FIRST ANGLE PROJECTION (ALL DIMENSIONS ARE IN MM.)

DRAWING No. TB-2-342-316-002A

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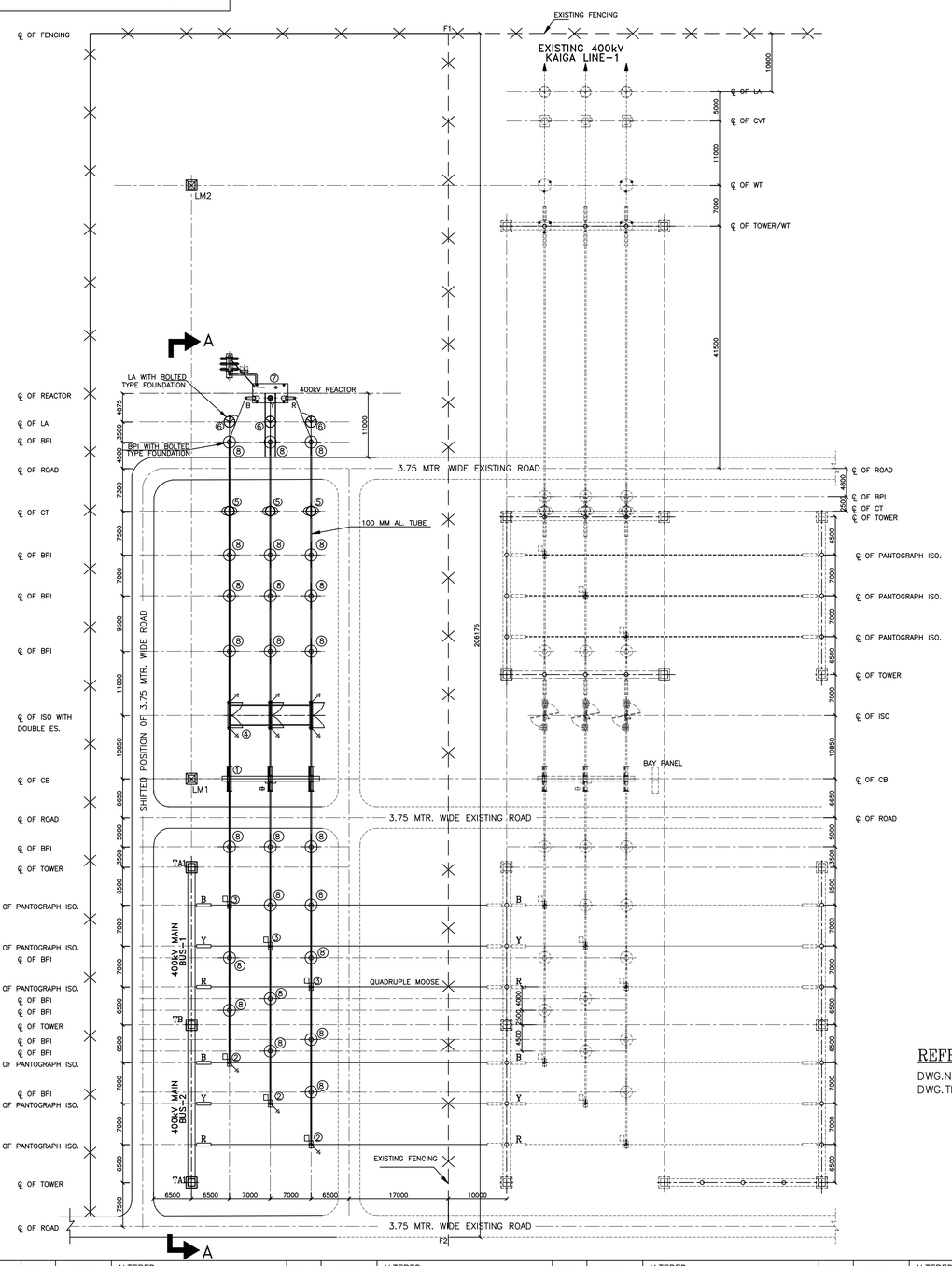
COMPUTER DRG. PATH NAME :



SCHEDULE OF EQUIPMENT

S.NO.	DESCRIPTION	SYMBOL	QTY.
1	400kV, 2000A, 40KA FOR 1 SEC., 3–PH. SF6 CIRCUIT BREAKER WITHOUT CLOSING RESISTOR		01
2	400kV, 3150A, 40kA FOR 1 SEC., 3–PH. PANTOGRAPH ISOLATOR WITH ONE EARTH SWITCH		01
3	400kV, 3150A, 40kA FOR 1 SEC., 3–PH. PANTOGRAPH ISOLATOR WITHOUT EARTH SWITCH		01
4	400kV, 3150A, 40kA FOR 1 SEC, 3– PH. CENTRE BREAK ISOLATOR WITH TWO EARTH SWITCH		01
5	400kV, 3000A, 40kA FOR 1 SEC., 1–PH. CURRENT TRANSFORMER		03
6	390kV, 10kA Class–3 SURGE ARRESTER		03
7	63MVAR, 400KV REACTOR		01
8	400KV POST INSULATOR		24

PARTICULARS		400KV
1.	BASIC INSULATION LEVEL (KV)	1425 KV
2.	MINIMUM CLEARANCE	
	(a) B/W PHASES (FOR RIGID BUS)	4000 MM
	(b) B/W PHASES (FOR STRUNG BUS)	4000 MM
	(c) B/W PHASES TO EARTH	3500 MM
3.	(a) BAY WIDTH	27000 MM
	(b) HEIGHT OF MAIN BUS	16000 MM
4.	HEIGHT OF LIVE POINT OF VARIOUS EQUIPMENTS ISOLATOR, CT, BREAKER ETC. FROM PLINTH	8000 MM
5.	POWER FREQUENCY WITH STAND VOLTAGE	630 KV
6.	CREPAGE DISTANCE	10500 MM
7.	SECTIONAL CLEARANCE	6500 MM

CONDUCTOR–ALUMINIUM TUBE–100MM		
1.	NOMINAL SIZE	100 MM
2.	OUTER DIAMETER	114.2 MM
3.	INNER DIAMETER	97.18 MM
4.	WALL THICKNESS	8.51 MM
5.	CROSS SECTION	2825.61SQMM
6.	MAX. DC RESIST AT 20° C	–
7.	CURRENT RATING AT OUTDOOR	3150A
8.	WEIGHT PER UNIT LENGTH	7.7 KG/M
9.	GRADE OF ALUMINIUM.	63401 WP (RANGE 2) AS PER IS 5082

CONUCTOR – MOOSE		
1.	STANDING AND WIRE DIAMETER	54/3.53(AL) +7/3.53(STEEL)
2.	SECTIONAL AREA OF ALUMINIUM	528.5 SQ.MM.
3.	TOTAL SECTIONAL AREA	597.00 SQ.MM.
4.	OVERALL DIA	31.77 MM.
5.	WEIGHT (APPROX.)	2004 KG/M
6.	DC RESISTANCE AT 20°C	0.05552 OHM/KM
7.	MINIMUM U.T.S.	161.2 KN

EQUIPMENTS STRUCTURE QUANTITY		
1.	400kV CT STRUCTURE (1Ph)	03
2.	LA STRUCTURE–390kV (1Ph)	03
3.	ISOLATOR STRUCTURE (3Ph)	03
4.	BPI STRUCTURE	24

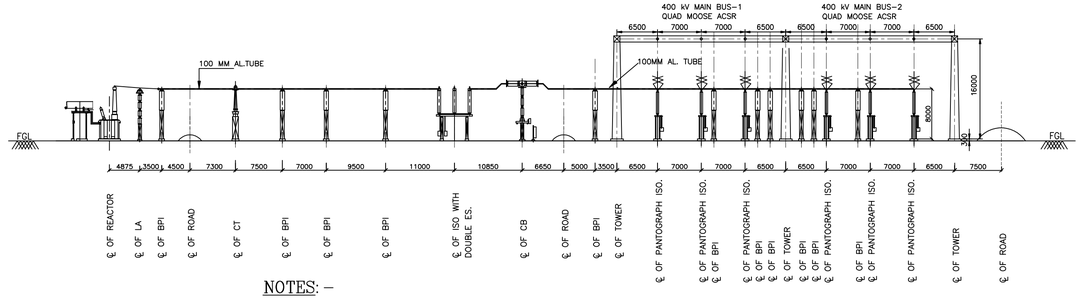
TOWERS

SL.NO.	TOWER DESIGNATION	STR. HEIGHT	QTY.
1	TA1	16000 MM	02
2	TB	16000 MM	01
3	LM	49500 MM	02

BEAMS

SL.NO.	BEAM DESIGNATION	BEAM WIDTH	QTY.
1	BM1	27000 MM	02

BUS POST INSULATOR	TOP PCD	BOTTOM PCD	QTY.
400kV	127 MM	300 MM	24



NOTES: –

1. ALL DIMENSIONS ARE MM UNLESS OTHERWISE SPECIFIED..
2. ALL HEIGHT ARE ABOVE PLINTH LEVEL UNLESS OTHERWISE SPECIFIED.
3. ———— PRESENT SCOPE
4. - - - - - - - - - - EXISTING
5. ALL NON–CURRENT CARRYING METAL PARTS ARE TO BE EARTHED AND CONNECTED TO GROUND MAT.
6. WHILE INSTALLING THE EQUIPMENTS CARE MAY BE ENSURED TO INSTALL THE BREAKER , CTs, ISOLATORS, SURGE ARRESTORS, STRUCTURES IN LINE WITH SIMILAR EQUIPMENTS OF ADJACENT BAYS WHERVER FEASIBLE.
7. CABLE DUCTS SHALL BE SHOWN SEPERATELY IN CABLE TRENCH DRAWING.
8. GROUND MAT IS TO BE PROVIDED FOR THE NEW REACTOR BAY IN CONSULTATION WITH SEE (R&D).
9. LA COMING BETWEEN RAIL TRACK AND REACTOR MUST HAVE REMOVABLE TYPE STEEL STRUCTURE SO THAT THESE CAN BE REMOVED WHEN REACTOR HAS TO BE TAKEN OUT FOR REPAIR/ REPLACEMENT.
10. LA PRESSURE RELIEF VALVE SHALL NOT BE TOWARDS REACTOR SIDE/ ANY EQUIPMENT KEPT NEAR SURGE ARRESTER.
11. FENCE SECTION F1–F2 SHALL BE DISMANTLED

REFERENCE DWG.

DWG.NO. KPTCL/TECH/SS–400/GTR–1(R1)
DWG.TITLE: DETAILED LAYOUT PLAN FOR PROVIDING BUS REACTOR AT 400/220/33 KV GUTTUR STATION

ADDITIONAL INFORMATION
W.O.No. 80009

STATUS OF DRAWING

DISTRIBUTION OF PRINTS

ग्राहक/परियोजना का नाम
NAME OF CUSTOMER/PROJECT

KARNATAKA POWER TRANSMISSION CORPORATION LIMITED
(INSTALLATION OF 1X63MVAR BUS REACTOR)

भारत हैवी इलेक्ट्रिकल्स लिमिटेड
ट्रांसमिशन परियोजना विभाग
BHARAT HEAVY ELECTRICALS LTD.
TRANSMISSION PROJECTS DIVISION

	NAME /नाम	SIGN./हस्ता.	DATE/दि.
DRAWN/बनाया	JUGENDRA	JUGENDRA	31.01.11
CHECKED/जाँचा	MM/DKM		
APPROVED/स्वीकृत	DS		

REV.	DATE		
02	29.09.11	ALTERED	RK
		CHECKED	MM/DKM
		APPROVED	RS
ZONE	NGR AND 120 KV LA REMOVED		
01	23.06.11	ALTERED	RK
		CHECKED	MM
		APPROVED	DKM
ZONE	DRAWING REVISED DUE TO CHANGE IN LAYOUT BY KPTCL		

विभाग/DEPT.
कोड/CODE
अनुपात / SCALE
कार्ड कोड/CARD CODE

शीर्षक/TITLE
LAYOUT PLAN & SECTION FOR MODIFICATION WORKS AT 400/220KV S/S GUTTUR

ड्राईंग क्र./DRAWING NO. TB–2–342–316–002A
पुनः/REV. 02
पृष्ठ क्र./SHEET No. 01
अगला पृष्ठ/NEXT SHEET ––

INVENTORY No. | SIGN. & DATE | REF. DRG. No.

FIRST ANGLE PROJECTION (ALL DIMENSIONS ARE IN MM.)

DRAWING No. TB-2-342-316-002

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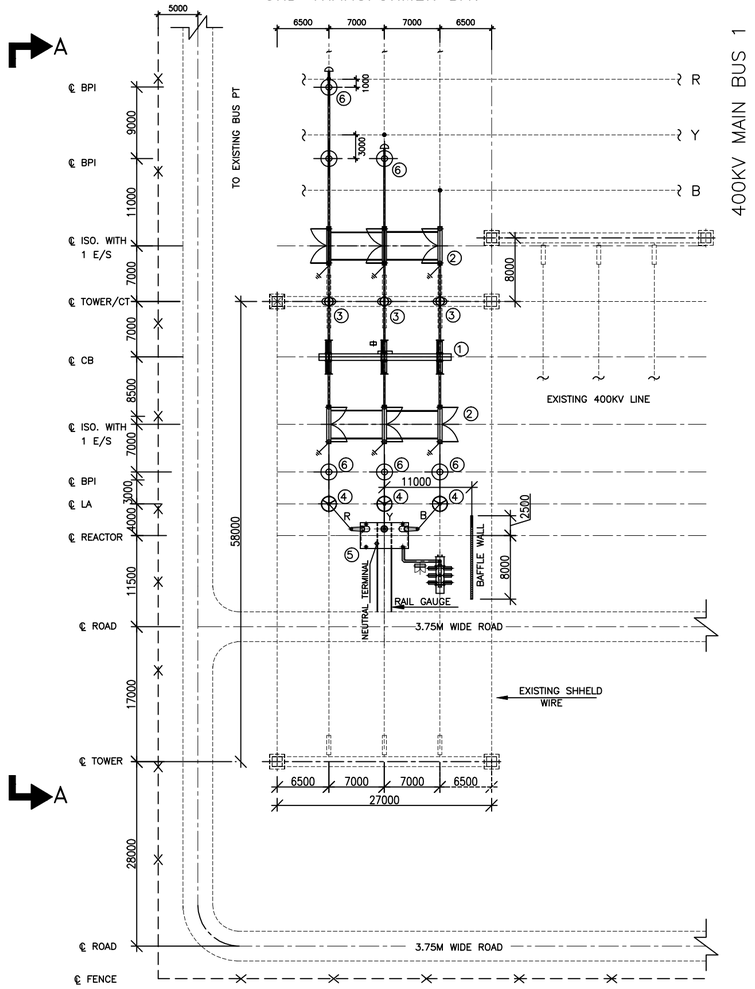
COMPUTER DRG. PATH NAME :

INVENTORY No. | SIGN. & DATE | REF. DRG. No.

EXISTING 220/400KV
3RD TRANSFORMER BAY



SCHEDULE OF EQUIPMENT

S.NO.	DESCRIPTION	SYMBOL	QTY.
1	400 kV, 2000A, 40 KA FOR 1 SEC, 3-PH SF6 CIRCUIT BREAKER WITHOUT CLOSING RESISTOR		01
2	400kV, 3150A, 40kA FOR 1 SEC, 3-PH. CENTRE BREAK ISOLATOR WITH ONE EARTH SWITCH		02
3	400kV, 2000/1-1A & 500/1-1-1A, 40kA FOR 1 SEC CURRENT TRANSFORMER		03
4	390kV, 10kA Class-3 SURGE ARRESTER		03
5	63MVAR, 400KV REACTOR		01
6	400 kV POST INSULATORS		06

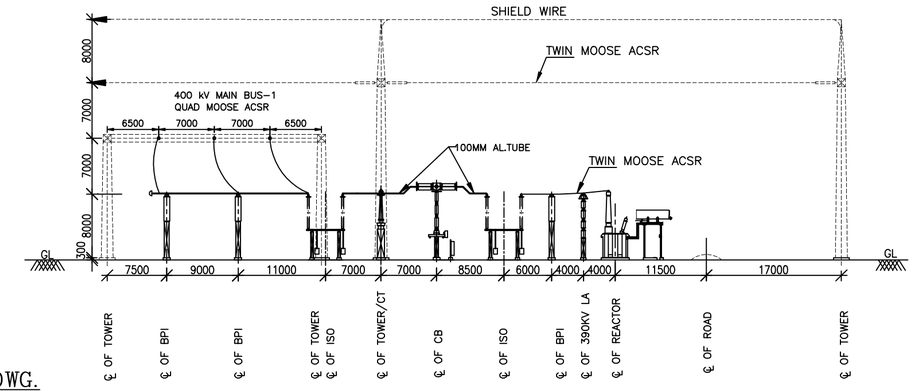
PARTICULARS		400KV
1.	BASIC INSULATION LEVEL (KV)	1425 KV
2.	MINIMUM CLEARANCE	
	(a) B/W PHASES (FOR RIGID BUS)	4000 MM
	(b) B/W PHASES (FOR STRUNG BUS)	4000 MM
	(c) B/W PHASES TO EARTH	3500 MM
3.	(a) BAY WIDTH	27000 MM
	(b) HEIGHT OF MAIN BUS	15000 MM
	(C) HEIGHT OF JACK BUS	22000 MM
4.	HEIGHT OF LIVE POINT OF VARIOUS EQUIPMENTS ISOLATOR, CT, BREAKER ETC.	8000 MM
5.	POWER FREQUENCY WITH STAND VOLTAGE	630 KV
6.	CREPAGE DISTANCE	10500 MM
7.	SECTIONAL CLEARANCE	6500 MM

CONDUCTOR-ALUMINIUM TUBE-100MM		
1.	NOMINAL SIZE	100 MM
2.	OUTER DIAMETER	114.2 MM
3.	INNER DIAMETER	97.18 MM
4.	WALL THICKNESS	8.51 MM
5.	CROSS SECTION	2825.61SQMM
6.	MAX. DC RESIST AT 20° C	–
7.	CURRENT RATING AT OUTDOOR	3150
8.	WEIGHT PER UNIT LENGTH	7.7 KG/M
9.	GRADE OF ALUMINIUM.	63401 WP (RANGE 2) AS PER IS 5082

CONUCTOR - MOOSE		
1.	STANDING AND WIRE DIAMETER	54/3.53(AL) +7/3.53(STEEL)
2.	SECTIONAL AREA OF ALUMINIUM	528.5 SQ.MM.
3.	TOTAL SECTIONAL AREA	597.00 SQ.MM.
4.	OVERALL DIA	31.77 MM.
5.	WEIGHT (APPROX.)	2004 KG/M
6.	DC RESISTANCE AT 20°C	0.05552 OHM/KM
7.	MINIMUM U.T.S.	161.2 KN

EQUIPMENTS STRUCTURE QUANTITY		
1.	400kV CT STRUCTURE (1Ph)	03
2.	LA STRUCTURE-390kV (1Ph)	03
3.	ISOLATOR STRUCTURE (3Ph)	02
4.	BPI STRUCTURE	06

BUS POST INSULATOR	TOP PCD	BOTTOM PCD	QTY.
400kV	127 MM	300 MM	06



SECTION A-A

REFERENCE DWG.

DWG.NO.: KPTCL/TECH/SS-400/TLE-1
DWG.TITLE: LAYOUT PLAN FOR MODIFICATION
WORKS AT 400/220 KV S/S TALAGUPPA

NOTES: -

1. ALL DIMENSIONS ARE MM UNLESS OTHERWISE SPECIFIED..
2. ALL HEIGHT ARE ABOVE PLINTH LEVEL UNLESS OTHERWISE SPECIFIED.
3. ———— PRESENT SCOPE
4. ---------- EXISTING
5. ALL NON-CUUENT CARRYING METAL PARTS ARE TO BE EARTHED AND CONNECTED TO GROUND MAT.
6. WHILE INSTALLING THE EQUIPMENTS CARE MAY BE ENSURED TO INSTALL THE BREAKER , CTs, ISOLATORS, SURGE ARRESTORS, STRUCTURES IN LINE WITH SIMILAR EQUIPMENTS OF ADJACENT BAYS WHERVER FEASIBLE.
7. CABLE DUCTS SHALL BE SHOWN SEPERATELY IN CABLE TRENCH DRAWING.
8. GROUND MAT IS TO BE PROVIDED FOR THE NEW REACTOR BAY IN CONSULTATION WITH SEE (R&D).
9. LA PRESSURE RELIEF VALVE SHALL NOT BE TOWARDS REACTOR SIDE/ ANY EQUIPMENT KEPT NEAR SURGE ARRESTER.

REV.	DATE		REV.	DATE		REV.	DATE		REV.	DATE		REV.	DATE	
		ALTERED			ALTERED			ALTERED			ALTERED RK			ALTERED RK
		CHECKED			CHECKED			CHECKED	02	25.08.11	CHECKED MM/DKM	01	10.06.11	CHECKED MM
		APPROVED			APPROVED			APPROVED			APPROVED RS			APPROVED DKM
ZONE			ZONE			ZONE			ZONE		NGR & 120 KV LA REMOVED	ZONE		DWG. REVISED AS PER CUSTOMER COMMENTS DATED 21.05.11

ADDITIONAL INFORMATION
W.O.No. 80009
STATUS OF DRAWING
DISTRIBUTION OF PRINTS

ग्राहक/परियोजना का नाम NAME OF CUSTOMER/PROJECT: KARNATAKA POWER TRANSMISSION CORPORATION LIMITED (INSTALLATION OF 1X63MVAR BUS REACTOR)

BHEL भारत हेवी इलेक्ट्रिकल्स लिमिटेड
ट्रांसमिशन परियोजना विभाग
BHARAT HEAVY ELECTRICALS LTD.
TRANSMISSION PROJECTS DIVISION

	नाम /NAME	हस्ता./SIGN.	दि./DATE
बनाया DRAWN	JUGENDRA	JUGENDRA	31.01.11
जाँचा CHECKED	MM/DKM	-SD-	25.03.11
स्वीकृत APPROVED	DS	-SD-	25.03.11

विभाग DEPT. | कोड CODE | अनुपात / SCALE | कार्ड कोड CARD CODE

शीर्षक/TITLE: LAYOUT PLAN & SECTION FOR MODIFICATION WORKS AT 400/220KV S/S TALAGUPPA

ड्रॉइंग क्र./DRAWING NO. TB-2-342-316-002 | पुनः/REV. 02

पृष्ठ क्र./SHEET No. 01 | अगला पृष्ठ/NEXT SHEET --