PIPE	25MM. NB	2	GL PIPE
12	FIXED CONTACT 3 NOS.		6	HOLOC.
11	NAME PLATE OF ISOLATOR		1	AL SHEET
10	OPERATING PIPE	35MM. NB	1	GL PIPE
9	PHASE COUPLING CLAMP		6	U.S. GALV.
8	SOLID CORE INSULATORS		9	PORCELAIN
7	BOXING HOUSING		3	AL ALLOY
6	CARTING BOLT		1	U.S. GALV.
5	FIXED CONTACT MOUNTING BRACKET		6	U.S. GALV.
4	TERMINAL PAD		6	HOLOC.
3	OPERATING BOX FOR MAIN SW.		1	AL SHEET
2	MOVING CONTACT		3	HOLOC.
1	BASE CHANNEL	100-50mm.	3	U.S. GALV.

G NADY & COMPANY
285, RETAI BUBBLES ROAD, HOWRAH - 71101
G.A. OF 33KV. DOUBLE BREAK
TANDEM ISOLATOR.
DRN S.C.C.
CHKD.
AFFD.
SCALE- N.T.S.
TOLERANCE ±5%
DRG.NO. GNC/33/3

CUSTOMER
PROJECT
Bihar State Power Transmission Company Limited
Construction of 2X 50 MW, 132/33 KV Grid
Substation, Debnagar (Block-Debnagar,
Dist-Aurangabad) & 2X 50 MVA, 132/33 KV Grid
Sub-station, Nabinagar (Block-Nabinagar,
Dist-Aurangabad).
NIT NO. 13/PR/BSTCL/2021
CONTRACTOR
LIVINDIA INFRA PRIVATE LIMITED



Adopted for NIS-108R/BSPTCL/2023



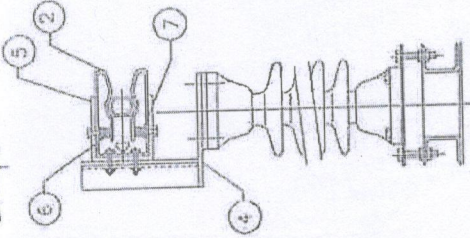
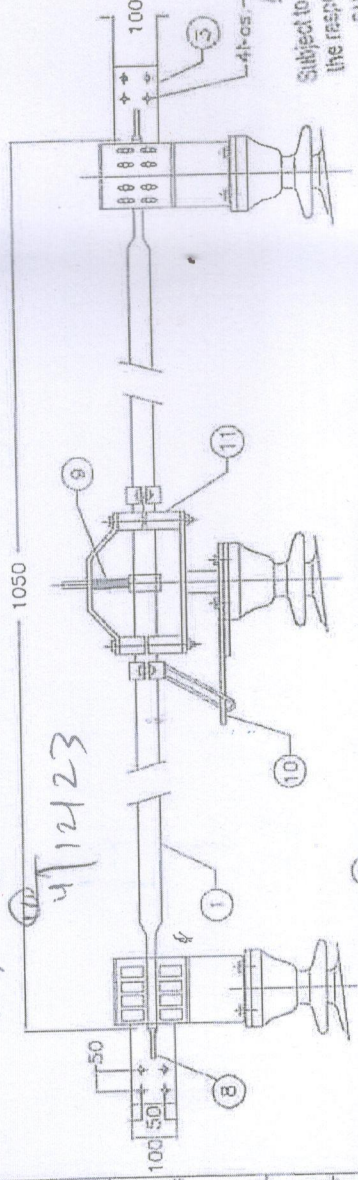
- NOTES :-
1. ALL DIMENSIONS ARE IN mm.
 2. CONTACT PORTIONS ARE SILVER PLATED.
 3. ALL FERROUS PARTS ARE HOT DIP GALVANIZED.

(As corrected)
APPROVED
Subject to the condition that you are not to share of
the responsibility for correctness of the materials
supplied as per specification
Electrical Superintending Engineer
(Planning and Engineering)
Bihar State Power Transmission Company Limited
Vidyal Bhawan, Patna-800021

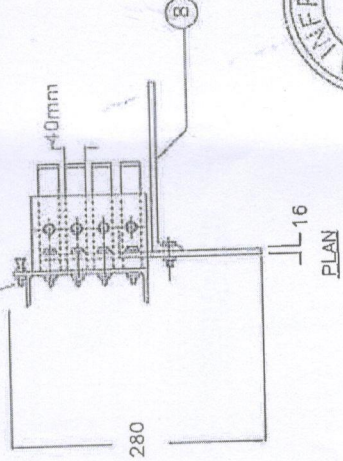
SL. NO.	DESCRIPTION	QTY.	MATERIAL
12	STOPPER	6	NYLON
11	BLADE HOLDER CLAMP	6	AL. ALLOY
10	TWISTING LEVER	4	M.S. GALV.
9	POSITION HOLDER SPRING	4	S.S.
8	ARCING HORN	98 mm.	M.S. GALV.
7	INSULATION BUSH	36	NYLON
6	SPRING	36	S.S.
5	CONTACT COVER	6	M.S. GALV.
4	JAW HOLDER STAND	6	M.S. GALV.
3	TERMINAL PAD	100x10mm.	AL-FEAT
2	FIXED CONTACT JAW	40x4.2mm.(3 NOS)	H.D.E.C.
1	MOVING BLADE	50mmO.DX35mm I.D.	H.D.E.C.

G NADY & COMPANY 235, NETAJI SUBHAS ROAD, HOWRAH - 711101	DRN S.C.	MAIN SWITCH CONTACT DETAILS OF 33KV 1800A. ISOLATOR
	CKD. S.N.	
	APPD.	
	SCALE- N.T.S.	
CUSTOMER	Bihar State Power Transmission Company Limited	
PROJECT	Construction of 2X 50 MVA, 132/53 KV Grid Substation, Daudnagar (Block:-Daudnagar, Dist:-Aurangabad) & 3X 50 MVA, 132/53 KV Grid Sub-station, Nabinagar (Block:-Nabinagar, Dist:-Aurangabad).	
NIT NO.	13/PR/BSPTCL/2021	
CONTRACTOR	LINDIA INFRA PRIVATE LIMITED	
DRG NO		GNU 33/4

Adopted for NIT-10/PR/BSPTEL/2023



ELEVATION



PLAN

NOTES :-

1. ALL DIMENSIONS ARE IN mm.
2. CONTACT PORTIONS ARE SILVER PLATED.
3. ALL FERROUS PARTS ARE HOT DIP GALVANIZED.

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

APPROVED

(Signature)

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

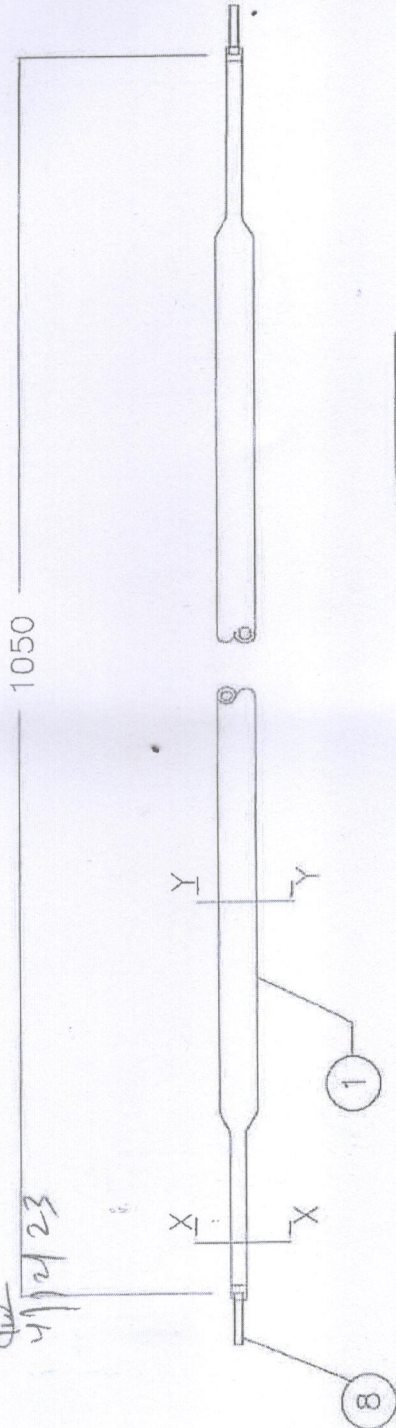
S/N	DESCRIPTION	QTY	MATERIAL
1	MOVING BLADE	3	H.D.E.C.
2	FIXED CONTACT JAW	6	H.D.E.C.
3	TERMINAL PAD	6	H.D.E.C.
4	JAW HOLDER STAND	6	M.S. GALV.
5	CONTACT COVER	6	M.S. GALV.
6	SPRING	36	S.S.
7	INSULATION BUSH	36	NYLON
8	ARCING HORN	48	M.S. GALV.
9	POSITION HOLDER SPRING	4	S.S.
10	TWISTING LEVER	4	M.S. GALV.
11	BLADE HOLDER CLAMP	6	AL. ALLOY
12	STOPPER	6	NYLON



CUSTOMER PROJECT	Bihar State Power Transmission Company Limited	
	Construction of 2X 50 MVA, 132/33 KV Grid Substation, Daudnagar (Block:-Daudnagar, Dist:-Aurangabad) & 3X 50 MVA, 132/33 KV Grid Sub-station, Nabinagar (Block:-Nabinagar, Dist:-Aurangabad).	
	NIT NO. 13/PR/BSPTEL/2021	
	LIVINDIA INFRA PRIVATE LIMITED	
MAIN SWITCH CONTACT DETAILS OF	DRN S.C.	
	CKD S.N.	33KV 2500A. ISOLATOR
	APPD.	
	SCALE- N.T.S.	DRG NO GNC/33/25
TOLERANCE ±5%		

G NANDY & COMPANY
235, NETAJI SUBHAS ROAD, HOWRAH - 711101

Adopted for NIT-10/PR/BSPCL/2023



SECTION ON X-X

SECTION ON Y-Y

S.L. NO.	DESCRIPTION	QTY	MATERIAL
2	ARCING HORN	6	H.D.E.C.
1	MOVING BLADE 50mm O.D. x 28mm I.D.	3	H.D.E.C.



G NANDY & COMPANY
235, NETAJI SUBHAS ROAD, HOWRAH - 711101

CUSTOMER	Bihar State Power Transmission Company Limited
PROJECT	Construction of 2X 50 MVA, 132/33 KV Grid Substation, Daudnagar (Bisect-Daudnagar, Dist-Buxar) & 3X 50 MVA, 132/33 KV Grid Sub-station, Nabinagar (Bisect-Nabinagar, Dist-Buxar)
NIT NO.	13/PR/BSPCL/2021
CONTRACTOR	LINDIA INFRA PRIVATE LIMITED

MOVING CONTACT BLADE OF
33KV 2500A ISOLATOR

DRG NO GND 33/26

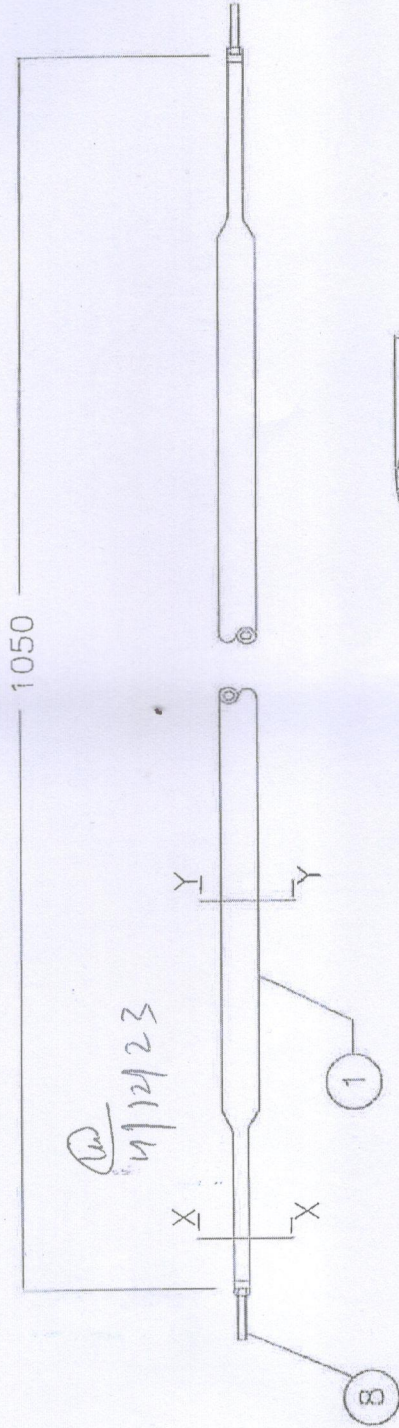
SCALE- N.T.S.
TOLERANCE $\pm 5\%$

(As corrected)
APPROVED
Subject to the condition that you are to accept the responsibility for correctness of the material supplied as per specification.

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

16 FEB 2022

Adopted for NIT-10/PR/BSPTCL/2023



APPROVED

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

SECTION ON X-X

SECTION ON Y-Y

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

NOTES :-

1. ALL DIMENSIONS ARE IN mm.
2. BOTH ENDS ARE SILVER PLATED.
3. ALL FERROUS PARTS ARE HOT DIP GALVANISED.



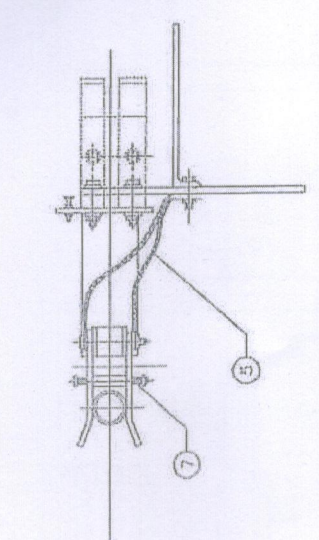
SL. NO.	DESCRIPTION	QTY.	MATERIAL
1	MOVING BLADE	50mm O.D. x 35mm I.D.	H.D.E.C.
2	ARCONG HORN		H.D.E.C.

G NANDY & COMPANY
235, NETAJI SUBHAS ROAD, HOWRAH - 711101

CUSTOMER	Bihar State Power Transmission Company Limited
PROJECT	Construction of 2X 50 MVA, 132/33 KV Grid Substation, Daudnagar (Block-Daudnagar, Dist-Aurangabad) & 2X 50 MVA, 132/33 KV Grid Sub-station, Nabinagar (Block-Nabinagar, Dist-Aurangabad).
NIT NO.	13/PR/BSPTCL/2021
CONTRACTOR	LIVINDIA INFRA PRIVATE LIMITED
DRN S.C.	
CKD. S.N.	
APPD.	
SCALE- N.T.S.	
TOLERANCE	±5%
MOVING CONTACT BLADE OF	
33KV 1600A. ISOLATOR	
DRG NO	GN/ 33/ 21

31

Applied for NIT-10/PR/1358 TEL/2023
5/12/23



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

76 FEB 2023

Electrical Superintending Engineer
(Planning and Engineering)
Bihar State Power Transmission Company Limited
Vidyut Bhawan, Patna-800024

SL. NO.	BILL OF MATERIAL	QTY.	MATL.
1	EARTH SW. FIXED CONTACT & NOS. 25X3 mm	3	H.D. CU.
2	SPRING	12	S.S.
3	EARTH SWITCH BLADE 38mm.O.D.x125mm.x150mm. CU.TUBE	3	GI. & CU. TUBE
4	W.D. FLEXIBLE 30 X 3 mm THK. 2 NOS.	3	CU. TINNED
5	EARTH CONNECTOR CU. FLEXIBLE 30x3mm.2NO.	3	CU. TINNED
6	FIXED CONTACT STAND	6	M.S. GALV.
7	EARTH SW. HOLDING BRACKET	6	M.S.GALV.
8	TERMINAL PAD OF ISOLATOR	6	CU. FLAT

NOTE :-

- * ALL DIMENSIONS ARE IN MM.
- * MAIN SW. CONTACT SHOWN IN DOTTED LINE
- * CONTACT ARE SILVER PLATED MINIMUM OF 20 MICRON.

625

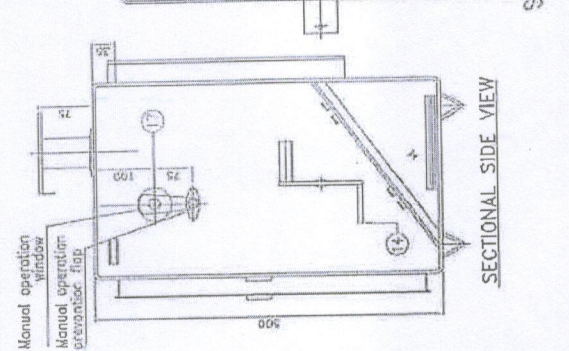
Pg-10

MANUFACTURER'S NAME
G NADY & COMPANY
285, N. SIKH, HOWRAH-71101

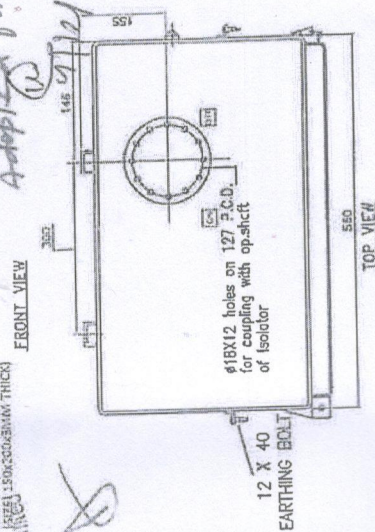
CONTACT DETAILS OF EARTH SWITCH FOR 33KV. ISOLATOR

DRG. NO : GNC/38/80





22 Feb 1955



Rubber Gasket (EDPM)
(15MM THICK)

DETAIL - A



NOTES:-

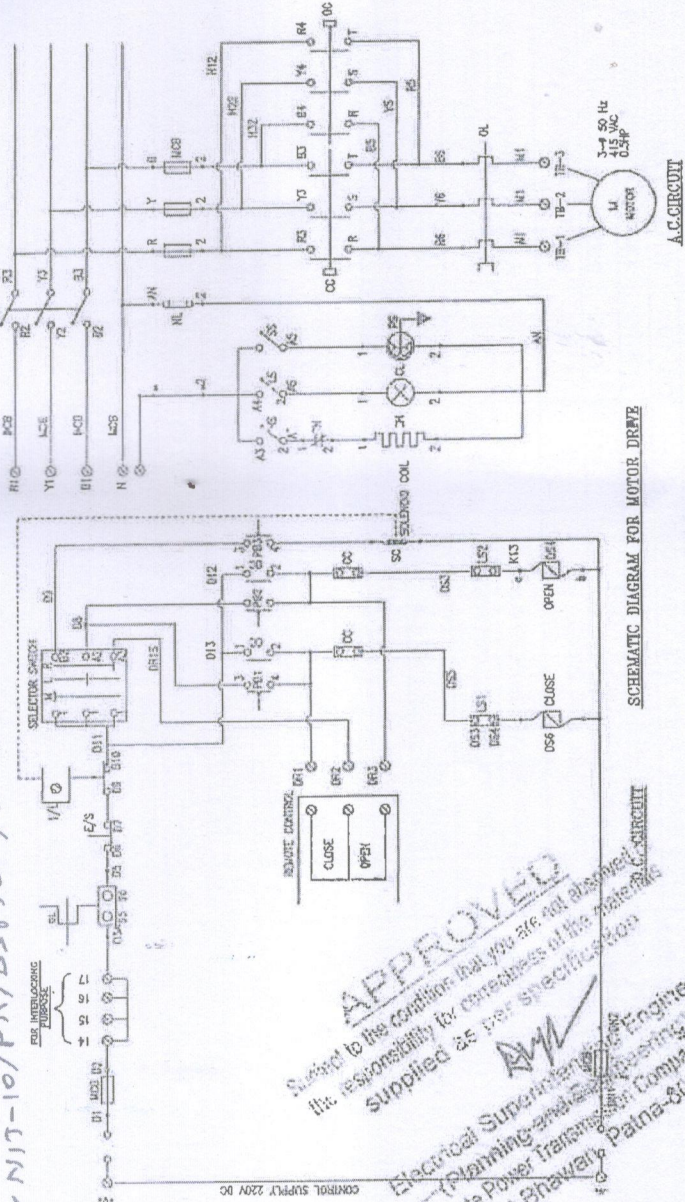
- 1) ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE AS STATED.
- 2) DEGREE OF PROTECTION IP 55
- 3) THE CONTROL CABINET SHALL BE 3MM THICK SHEET
- 4) WIRING SHALL BE DONE WITH 1100V GRADE 2.5 SQ.MM
- 5) STRANDED PVC INSULATED CONDUCTOR.
- 6) 10% SPARE TERMINAL SHALL BE PROVIDED.
- 7) TOLERANCE IN DIMENSIONS: ±5%
- 8) AUX. SWITCH: BNO+NC
- 9) CUBICAL ARE POWDER COATED.

 G. NANDY & COMPANY 235, NETAJI SUBHAS ROAD, HOYRAH - 71101	MOTOR DRIVE MECHANISM FOR 33KV ISOLATOR MAIN SWITCH		DRG.NO. GNC./33/6
	DRN	S.C.C.	
	CKD.		
	APPD.		
	SCALE- N.T.S.		TOLERANCE $\pm 5\%$

Fig-11

Adopted for NIT-10/PR/BSPTCL/2023

11/12/23

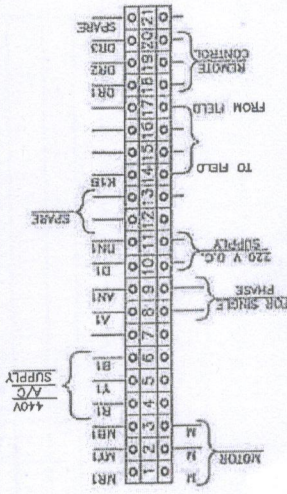


SCHEMATIC DIAGRAM FOR MOTOR DRIVE

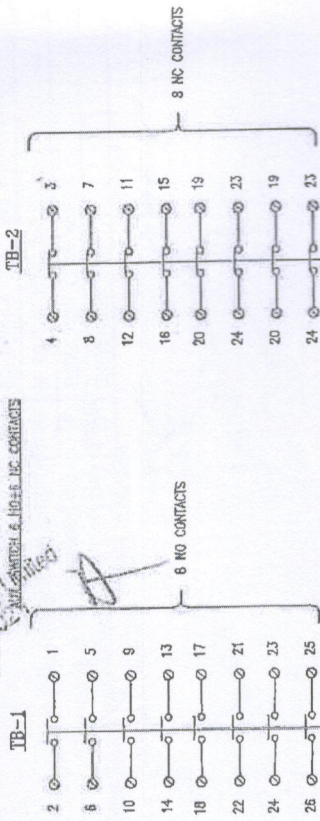


APPROVED
 Subject to the condition that you are not allowed
 the responsibility for correctness of the data and
 supplied as per specification
 Electrical Superintendent Engineer
 Planning and Designing
 Bihar State Power Transmission Company
 Mithyut Bhawan, Patna-800022

16 FEB 2022



SUPPLY TERMINAL DIAGRAM



CUSTOMER PROJECT	Bihar State Power Transmission Company Limited Construction of 2X 50 MVA, 132/33 KV Grid Substation, Daudnagar (Block-Daudnagar, Dist-Aurangabad) & 3X 50 MVA, 132/33 KV Grid Sub-station, Nabinagar (Block-Nabinagar, Dist-Aurangabad).	
NIT NO.	13/PR/BSPTCL/2021	
CONTRACTOR	LIVINDIA INFRA PRIVATE LIMITED	
G NANDY & COMPANY 235, NETAJI SUBHAS ROAD, HOWRAH - 711011		
SCHEME OF MOTOR CONTROL MECHANISM FOR 33KV ISOLATOR		
DRG. NO. GNC/33/7		

REF DRG NO. GNC/33/6		PART LIST				G. NANDY & COMPANY 235, RETAJI SUBHAS ROAD, HOWRAH - 71101	
NO	DESCRIPTION	LEGEND	RATING	MAKE			
1	AUXILIARY SWITCH	---	10amp	OWN MAKE			
2	OPEN/CLOSE D.C CONTACTOR	OC & CC	220 V DC	HAVELLS/C & S/HPL/SIEMENS OR EQUIVALENT			
2a	THERMAL OVER LOAD RELAY	OL	1 TO 1.6	HAVELLS/C & S/HPL/CHINT OR EQUIVALENT			
3	3 PHASE INDUCTION MOTOR	M	0.5 HP	REMI/ELCON/ELMO/DIVINE/HEXON OR EQUIVALENT			
4	LOCAL/REMOTE SELECTOR SWITCH	S2	6 AMP	KAYCEE/JAI BALAJI/RECOM OR EQUIVALENT			
5	OPEN/CLOSE LIMIT SWITCH	LS1 & LS2	10 AMP	KAYCEE/CEYONE/MICRO SWITCH OR EQUIVALENT			
6	MCB		10 AMP	JUVAS/C & S/HPL/ELMEC OR EQUIVALENT			
7	MECHANICAL INTER LOCK FOR MANUAL OPERATION	---	---	OWN MAKE			
8	PUSH BUTTON FOR CLOSE&OPEN	PB1 & PB2	---	KAYCEE/VSJ/ANAND/RECOM OR EQUIVALENT			
9	PUSH BUTTON FOR INTERLOCK	PB3	6 AMP	KAYCEE/VSJ/ANAND/RECOM OR EQUIVALENT			
10	SWITCH FOR PLUG SOCKET	SS	6 AMP	SUN(JOY)/SURAJ/CALONIX/SOYNIA OR EQUIVALENT			
11	THREE PIN SOCKET	PS	6 AMP	STRACO/ANCHOR /PRITAN OR EQUIVALENT			
12	PUSH BUTTON FOR EMERGENCY STOP	PB4	6 AMP	KAYCEE/VSJ/ANAND/RECOM OR EQUIVALENT			
13	TERMINAL SCREW TYPE / STUD TYPE	---	CUT-4/M3-4	ELMEX /CONNECTWELL OR EQUIVALENT			
14	MS HANDLE (HOT DIP GALVANIZED)	---	---	OWN MAKE			
15	M 12 EARTHING BOLT	---	---				
16	REDUCTION GEAR ASS.	---	---	OWN MAKE			
17	PREVENTION FLAP	---	---	OWN MAKE			

APPROVED

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

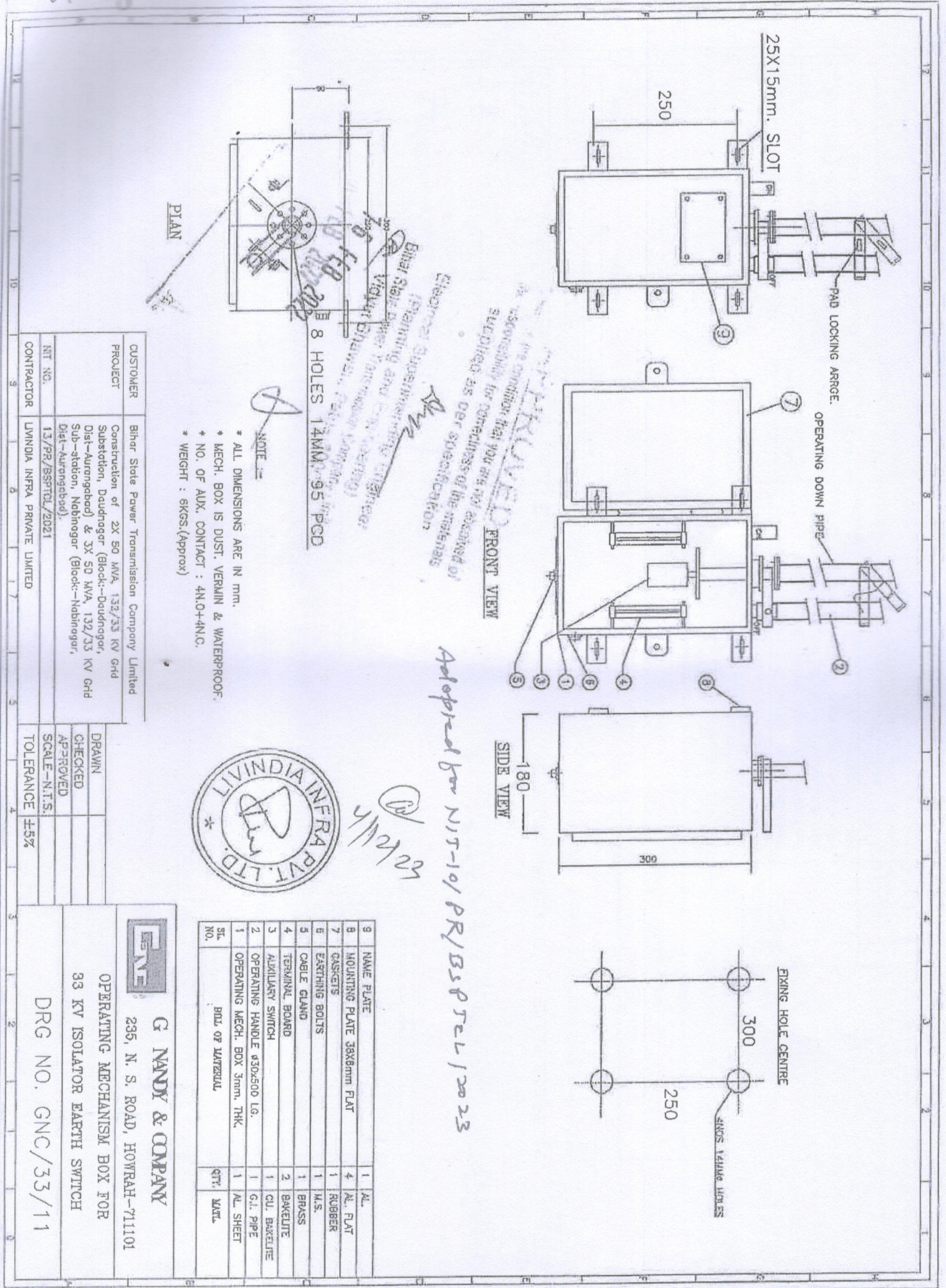
DM

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

Adopted for NIT-10/PR/BSPTC-L/2023

105 corrected
4/12/23





T-81

26

TECHNICAL PARTICULARS	
RATED VOLTAGE	30KV.
RATED CURRENT	170 KV. (Peak)
LIGHT IMPULSE WITHSTAND VOLT TO EARTH ACROSS ISOLATING DISTANCE	185 KV. (Peak)
RATED WET POWER FREQUENCY WITHSTAND : POLE TO EARTH ACROSS ISOLATING DISTANCE	70 KV. (r.m.s)
GOVERNING SPECIFICATION	IS-9385
WEIGHT OF UNIT WITH SOLID CORE INSULATORS	35Kg.(approx)

APPROVED

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

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

1000
500
400
200
50
125
80
76
100
150
200
300
400
500
600
700
800
900
1000

125
80
76

TERMINAL PAD

Adopted for NIT-10/PR/BSPTCL/2023

(112)
4/12/23

100
150
200
300
400
500
600
700
800
900
1000

NOTE :-

1. ALL DIMENSIONS ARE IN mm.
2. ALL FERROUS PARTS ARE HOT-DIP GALV.
3. ALL CONTACT ARE SILVER PLATED.

7 TERMINAL PAD 25x6mm

6 FASTENING BOLT 14 HOLE

5 BASE ANGLE 50mm

4 SOLID CORE FOR INSULATOR(MIN CD.900mm)

3 PLATE WITH STUD 6mm

2 FUSE LINK CONNECTOR. 25x3mm

1 HORN 25 x 3mm

SL. NO.	BILL OF MATERIAL	QTY.	MATL.
7	TERMINAL PAD 25x6mm	2	AL. ALLOY
6	FASTENING BOLT 14 HOLE	2	M.S.
5	BASE ANGLE 50mm	3	M.S. GALV.
4	SOLID CORE FOR INSULATOR(MIN CD.900mm)	2	PORCELAIN
3	PLATE WITH STUD 6mm	2	BRASS
2	FUSE LINK CONNECTOR. 25x3mm	2	H.D.E.C.
1	HORN 25 x 3mm	2	H.D.E.C.

DRAWN	Chorasio
CHECKED	SGN
APPROVED	
SCALE-N.T.S.	
TOLERANCE ±5%	

CUSTOMER	Bihar State Power Transmission Company Limited
PROJECT	Construction of 2X 50 MVA, 132/33 KV Grid Substation, Daudnagar (Block:-Daudnagar, Dist:-Aurangabad) & 3X 50 MVA, 132/33 KV Grid Sub-station, Nabinagar (Block:-Nabinagar, Dist:-Aurangabad).
NIT NO.	13/PR/BSPTCL/2021
CONTRACTOR	LIVINDIA INFRA PRIVATE LIMITED

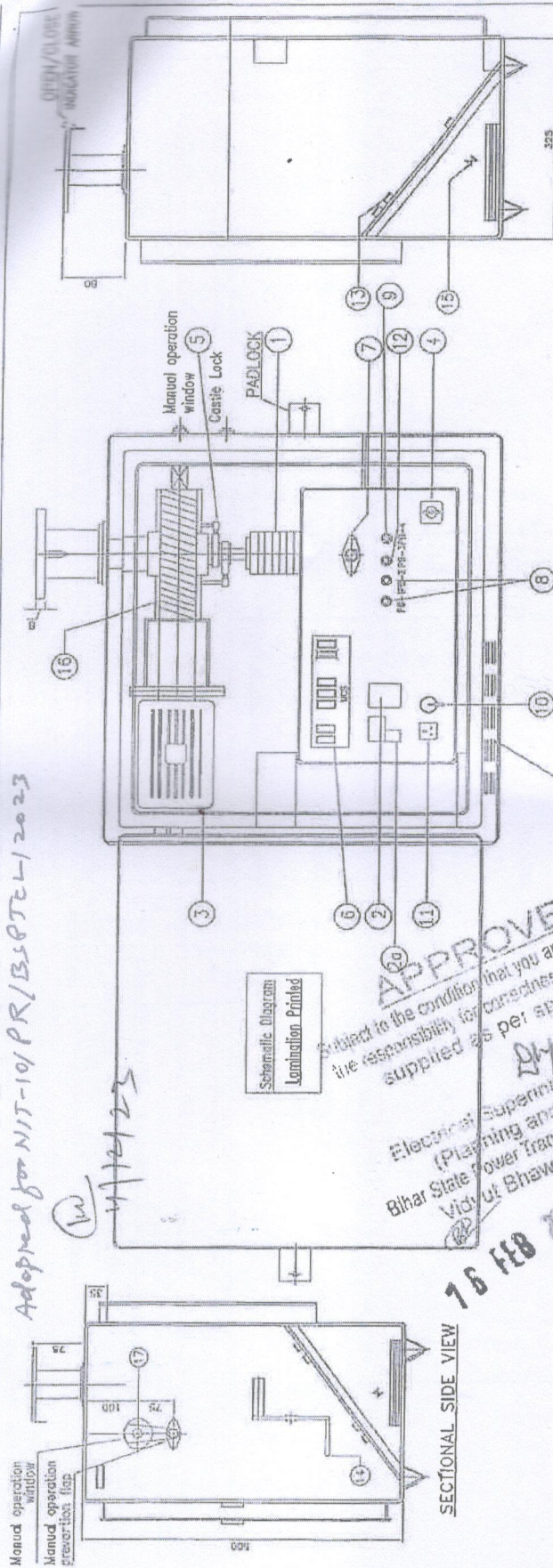
G. NANDY & COMPANY

235, NEWAT SURESH ROAD, HOWRAH - 71101

G A OF 36KV. HTN CAP FUSE

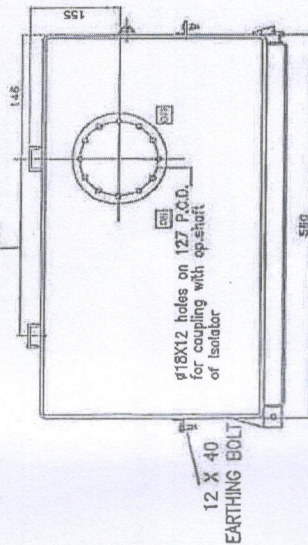
DRG NO. 202811

Approved for NIT-10/PR/BSPTEL/2023

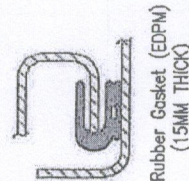


DETACHABLE GLAND PLATE
(SIZE: 150x200x3MM THICK)

FRONT VIEW



TOP VIEW



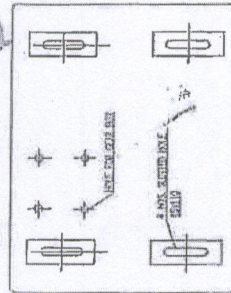
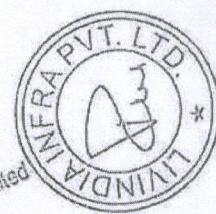
Rubber Gasket (EDPM)
(15MM THICK)

Schematic Diagram
Lamination Printed

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
Vidya Bhawan, Patna-80002

76 FEB 2023



MOUNTING ARRANGEMENT
BACK VIEW

DETAIL - A

- NOTES:-
- 1) ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE AS STATED.
 - 2) DEGREE OF PROTECTION IP 55.
 - 3) THE CENTRAL CABINET SHALL BE 3MM THICK AL SHEET
 - 4) WIRING SHALL BE DONE WITH 1100V GRAB 2.5 SQMM
CLL STRANDED PVC INSULATED CONDUCTOR.
 - 5) WEIGHT OF THE OPERATING BOX: 62Kg. APPROX
 - 6) 10% SPARE TERMINAL SHALL BE PROVIDED.
 - 7) TOLERANCE IN DIMENSIONS: ±5%
 - 8) AUX. SWITCH: 6NO+6NC
 - 9) CUBICAL ARE POWDER COATED.

G NANDY & COMPANY

285, NETAJI SUBHAS ROAD, HOWRAH - 71101

MOTOR DRIVE MECHANISM FOR
145KV ISOLATOR EARTH SWITCH

DRG.NO. GNC/145/14

CUSTOMER	Bihar State Power Transmission Company Limited
PROJECT	Construction of 2X 50 MVA, 132/33 KV Grid Substation, Doudnagar (Block-Daudnagar, Dist-Aurangabad) & 2X 50 MVA, 132/33 KV Grid Sub-station, Nabihogor (Block-Nabihogor, Dist-Aurangabad).
DRN	S.C.C.
CKD.	
APPD.	
SCALE-	N.T.S.
TOLERANCE	±5%

NIT NO.	13/PR/BSPTEL/2021
CONTRACTOR	LIVINDIA INFRA PRIVATE LIMITED

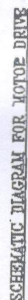
(w) 12/23

FOR INTERLOCKING PURPOSES

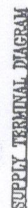
17
16
15
14

13

12



D.C. CIRCUIT



CUSTOMER	Elbar State Power Transmission Company, Limited
PROJECT	Construction of 2X 50 MVA, 132/33 KV Grid Substation, Oudumbur (Block)-Oudumbur (Sub-township) and 3X 50 MVA, 132/33 KV Grid Sub-station, Kothnagar (Block)-Nabnagar, (Sub-township).
NIT NO.	13/PRI/BSPTCL/2021
CONTRACTOR	UINWDA INFRA PRIVATE LIMITED



You are not allowed to
 sign as per specification.
 Electrical Superintendent Engineer
 (Planning and Engineering)
 Bihar State Power Transmission Company Ltd.
 Vidhyut Bhawan Patna-800 001
 16 FEB 2012