

Corrigendum – 1 Dated Oct 18, 2012 to Tender specification BHEL: PSSR: SCT 1517

Some of the bidders sought clarifications in the above tender and the “clarifications issued” are furnished below for your information.

Sl. no	Published in	Existing clause	Bidder’s queries	Clarifications issued
1.	Techno commercial bid Volume-I Book-I Volume-IA Part-I Chapter- II Clause no. 1.2.7	Final painting including supply of paints	We request you to provide the Detailed for which are the items to be carry out the final painting in item wise with detailed specification and approved vendors list for paint.	Painting to be done for the fabricated / Modified items to be done. Red oxide primer (2 coats) and final enamel paint (2 coats). In addition, the other clarifications regarding painting mentioned in this corrigendum are also applicable.
2.	Techno commercial bid Volume-I Book-I Volume-IA Part-I Chapter- IX Clause no. A1.1	210 MVA Generator Transformer..... Lump sum rate to be quoted including final painting	Kindly provide the no. of coats and detailed specification for the Final painting and also confirm the final painting is applicable for full transformer body.	One coat of polyurethane paint for total transformer
3.	Techno commercial bid Volume-I Book-I Volume-IA Part-I Chapter- IX Clause no. B1.1	80 MVA Station Transformer..... Lump sum rate to be quoted shall include final painting	Kindly provide the no. of coats and detailed specification for the Final painting and also confirm the final painting is applicable for full transformer body.	One coat of Synthetic enamel paint for total transformer

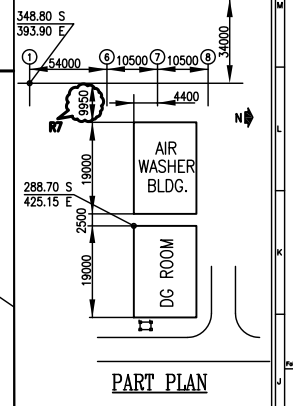
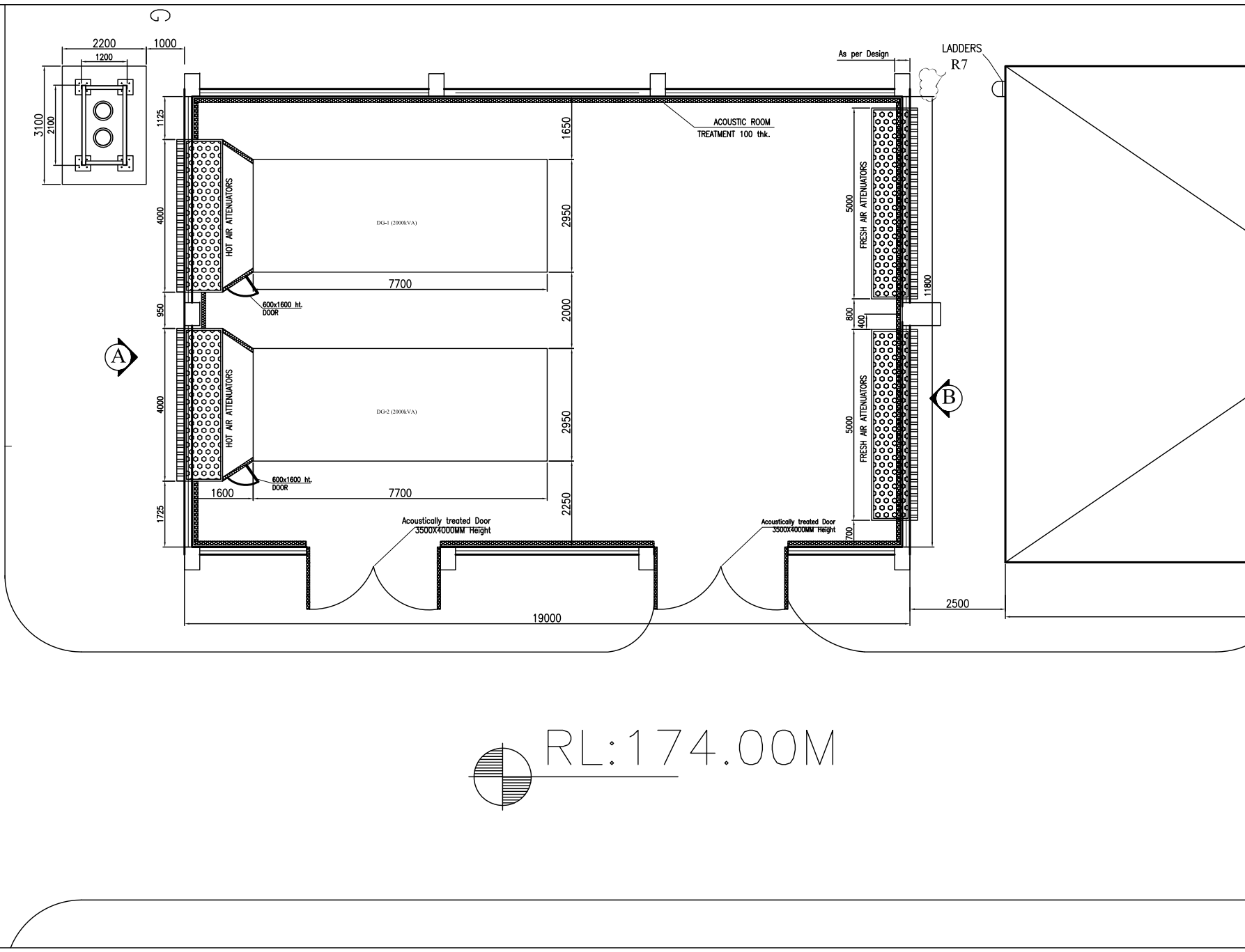
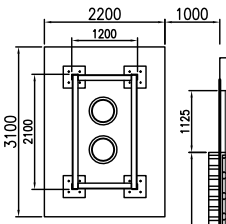
Sl. no	Published in	Existing clause	Bidder's queries	Clarifications issued
4.	Techno commercial bid Volume-I Book-I Volume-IA Part-I Chapter- IX Clause no. B1.2	25 MVA Unit Transformer..... Lump sum rate to be quoted including final painting	Kindly provide the no. of coats and detailed specification for the Final painting and also confirm the final painting is applicable for full transformer body.	One coat of Synthetic enamel paint for total transformer
5.	Techno commercial bid Volume-I Book-I Volume-IA Part-I Chapter- IX Clause no. B1.3	2000 kVA Unit Service Transformer Lump sum rate to be quoted including final painting	Kindly provide the no. of coats and detailed specification for the Final painting and also confirm the final painting is applicable for full transformer body.	One coat of Synthetic enamel paint for total transformer
6.	Techno commercial bid Volume-I Book-I Volume-IA Part-I Chapter- IX Clause no. C1.1	21 kV IP Busduct along with support structures Lump sum rate to be quoted shall include final painting	Kindly provide the no. of coats and detailed specification for the Final painting and also confirm the final painting is applicable for bus duct.	One coat of Synthetic enamel paint for total busduct
7.	Techno commercial bid Volume-I Book-I Volume-IA Part-I Chapter- IX Clause no. D1.1	1600 kVA ESP Transformer Lump sum rate to be quoted shall include final painting	Kindly provide the no. of coats and detailed specification for the Final painting and also confirm the final painting is applicable for full transformer body.	Epoxy paint- Touch up only for total transformer
8.	Techno commercial bid Volume-I Book-I Volume-IA Part-I Chapter- IX Clause no. E1.1	VFD Transformer Lump sum rate to be quoted including Final painting	Kindly provide the no. of coats and detailed specification for the Final painting and also confirm the final painting is applicable for full transformer body.	Epoxy paint- Touch up only for total transformer

Sl. no	Published in	Existing clause	Bidder's queries	Clarifications issued
9.	Techno commercial bid Volume-I Book-I Volume-IA Part-I Chapter- X Clause no. 1.10.2.37	The contractor shall arrange necessary statutory inspections and obtain certificates for the installation work at his cost. Any modification work required by inspector shall be attended by the contractor at his cost.	We have considered this type of modification work shall be paid by M/s BHEL in Extra work. Due to we shall execute the work as per the drawing and detailed specification also in front of M/s BHEL & Owner Engineers. Pls confirm.	Modifications which are arising due to execution deficiencies are at the cost of contractor and modification which are due to design, shall be treated as extra work.
10.	Techno commercial bid Volume-I Book-I Volume-IA Part-I Chapter- X Clause no. 1.10.2.42.2/e	Contractor shall carry out the modifications / rectifications if any as suggested by the authority at his cost. However, it is not applicable for equipment erected by Mechanical contractor		
11.	Techno commercial bid Volume-I Book-I Volume-IA Part-I Chapter- XIII Clause no. 1.13.2.5.1/(iii)	If accessories such as Tees, Reducers, Bends (vertical and Horizontal), cross not supplied, same shall be fabricated wherever required, from the straight Trays. The accessories supplied may be modified to suit site routing as part of work.	To provide the competitive price we request you to confirm the cable tray accessories such as Tees, Reducers, Bends (vertical and Horizontal), cross is supplied by M/s BHEL. If No kindly provide the cable tray route drawings or BOQ for cable tray accessories such as Tees, Reducers, Bends (vertical and Horizontal), cross etc	Tees, Reducers, Bends (Vertical & Horizontal) crosses will be supplied by BHEL
12.	Techno commercial bid Volume-I Book-I Volume-IA Part-I Chapter- XVI Clause no. 1.16.9	Finish coat paint, No of coat and DFT shall be as indicated in the painting specification / relevant BHEL document / customer's specifications.	Kindly provide the no of coats and detailed specification for the primer, Intermediate & finish paint. The Painting specification is not available along with this tender.	

Sl. no	Published in	Existing clause	Bidder's queries	Clarifications issued
13.	Techno commercial bid Volume-I Book-I Volume-IA Part-II Chapter- 2	Fire stop cable sealing system (as applicable)	To provide the competitive price, we request you to provide the Quantity for fire stop cable sealing system and approved vendors list.	Fire sealing not applicable to this contract
14.	Techno commercial bid Volume-I Book-I Volume-IA - Contents	Under the heading - contents - drawings - 7 no.s viz Sl.no 2a to 2g are mentioned	The drawings are not available in the booklet	Drawings- 11 pages enclosed herewith

All other conditions of the tender remain unchanged

AGM /SCT



RL: 174.00M

7	As per comments	18-10-11
6	As per comments	15-09-11
5	Fully Revised As per comments. 08-21-11	22-07-11
4	Comments Revisions are noted	25-03-11
3	Fully Revised As per comments	15-11-10
2	Fully Revised As per comments	16-09-10
1	As per comments	30-06-10
0	For approval	30-06-10
Rev	DESCRIBTION	DATE

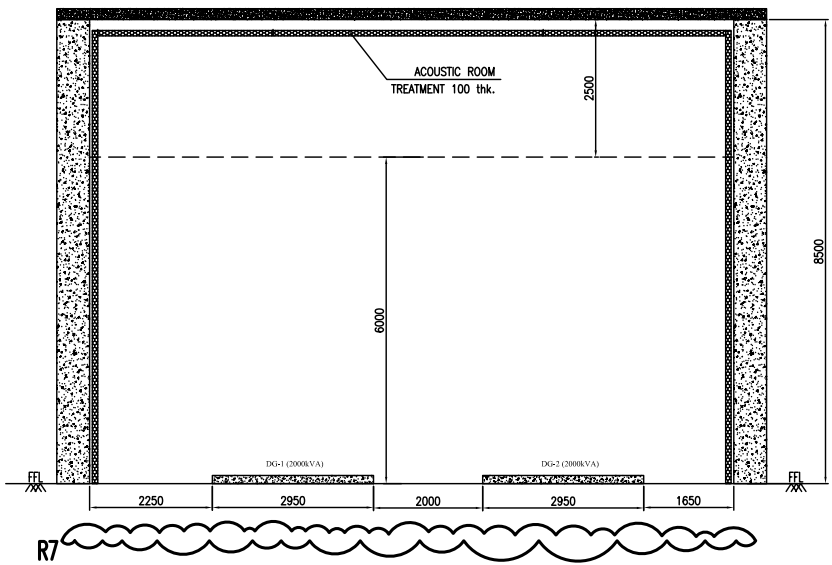
2x225 MW THERMAL POWER STATION
MALLERNAHAR ANKOLA, OORESA.

MONNET POWER COMPANY LIMITED

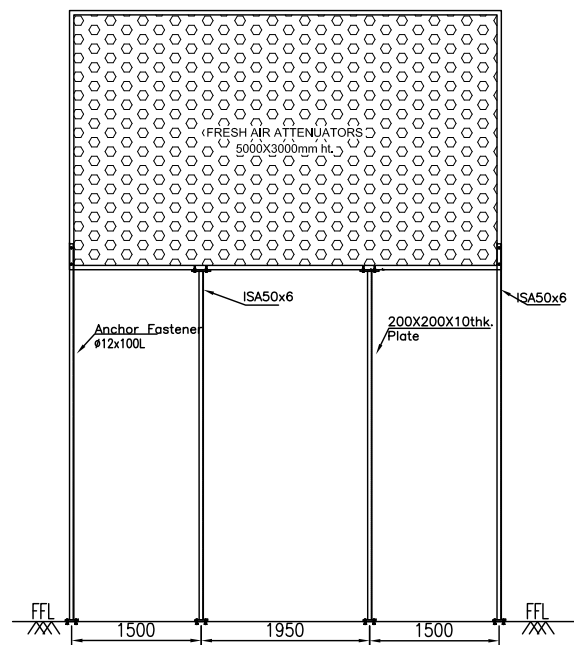
CONSULTING ENGINEERS:
DEVELOPMENT CONSULTANTS PVT. LTD.
KOLATA TANKALABARA CHENNAI NEWDELHI

SEND TO VENDOR:
Sterling and Willson Powergen Pvt. Ltd.
BANK 14, 4th FLOOR Chokla Adugoddi, New Extension
Thiruvananthapuram Road
BANGALORE-560 029
Email: bangalore@sterlinggenerators.com

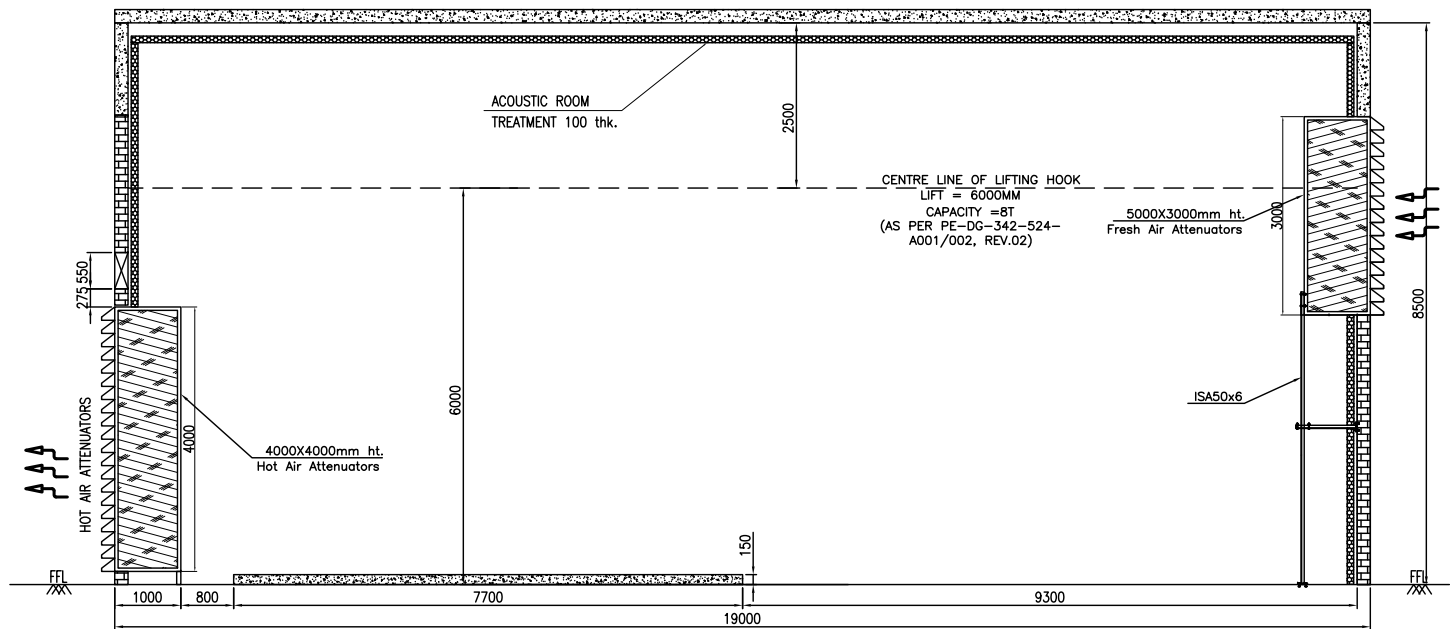
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CHECKED	HL	DRAWING NO.	SW-MPCL-0048-4
APPROVED	DM	DATE	12/06/10
SCALE	HTS	FILE NAME	
SHEET NO.	1 OF 3	PAGE NO.	7



SECTION C-C



FRESH AIR ATTENUATORS
FIXING DETAILS



ELEVATION

7	As per comments	16-10-11	SB
6	As per comments	15-09-11	SB
5	FLB/Revised As per comments	22-07-11	SB
4	Final Hot Air Attenuator Allowance	25-03-11	SB
3	FLB/Revised As per comments	18-11-10	SB
2	FLB/Revised As per comments	16-09-10	SB
1	As per comments	30-06-10	SB
0	For approval	12-05-10	SB
Rev	DESCRIPTION	DATE	BY

2x525 MW THERMAL POWER STATION
MADRAS/RAJAH ANJALI, COIMBATORE

MONNET POWER COMPANY LIMITED

CONSULTING ENGINEERS:

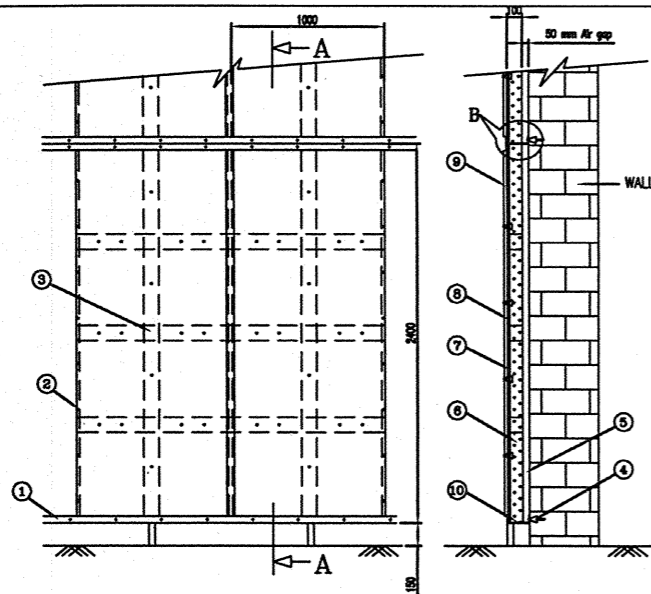
DEVELOPMENT CONSULTANTS PVT. LTD.
KODAKATY/SUBRAM CHENNAI NEWELLHT

SENET VENDORS:-
Sterling and Wilson Powergen Pvt. Ltd.
86A/14, 4th MAIN CROSS Anna Salai, New Extension
Thiruvananthapuram Road
BANGALORE-560029
Email: bangalore@swi.sgpowergen.com

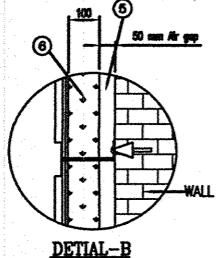
DRAWN	SB	DG ACOUSTIC ROOM TREATMENT & VENTILATION ELEVATION
CHECKED	RS	
APPROVED	RS	
DATE	12.08.10	DRAWING NO. SW-MPCL-0048-4
SCALE	NTS	FILE NAME
SHEET NO.	2 OF 3	REV. NO.
		7

ELECTRONIC FILE NAME :

NOTE:
NOISE LEVEL AS PER SPECS WILL BE MAINTAINED.



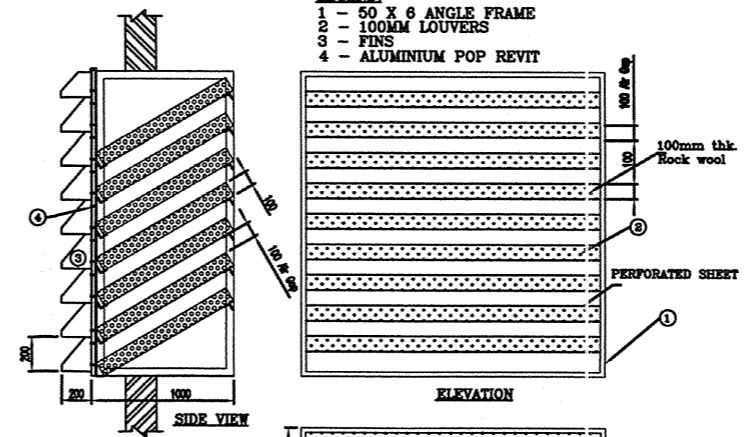
TYPICAL DETAIL OF WALL ACOUSTIC LINING



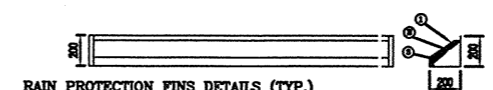
- LEGEND:
- 1 - MS ANGLE 40X3
 - 2 - POP RIVET
 - 3 - CROSS MEMBER
 - 4 - ANCHOR BOLT M8
 - 5 - AIR GAP 50MM
 - 6 - ROCK WOOL-DENSITY:64kg/m3
 - 7 - TISSUE PAPER
 - 8 - PERFORATED SHEET 20 SWG-#4 mm
 - 9 - GI U CAPPINGS
 - 10 - WALL MOUNTING BRACKETS 100x3mm

HOT AIR LOUVER BOX DETAILS (TYP.)

- LEGEND:
- 1 - 50 X 6 ANGLE FRAME
 - 2 - 100MM LOUVERS
 - 3 - FINS
 - 4 - ALUMINIUM POP REVIT

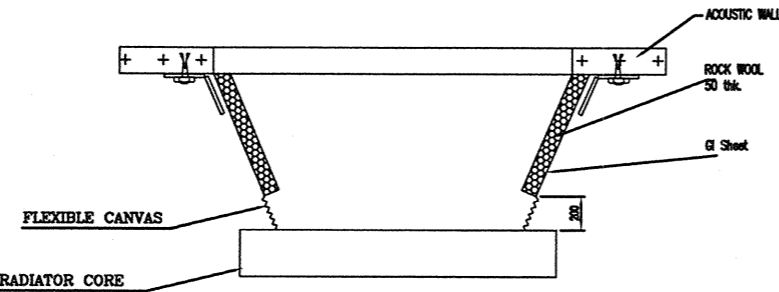
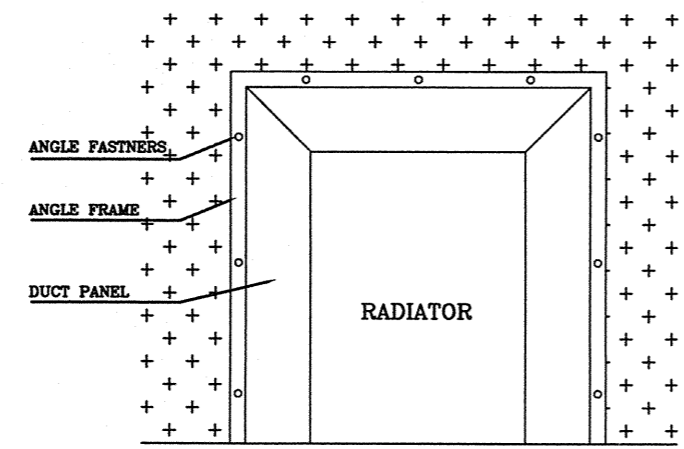
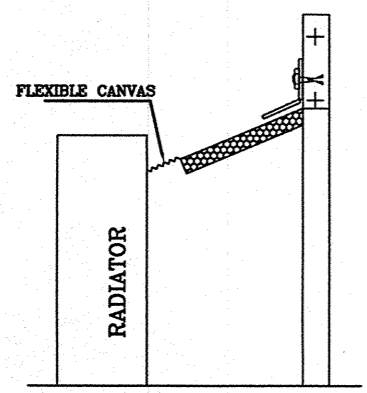


- NOTE:
1. ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE MENTIONED.
 2. NOISE LEVEL AS PER SPECS WILL BE MAINTAINED. PLAN
 3. LOUVER BOX IS DESIGNED FOR PROPER AIR FLOW



- NOTE:
1. THIS IS A PART OF DRAWING HENCE FOR RSP INFORMATION ONLY
- LEGEND:
- 1 - 18 SWG CR FORMED SHEET
 - 2 - ROCK WOOL
 - 3 - PERFORATED SHEET

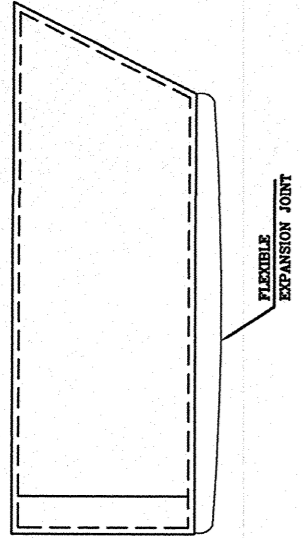
NOTE:
1. PROPER HOT AIR FLOW IS ACCORDING WITH THIS DESIGN



TYPICAL PLINUM FIXING ARRANGEMENT

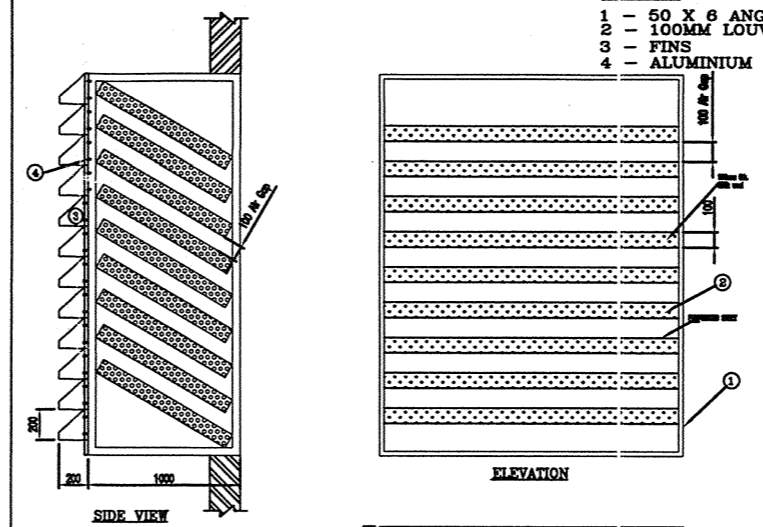
DETAIL-S

DUCT DETAILS
18SWG CR FORM DUCT



FRESH AIR LOUVER BOX DETAILS (TYP.)

- LEGEND:
- 1 - 50 X 6 ANGLE FRAME
 - 2 - 100MM LOUVERS
 - 3 - FINS
 - 4 - ALUMINIUM POP REVIT



- NOTE:
1. ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE MENTIONED.
 2. NOISE LEVEL AS PER SPECS WILL BE MAINTAINED.
 3. LOUVER BOX IS DESIGNED FOR PROPER AIR FLOW

SCALE
1. ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE MENTIONED.

Rev.	DESCRIPTION	DATE	BY
0	For approval	12.06.10	SB

2x525 MW THERMAL POWER STATION
MALERANAHAM, ANGUL, ORISSA

MONNET POWER COMPANY LIMITED

CONSULTING ENGINEERS:
DEVELOPMENT CONSULTANTS PVT. LTD.
KOLKATA - MUMBAI - CHENNAI - NEWDELHI

GENSET VENDOR:-
Sterling and Wilson Powergen Pvt. Ltd.
#4A/14, 4th MAIN Chikka Adugodi, New Extension
Thovarekere Main Road
BANGALORE-560 029
Email: bangalore@sterlinggenerators.com

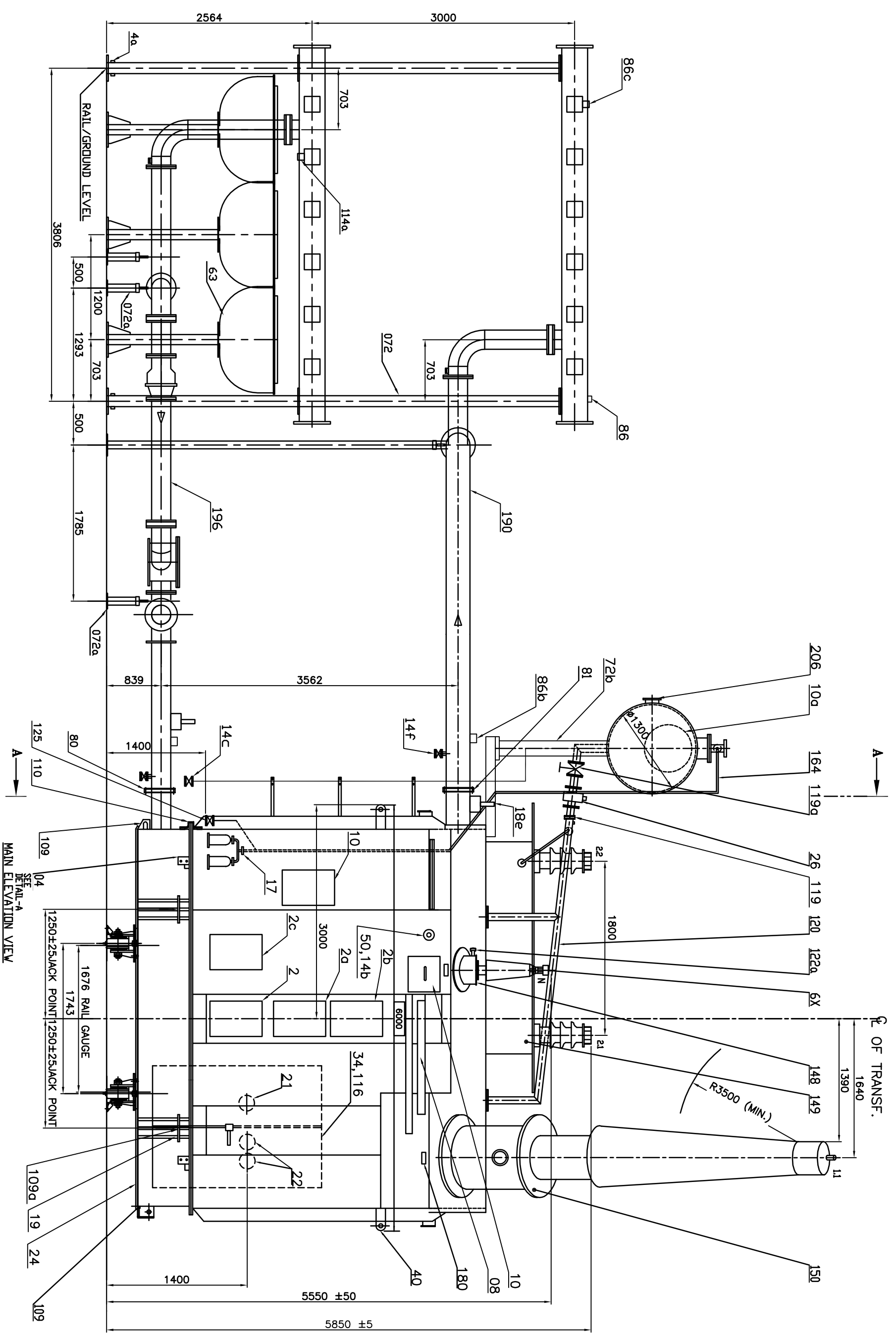
DRWN	SB	CHKD	ML	APPRD	MY	DATE	12.06.10	SCALE	MTR	SHEET NO.	3 OF 3
DRAWING TITLE : WALL ACOUSTIC PANEL, LOUVER BOX, RAIN PROTECTION FINS & RADIATOR DUCTING DETAILS											
DRAWING NO. SW-MPCL-0048-4											

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.

INVENTORY NO.

SIGN. DATE

REF. DRG. NO.



MAIN ELEVATION VIEW

DETAIL-A

REV	DATE	ALT	REV	DATE	ALT	NAME	SIGN	DATE
02		CKD	01	31.05.12	AKP	MAYYANK		06.05.10
		APPD			AKP/KGK			07.05.10
								08.05.10

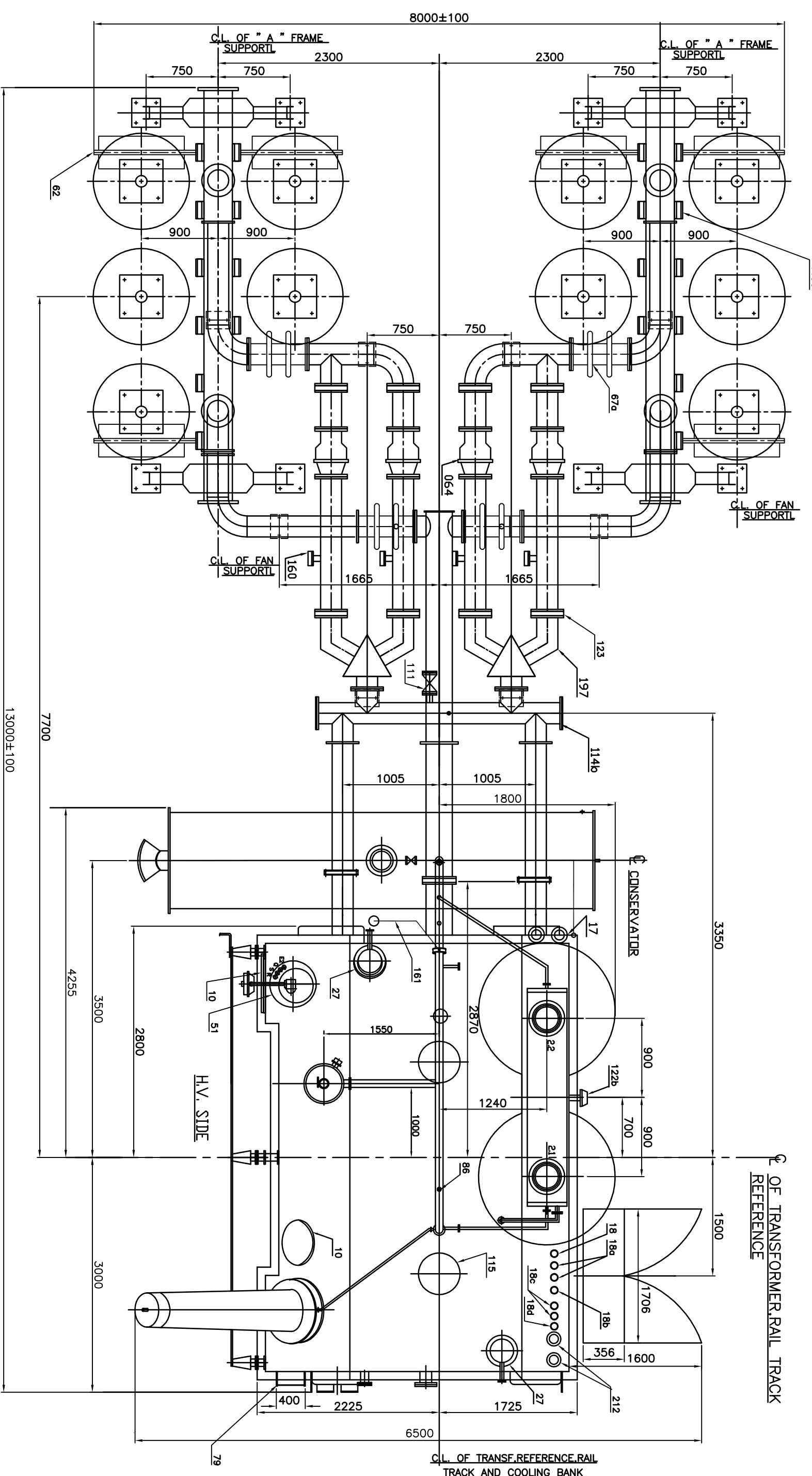
NO. OF TRANSFORMERS	6
PROJECT	2 X 525 MW THERMAL POWER PLANT, ANGUL
LDI NO.	MPCL/ANG/BHEL/001/1741 DATED 19-05-2009.
TYPE OF PRODUCT	210 MVA/21/420/√3 KV, 1 PH. GENERATOR TRANSFORMER
NAME OF CUSTOMER	MONNET POWER COMPANY LIMITED

ADDITIONAL INFORMATION	W.O.-69012-P-512-01
STATUS OF DRAWING	PREPARED
DISTRIBUTION OF PRINTS	TRE-1, TRM-3
TITLE	OUTLINE GENERAL ARRANGEMENT

DRN.	MAYYANK	NAME	MAYYANK
CHKD.	AKP	SIGN	
APPD.	AKP/KGK	DATE	06.05.10
DRG. NO.	3 452 00 00594	REV.	01
SHEET	01	OF	03

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.

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



PLAN VIEW

REV. DATE	ALT	REV. DATE	ALT	NO. OF TRANSFORMERS	6	ADDITIONAL INFORMATION		NAME	SIGN	DATE
02	CKD	01	AKP	PROJECT	2 X 525 MW THERMAL POWER PLANT, ANGUL	W.O.-69012-P-512-01		DRN	MAVANK	06.05.10
	APPD		AKP/KCK	LOI NO.	MPCL/ANG/BHEL/001/1741 DATED 19-05-2009.	STATUS OF DRAWING/PR	DEPT	CHD	AKP	07.05.10
				TYPE OF PRODUCT	210 MVA/21/420/√3 KV, 1 PH. GENERATOR TRANSFORMER	DISTRIBUTION OF PRINTS	TRE	APPD	AKP/KCK	08.05.10
				NAME OF CUSTOMER	MONNET POWER COMPANY LIMITED	TRE-1, TRM-3	TITLE	DRG. NO.	3 452 00 00594	REV.
							OUTLINE GENERAL ARRANGEMENT	SHEET	02	OF
									03	

01

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.

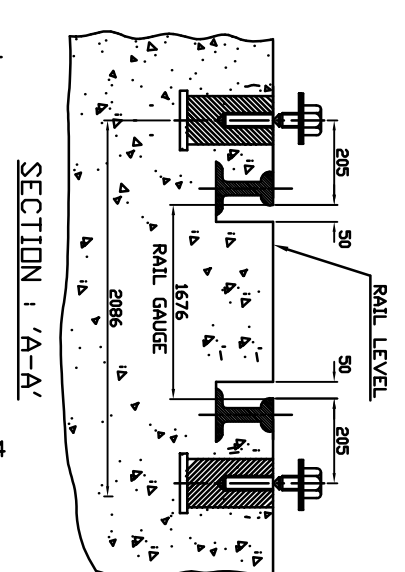
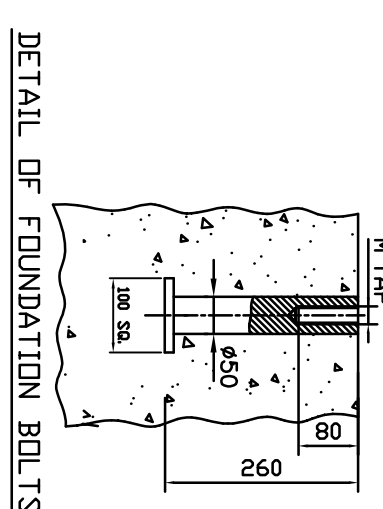
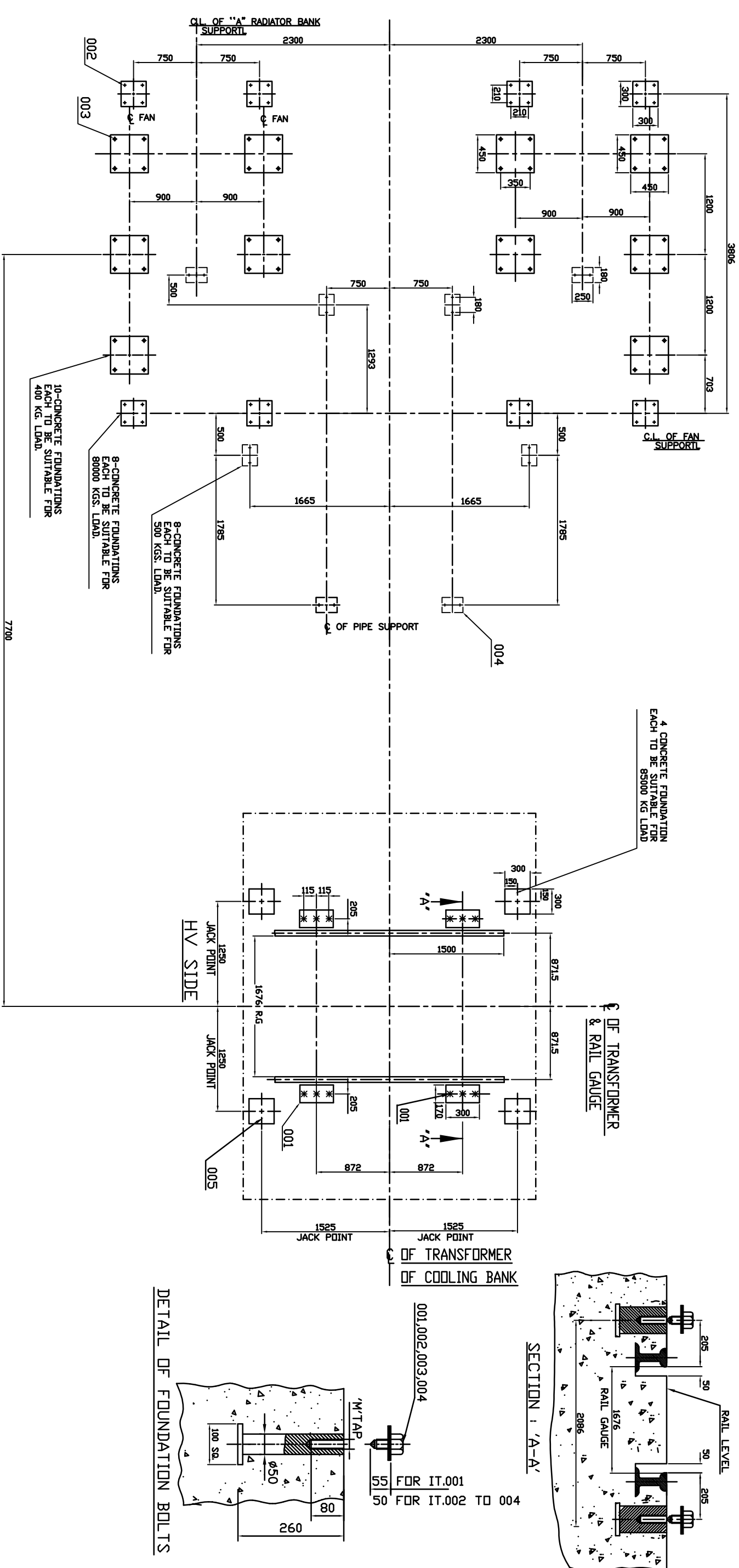


TABLE FOR FOUNDATION PLAN

IT. NO.	BOLT SIZE M. TAP	QTY.	DESCRIPTION	NO. OF FOUNDATION	COMPO. PLATE SIZE	ON EACH FOUNDATION LOAD(Kg)
001	M24	12	ROLLERS LOCKING MARKED THUS *	4	170 X 300	25000
002	M20	32	RADIATOR SUPPORT MARKED THUS +	8	300 X 300	8000
003	M20	40	FAN SUPPORT MARKED THUS ◆	10	450 X 450	400
004	M20	16	PIPE SUPPRT MARKED THUS ●	8	180 X 250	500
005	-	-	JACK PADS	4	300 X 300	85000

- NOTES :-**
- SEE TABLE FOR FOUNDATION DETAILS.
 - 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 CIVIL WORK AGENCY
 - POCKETS TO SUITABLE SIZE MAY BE LEFT WHILE CASTING FOUNDATION FOR EMBEDDING FEMALE PART OF FOUNDATION BOLT (TO BE SUPPLIED BY BHEL, BHOPAL) AT THE TIME OF FINAL ERECTION
 - TOP OF CONCRETE LEVEL OF ALL FOUNDATIONS ARE TO BE SAME AS THE ELEVATION OF THE RAIL LEVEL.
 - FOUNDATION BOLTS AND HARDWARES WILL BE ZPP AND SUPPLIED BY BHEL, BHOPAL.

INVENTORY NO.	SIGN. DATE	REF. DRG. NO.							
REV. DATE	ALT	REV. DATE	ALT	NO. OF TRANSFORMERS					
02	CKD	01	CKD	2	2 X 525 MW THERMAL POWER PLANT, ANGUL				
	APPD		APPD		MPCL/ANG/BHEL/001/1741 DATED 19-05-2009.				
					LDI NO.				
					TYPE OF PRODUCT				
					210 MV/A.21/420/√3 KV, 1 PH. GENERATOR TRANSFORMER				
					NAME OF CUSTOMER				
					MONNET POWER COMPANY LIMITED				
ADDITIONAL INFORMATION				W.O.-69012-P-512-01					
STATUS OF DRAWING				PREPARED BY					
DISTRIBUTION OF PRINTS				TRE-1, TRM-3					
TITLE				FOUNDATION PLAN					
DRG. NO.	3 452 00 00598			REV.	00				
SHEET	01	OF	01	NAME	SIGN	DATE			
				DRN.	MAYANK	06.05.10			
				CHD.	AKP	07.05.10			
				APPD.	AKP/KGK	08.05.10			

REV	DATE	ALT	BY	CHKD	APPD	REV	DATE	ALT	BY	CHKD	APPD
02						01					
ZONE WEIGHT, DIM. & PAINT SHADE REVISED.											

DESCRIPTION	DRAWING NO.
OUTLINE GENERAL ARRANGEMENT	34520000594
DGA PART LIST	34520000604
VALVE SCHEDULE PLATE	34520000596
RATING & DIAGRAM PLATE	34520000599
BUS DUCT MOUNTING FLANGE	34520000597
FOUNDATION PLAN	34520000598
LOADING GAUGE DIAGRAM	34520000600
Ø320 TWIN BI-DIRECTIONAL ROLLER	34520000601
H.V. BUSHING 420 KV, 1250 AMPS, DIP	34520000602
L.V. BUSHING 36 KV, 2000 AMPS, PORCELAIN	34520000603
INTERNAL SKETCH	34520000605
H.V. TERMINAL CONNECTOR	34520000606
NEUTRAL FORMATION & GROUNDING	14520000066
COMBINED FOUNDATION OF 3 NOS. G.T.	14520000067
GENERAL ARRGT. OF COOLER CONTROL CABINET	34526200221
DIAGRAM OF COMMON KIOSK	34526200222
GENERAL ARRGT. OF COMMON KIOSK	34526200223
DIAGRAM OF COOLER CONTROL CABINET	34526200220

DESCRIPTION	LITERS
DIL IN TANK AND TURRETS	45720
DIL IN CONSERVATOR	2630
DIL IN RADIATORS & PIPE WORK	8750
TOTAL DIL QTY.	57100

DESCRIPTION	WT. IN KG.
WEIGHT OF CORE ASSY.	126850
WEIGHT OF WINDING ASSY.	26650
TANK AND FITTINGS	56800
BUSHING	2650
MARSHALLING BOX	860
PIPE WORK WITH SUPPORT	3000
PUMP, CONDENSATOR & COOLERS	19800
TOTAL DIL	49700
TOTAL WEIGHT INCLUDING DIL	260000
SHIPPING WEIGHT OF TRANSFORMER (GAS FILLED)	175000

REV	DATE	ALT	BY	CHKD	APPD	REV	DATE	ALT	BY	CHKD	APPD
02						01					
ZONE WEIGHT, DIM. & PAINT SHADE REVISED.											

NOTES:-
 1. WHEN REFERRING THE O.G.A DRG. PLEASE QUOTE MVA & W.O. NO.
 2. DIMENSIONS SHOWN THUS \square ARE OVERALL SHIPPING DIMENSIONS.
 3. WIRING FROM INSTRUMENTS, CTS, ETC. NOT SHOWN FOR CLARITY.
 4. TRANSFORMER OIL SHALL BE SUPPLIED CONFIRMING TO IS : 335.
 5. THE MAKE OF THE FITTINGS SHALL BE AS PER BHEL STANDARD VENDOR LIST
 6. PAINTING SHALL BE AS PER BHEL STANDARD PRACTICE & OUT SIDE PAINT
 COLOUR SHALL BE SHADE 632 OF IS:5
 7. THE DESIGN FEATURES SHOWN ON THIS DRAWING (GENERALLY IN LINE WITH IS-2026
 AND AGREED CUSTOMER SPECIFICATION) MEET THE STATUTORY, REGULATORY &
 SAFETY REQUIREMENTS WITH RESPECT TO EARTHING ARRANGEMENT & DANGER
 LABELS, AND CLEARANCES IN AIR. PROVISIONS FOR PRESSURE RELIEF DEVICE, GAS
 AND OIL ACTUATED RELAY AND ANTI EARTHING QUAKE CLAMPING ARRANGEMENT.
 8. WEIGHTS AND VOLUME ARE TENTATIVE.

ITEM NO.	DESCRIPTION	QTY.	ZONE
10a	INSPECTION COVER FOR CONSERVATOR	1	C106
12	MAGNETIC DIL GAUGE WITH LOLA	1	C304
14c	DRAIN C.I. VALVE FOR MAIN CONSERVATOR 50 NB	1	G303
14e	BREATHER CONNECTION GATE VALVE 15 NB FOR MAIN CONSERVATOR	1	B303
15	DIL CONSERVATOR MAIN (1300 DIA. WITH AIR CELL)	1	C302
17	DEHYDRATING BREATHER FOR MAIN CONSERVATOR (SILICA GEL TYPE)	1	G107
26	BUCHHOLZ RELAY 80 NB	1	D106
72b	CONSERVATOR SUPPORT.	2	E105
86a	AIR RELEASE PLUG (1/4" BSP) FOR AIR CELL ON CONSERVATOR	1	B303
86e	AIR RELEASE PLUG (3/4" BSP) FOR MAIN CONSERVATOR	2	C303
119	ISOLATING B/F VALVE FOR BUCHHOLZ RELAY 80NB	1	D106
119a	ISOLATING C.I. VALVE 80 NB FOR BUCHHOLZ RELAY	1	D107
120	MAIN CONSERVATOR 80NB PIPE SET.	1	H106
125	GAS COLLECTING DEVICE	1	H106
161	BUCHHOLZ GAS RELAY DEVICE PIPE 6 DIA (COPPER)	1	E207
164	BREATHER PIPE 15 NB FOR MAIN CONSERVATOR	1	B106
206	MONOGRAM	1	C303
211	ATMOSPHERAL (AIR CELL) ARRGT. OF CONSERVATOR	1	C303
126	PRISMATIC DIL GAUGE	1	C302
4a	BOSS FOR EARTHING BOLT, WASHER & SPRING WASHER M16	12	H101

ITEM NO.	DESCRIPTION	QTY.	ZONE
14f	DRAIN/FILTER C.I. VALVE 50 NB FOR COOLING SYSTEM	2	E106
18e	THERMOMETERS ON COOLER PIPE WORKS	2	E106
62	RADIATORS 2 X 50Z (8 RUNNING + 2-EXTRA PER BANK)	20	G202
63	FAN MOTOR (3-RUNNING + 1-STANDBY + 1-EXTRA PER BANK)	10	G103
64	DIL PUMP AND MOTOR (1-RUNNING + 1 STANDBY PER BANK)	4	D204
67a	EXPANSION JOINT 200 NB	4	D204
72	HEADER SUPPORT	4	E103
72a	PIPE SUPPORT	8	H105
86b	AIR RELEASE PLUG (3/4" BSP) ON COOLER PIPE WORK	3	B303
86c	AIR RELEASE PLUG FOR RADIATOR	20	C101
111	40NB GATE VALVE WITH 15-SIZE MALE THREADED ADAPTER SUITABLE FOR MOUNTING SENSOR OF DGA MONITORING SYSTEM	1	D205
114a	DRAIN/PLUG (3/4") ON RADIATORS	20	F102
119c	80 NB B/F VALVE FOR RADIATORS	40	D101
123	ISOLATING B/F VALVE FOR PUMP 200 NB	8	C205
160	DIL FLOW INDICATOR (LEFT TO RIGHT FACING DIAL)	4	F204
190	TOP DIL PIPE 200/250 NB	1	H204
196	BOTTOM DIL PIPE 200/250 NB	2	H204
197	DIL PIPE REVERSE FLOW STOPPING DEVICE	2	D203
6	H.V. LINE BUSHING	1	C304
7	L.V. NEUTRAL BUSHING	1	D107
10b	INSPECTION COVER L.V. BUSHING CONNECTION	2	C302
122	C.I. TERMINAL BOX FOR H.V.	4	C302
122a	CT TERMINAL BOX FOR H.V. NEUTRAL	1	C304
122b	CT TERMINAL BOX FOR L.V.	1	E107
148	NEUTRAL TURRET	1	D107
149	L.V. TURRET WITH TOP FLANGE OF NON MAGNETIC STAINLESS STL.	1	D108
150	H.V. TURRET	1	D109
157	NEUTRAL GROUNDING CONNECTOR (COPPER) 10 X 125 WIDE	1	D303
180	TERMINAL MARKING PLATES	4	E109

ITEM NO.	DESCRIPTION	QTY.	ZONE
19	JACKING PAD (SUITABLE FOR TOTAL WEIGHT WITH DIL)	4	H109
21	D.T.I. (IN C.C. CABINET)	1	G108
22	W.T.I. (IN C.C. CABINET)	2	G109
23	TWIN BI-DIRECTIONAL ROLLERS	6	G302
24	SKIDS (BOTH DIRECTIONS)	1	H109
25	50 NB FILTER C. I. VALVE (BOTTOM)	1	G303
25a	50 NB FILTER C. I. VALVE WITH SAMPLING ATTACHMENT (TOP)	1	D303
27	P.R.V. WITH DIL COLLECTOR & DRAIN PIPE	2	D302
34	COOLER CONTROL CABINET	1	F109
40	WAGON ANCHORING LUG	4	F109
50	SUDDEN PRESSURE RELAY	1	E107
79	LADDER WITH LOCKING DEVICE	1	F210
80	DIL INLET BUTTER FLY VALVE 200 NB	2	H106
81	DIL OUTLET BUTTER FLY VALVE 250 NB	1	E106
86	AIR RELEASE VALVE GM. (1/2" BSP)	1	E208
87	36 KV POST INSULATOR	4	E304
109	HAULAGE LUG 50 DIA. LONGITUDINAL	4	H106
109a	HAULAGE LUG 50 DIA. TRANSVERSAL	4	H109
110	TOP TANK AND BOTTOM TANK SHORTING LINK	2	G106
114	DRAIN / SAMPLING PLUG (1" BSP) ON EACH SIDE OF BOTTOM TANK	2	G303
115	HOLE FOR CLAMPING CORE AND COIL TO TOP TANK	2	E209
116	COOLER CONTROL CABINET SUPPORT (SET)	1	F109
212	17.5 KV, 1000A, BUSHING (CORE & END FRAME TO TANK EARTHING)	2	D210
215	BRACKET FOR ON LINE DGA MONITORING EQUIPMENT (WELDED TO TANK)	2	C302
41	BEVEL GEAR BOX	1	E303
48	OFF CIRCUIT TAP SWITCH DRIVING UNIT	1	F304
49	OFF CIRCUIT TAP SWITCH DRIVING HANDLE	1	F304
51	OFF CIRCUIT TAP SWITCH	1	F207

DESCRIPTION	QTY.	ZONE
10a	1	C106
12	1	C304
14c	1	G303
14e	1	B303
15	1	C302
17	1	G107
26	1	D106
72b	2	E105
86a	1	B303
86e	2	C303
119	1	D106
119a	1	D107
120	1	H106
125	1	H106
161	1	E207
164	1	B106
206	1	C303
211	1	C303
126	1	C302
4a	12	H101

ITEM NO.	DESCRIPTION	QTY.	ZONE
2a	RATING AND DIAGRAM PLATE (BILINGUAL)	1	G108
2b	VALVE SCHEDULE PLATE	1	F108
2c	DGS AND DONT INSTRUCTION PLATE	1	G107
3	DIL FILLING INSTRUCTION PLATE	1	C107
4	LIFTING BOLLARD FOR TRANSFORMER WITH DIL > DIA 219 PAIR	4	E302
8	EARTHING PAD WITH BOLTS, NUTS, PLAIN & S. WASHERS M12	2	G107
9	NAME PLATE HINDI AND ENGLISH (ONE EACH)	2	E108
10	INSTRUCTION PLATE FOR LIFTING	4	E108
10	INSPECTION COVER FOR TANK/COVER	3	F107
14	DRAIN BUTTERFLY VALVE FOR TOTAL DRAINAGE 100 NB	1	G302
14a	SAMPLING 15 NB GM. VALVE (1 AT TOP & 1 AT BOTTOM TANK)	2	E303
14b	40 NB GM. VALVE FOR SUDDEN PRESSURE RELAY	1	F108
18	POCKET FOR DIL TEMPERATURE INDICATOR	1	D209
18a	POCKET FOR WINDING TEMPERATURE INDICATOR	2	D209
18b	ORDINARY THERMOMETER WITH POCKET	1	D209
18c	POCKET WITH RTD-VTI	2	D209

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

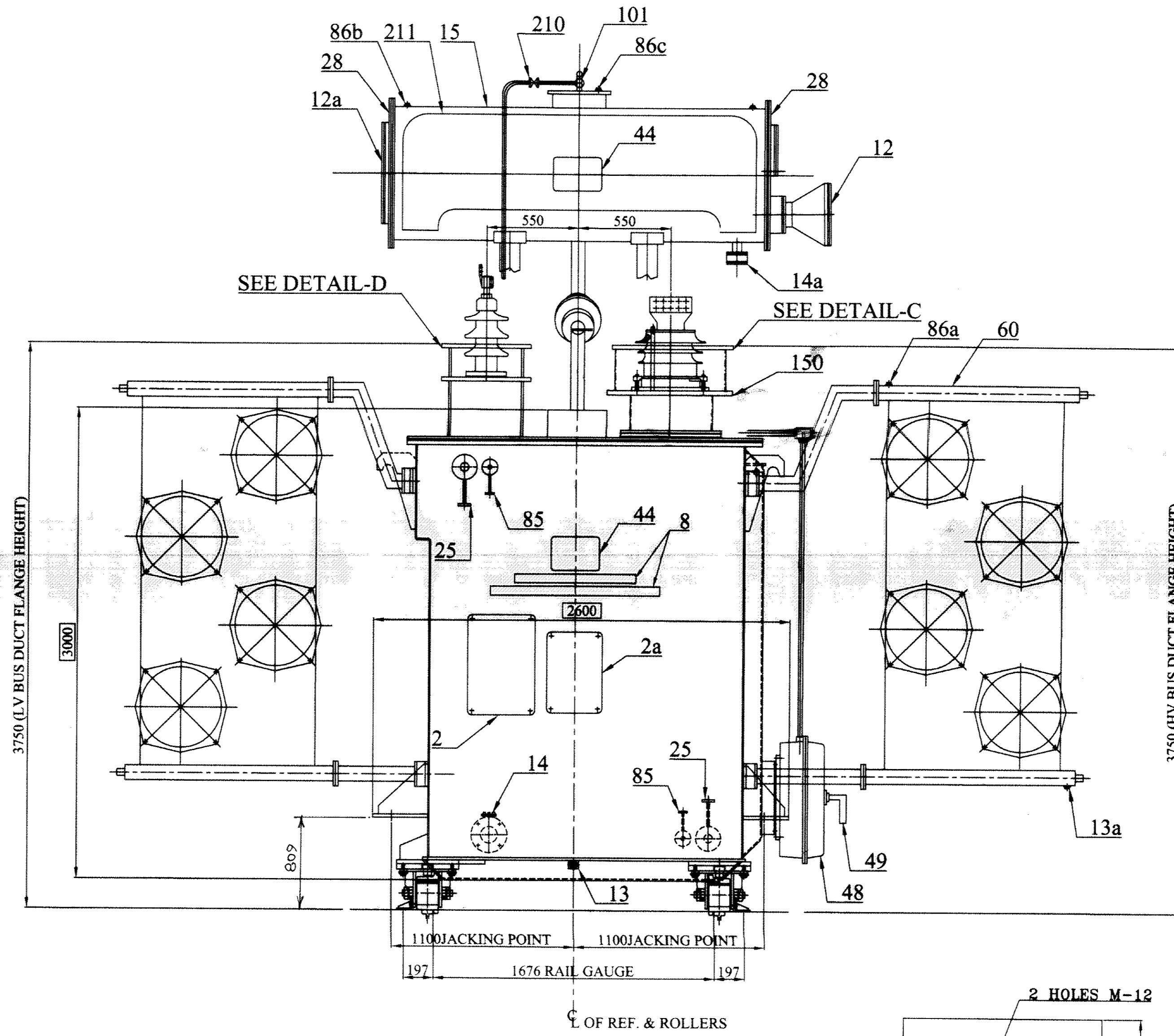
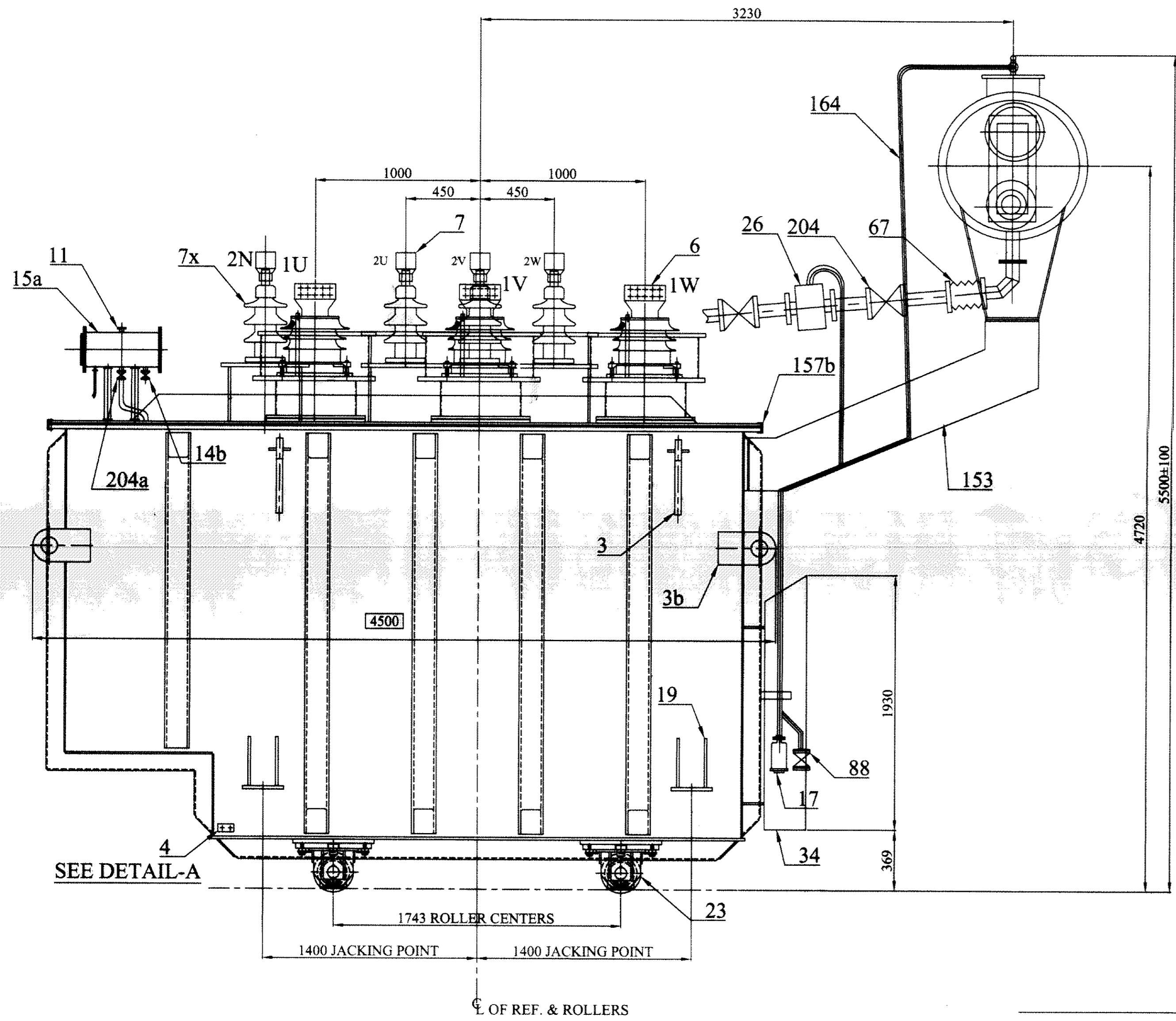
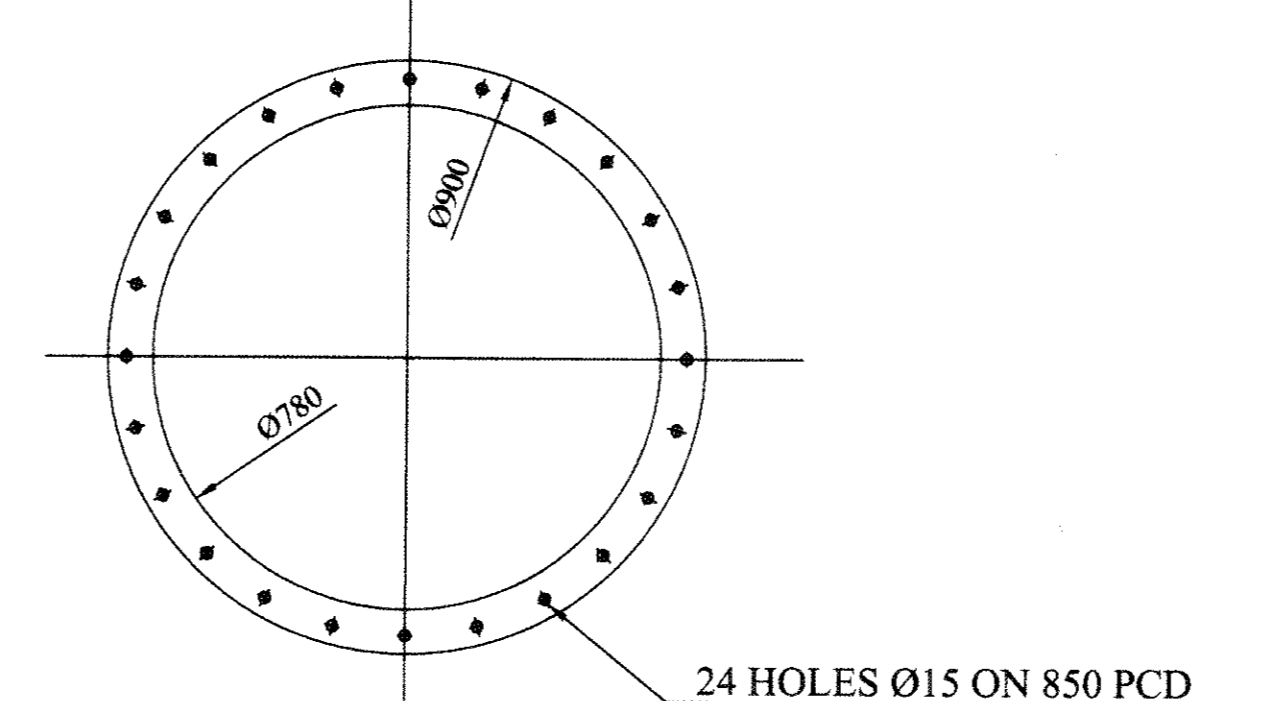
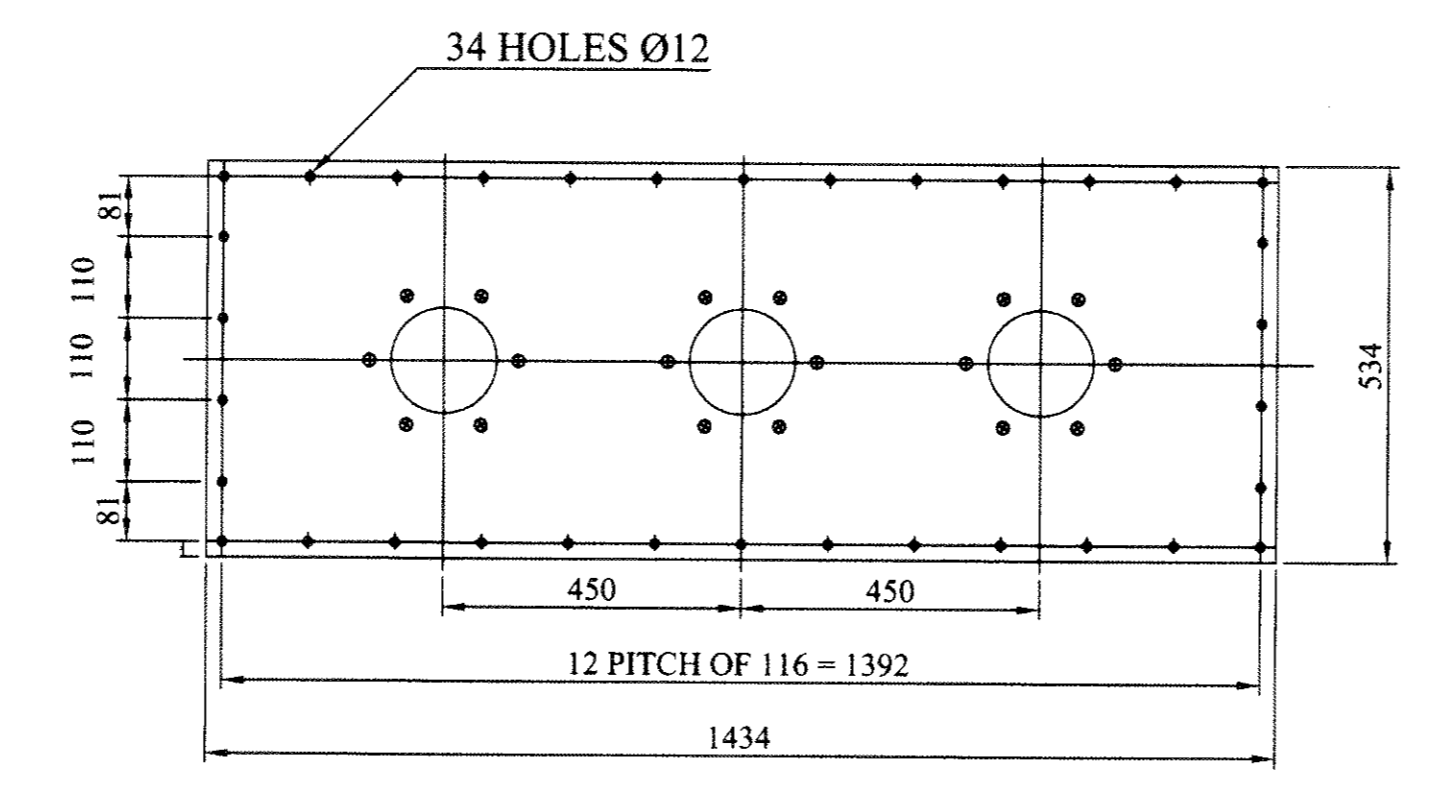
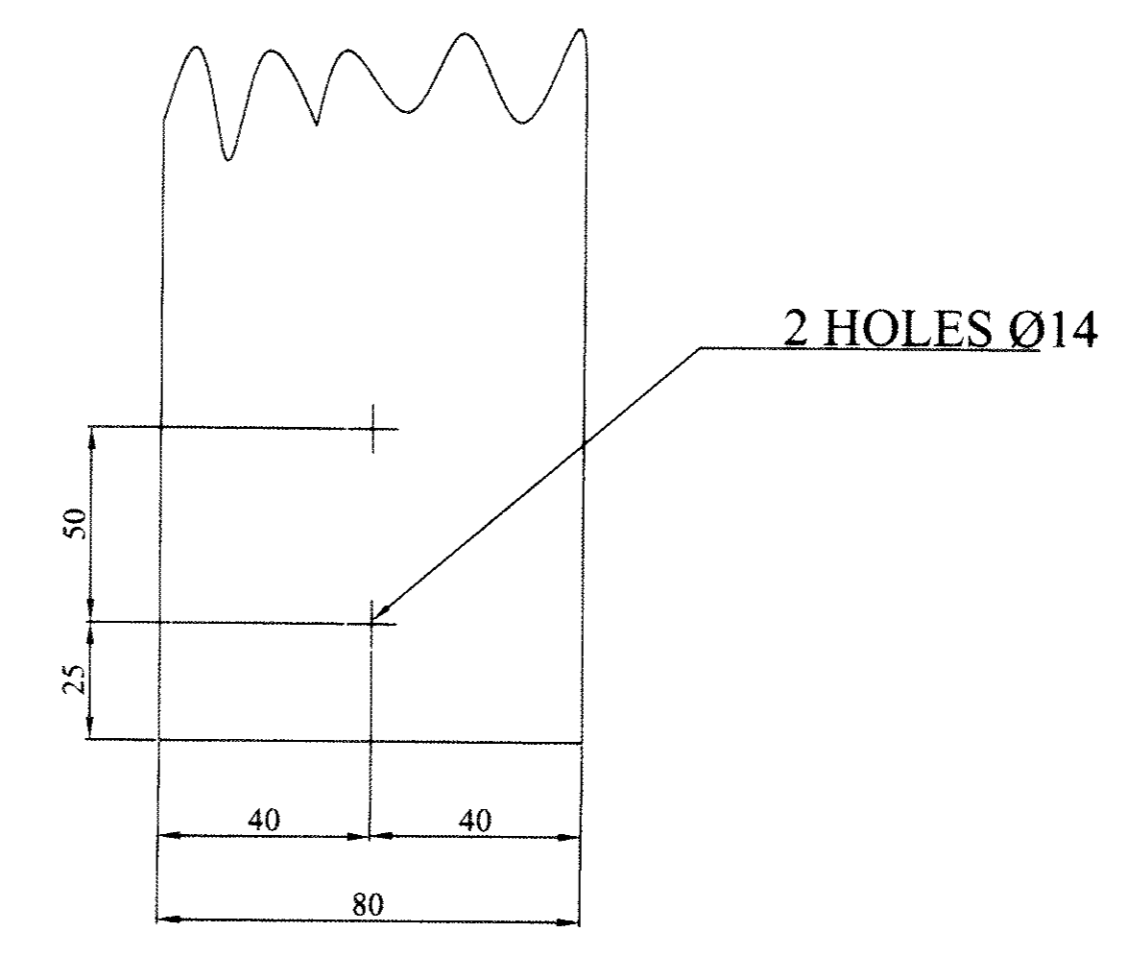
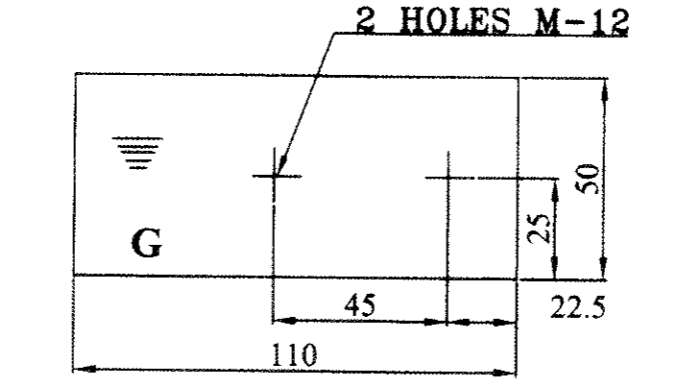
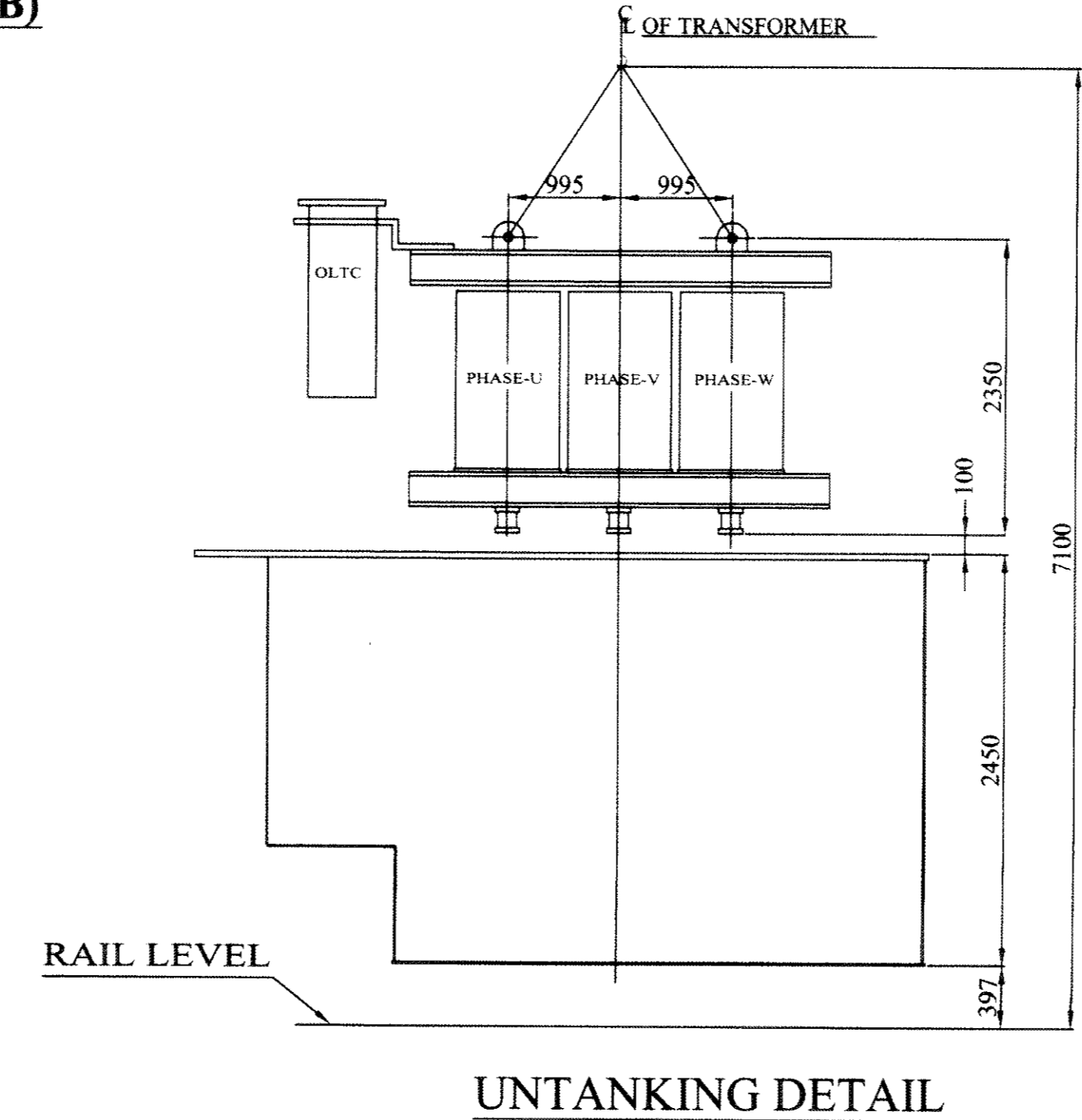
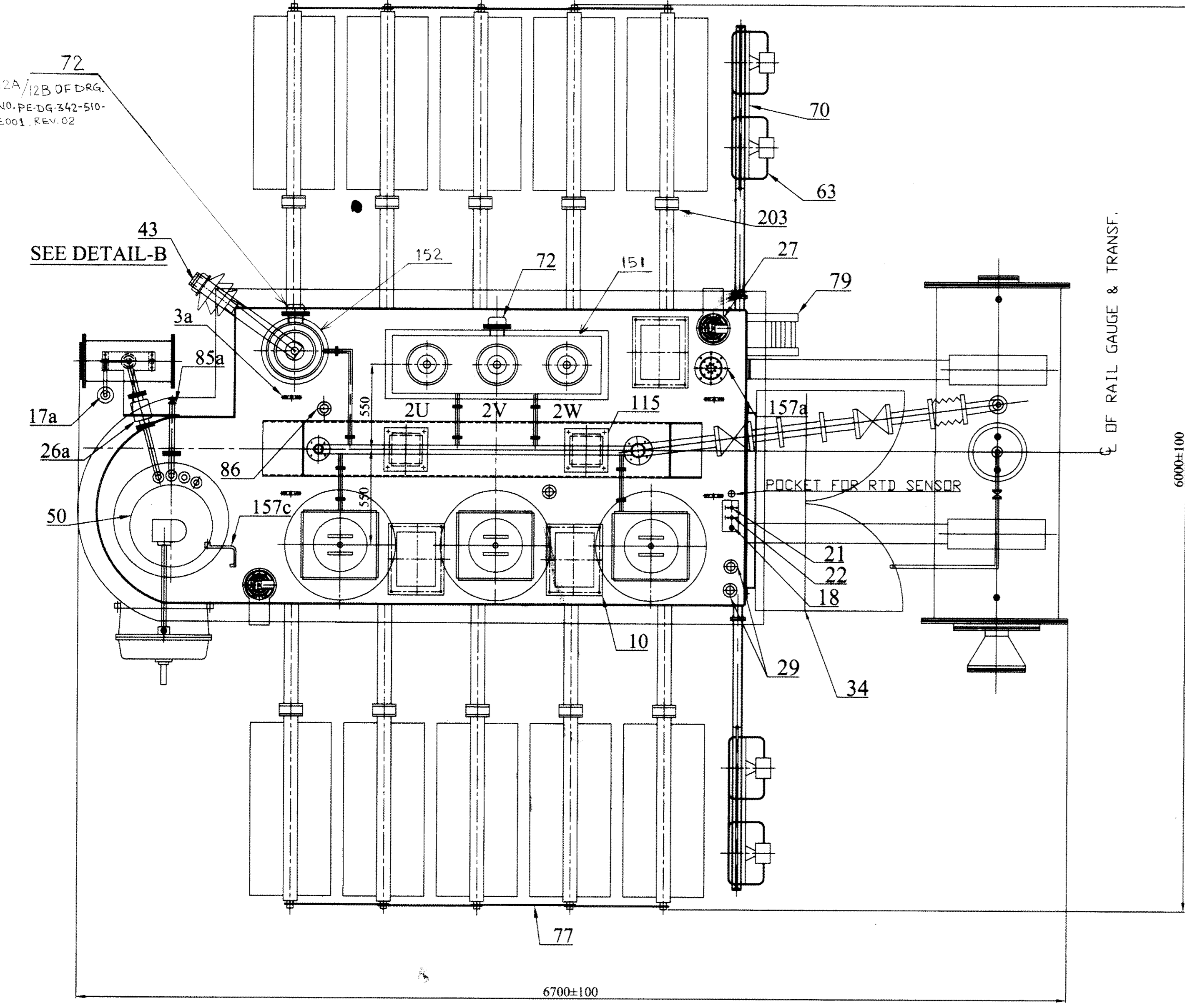


TABLE OF FITTINGS		
ITEM NO.	DESCRIPTION	QTY.
2	COMBINED RATING & DIAGRAM PLATE (HINDI & ENGLISH)	01NO
2a	OIL FILLING INSTRUCTION PLATE	01NO
3	LIFTING LUG ON TANK	04NOS
3a	LIFTING LUGS FOR TANK COVER	04NOS
3b	LASHING LUGS	04NOS
4	EARTHING TERMINAL	02NOS
6	H.V. LINE BUSHING 24 KV, 10000 AMP - BHEL/BHEL APPROVED MAKE	02NOS
7	L.V. LINE BUSHING 36 KV, 3150 AMP - BHEL/BHEL APPROVED MAKE	02NOS
7x	L.V.N. BUSHING 36 KV, 3150 AMP. - BHEL/BHEL APPROVED MAKE	01NO
8	NAME PLATE (ENGLISH & HINDI)	1+1NO
10	INSPECTION COVERS	10NOS
11	OIL FILLING HOLES ON O.L.T.C. CONSERVATOR	01NO
12	MAGNETIC OIL GAUGE (WITH LOW OIL LEVEL ALARM) FOR MAIN CONSERVATOR -SUKRUT/ YOGYA MAKE	01NO
12a	PRISMATIC OIL GAUGE FOR MAIN CONSERVATOR & O.L.T.C. CONSERVATOR	02NOS
13	DRAIN PLUG 1" BSP	02NOS
13a	DRAIN PLUG 1/2" BSP FOR RADIATOR.	10NOS
14	DRAIN VALVE ON TANK (100 NB BUTTERFLY TYPE) -PRECISION/ BIMAL TECHNO MAKE	01NO
14a	DRAIN VALVE ON MAIN CONSERVATOR (50 NB) -MANNIXON/LEADER/CRESENT/AUDCO MAKE	01NO
14b	DRAIN VALVE FOR O.L.T.C. CONSERVATOR (15 NB) -MANNIXON/LEADER/CRESENT/AUDCO MAKE	01NO
15	MAIN OIL CONSERVATOR (AIR CELL TYPE) -1000 DIA.	01NO
15a	O.L.T.C. CONSERVATOR - 300 DIA.	01NO
17	DEHYDRATING BREATHERS FOR MAIN CONSERVATOR (WITH SILICAGEL CHARGE) YOGYA/ SUVIDHA/ AMUSEN MAKE	01NO
17a	DEHYDRATING BREATHERS FOR O.L.T.C. CONSERVATOR (WITH SILICAGEL CHARGE) YOGYA/ SUVIDHA/ AMUSEN MAKE	01NO
18	THERMOMETER POCKETS (WITH ALCOHOL THERMOMETER) ON TANK COVER	01NO
19	JACKING LUGS WITH 50 DIA HAULAGE HOLES	04NOS
21	POCKET FOR OIL TEMPERATURE INDICATOR (PRECEASURE/ PERFECT CONTROL MAKE	01 NO
22	POCKET FOR WINDING TEMPERATURE INDICATOR (PRECEASURE/ PERFECT CONTROL MAKE	01 NO
23	FLANGED BI-DIRECTIONAL 320 DIA SINGLE ROLLER WITH STOPPER ARBOT (25 MT CAPACITY)	04NOS
25	FILTER VALVE ON TANK (50 NB) -MANNIXON/ LEADER/ CRESENT/ AUDCO MAKE	02NOS
26	BUCHHOLZ RELAY (80NB) WITH TRIP & ALARM CONTACTS. -ATVUS/ ENGLISH ELECTRIC MAKE	01NO
26a	OIL SURGE RELAY WITH TRIP CONTACTS. -EASUN-MR. CHENNAI MAKE	01NO
27	PRESSURE RELIEF VALVE WITH TRIP CONTACT. -SUKRUT/ RAJSHI ENGG. MAKE	02NOS
28	END COVER FOR MAIN CONSERVATOR	01NO
29	RTD SENSOR ON TANK COVER FOR OTI & WTI. -PRECEASURE/ PERFECT CONTROL MAKE	02NOS
31	POST INSULATOR FOR L.V.N. GROUNDING (11 KV CLASS) -BHEL MAKE	02NOS
43a	LV NEUTRAL GROUNDING STRIPS COPPER (12 X 80 mm WIDE)	01NO
44	BILINGUAL COMPANY'S MONOGRAM (ON TANK & MAIN CONSERVATOR)	01+01NO
48	MOTOR DRIVING UNIT FOR O.L.T.C. - EASUN-MR MAKE, CHENNAI	01NO
49	HAND OPERATING HANDLE FOR MOTOR DRIVE UNIT.	01NO
50	ON LOAD TAP CHANGER - EASUN-MR MAKE, CHENNAI	01NO
60	MARSHALLING BOX - ASHOKA ELECTRONICS/ WIP/ PYROTECH/ ENTERPRISING ENGG. MAKE	01NO
63	RADIATORS (2X6% TANK MOUNTED) - BHEL/CTR/ TTP/ HIGH TECH ENGG. MAKE	10NOS
67	FAN & MOTOR (RUNNING - STAND BY) OF 1" SIZE - ALSTOM KHATTAN/ EPC/ COL MAKE	6+2NOS
70	FLEXIBLE JOINT (80 N.B.)	01NO
70	FAN SUPPORT	02NOS
72	CT TERMINAL BOARD FOR LV (WTI & RTD) CT - LVN CT	01+01NO
77	LADDER WITH SAFETY FLAP	16NOS
85	SAMPLING VALVE (15 NB) ON TANK - MANNIXON/ LEADER/ CRESENT/ AUDCO MAKE	02NOS
85a	SAMPLING VALVE (25NB) FOR O.L.T.C. DIVERTER SWITCH- MANNIXON/ LEADER/ CRESENT/ AUDCO MAKE	01NO
86	AIR RELEASE VALVE (15 NB) ON COVER- MANNIXON/ LEADER/ CRESENT/ AUDCO MAKE	02NOS
86a	AIR RELEASE PLUG ON RADIATORS 1/2" BSP	10NOS
86b	AIR RELEASE PLUGS (3/4" BSP) ON MAIN CONSERVATOR	02NOS
86c	AIR RELEASE PLUG (1/4" BSP) ON MAIN CONSERVATOR	01NO
88	BUCHHOLZ RELEASE COCK WITH 6 NB PIPE	01NO
101	PRESSURE GAUGE ON MAIN CONSERVATOR	01NO
115	HOLE FOR CLAMPING CORE AND COIL TO TANK COVER	02NOS
150	HV TURRET WITH IPB BUS-DUCT FLANGE	03NOS
151	LV TURRET WITH SPB BUS-DUCT FLANGE	01NO
152	LVN TURRET	01NO
153	CONSERVATOR SUPPORT FOR MAIN CONSERVATOR	02NOS
157a	EARTHING CONNECTION BETWEEN CORE TO END FRAME & END FRAME TO TANK	01NO
157b	EARTHING CONNECTION BETWEEN TANK TO TANK COVER	02NOS
157c	EARTHING CONNECTION BETWEEN TAP CHANGER TO TANK COVER	01NO
164	BREATHING PIPE (15 N.B.)	02NOS
203	RADIATOR VALVE (80 NB BUTTERFLY) - PRECISION/ BIMAL TECHNO MAKE	20NOS
204	CONSERVATOR VALVE (80 NB FOR MAIN CONSERVATOR) -MANNIXON/ LEADER/ CRESENT/ AUDCO MAKE	02NOS
204a	CONSERVATOR VALVE (25 NB FOR O.L.T.C. CONSERVATOR) -MANNIXON/ LEADER/ CRESENT/ AUDCO MAKE	01NO
210	VALVE (15 NB) FOR BREATHING CONNECTION ON MAIN CONSERVATOR -MANNIXON/ LEADER/ CRESENT/ AUDCO MAKE	01NO
211	FLEXIBLE SEPARATOR (AIR CELL) INSIDE MAIN CONSERVATOR SUKRUT THE RUBBER PRODUCT LTD-THANE/ SWASTIC MAKE	01NO

DIRECTION OF WITHDRAWAL (FOR UT-1A, UT-1B, UT-2A & UT-2B)



APPROXIMATE WEIGHTS		
DESCRIPTION	APPROX. WT. IN KG.	
CORE AND WINDING	24000	
TANK AND FITTINGS INC. RADIATOR, CONSERVATOR ETC.	14000	
WEIGHT OF OIL (19000 LITERS)	17000	
TOTAL WEIGHT	55000	
SHIPPING WEIGHT	40000	

TABLE OF REFERENCE DRAWINGS		
SRL. NO.	DESCRIPTION	DRG. NO.
01	OUT LINE GENERAL ARRANGEMENT	0 456 00 50 340
02	RATING & DIAGRAM PLATE (ENGLISH)	1 456 19 5 1 144
03	FOUNDATION PLAN OF TRANSFORMER	2 456 00 50 744
04	OIL FILLING INSTRUCTION PLATE	2 456 00 50 606
05	FOUNDATION PLAN FOR 320 DIA SINGLE BI-DIRECTIONAL ROLLERS	3 456 00 51 478
06	24 kv, 10000 AMPS. H.V. BUSHING ASSY.	3 456 00 51 479
07	36KV 3150 AMPS. 300CT. LV & LVN BUSHING	3 456 00 51 480

NOTES:
 1. DIMENSIONS MARKED THIS [Symbol] ARE OVERALL SHIPPING DIMENSIONS EXCLUSIVE OF PACKING.
 2. WHEN REFERRING THIS DRG. STATE 2024 MVA & W.O. NO. 19057A18000.
 3. PVC/SWA/PVC ARMORED CABLE WIRING UP TO MARSHALLING BOX ARE SUPPLIED BY B.H.E.L. JHANSI BUT NOT SHOWN IN THIS DRAWING FOR CLARITY.
 4. FOUNDATION BOLTS, NUTS, & WASHERS ETC. ARE SUPPLIED BY BHEL, JHANSI.
 5. OUT SIDE PAINT SHALL BE SYNTHETIC ENAMEL PAINT SHADE 632 OF IS.5.
 6. FOR WEIGHTS AND OIL QTY. REFER RATING & DIAGRAM PLATE.
 DRAWING NO. 14561951144 ALSO.

ADDITIONAL INFORMATION	W.O. 19057A18000		
STATUS OF DRAWING	U		
DISTRIBUTION OF PRINTS	TRE-1, TRP-1, BAY1&2-3, BAY9-4,		
REV	DATE	ALTERED	BY
03	14.02.11	CHECKED	BY
02	10.02.11	CHECKED	BY
01	30.10.10	CHECKED	BY

L.O.I.- MPCL / ANG / BHEL / 001 / 1741

TYPE OF PRODUCT: 25 MVA, 21/6.9 KV ONAN/ONAF COOLED UNIT TRANSFORMER

NAME OF CUSTOMER/PROJECT: M/S:- MONNET POWER COMPANY LTD.

BHARAT HEAVY ELECTRICALS LTD. JHANSI

DRN	NAME	SIGN	DATE	NO. OF VAR
CHD	AMAR SINGH		18.07.10	-
VPS				-
APPD	SMB			-

DEPT: TRE, UN. TOL. DIM. 406

SCALE: 1:1

WEIGHT (KG):

REF. TO ASSY. NO.:

ITEM NO.:

NO. OF ITEM:

TITLE: OUTLINE GENERAL ARRGT.

CARD CODE:

DRAWING NO. 0 456 00 50 340

SHEET NO. 01

NO. OF SHEETS 01

REV. 03

REV	DATE	ALTERED	BY	REV	DATE	ALTERED	BY
03	14.02.11	CHECKED	BY	02	10.02.11	CHECKED	BY
02	10.02.11	CHECKED	BY	01	30.10.10	CHECKED	BY

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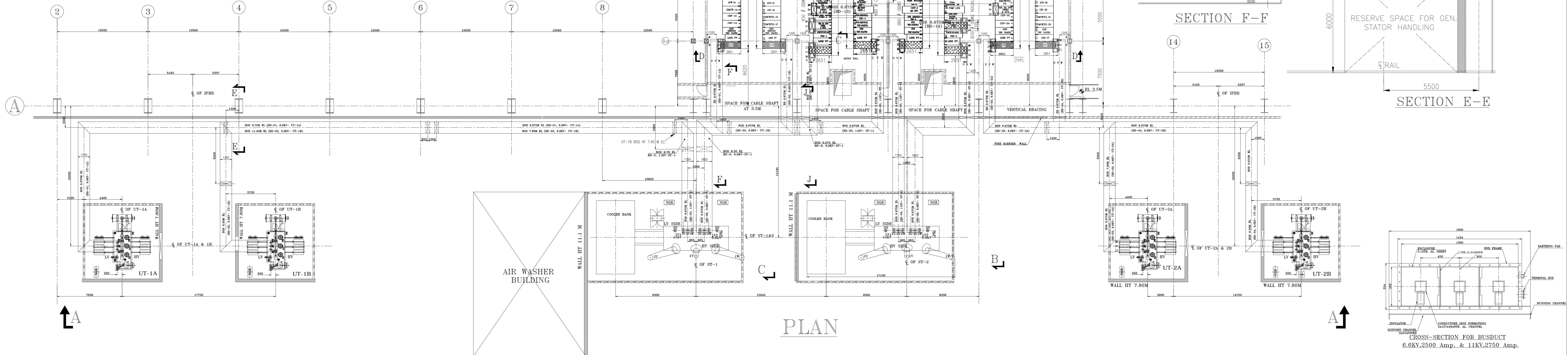
DETAILS OF BUSDUCT

SL.NO.	DESCRIPTION	Amps	PHASE REV.
01	INCOMER FROM UT-1A TO 6.6KV UNIT SWBD-1CA(01)	2500	REQD.1CA(01)
02	INCOMER FROM UT-1B TO 6.6KV UNIT SWBD-1CB(02)	2500	REQD.1CB(02)
03	INCOMER FROM UT-2A TO 6.6KV UNIT SWBD-2CA(03)	2500	REQD.2CA(03)
04	INCOMER FROM UT-2B TO 6.6KV UNIT SWBD-2CB(04)	2500	REQD.2CB(04)
05	INCOMER FROM ST-1 TO 11KV STATION SWBD-08A(10)	2750	REQD.08A(10)
06	INCOMER FROM ST-1 TO 6.6KV STATION SWBD-0CA(01)	3260	REQD.0CA(01)
07	INCOMER FROM ST-2 TO 11KV STATION SWBD-08B(11)	2750	REQD.08B(11)
08	INCOMER FROM ST-2 TO 6.6KV STATION SWBD-0CB(02)	3260	REQD.0CB(02)
09	TIE FEEDER FROM 11KV STN. SWBD-08A(10) TO 11KV STN. SWBD-08B(11)	2750	REQD.08A(10) & 08B(11)
10	TIE FEEDER FROM 6.6KV STN. SWBD-0CA(01) TO 6.6KV UNIT SWBD-1CA(01)	2500	PHASE REV. NOT REQD.
11	TIE FEEDER FROM 6.6KV STN. SWBD-0CA(01) TO 6.6KV UNIT SWBD-1CB(02)	2500	PHASE REV. NOT REQD.
12	TIE FEEDER FROM 6.6KV UNIT SWBD-2CA(03) TO 6.6KV STN. SWBD-0CA(01)	2500	PHASE REV. NOT REQD.
13	TIE FEEDER FROM 6.6KV UNIT SWBD-2CB(04) TO 6.6KV STN. SWBD-0CB(02)	2500	PHASE REV. NOT REQD.
14	TIE FEEDER FROM 6.6KV STATION SWBD-0CB(02) TO 6.6KV STATION SWBD-0CA(01)	3260	PHASE REV. REQD. IN 0CB(02)

NOTE-
 1. EXTERNAL PAINT SHADE OF DUCTS
 INDOOR PART : RAL 5012
 OUTDOOR PART : 632 OF IS 5
 2. ALL OTHER DETAIL WHICH ARE NOT MENTIONED IN THIS DRAWING ARE AS PER REFERENCE DRAWINGS GIVEN BELOW:

REFERENCE DRAWINGS-

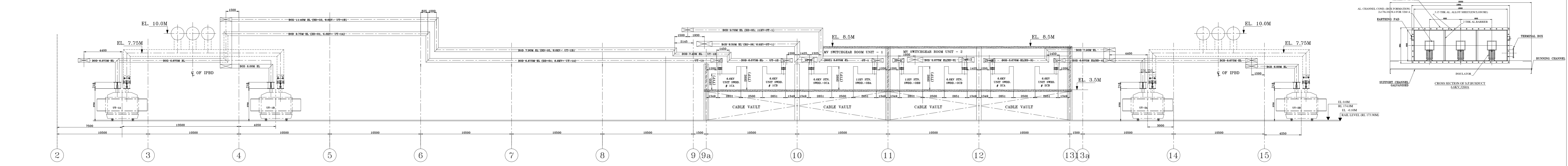
- TRANSFORMER YARD LAYOUT DRG. NO. PE-03-342-100-001 REV.08
- SINGLE LINE DIAGRAM FOR AUX. PE-03-342-565-001 REV.01
- POWER DISTRIBUTION
- OGA OF UNIT TRF. - 3.456.00.5030 REV.03
- LAYOUT OF MV SWGR. ROOM AT 3.5M PE-03-342-100-002 REV.03
- OGA OF STATION TRANSFORMER-1&2 - 0.840.00.0000 REV.01
- OGA OF SWGR. BHEL,PEM



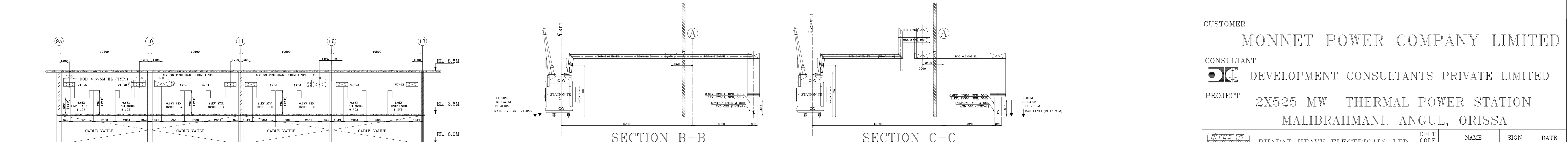
PLAN

SECTION F-F

SECTION E-E



SECTION A-A



SECTION B-B

SECTION C-C

SECTION D-D

REV.	DATE	ALTD	CHD	APPD	REV.	DATE	ALTD	CHD	APPD	REV.	DATE	ALTD	CHD	APPD	REV.	DATE	ALTD	CHD	APPD	REV.	DATE	ALTD	CHD	APPD	REV.	DATE	ALTD	CHD	APPD	REV.	DATE	ALTD	CHD	APPD	REV.	DATE	ALTD	CHD	APPD										
09	25.05.12				08	20.04.12				07A	18.04.12				07	12.12.11				06	24.11.11				05	12.11.11				04	17.10.11				03	19.09.11				02	03.09.11				01	01.04.11			

CUSTOMER
 MONNET POWER COMPANY LIMITED

CONSULTANT
 DEVELOPMENT CONSULTANTS PRIVATE LIMITED

PROJECT
 2X525 MW THERMAL POWER STATION
 MALIBRAHMANI, ANGUL, ORISSA

CLIENT
 BHARAT HEAVY ELECTRICALS LTD
 RUDRAPUR

DEPT CODE	NAME	SIGN	DATE
E	DRN RAJESH	-08-	15/05/09
	CHD S.K.GUPTA	-08-	15/05/09
	APPD R.K.SAXENA	-08-	15/05/09

TITLE
 LAYOUT OF S.P. BUSDUCT

DEPT. SCALE 1:100
 DRAWING NO. 01 25 10 10 001
 SHEET 1 OF 1 REV 09

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PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT

