



NORTH BIHAR POWER DISTRIBUTION CO. LTD., PATNA

(Registered Office, Vidyut Bhawan, Bailey Road, Patna)

(Department of Rural Electrification)

Letter No.- N-XIII/RGGVY/GTP & Drawing/Madhepura-1701/2015-
Date-

E-mail-cere.bseb@gmail.com

From,

S.K. Srivastava
Chief Engineer (Project-I)

To,

M/s Technofab Engineering Ltd.,
507 Eros Apartments, 56, Nehru Place,
New Delhi-110019, Phone-011 26411931

Sub:-

Regarding approved GTP, Drawing of M/s APE Power Pvt. Ltd., Kolkata

Ref:-

Your letter no.-3368 dated 26.08.2016, P-124 dated 09.09.2016 & 5022 dated 06.10.2016

Sir,

Please find enclosed herewith approved GTP/Drawing of following Items submitted by you vide letter under reference as per REC/TS, 12th Plan RGGVY work and valid type test report for Khagaria District.

S.N.	Material Description	Vendor Name
1	11 KV Indoor type VCB	M/s APE Power Pvt. Ltd., IE, Neelamber Building, 28B, Shakespeare Sarai, Kolkata-700017

It may please be noted that approval of GTP/Drawing of subject material does not absolve you of contractual responsibility in terms of its quality etc in case any problem/ issue with regard to material/vendor arises at any stage, NBPDC reserves the right of withdrawal of this approval as well as ask the turnkey contractor to replace the materials at their own cost immediately.

Encl:- As above

Yours faithfully

Sd/-

(S.K. Srivastava)
Chief Engineer (Project-I)

Memo No.-

Date-

Copy with a copy of approved GTP, Drawing forwarded to ESE, Electric Supply Circle, Saharsa/EEE (Project), Electric Supply Division, Khagaria for information and necessary action.

Encl:-As above

Sd/-

(S.K. Srivastava)
Chief Engineer (Project-I)

Memo No.- 6201

Date- 10.11.16

Copy forwarded to Electrical Executive Engineer (IT), North Bihar Power Distribution Company Limited to upload this information and GTP & Drawing on NBPDC website.

Encl:-As above

(S.K. Srivastava)

Chief Engineer (Project-I)



APE POWER PRIVATE LIMITED

GURANTEED TECHNICAL PARTICULARS FOR 11 KV, 1250 Amp, INDOOR VACCUM CIRCUIT BREAKER

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A. Circuit Breakers		
1.	Name of Manufacture	APE POWER PVT LTD, Kolkata
2.	Type of Breaker	"VAH2" Indoor VCB
3.	Nominal System Voltage	11 KV ✓
4.	Highest System Voltage	12 KV ✓
5.	Frequency	50 Hz ✓
6.	Normal Current Ratings	1250 Amps ✓
7.	Symmetrical Breaking Capacity	<i>Interlocking Capacitor at nominal system Voltage</i> 350 MVA ✓ 1500 MVA ✓
8.	Asymmetrical Breaking Capacity	As per IS: 13118/IEC 62271-100
9a.	Symmetrical Breaking Current	25 KA for 3 Sec ✓
9b.	Short time current rating for 3sec	13.1 KA 25 KA ✓
10.	Making Capacity	32.75 KA Peak 62.5 KA Peak ✓
11.	1.2/50 Micro Second impulse Wave Withstand Test Voltage	70 KV Peak ✓
12.	1 Minute Power Frequency Withstand Test Voltage	25 KV (rms) 28 KV rms ✓
13.	No. of Poles	3 ✓
14.	No. of breaks in circuit for pole	1
15.	Operating Mechanism	Manual / Automatic ✓
16.	Type of Arcing Contacts and/or arc control device	Vacuum Interrupter ✓
17.	Whether the circuit breaker is tip free or not	Trip Free ✓
18.	Nominal Voltage of Closing Mechanism	As per requirement
19.	Normally Open	6
20.	Normally Closed	6
21.	Standard to which conforms	IS - 13118 / IEC - 62271-100 with latest amendment ✓
B. Switchboard		
1.	Enclosure	IP5X ✓
2.	Dimension of Panel	As per enclosed drawing
3.	Dimension of supporting channel	As per enclosed drawing
4.	Thickness of steel plates proposes to be used	3mm for Load Bearing member 2 mm for non-load bearing member
5.	Wiring	CT Circuit- 2.5 sqmm PT Circuit - 1.5 sqmm. Other - 2.5 sqmm
C. Bus Bar		
1.	Size of Main Busbar	As per suitable ratings
2.	Size of Earth Busbar	25 X 5 mm
3.	Bus Bar Materials	Electrolytic grade CU Busbar
4.	Insulation	PVC sleeved insulator

* this shall be conforming to REC, T.S of DDUGJY 12th plan, valid type test & LoA.

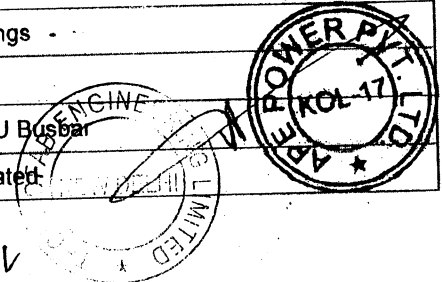
Checked

[Signatures]
EEE(RE) EEE(RE)

ESE(RE)

Approved

CE (Project-I)
NBPDCI, Patna



[Handwritten signature] 11 July 2016

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D. Current Transformer

1.	Make	APE POWER PVT LTD, Kolkata.
2.	Manufacturer's Type & designation	Resin Cast CT ✓
3.	Rated Voltage	12 KV ✓
4.	Rated Primary Current	1200-600-300 (I/C) & 600-300-150 (O/G) ✓
5.	Rated Secondary Current	(1-1-1) A for Incoming & (5-5) A for Outgoing ✓
6.	Rated Output	15VA/2.5VA 30VA ✓
7.	Class of Accuracy	0.5/5P20/PS
8.	Accuracy limit factor	20 ✓
9.	Short Time rating	25 KA ✓
10.	Secondary limiting voltage	As per IS Standard
11.	1.2/50 MS Impulse withstand test voltage	75 KVp ✓
12.	Power frequency (Dry withstand voltage)	28 KV rms ✓
13.	No. of Primary Turns	As per IS ✓
14.	No. of Secondary Turns	As per IS ✓
15.	IS to which it conforms	Is: 2705 - 1992 ✓

E. Potential Transformer

1.	Make	APE POWER PVT LTD, Kolkata.
2.	Manufacturer's Type & designation	Epoxy Resin Cast
3.	Rated Primary voltage	11 KV/√3 ✓
4.	Rated Secondary voltage	110 V/√3 ✓
5.	Rated Burden	100 VA/Ph ✓
6.	Class of Accuracy	0.5 ✓
7.	Rated voltage factor & time	1.2 continuous & 1.5 for 30 secs ✓
8.	One minute power frequency withstand test (dry) voltage	28 KV (rms) ✓ * this shall be conforming to
9.	2/50 ms. Impulse wave with withstand voltage	75 KVP ✓ REC, T.S of DDUGJY 12th
10.	One minute power frequency withstand test voltage	28 KV (rms) ✓ Plan, valid type test
11.	Mounting details	Top of the Incomer Panel & LOA. Checked
12.	IS to which it conforms	Is: 3158 ✓

AEE (RE)
 EEE (RE)
 ESE (RE)

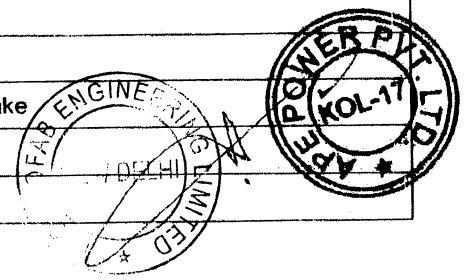
F. Relay

3 Over Current 1 Earth Fault Relay with High Set

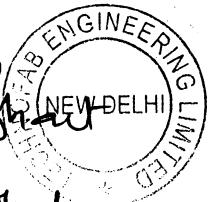
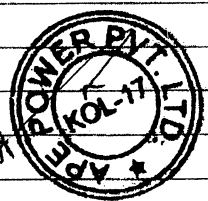
1.	Make	ASHIDA/C&S/JVS make
2.	Type	Numerical / Approved
3.	Auxiliary Voltage	24 V DC ✓
4.	CT Secondary	1/5A ✓ CE (Project-I) NBPDC, Patna
5.	Protection Relay Setting Range	20 to 250%
6.	IS to which conforms	IS : 3231

High Speed Master Trip Relay

1.	Make	ASHIDA/C&S/JVS make
2.	Auxiliary Voltage	24 V DC ✓
3.	IS to which it conforms	Is: 3231 ✓



G. Energy Meter		
1.	Make	SECURE METERS/L&T/REPUTED
2.	Type	Digital
3.	Size & type of Meters	3 ph 4 wire DLMS complaint category A (Secure/L&T)
4.	Standards	IS: 14697
5.	Class of Accuracy	0.5S
H. Selector Switch		
1.	Type & make	3 Way & OFF, Kaycee/Recom
2.	Rated Voltage	230 V AC
I. Vacuum Interrupter		
1.	Make	Crompton Greaves Ltd
2.	Manufacture	Crompton Greaves Ltd
3.	Address of manufacture of vacuum bottle	Aurangabad
4.	Type & designation	Type : WL 35463 - 50+
6.	Insulation	28 KV RMS / 75 KV PEAK ✓
7.	Degree of vacuum inside the bottle	As per Manufacturer applicable standard
8.	Gap between the contacts in vacuum	
10.	Interrupter weight	4 kgs ✓
11.	Electrical ratings of vacuum bottle	12 KV, 1250 Amp ✓
12.	Rated Short Circuit current	25 KA ✓
13.	Rated Short Circuit making current	62.5 KAp ✓
14.	Rated Short time withstand current	26.3 KA ✓
15.	Duration of Short time current	3 sec ✓
16.	Maximum contact resistance at minimum closing force	30 micro ohms ✓
22.	Electrical life at rated normal current	30000 NO. ✓
23.	Electrical life at rated short circuit current	100 ✓
24.	Mechanical life	50000 ✓
25.	Contact erosion limit	3 mm ✓
26.	Shelf life	20 years ✓



* Life. The design of the vaccueme interrupter shall be such that it gives trouble free operation under normal load and fault condition throughout the life of the equipment.

* This shall be confirming to REC TS + DDUGJY 12th plan, valid type test @ UA.

~~Signature~~

M. J. ...
20-9-16

Checked

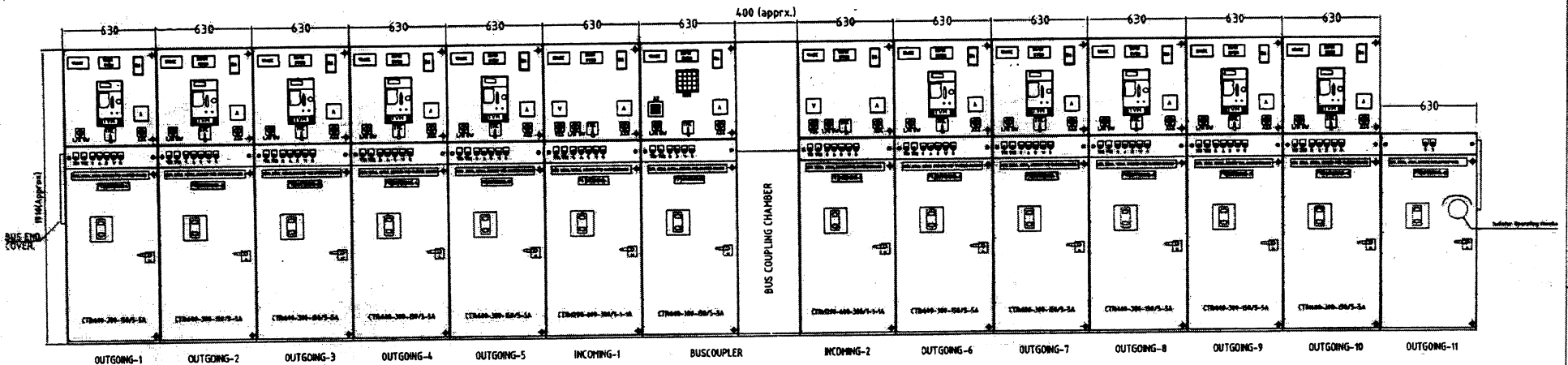
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EEE(RE)

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Signature
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NBPDC, Patna



FRONT VIEW

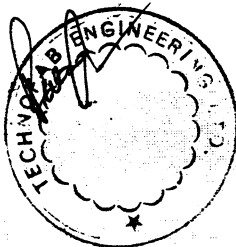
- LAMPS :-
- 1) G: Green, VCB OFF./ISOLATOR OFF.
 - 2) R: Red, VCB ON./ISOLATOR ON.
 - 3) W: White, Trip circuit healthy.
 - 4) A: Amber, Trip on fault.
 - 5) B: Blue, Spring charged.

WIRING DETAILS

Control wiring : 1.1kV grade, PVC insulated, single core multistrand cu cable

- a) CT - 2.5sq.mm, Grey, & PT - 1.5sq.mm, Grey,
- b) Earthing - 2.5sq.mm, Green.
- c) Others - 1.5sq.mm, Grey
- d) Spare terminals : 10%

** this shall be conforming to R.C.T.I.F. DIVISION 12th plan, valid till test & com*



Checked

Approved

APE POWER PRIVATE. LIMITED.
KOLKATA - 700 017.

CLIENT : North Bihar Power Distribution Co. Ltd.
CONTRACTOR : Technofab Engineering Limited.

TITLE : GENERAL ARRANGEMENT OF
11KV, 25KA, 1250A, INDOOR
14-PANEL VCB SWITCH BOARD

DRAWN BY : N.N.P	
CHECKED BY : A.C.H	
APPROVED BY : A.G	
DATE : 07.04.2016.	
SCALE : NTS	
ALL DIMENSIONS ARE IN mm.	
REV.NO. 01	REV.DATE 15.04.2016
SHEET. No. 1 OF 4	

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DRG.No. : APE/V11/M/1250-14/N-14

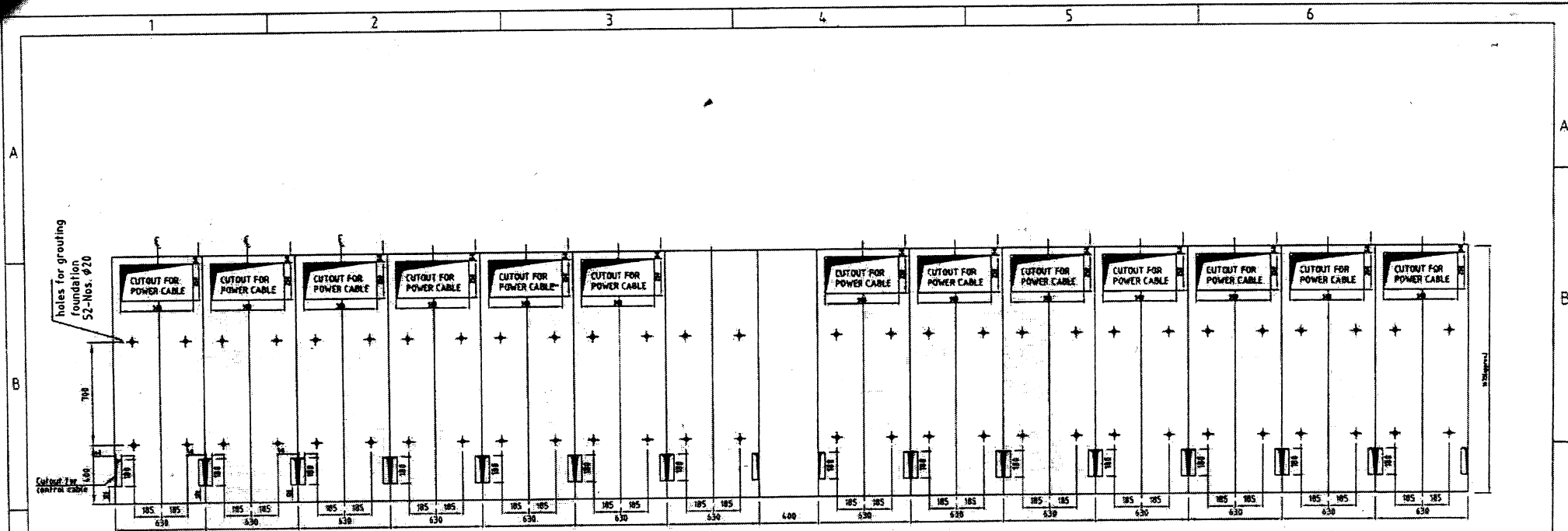
AEF(RE)
JCC

EEE(RE)

ESE(RE)

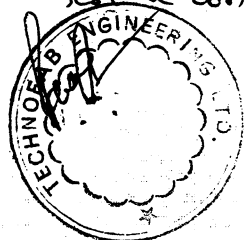
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* this shall be conforming to REC. TC & DDU way 12m plan, vald to be tel & loa

FOUNDATION PLAN



Checked

Approved

NOTE :
We have considered only mechanical interlocks amongst 2-1/C & 1- B/C through castell lock and key (S-lock and 2-key).

APE POWER PRIVATE. LIMITED. KOLKATA - 700 017.	
CLIENT : North Bihar Power Distribution Co. Ltd.	
CONTACTOR : Technofab Engineering Limited	
TITLE : GENERAL ARRANGEMENT OF 11KV, 25KA, 1250A, INDOOR 14-PANEL VCB SWITCH BOARD	DRAWN BY : N.N.P
	CHECKED BY : A.G.H
	APPROVED BY : A.G
	DATE : 07.04.2016.
	SCALE : NTS
ALL DIMENSIONS ARE IN mm.	
REV.NO. 01	REV.DATE 15.04.2016
SHEET. No. 2 OF 4	

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EEE(RE)
ESE(RE)
CE (Project-I)
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NBPDCI, Patn

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