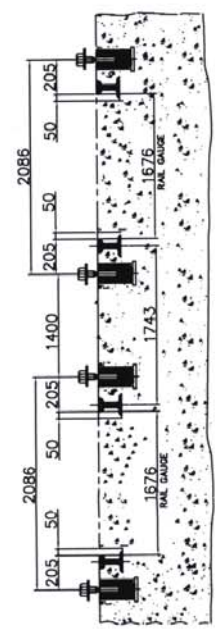
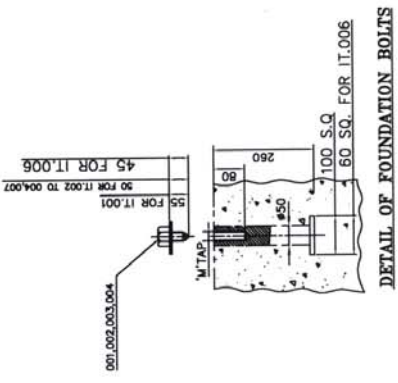


TABLE FOR FOUNDATION BOLT				COMPO. PLATE SIZE	ON EACH FOUND. LOAD (Kg)
IT. NO.	BOLT SIZE	QTY.	DESCRIPTION		
001	M-24	24	ROLLER SUPPORTS MARKED THUS.	170x300	45000
002	M-20	64	FAN SUPPORT MARKED THUS.	450x450	400
003	M-20	04	PIPE SUPPORT MARKED THUS.	250x250	500
004	M-20	32	RADIATOR SUPPORT MARKED THUS.	310x310	8000
005	-	-	JACK POINT	450x450	125000
007	M-20	08	HEADER SUPPORT MARKED THUS.	310x310	4000

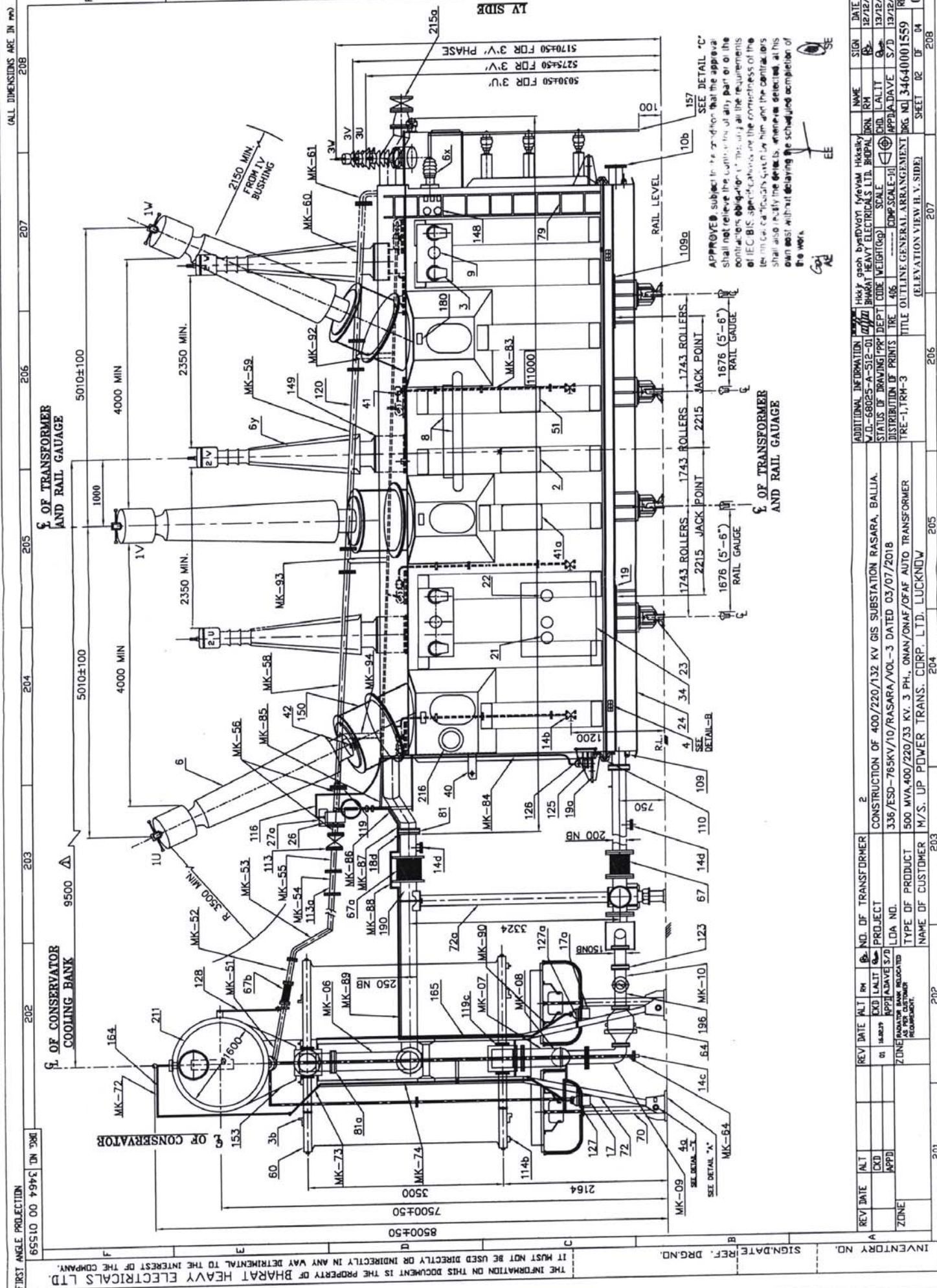
- NOTES:-
- 1- FOUNDATION BOLTS AND HARDWARES WILL BE SUPPLIED BY B.H.E.L. AND THOSE EXPOSED TO WEATHER SHALL BE HOT DIP GALVANISED.
  - 2- ALL CONCRETE FOUNDATIONS SHOULD BE IN LEVEL AS SHOWN IN DETAILS OF FOUNDATION BOLT AND SECTION "A-A".
  - 3- THE DRAWING GIVES THE SIZE AND LOCATING DIMENSIONS OF THE LOAD BEARING PADS PROVIDED WITH TRANSFORMER AND ACCESSORIES SUITABLE CONCRETE SLAB SIZE TO RECEIVE THESE PADS TO BE DECIDED BY UPPTCL CIVIL ENGINEER..
  - 4- POCKETS OF SUITABLE SIZE MAY BE LEFT WHILE CASTING FOUNDATIONS FOR EMBEDDING FEMALE PART OF FOUNDATION BOLT ( TO BE SUPPLIED BY ALONG WITH THE TRANSFORMER) AT THE TIME OF FINAL ERECTION.



INVENTORY NO.		SIGN. DATE		REF. DRG. NO.		THE INFORMATION ON THIS DOCUMENT IS THE PROPERTY OF BHARAT HEAVY ELECTRICALS LTD.		IT MUST NOT BE USED DIRECTLY OR INDIRECTLY IN ANY WAY DETRIMENTAL TO THE INTEREST OF THE COMPANY	
REV	DATE	ALT	RM	BS.	REV	DATE	ALT	RM	BS.
02	04/01/19	CKD	LAUT	Q	01	18/02/19	CKD	LAUT	Q
ZONE		REVISED		ZONE		REVISED		ZONE	
TYPE OF PRODUCT		NAME OF CUSTOMER		NAME OF CUSTOMER		NAME OF CUSTOMER		NAME OF CUSTOMER	
500 MVA/400/220/23 KV. 3 PH. ONAN/ONAF/OF AF AUTO TRANSFORMER		M/S. UP POWER TRANS. CORP. LTD. LUCKNOW		M/S. UP POWER TRANS. CORP. LTD. LUCKNOW		M/S. UP POWER TRANS. CORP. LTD. LUCKNOW		M/S. UP POWER TRANS. CORP. LTD. LUCKNOW	
LOA NO.		PROJECT		PROJECT		PROJECT		PROJECT	
336/ESD-765KV/10/RASARA/VOL-3 DATED 03/07/2018		CONSTRUCTION OF 400/220/132 KV GIS SUBSTATION RASARA, BALLIA.		CONSTRUCTION OF 400/220/132 KV GIS SUBSTATION RASARA, BALLIA.		CONSTRUCTION OF 400/220/132 KV GIS SUBSTATION RASARA, BALLIA.		CONSTRUCTION OF 400/220/132 KV GIS SUBSTATION RASARA, BALLIA.	
W.O.-68025-A-512-001		W.O.-68025-A-512-001		W.O.-68025-A-512-001		W.O.-68025-A-512-001		W.O.-68025-A-512-001	
STATUS OF DRAWING		STATUS OF DRAWING		STATUS OF DRAWING		STATUS OF DRAWING		STATUS OF DRAWING	
DISTRIBUTION OF PRINTS		DISTRIBUTION OF PRINTS		DISTRIBUTION OF PRINTS		DISTRIBUTION OF PRINTS		DISTRIBUTION OF PRINTS	
TRE-1, TRM-3		TRE-1, TRM-3		TRE-1, TRM-3		TRE-1, TRM-3		TRE-1, TRM-3	
TITLE		TITLE		TITLE		TITLE		TITLE	
FOUNDATION PLAN		FOUNDATION PLAN		FOUNDATION PLAN		FOUNDATION PLAN		FOUNDATION PLAN	
DRG. NO. 34640001582		DRG. NO. 34640001582		DRG. NO. 34640001582		DRG. NO. 34640001582		DRG. NO. 34640001582	
SHEET 01 OF 01		SHEET 01 OF 01		SHEET 01 OF 01		SHEET 01 OF 01		SHEET 01 OF 01	
02		02		02		02		02	



(ALL DIMENSIONS ARE IN MM)



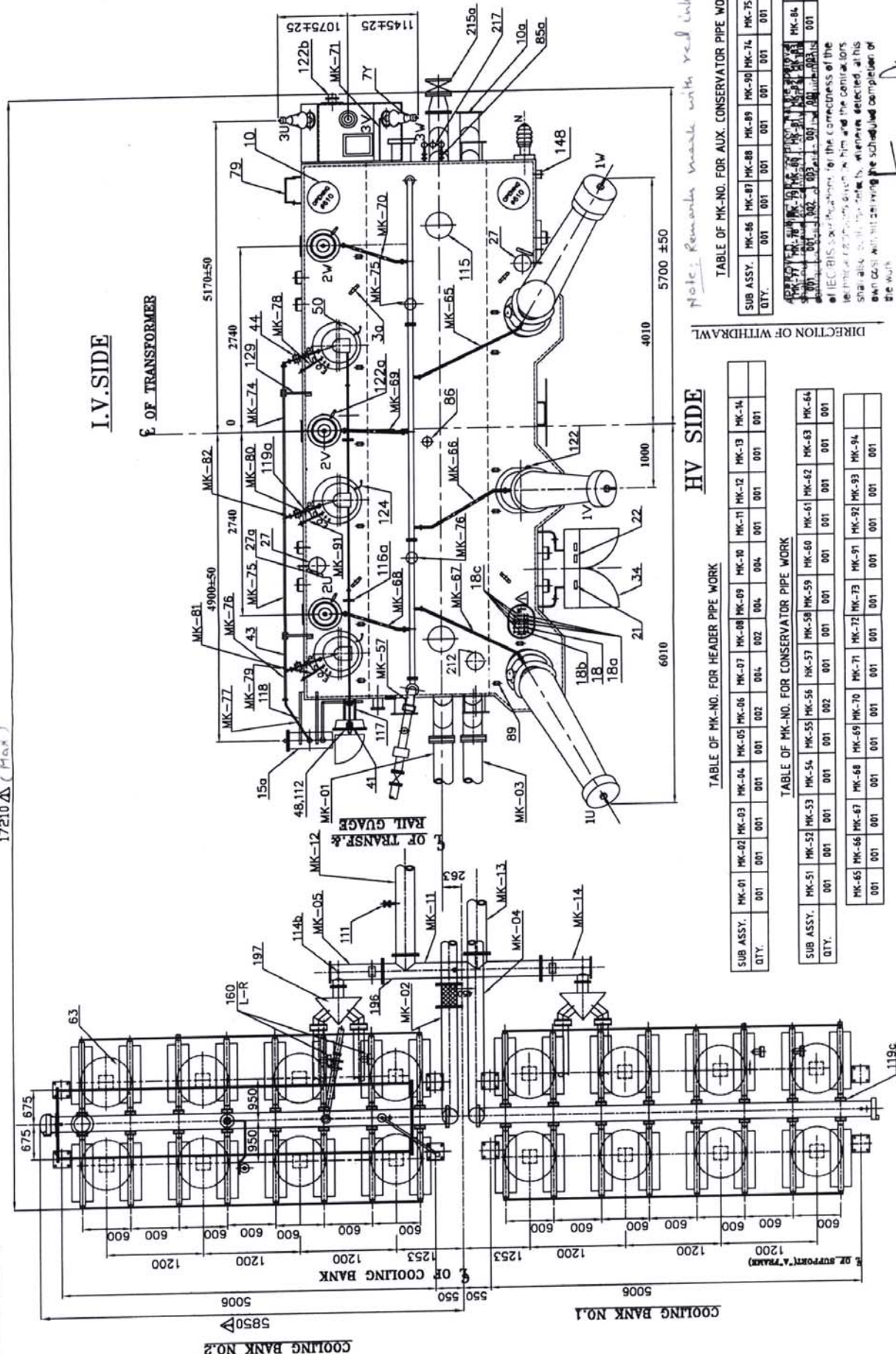
APPROVE subject to the condition that the approval shall not relieve the signatory of any part or of the obligations of the signatory. This drawing is the property of IEC BIS. Specifications and the correctness of the drawing shall be the responsibility of the signatory. The signatory shall also certify the details, dimensions, etc. at his own cost without delaying the scheduled completion of the work.

OF TRANSFORMER AND RAIL GAUGE

OF TRANSFORMER AND RAIL GAUGE

INVENTORY NUMBER												
REV	DATE	ALT	PH	NO. OF TRANSFORMER	PROJECT	REV	DATE	ALT	PH	NAME	SIGN	DATE
A				2	CONSTRUCTION OF 400/220/132 KV GIS SUBSTATION RASARA, BALLIA.	1	14/08/19	01	14/08/19	14/08/19	14/08/19	14/08/19
					LDA NO.							
					TYPE OF PRODUCT							
					NAME OF CUSTOMER							
				202	203	204	205	206	207			
						ADDITIONAL INFORMATION						
						V.O.I-68025-A-512-01						
						STATUS OF DRAWING/PR						
						DISTRIBUTION OF PRINTS						
						TITLE						
						PROJECT-1, RM-3						
						TITLE OUTLINE GENERAL ARRANGEMENT						
						(ELEVATION VIEW H.V. SIDE)						
						H.K.P. gash bydVdmV Mvdm Hasky						
						BHARAT HEAT ELECTRICALS LTD. BHUPAL						
						SCALE						
						DEPT CODE						
						WEIGHT (G)						
						CHD. CALIT						
						APPLA DAVE						
						DOG NO. 346400001559						
						SHEET 02 OF 04						
						REV. 01						

## OF TRANSFORMER



HV SIDE

TABLE OF MK-NO. FOR HEADER PIPE WORK

	SUB ASSY.	MK-01	MK-02	MK-03	MK-04	MK-05	MK-06	MK-07	MK-08	MK-09	MK-10	MK-11	MK-12	MK-13	MK-14
QTY.		001	001	001	001	001	002	004	002	004	004	001	001	001	001

TABLE OF MK-NO. FOR CONSERVATOR PIPE WORK

SUB ASSY.	MK-51	MK-52	MK-53	MK-54	MK-55	MK-56	MK-57	MK-58	MK-59	MK-60	MK-61	MK-62	MK-64
QTY.	001	001	001	001	001	002	001	001	001	001	001	001	001

TABLE OF MK-NO. FOR AUX. CONSERVATOR PIPE WORK

[illegible][illegible]

Note: Remarks made with red ink.

Goal	FF	SE
+		
+		

NAME	RM	DRN
Hkksiky		
gsoh bysFDVdYI fyeVSM		
CHARAT HEAVY ELECTRICALS LTD BHOPAL		

CODE	WEIGHT(kg)	SCALE	CHD.	LALIT

406	CONF. SCALE III	REF. DES. DIV. C
OUTLINE GENERAL ARRANGEMENT		DRG. NO. 34640

PLAN VIEW	SHEET	03
307		3

3	
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INVENTORY NO.	SIGN. DATE	REF. DRG. NO.
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SIGNATURE	DATE	REF.	DRG. NO.

INVENTORY NO.

IT.NO	DESCRIPTION	QTY
36	LIFTING LUG FOR RADIATORS/HEADERS (CNCL ON EACH RADIATOR/HEADER)	72
41a	BUSS FOR EARTHING MIG WITH BOLT, PLAIN WASHER & SPRING WASHER MIG ON 'A' FRAME AND FAN SUPPORT	26
146	DRAIN/FILTER GATE VALVE FOR COOLING SYSTEM # 50	8
160	THEMOMETER ON COOLING SISTER (4 ON P/W, 4 ON HEADERS)	2
60	BANK OF RADIATORS (GIG RADIATORS) EACH BANKO 2' X 50"	16
63	FAN AND MOTOR ( 6 NOS WORKING + 2 NO STANDBY PER BANKO 36-SIZE)	4
64	OIL PUMP & MOTOR (CNCL WORKING+NO STANDBY)PER BANKO 400 GPM. CAPACITY	2
67	FLEXIBLE HOSE (200 NO) BOTTOM PIPE	2
67a	FLEXIBLE HOSE (250 NO) TOP PIPE	2
70	FAN SUPPORTS	16
72	A FRAME SUPPORT (2 PAIRS)	4
72a	PIPE SUPPORT (4 NOS FOR 200 NO PIPE , 2 NOS FOR 250 NO PIPE 1, 2 NOS BETWEEN HEADERS)	8
73	TOP HEADERS (284 SQ. INSIDE)	2
74	BOTTOM HEADERS (284 SQ. INSIDE)	2
81a	WATERPROOF VALVE FOR HEADERS 250 N.L.	2
86a	AIR RELEASE PLUG, 32 NOS FOR RADIATORS & 06 NOS HEADERS & P/W	38
111	40 NO GATE VALVE WITH 15" SIZE MALE ADAPTER FOR MONITORING UP ON LINE (56 MONITOR (TOP & BOTTOM)	2
114b	BRAIN PLUG 32 NOS FOR RADIATORS & 11 NOS HEADERS & P/W 3/4" BSP	43
119c	ISOLATING BREATHER VALVE FOR RADIATORS # 80	64
123	ISOLATING B/T VALVE FOR PUMP & MOTOR SET & G. F. INDICATOR # 150	8
127	SUPPORT FOR BREATHER MIG ON A FRAME ASSY.	1
127a	SUPPORT FOR AUX CONSERVATOR BREATHER ASST ON A FRAME	1
160	NO FLOW INDICATOR DIRECTION L-R ( LEFT TO RIGHT)	1
190	TOP OIL PIPE (RADIATOR BANKO 250 N.L.	2
196	BOTTOM OIL PIPE (RADIATOR BANKO 200 & 150 N.L.	132
197	REVERSE FLOW BLOCKING DEVICE	2

40	VAGERN ANCHERING LUGS (QLE DIA 70)	
41a	JOY'S & DON'S INSTRUCTION PLATE	1
51	VALVE SCHEDULE PLATE	1
79	LAIDER WITH LOCKING DEVICE TO PREVENT CLIMBING	1
80	OIL INLET BUTTERFLY VALVE # 200 (TOP)	2
81	OIL OUTLET BUTTERFLY VALVE # 250 (TOP)	2
85	SAMPLING VALVE 2 IN SERIES 415 FOR TANK TOP WITH PROVISION FOR FIXING RUBBER HOSE OF 10mm SIZE FOR SAMPLING	2
85a	15 NB GATE VALVE TOP & BOTTOM FOR ONLINE DRYKEEP SYSTEM	2
86	AIR RELEASE PLUG 1/2" (G.S.P.)	1
89	PAID FOR FIRE PROTECTION SYSTEM DETECTOR	19
109	HULLAGE LUG LONGITUDINAL Ø 50	4
109a	HULLAGE LUG TRANSVERSAL Ø 50	4
110	TOP TANK-BOTTOM TANK SHORTING LINK	2
111a	PAID FOR ONLINE DGA MOUNTING.	1
111b	ONLINE DGA SYSTEM	1
114	DRAIN PLUG FOR BOTTOM TANK (2" B.S.P.)	2
115	HOLE FOR CLAMPING CORE & CABLE TO TOP TANK (Ø 480)	2
126	SUPPORT FOR GAS COLLECTING DEVICE	1
129	SUPPORT FOR 25 NB PIPE GAUX. CONSERVATOR P/V	2
212	EARTHING CONNECTION CORE & END FRAME TO TANKO	1
215	NB INJECTION VALVE 25 NB ON TANK END WALL	8
215a	125 NB GATE VALVE FOR FIRE FIGHTING SYSTEM	1
215b	PAID FOR SIGNAL BOX OF FIRE FIGHTING SYSTEM ON END WALL	1
216	FEED THROUGH PLATE OF OPTICAL FIBRE TEP. MONITORING SYS.	1
217	ONLINE DRY KEP SYSTEM WITH "EE PIPE & FITTINGS	1

IT.NO.	DESCRIPTION	QTY.
146	25 N.B. GATE VALVE FOR INVERTER FOR OIL SAMPLING	3
41	BEVEL GEAR BOX	1
43	OL.T.C. OIL CONSERVATOR CONNECTION PIPE 25 DIA	1SET
44	OL.T.C. PROTECTIVE RELAY ( OIL SURGE RELAY FOR OL.T.C )	3
48	OL.T.C. DRIVING UNIT	1
49	OL.T.C. MOTOR DRIVING HANDLE	1
50	ON LOAD TAP CHANGER	3
112	BRACKET FOR OL.T.C. MOTOR DRIVING GEAR UNIT MFG.	2
116a	BRACKET FOR OL.T.C. HORIZONTAL BEARING ASSY	2
117	BRACKET FOR OL.T.C. BEVEL GEAR	1
118	SUPPORT FOR AUX. CONSERVATOR	2
119a	ISOLATING GATE VALVE 25 DIA (FOR OL.T.C)	3
119b	ISOLATING GATE VALVE FOR AUX.CONSERVATOR 25 N.B.	1
124	COPPER SHORTING LINK FOR T. C. HEAD	3

**APPROVED**, subject to the condition that the Approver shall not relieve the Contractor, or any part or parts of the Contractor, of its obligations under the contract, and that the Contractor shall not be relieved of its obligations under the contract by the fact that the Contractor has obtained approval of the contract from the Approver.

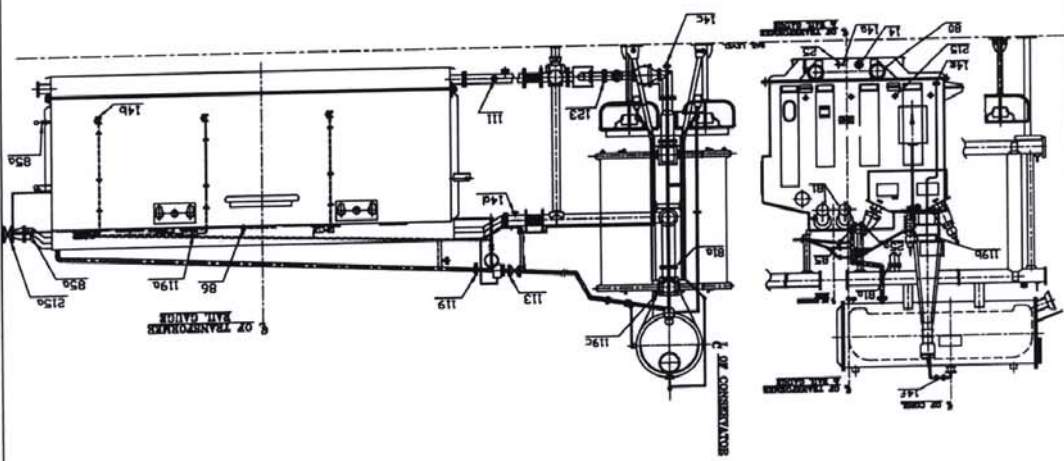
REV	DATE	ALT	REV	DATE	ALT	NID. OF TRANSFORMER	2	ADDITIONAL INFORMATION	भारत हेवी इलेक्ट्रिकल लिमिटेड भारुवा	NAME	DRG	SIGN	DATE
						PROJECT		V/D-68025-A-512-01	भारत हेवी इलेक्ट्रिकल लिमिटेड भारुवा	DRG			
						LDA N/L		CONSTRUCTION OF 400/220/132 KV GIS SUBSTATION RASARA, BALLIA.	भारत हेवी इलेक्ट्रिकल लिमिटेड भारुवा	DRG			
						TYPE OF PRODUCT		336/ESD-765KV/10/RASARA VOL-3 DATED 03/07/2018	भारत हेवी इलेक्ट्रिकल लिमिटेड भारुवा	DRG			
						NAME OF CUSTOMER		500 MVA. 400/220/33 KV PH. 3 PH. DNAN/DN/OF AF AUTO TRANSFORMER	भारत हेवी इलेक्ट्रिकल लिमिटेड भारुवा	DRG			
								M/S. UP POWER TRANS. CORP. LTD. LUCKNOW	भारत हेवी इलेक्ट्रिकल लिमिटेड भारुवा	DRG			

FIRST ANGLE PROJECTION 344640001563 Dwg. No. 344640001563

INVENTORY NO. SIGNATURE REF. DRG. NO. IT MUST NOT BE USED DIRECTLY OR INDIRECTLY IN ANY WAY DETRIMENTAL TO THE INTEREST OF THE COMPANY.

# VALVE SCHEDULE

MVA-RATING 500 VALVE SCHEDULE PLATE DRG. NO. 3 464 00 01563 ELECTRICAL SPEC. NO. 601411



ITEM	DESCRIPTION	QTY.
14	DRAIN GATE VALVE FOR TOTAL DRAINAGE #100 (FOR SLUDGE REMOVAL)	1
14a	15 NB SAMPLING GATE VALVE 2 IN SERIES FOR BOTTOM TANK WITH PROVISION FOR FIXING RUBBER HOSE 10MM SIZE	2
14b	25 NB GATE VALVE FOR DIVERTER, FOR OIL SAMPLING	3
14c	50 NB GUN METAL DRAIN VALVE FOR MAIN CONSERVATOR	4
14d	DRAIN/FILTER GUN METAL VALVE 50 NB FOR COOLING SYSTEM	1
14e	15 NB DRAIN GATE VALVE FOR AUXILIARY CONSERVATOR	1
14f	15 NB GATE VALVE FOR BREATHING PIPE WORK	1
25	50 NB FILTER GUN METAL VALVE FOR BOTTOM TANK	1
25a	50 NB FILTER GUN METAL VALVE WITH SAMPLING ATTACHMENT FOR TOP TANK	1
80	200 NB BUTTERFLY VALVE FOR OIL INLET (BOTTOM)	2
81	250 NB BUTTERFLY VALVE FOR OIL OUTLET (TOP)	2
81a	BUTTERFLY VALVE FOR HEADER 250 NB	2
85	15 NB SAMPLING VALVE 2 IN SERIES FOR TOP TANK WITH PROVISION FOR FIXING RUBBER HOSE 10MM SIZE FOR SAMPLING	2
85a	15 NB GATE VALVE TOP & BOTTOM FOR ONLINE DRY KEEP SYSTEM	2
86	1/2" BSP AIR RELEASE VALVE FOR TOP TANK	1
111	40 NB GATE VALVE WITH 1.5" SIZE MALE ADAPTER FOR MONITORING OF ON LINE DGA MONITOR (TOP & BOTTOM)	2
113	80 NB ISOLATING GATE VALVE FOR BUCHHOLZ RELAY	1
119	80 NB B/F FOR BUCHHOLZ RELAY	1
119a	25 NB ISOLATING GATE VALVE FOR D.L.T.C. PROTECTIVE RELAY	3
119b	25 NB VALVE AUXILIARY CONSERVATOR ISOLATING GATE VALVE	1
119c	ISOLATING BUTTERFLY VALVE FOR RADIATORS # 80	64
123	150 NB ISOLATING BUTTERFLY VALVE FOR PUMP & MOTOR SET & D.F.I.	8
215	150 NB INJECTION VALVE 25 NB ON TANK END WALL	8
215a	125 NB GATE VALVE FOR FIRE FIGHTING SYSTEM	1

## NOTES:-

- FOR NORMAL WORKING OF TRANSFORMER KEEP ALL THE VALVES OPEN EXCEPT VALVES
- ITEM 14,14a,14b,14c,14d,14e,25,25a,85,86.
- OPERATOR SHOULD REFER MAINTENANCE INSTRUCTION BEFORE APPLYING VACUUM TREATMENT.

BHARAT HEAVY ELECTRICALS LIMITED  
BHOPAL

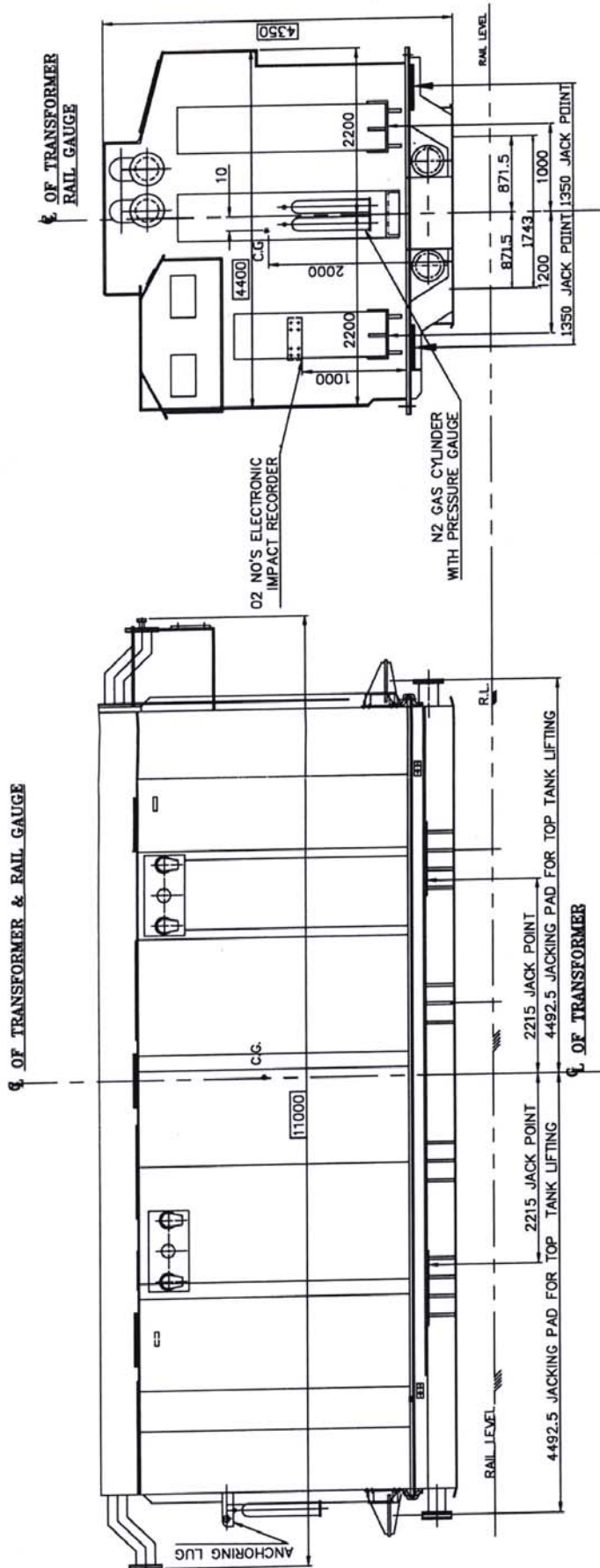
APPROVED, subject to the condition that the approval shall not relieve the contractor of any part of the obligations specified in the contract and the correctness of IEC/BIS specifications given by him and the contractors shall also verify the details, wherever detected, at his own cost without delaying the scheduled completion of the work.

INVENTORY NO.	REV. DATE	ALT.	REV. DATE	ALT.	PROJECT	NO. OF TRANSFORMER	2	ADDITIONAL INFORMATION	DATE	SIGN.	NAME	REV.
								CONSTRUCTION OF 400/220/132 KV GIS SUBSTATION RASARA, BALLIA.	12/12/18			00
								336/ESD-76SKV/10/RASARA/VOL-3 DATED 03/07/2018	13/12/18			01
								500 MVA/400/220/33 KV. 3 PH. ONAN/ONAF/ODAF AUTO TRANSFORMER	13/12/18			02
								M/S. UP POWER TRANS. CORP. LTD, LUCKNOW	13/12/18			03
								TRE-1, TRM-3	13/12/18			04
								DISTRIBUTION OF PRINTS	13/12/18			05
								SCALE	13/12/18			06
								TEMP SCALE-10	13/12/18			07
								VALVE SCHEDULE PLATE	13/12/18			08
								DWG. NO. 344640001563	13/12/18			09
								SHEET 01 OF 01	13/12/18			10

THE INFORMATION ON THIS DOCUMENT IS THE PROPERTY OF BHARAT HEAVY ELECTRICALS LTD. IT MUST NOT BE USED DIRECTLY OR INDIRECTLY IN ANY WAY DETRIMENTAL TO THE INTEREST OF THE COMPANY.

REF. DRG.NO.	
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INVENTORY NO.

[illegible]

**IV SIDE**

OF TRANSFER  
RAIL GUAGE

NOTE TO SHOP :-

- NOTES :-
1. DIMENSIONS SHOWN THUS ☐ ARE OVERALL SHIPPING DIMENSIONS.
  2. APPROXIMATE SHIPPING WEIGHT 234 TONNES (GAS FILLED).
  3. N<sub>2</sub> GAS FILLED IN TRANSFORMER AT 0.15 KG/CM AND TO BE MAINTAINED DURING TRANSPORT AND STORAGE.
  4. LIMITING VALUE OF IMPACT RECORDER IN X, Y & Z DIRECTION IS 3g.
  5. DURATION OF IMPACT RECORDER DURING TRANSPORT IS ≤ 40HZ.

APPROVED, subject to the condition that the approval shall not relieve the contractor of any part of the contractor's obligation of meeting all the requirements of IECARIS specifications for the correctness of the technical particulars given by him and the contractor must also rectify the defects, wherever detected, at his own cost without delaying the scheduled completion of the work.

Fig 100A

I

INVENTORY N	A	REV	DATE	ALT	
				DCD	
				APPD	
		ZONE			

NOT IS THE PROPERTY OF BHARAT HEAVY ELECTRICALS LTD.  
OR INDIRECTLY IN ANY WAY DETRIMENTAL TO THE INTEREST OF THE COMPANY.

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ITEM PR00117 ( PR. 60215 )





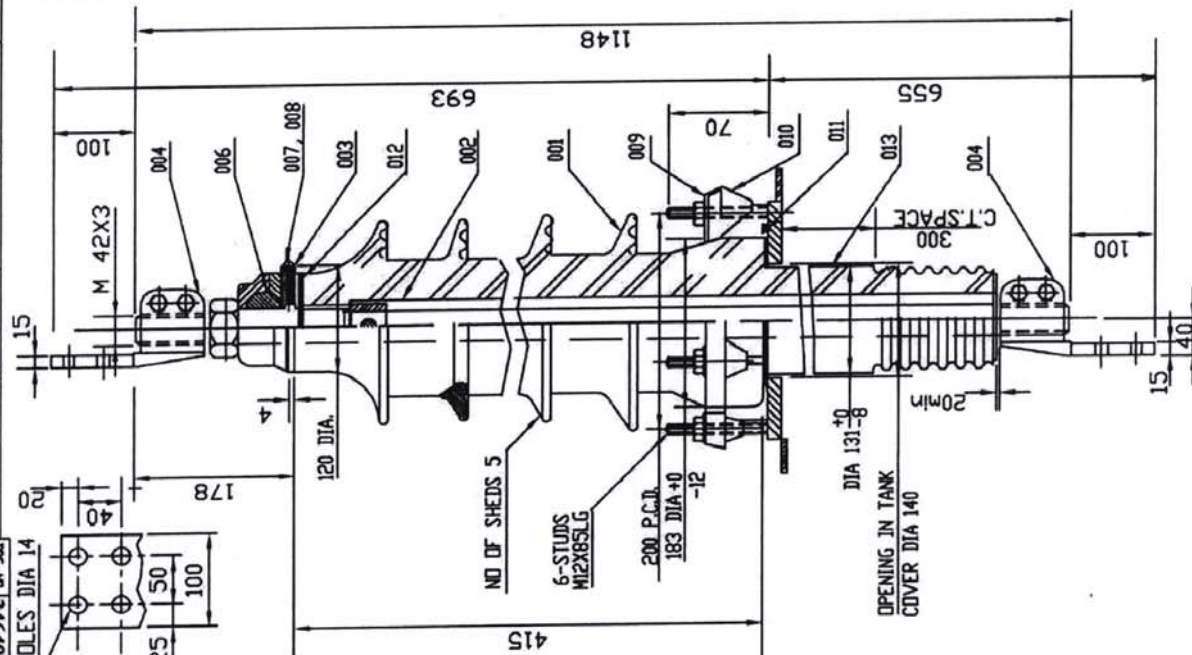
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INVENTORY NO.

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ELECTRICAL CHARACTERISTICS	
ONE MINUTE DRY 50HZ WITHSTAND	70 kVrms
ONE MINUTE WET 50HZ WITHSTAND	70 kVrms
1.2/50 MICRO SEC F.W.IMPULSE WITHSTAND	170 kVp
TOTAL CREEPAGE	900 mm
RATED VOLTAGE	36 kVrms
RATED CURRENT	2000 A



NOTE :- 1. REMOVE VENT PLUG IT.007 & 008 DURING FILLING OF OIL IN TANK AND TO BE REFITTED AFTER BUSHING IS FILLED WITH OIL.

2. APPROX.OIL QTY. = 2.5 LITRES

3. TOTAL WEIGHT = 40 KG.

4. COMPLIANCE TO STD. IS 2099/IS 3347

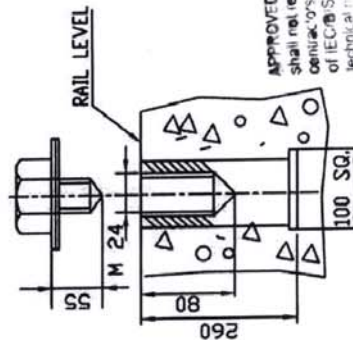
5. MAKE = BH&L

APPROVED, subject to the condition that the approval shall not relieve the contractor of any part of the contractor's obligation of complying with the requirements of IECIBS specifications, for the correctness of the technical particulars given by him and the contractors shall also rectify the defects, whenever detected, at his own cost without affecting the scheduled completion of the work.

Office of the Superintending Engineer  
Electricity 400KV Sub-station Design Circle  
UP Power Transmission Corporation Limited  
11th Floor, Shakti Bhawan, Sakinaka, Lucknow

APPROVED

REF. DRG.NO.

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### DETAIL-A

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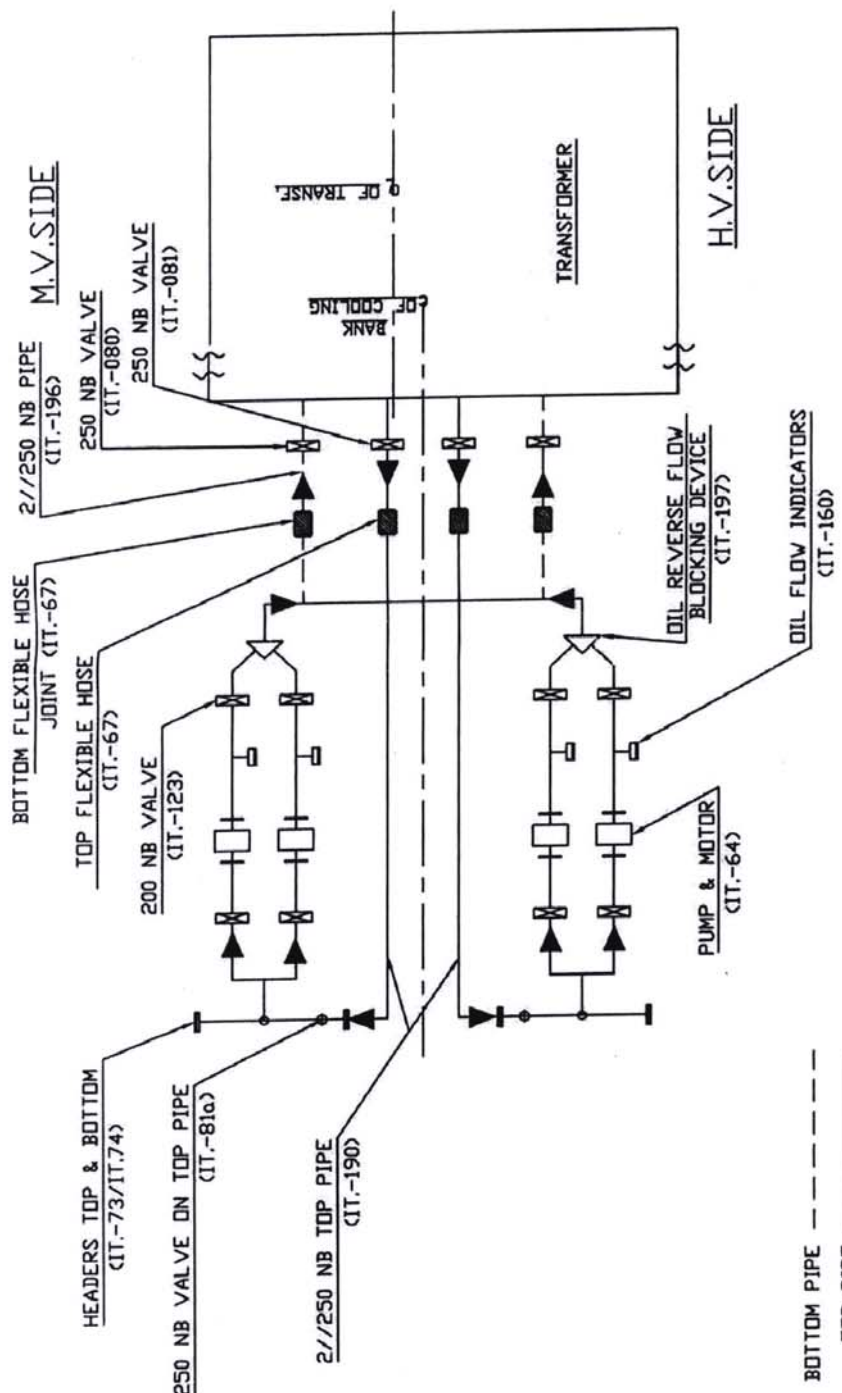
SE  
AE

1. MAXIMUM LOAD CARRYING CAPACITY OF TWIN ROLLERS = 50 T
2. CHANGE THE DIRECTION OF ROLLER IN THE FOLLOWING SEQUENCE.
  - 2.1. UNSCREW ITEMS MARKED 'X' ALSO REMOVE BRACKET MARKED 'Y'
  - 2.2. JACK THE TRANSFORMER ON JACKING PADS AND LIFT TRANSFORMER BY 30 MM MINIMUM FROM RL.
  - 2.3. CHANGE THE DIRECTION OF THE ROLLERS.
  - 2.4. BRING DOWN THE TRANSFORMER & PLACE ITEM MARKED 'X' IN POSITION
3. AFTER PLACING TRANSFORMER IN ITS LOCATION, PLACE THE ITEM MARKED 'Y' IN POSITION AND TIGHTEN THE SAME.
4. HARDWARES EXPOSED TO ATMOSPHERES SHALL BE HOT DIP GALVANISED & SUPPLIED BY BHEL.

IN THE EVENT OF OVERHEATING OF ROLLERS TO BE FULL OF GREASE BEFORE USE.

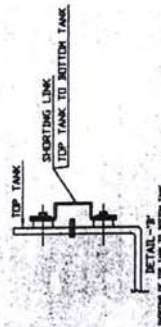
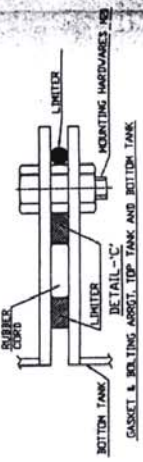
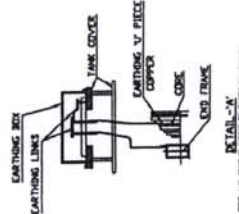
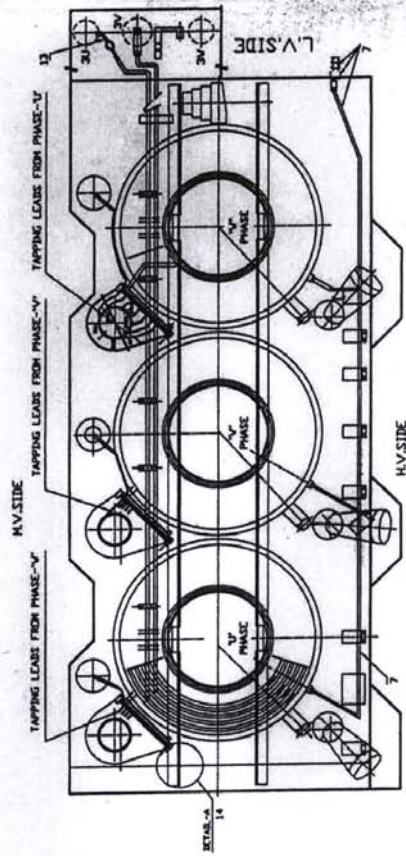
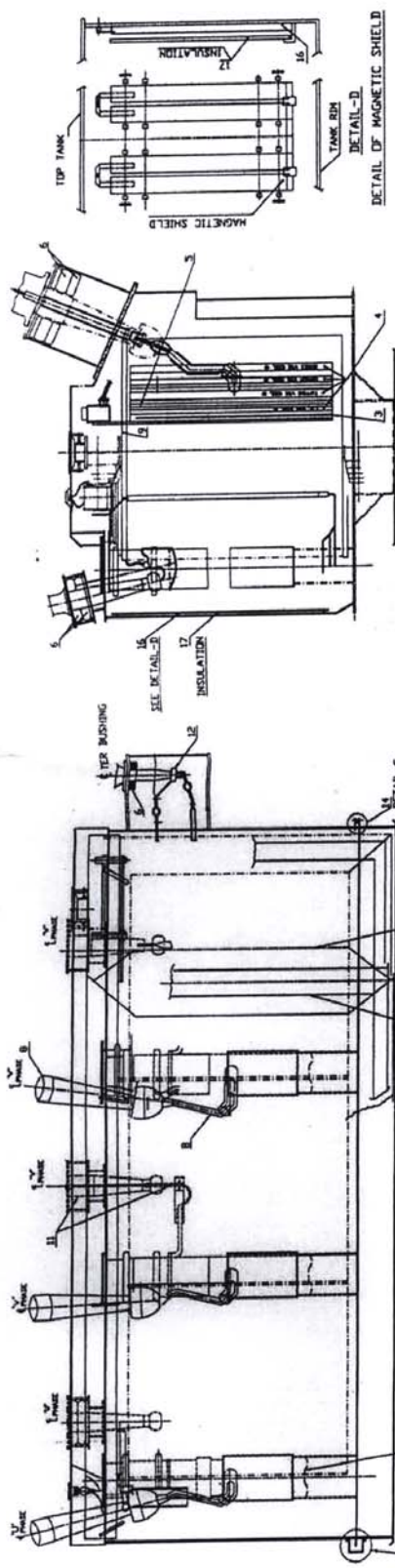
INVENTORY NO.

DRG NO.-3 464 00 01521.

[illegible]

APPROVED, subject to the condition that the approval shall not relieve the contractor of any part of its obligations or obligations of meeting all the requirements of IECBIS and the laws for the correctness of the technology and the safety of the firm and the contractor's obligations to the state, as well as wherever detected, at his own cost, and not by scheduling completion of the work.

INVENTORY NO.	SIGN. DATE	REF. DRG. NO.

[illegible]

ITEM	DESCRIPTION
1	CORE
2	CORE CLAMP ASSEMBLY
3	INSULATING CYL FOR CORE
4	WINDINGS
5	INSULATING CYLINDERS BETWEEN VOCS
6	CURRENT TRANSFORMER
7	NEUTRAL LEAD AND BUSHING
8	HYDRAIC LEAD AND BUSHING
9	WINDING CLAMPING END
10	ON LEAD TAP CHANGER
11	HY LEAD AND HY BUSHING
12	GASKET & BOLTING ASSEMB. TOP TANK & BOTTOM TANK
13	LV LEAD AND LV BUSHING
14	CORE & CORE CLAMPING TO EARTH CONNECTION
15	SHORTING OF TOP TANK TO BOTTOM TANK
16	MAGNETIC SHIELD
17	MAGNETIC SHIELD INSULATION

Office of the Superintending Engineer  
Electricity 400KV Substation Design Circle  
UP Power Transmission Corporation Limited  
11th Floor, Shakti Bhawan Extn. Lucknow  
APPROVED  
AE  
SE

INVENTORY No.

SIGN &amp; DATE

REF. DRG. No. 4460000121

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IT MUST NOT BE USED DIRECTLY OR INDIRECTLY IN ANY WAY DETRIMENTAL TO THE INTEREST OF THE COMPANY.

TITLE

OVER FLUXING WITHSTAND DURATION CURVE  
500 MVA, 400/220/33 KV, 3PH. AUTO TRANSFORMER



BHARAT HEAVY ELECTRICALS LTD.  
TRANSFORMER ENGINEERING DEPARTMENT  
BHO PAL

DEPT CODE

H

APPD

A. DAVE

DESIGN

LALIT

M.K.K.

07.05.18

DATE

SIGN

NAME

DATE

NAME OF CUSTOMER

M/S. UP POWER TRANS. CORP. LTD. LUCKNOW

TYPE OF PRODUCT

500 MVA, 400/220/33 KV, 3 PH, DNAN/DNAF/DFAF  
AUTO TRANSFORMER

LOA NO.

289-ESD-8/103/BHEL/500 MVA T/F DATED 19.03.2018

PROJECT

SARJUNI NAGAR, AZAMGARGH &amp; MORADABAD S/S UPPTCL

NO. OF TRANSFORMERS

4

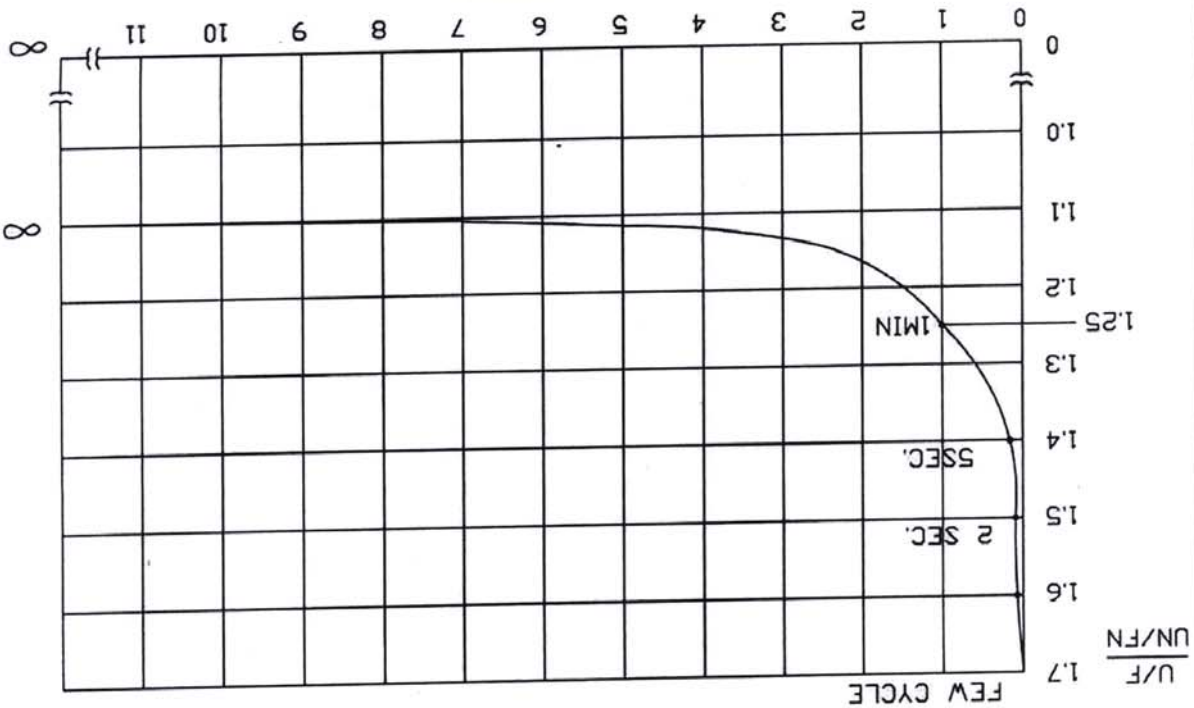
NOTES:-

U = OVER VOLTAGE.  
F = OVER FREQUENCY.  
UN = NOMINAL VOLTAGE.  
FN = NOMINAL FREQUENCY.

APPROVED, subject to the condition that the approval shall not be used for any part or of the design or construction of any transformer or other equipment of the same type or for any other purpose without the written consent of the Design Engineer, BHEL, Lucknow.  
The work shall be carried out in accordance with the schedule completion of the design and construction of the transformer and other equipment of the same type or for any other purpose without the written consent of the Design Engineer, BHEL, Lucknow.

Office of the Superintending Engineer  
Electricity 400KV Substation Design Circle  
UP Power Transmission Corporation Limited  
11th Floor, Shakti Bhawan Extn. Lucknow  
APPROVED  
SE

TIME (MINUTES)



U/F

FEW CYCLE

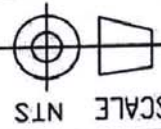
REV. DATE  
CHECKED  
ALTERED

REV. DATE  
CHECKED  
ALTERED

ADDITIONAL INFORMATION W.D.67038-A-512-01  
STATUS OF DRAWING  
DISTRIBUTION TRE-1, TRX-1, TRM-3  
OF PRINTS

(ALL DIMENSIONS ARE IN MM)

FIRST ANGLE PROJECTION



SCALE NTS

DRAWING NO. 4 460 00 00135  
SHEET 01 OF 01 REV 00

INVENTORY No.

SIGN &amp; DATE

4 464 00 00081

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DRAWING No.

4 464 00 00081

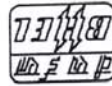
TITLE

LOCATION OF FIBRE OPTICS PROBE

CODE 406

TRE

DEPT.



BHOPAL

BHARAT HEAVY ELECTRICALS LTD.

NO. OF TRANSFORMER 4

PROJECT

500 MVA/400/220/33 KV. 3 PH. ONAN/ONAF/OPAF AUTO TRANSFORMER

LDA NO.

289-ESD-8/103/BHEL/500 MVA T/F DATED 19.03.2018

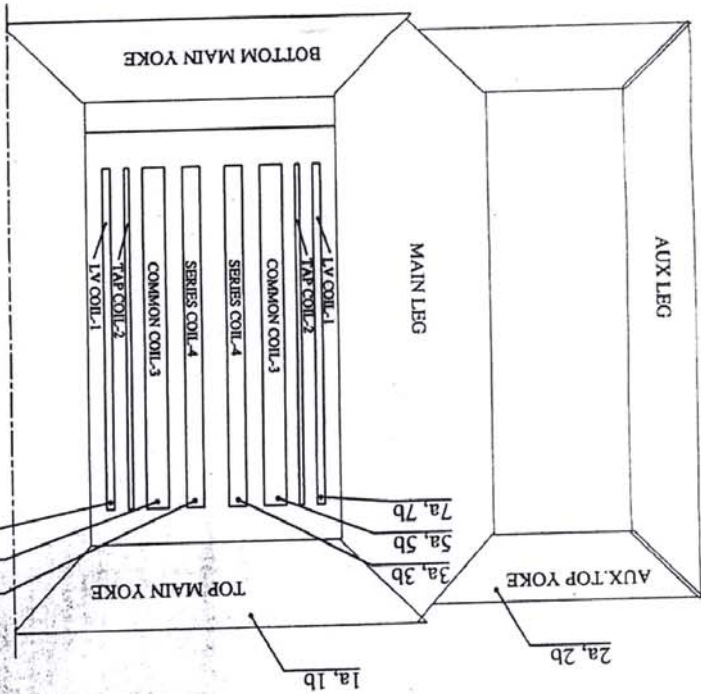
CUSTOMER

M/S. UP POWER TRANS. CORP. LTD. LUCKNOW

**NOTE:-**  
16 NOS. FIBRE OPTICAL TEMP. SENSOR ALONG WITH TEMP. MONITORING SYSTEM SHALL BE PROVIDED FOR ONE TRANSFORMER OF EACH SUBSTATION. FOR OTHER TRANSFORMER OF THAT SUBSTATION ONLY 8 SENSOR (HAVING SUFFIX "a") AND CONNECTION UP TO MARSHALLING BOX SHALL BE PROVIDED.

APPROVED, subject to the condition that the approval shall not relieve the contractor of any part of the contract. The contractor shall be responsible for the completion of the work. The work shall be completed within the stipulated time. The contractor shall be responsible for the completion of the work. The work shall be completed within the stipulated time.

VIEW FROM HV SIDE



PROBE NO.	TOP YOKE
1a, 1b	AUX. TOP YOKE
2a, 2b	SERIES WINDING TOP U PHASE
3a, 3b	SERIES WINDING TOP U PHASE
4a, 4b	SERIES WINDING TOP U PHASE
5a, 5b	COMMON WINDING TOP U PHASE
6a, 6b	COMMON WINDING TOP U PHASE
7a, 7b	LV WINDING TOP U PHASE
8a, 8b	LV WINDING TOP V PHASE

Office of the Superintending Engineer  
Electricity 400KV Substation Design Circle  
UP Power Transmission Corporation Limited  
11th Floor, Shakti Bhawan Extn. Lucknow  
APPROVED

SHEET No.	01
No. OF SHEETS	01
DRAWING No.	4 464 00 00136
CARD CODE	1
WEIGHT(KG)	N/A
SCALE	X-AXIS Y-AXIS
GRADE	OF LINE TOL. DIM. C/H/F
DEPT.	TRE
CODE 406	

NAME	DATE	SIGN	DATE
AKP	07/06/18		
LALIT	07/06/18		
SKG	07/06/18		

ITEM No.	DATE	SIGN	DATE
75	07/06/18		
77	07/06/18		

FIRST ANGLE PROJECTION

(ALL DIMENSIONS ARE IN MM)