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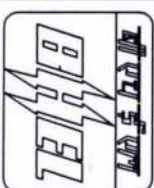
8 - Type Of Core - Single Phase Elliptical Yoke Core
Holes on Top Yoke for guiding during core building

Core Dia	= 1300.0	Leg Length	= 2990.0
Dist bet Outer Legs	= 3555.0		
No of Oil ducts	= 7	No of steps	= 32
Yoke Holes/Window	= 2	Yoke Hole Pitch	= 540.0
Space Factor	= 0.985	Top Clearance	= 45.0
Hole Punch Dia	= 29.0	Scrap Factor	= 2.5%
Blading	= 2/2	Grade of Core Steel	= ZDKH85/0.23
		(BIS Grade: 23HP85d)	

Notes :

- 1 - Laminations to be cut with max dimensions along the grain
- 2 - For tolerances and burr level on laminations, refer Std Sht TR10141C
- 3 - All cores are to be built up with mitre joints and mitring to be at 45 degrees
- 4 - Each packet to be built with 2 laminations per layer alternately as per P and Q arrgts.
- 5 - Bind the core with polyester resin impreg. wetless glass tape (to AA25716) after putting core to coil packing in position. Each band shall consist of 3 turns of 0.4 tk or 4 turns of 0.3 tk polyester impreg. wetless glass tape. For detailed instructions regarding core leg clamping/taping/banding refer Std Sht TR10142C
- 6 - No of Tape bands = 21, Tape Pitch = 137 mm
Distance of first band from bottom = 100 mm
Refer drg no. 3499700065 for arrgt of ceramic spacers on core and yoke laminations to provide oil duct
- 7 - Assembled core to be tested between core and clamping structure at 2 kV AC for one minute unless otherwise specified

INVENTORY NO. SIGN AND DATE REF DRG NO.

DISTRIBUTION OF PRINTS
V.D. 61229A52001, 62214A52001

BHARAT HEAVY ELEC. LTD

BHEL PAL

REV. DATE
ALTERED
CHECKED
APPROVEDDEPT. TRE
UNIT/DIV/SUB.
CODE 406SCALE
N.T.S.

WEIGHT

REF. TO ASSY. DRG.

IT/NO

NO.

TITLE

Core Dimensions

500 MVA, 765KV ICT, PGCL NARELA & NAVSARI

DRAWING NO

34987000210

REV

00

SHT NO.

1

NO OF SHTS

17

SIZE A3

0120004864E

ION DRG

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NO.	PKT-THK	DUCT	PKT.HT	LEGLAM	YOKLAM	ALEGLAM
1	74	2	76.0	1290.0	645.0	645.0
2	34		110.0	1280.0	640.0	640.0
3	25		135.0	1270.0	635.0	635.0
4	18	4	157.0	1260.0	630.0	630.0
5	35		192.0	1240.0	620.0	620.0
6	30		222.0	1220.0	610.0	610.0
7	25		247.0	1200.0	600.0	600.0
8	23		270.0	1180.0	590.0	590.0
9	21		291.0	1160.0	580.0	580.0
10	15	4	310.0	1140.0	570.0	570.0
11	17		327.0	1120.0	560.0	560.0
12	17		344.0	1100.0	550.0	550.0
13	15		359.0	1080.0	540.0	540.0
14	15		374.0	1060.0	530.0	530.0
15	13		387.0	1040.0	520.0	520.0
16	13		400.0	1020.0	510.0	510.0
17	18		418.0	990.0	495.0	495.0
18	17		435.0	960.0	480.0	480.0

NO.	PKT-THK	DUCT	PKT.HT	LEGLAM	YOKLAM	ALEGLAM
19	16		451.0	930.0	465.0	465.0
20	11	4	466.0	900.0	450.0	450.0
21	14		480.0	870.0	435.0	435.0
22	13		493.0	840.0	420.0	420.0
23	12		505.0	810.0	405.0	405.0
24	12		517.0	780.0	390.0	390.0
25	11		528.0	750.0	375.0	375.0
26	14		542.0	710.0	355.0	355.0
27	12		554.0	670.0	335.0	335.0
28	12		566.0	630.0	315.0	315.0
29	10		576.0	590.0	295.0	295.0
30	10		586.0	550.0	275.0	275.0
31	9		595.0	510.0	255.0	255.0
32	7		602.0	470.0	235.0	235.0

Cross section Area- Gross, sq.cm Net, sq.cm

Main Leg 12453.2 12266.4

Main Yoke 6228.0 6134.6

Aux Leg 6228.0 6134.6

DISTRIBUTION OF PRINTS

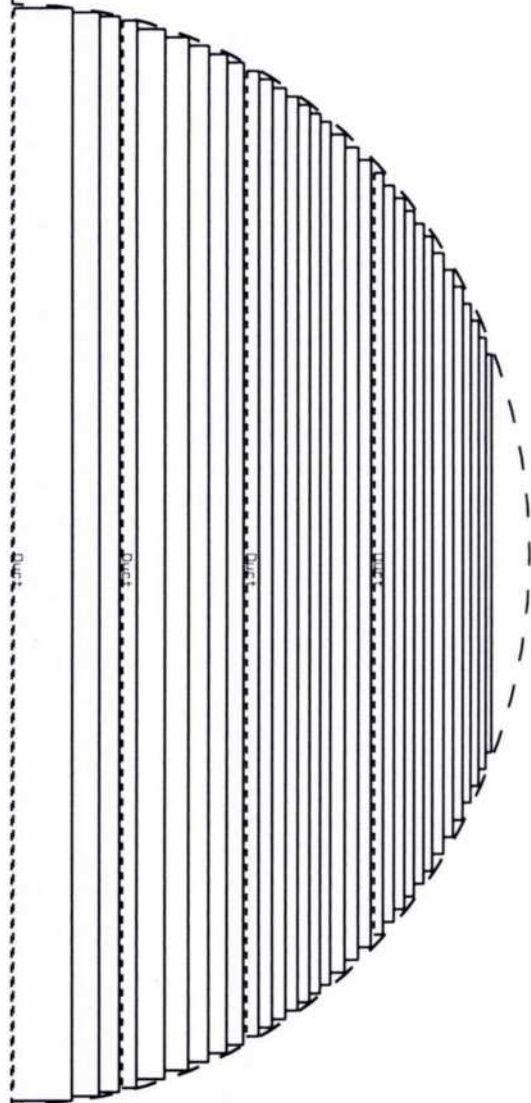
W.O: 61229A52001, 62214A52001

		BHARAT HEAVY ELEC. LTD	
BHOPAL			
DRN	PP	NAME	SIGN
CKD	SS		DATE
APPD	RKS		NO. OF VAR
REF. TO ASSY. DRG.		IT. NO.	

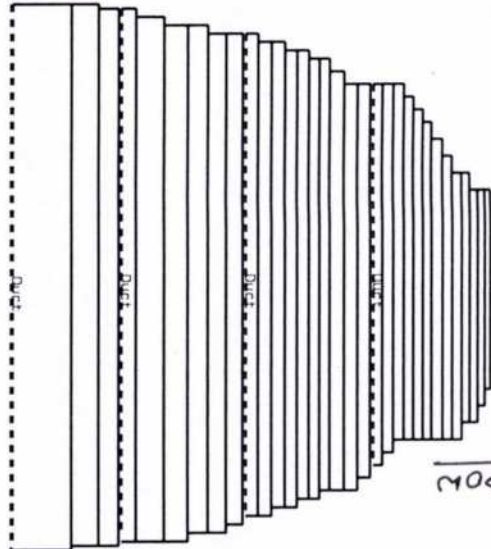
REV.	DATE	ALTERED	CHECKED	APPROVED
ZONE				
TITLE				
Core Laminations				
500MVA, 765KV ICT, PGCL NARELA & NAVSARI				
DRAWING NO			REV	
34987000210			00	
SHT NO: 2			NO OF SHTS: 17	

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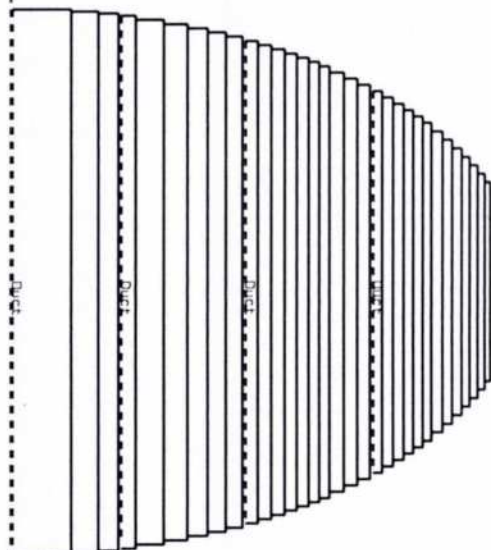
DRG. NO.



Main Leg cross section



Main Yoke cross sect



Aux Leg cross sect

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INVENTORY NO. SIGN AND DATE REF DRG NO.

DISTRIBUTION OF PRINTS
W.O: 61229A52001,62214A52001



BHARAT HEAVY ELEC. LTD

BHOPAL

REV. DATE
ZONE

DEPT. TIRE
CODE
TITLE
Cross sections
500MVA, 765KV ICT; PGCIL NARELA & NAVSARI

SCALE
N.T.S

WEIGHT
APPROD

REF. TO ASSY. DRG.
IT. NO.

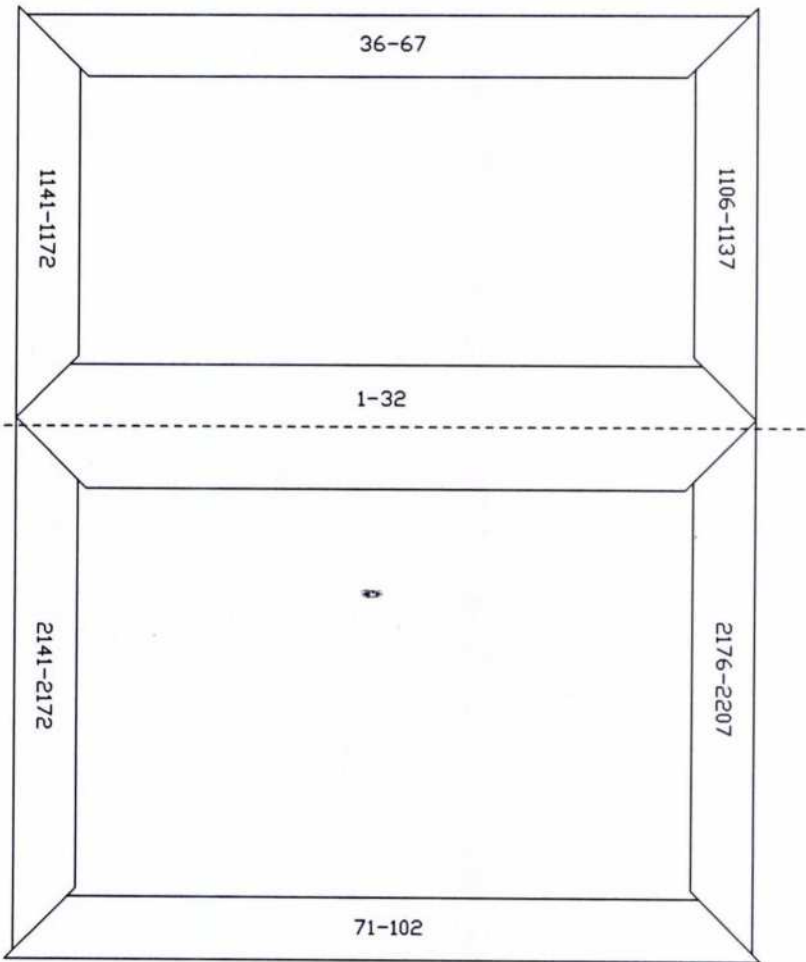
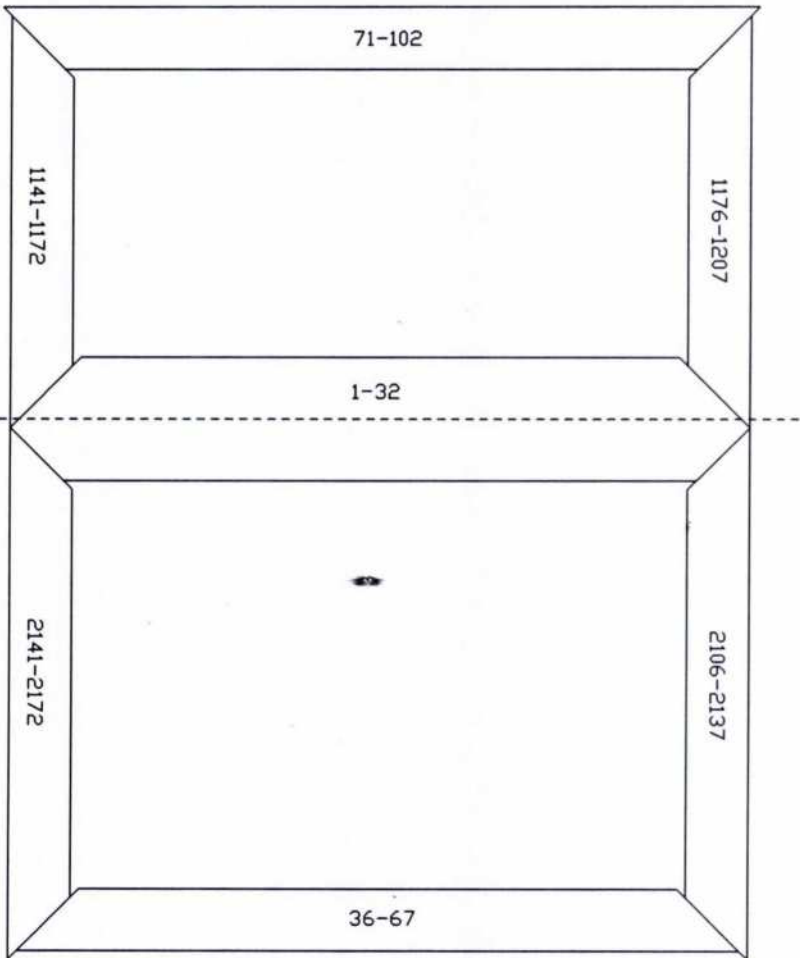
DRN	PP	NAME	SIGN	DATE	NO. OF VAR
CKD	SS			24/8/22	
APPROD	RKS			31/8/22	

DRAWING NO
34987000210
REV
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DRG NO.

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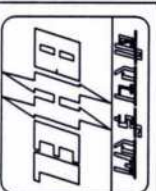
NOTE : -

For items 1 to 32, each of the items with lamination width greater than 750 mm appears in two split parts, Part A and Part B and item nos. are suffixed by A and B respectively. However for lamination width less than 750 mm the items appear as single parts only and so item nos. do not have suffixes.

INVENTORY NO.	SIGN AND DATE	REF DRG NO.
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REV.		DATE	ALTERED
CHECKED			APPROVED
ZONE			

DISTRIBUTION OF PRINTS	
V.D. 61229A52001, 62214A52001	



BHARAT HEAVY ELEC. LTD

BHOPAL

DEPT	UNIT/DIVISION	SCALE	WEIGHT
TRE		N.T.S	
CODE			
406			

NAME	SIGN	DATE	NO. OF VAR
PP		24/8/22	
SS		20/8/22	
RKS		31/8/22	

REF. TO ASSY. DRG.

NO.

TITLE

Core Laying arrgt.

500 MVA, 765KV ICT, PGCL NARELA & NAVSARI

DRAWING NO

34987000210

REV
00

SHT NO.

4

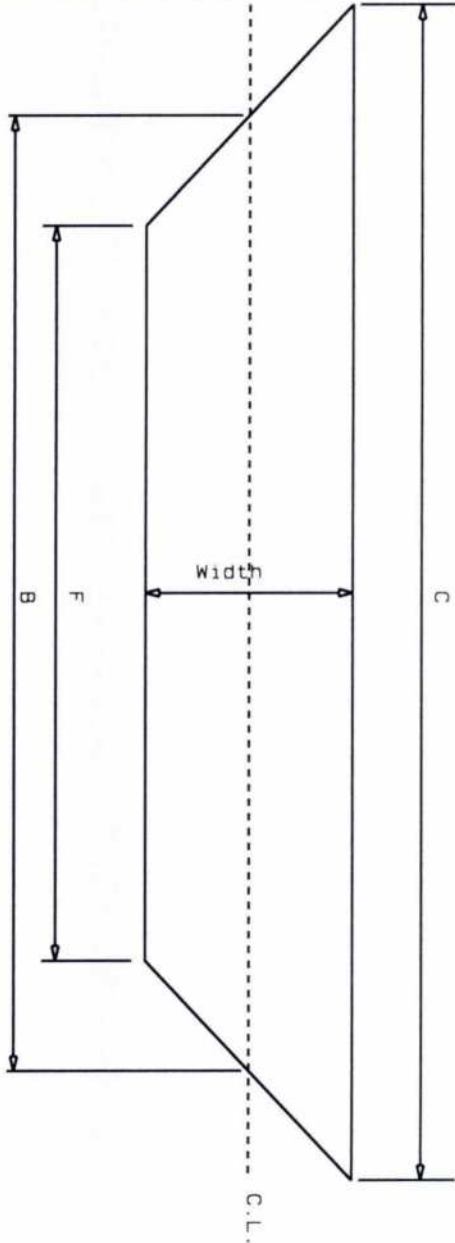
NO OF SHTS.

17

SIZE A3

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DRG. NO.



Item Width Thick B C F Weight

1A	630.0	148	3650.0	4280.0	3020.0	2564.4
2A	625.0	68	3655.0	4280.0	3030.0	1170.5
3A	620.0	50	3650.0	4270.0	3030.0	852.6
4A	615.0	36	3655.0	4270.0	3040.0	609.8
5A	605.0	70	3645.0	4250.0	3040.0	1163.2
6A	595.0	60	3635.0	4230.0	3040.0	977.8
7A	585.0	50	3645.0	4230.0	3060.0	803.4
8A	575.0	46	3635.0	4210.0	3060.0	724.5
9A	565.0	42	3645.0	4210.0	3080.0	651.8
10A	555.0	30	3655.0	4210.0	3100.0	458.6
11A	545.0	34	3645.0	4190.0	3100.0	508.9
12A	535.0	34	3655.0	4190.0	3120.0	501.0
13A	525.0	30	3645.0	4170.0	3120.0	432.6
14A	515.0	30	3655.0	4170.0	3140.0	425.5
15A	505.0	26	3645.0	4150.0	3140.0	360.6
16A	495.0	26	3655.0	4150.0	3160.0	354.5
17A	480.0	36	3640.0	4120.0	3160.0	474.0
18A	465.0	34	3625.0	4090.0	3160.0	431.9

Item Width Thick B C F Weight

19A	450.0	32	3640.0	4090.0	3190.0	395.0
20A	435.0	22	3655.0	4090.0	3220.0	263.6
21A	420.0	28	3670.0	4090.0	3250.0	325.2
22A	405.0	26	3685.0	4090.0	3280.0	292.4
23A	390.0	24	3670.0	4060.0	3280.0	258.8
24A	375.0	24	3655.0	4030.0	3280.0	247.9

Total 15248.3

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INVENTORY NO.

SIGN AND DATE

REF DRG NO.

DISTRIBUTION OF PRINTS

W.O: 61229A52001, 62244A52001



BHARAT HEAVY ELEC. LTD

BHOPAL

REV.	DATE	ALTERED
		CHECKED
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DEPT	UNTOL. DIMS. GR.
TRE	
CODE	



SCALE
N.T.S

WEIGHT

REF. TO ASSY. DRG.

IT. NO

NO.

TITLE

Main Leg Laminations

500MVA, 765KV ICT, PGCL NARELA & NAUSARI

DRAWING NO

34987000210

REV

00

SHT NO:

5

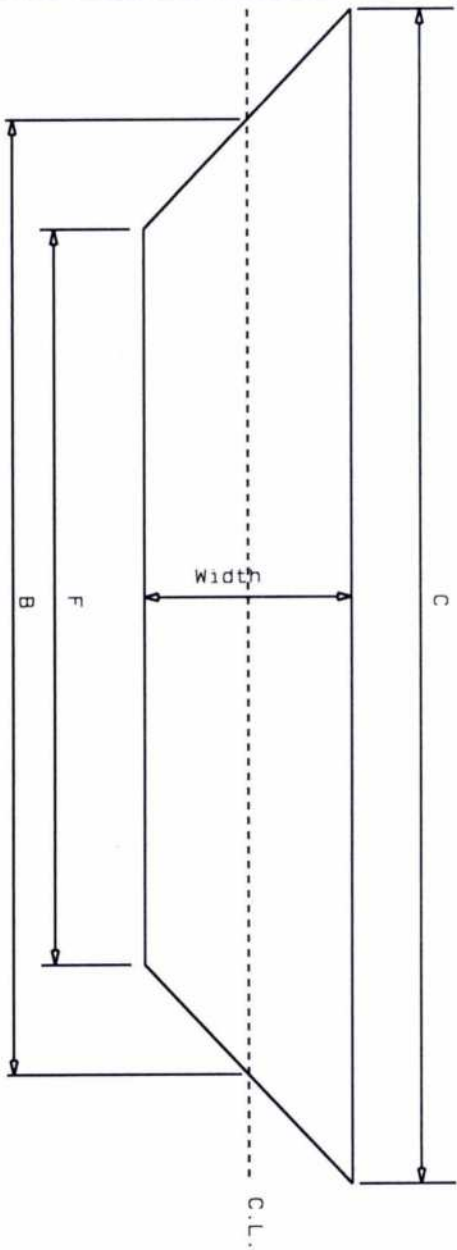
NO OF SHTS:

17

SIZE A3

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CON. DRG.



Item Width Thick B C F Weight

1B	660.0	148	3620.0	4280.0	2960.0	2664.5
2B	655.0	68	3625.0	4280.0	2970.0	1216.6
3B	650.0	50	3620.0	4270.0	2970.0	886.5
4B	645.0	36	3625.0	4270.0	2980.0	634.3
5B	635.0	70	3615.0	4250.0	2980.0	1210.8
6B	625.0	60	3605.0	4230.0	2980.0	1018.7
7B	615.0	50	3615.0	4230.0	3000.0	837.6
8B	605.0	46	3605.0	4210.0	3000.0	756.0
9B	595.0	42	3615.0	4210.0	3020.0	680.7
10B	585.0	30	3625.0	4210.0	3040.0	479.4
11B	575.0	34	3615.0	4190.0	3040.0	532.5
12B	565.0	34	3625.0	4190.0	3060.0	524.7
13B	555.0	30	3615.0	4170.0	3060.0	453.5
14B	545.0	30	3625.0	4170.0	3080.0	446.6
15B	535.0	26	3615.0	4150.0	3080.0	378.9
16B	525.0	26	3625.0	4150.0	3100.0	372.9
17B	510.0	36	3610.0	4120.0	3100.0	499.4
18B	495.0	34	3595.0	4090.0	3100.0	455.9

Item Width Thick B C F Weight

19B	480.0	32	3610.0	4090.0	3130.0	417.8
20B	465.0	22	3625.0	4090.0	3160.0	279.4
21B	450.0	28	3640.0	4090.0	3190.0	345.6
22B	435.0	26	3655.0	4090.0	3220.0	311.5
23B	420.0	24	3640.0	4060.0	3220.0	276.5
24B	405.0	24	3625.0	4030.0	3220.0	265.5

Total 15946.0

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INVENTORY NO.

SIGN AND DATE

REF DRG NO.

DISTRIBUTION OF PRINTS

W.O: 61229A52001, 62244A52001



BHARAT HEAVY ELEC. LTD

BHOPAL

DRN	PP	SIGN	DATE	NO. OF VAR
CKD	SS		20/8/22	
APPO	RKS		31/8/22	

REF. TO ASSY. DRG.

IT. NO.

NO.

REV.

DATE

ALTERED

CHECKED

APPROVED

ZONE

TITLE

Main Leg Laminations

500MVA, 765KV ICT; PGCIL NARELA NAVSARI

DRAWING NO

34987000210

REV

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SHT. NO:

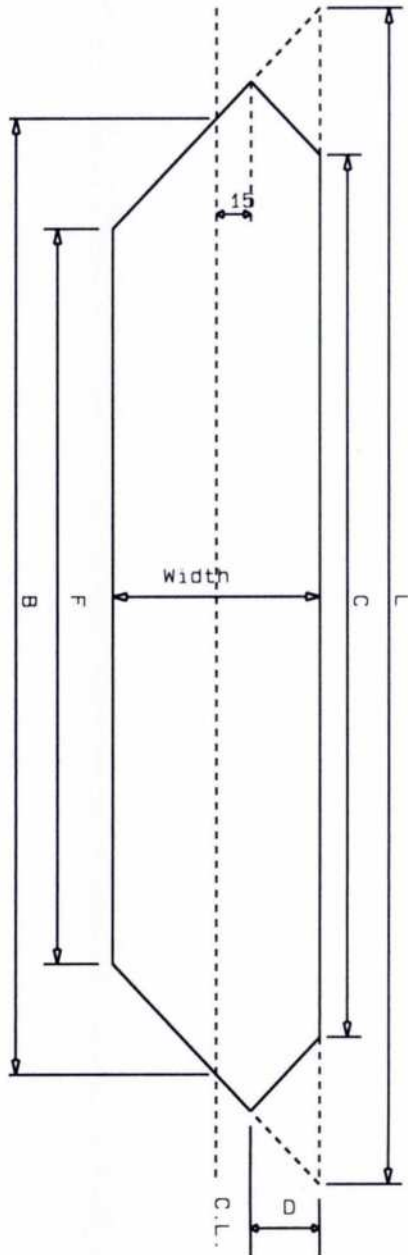
6

NO OF SHTS: 17

SIZE A3

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DRG. NO.

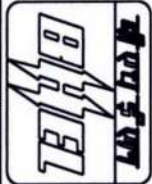


Item	Width	Thick	B	C	L	D	F	Wt-Pnch	Wt-Cut
25	750.0	22	3970.0	3280.0	4720.0	360.0	3220.0	450.6	493.6
26	710.0	28	3930.0	3280.0	4640.0	340.0	3220.0	539.9	588.7
27	670.0	24	3890.0	3280.0	4560.0	320.0	3220.0	434.3	471.3
28	630.0	24	3850.0	3280.0	4480.0	300.0	3220.0	406.1	438.6
29	590.0	20	3850.0	3320.0	4440.0	280.0	3260.0	318.7	342.3
30	550.0	20	3810.0	3320.0	4360.0	260.0	3260.0	295.4	315.8
31	510.0	18	3810.0	3360.0	4320.0	240.0	3300.0	247.9	263.6
32	470.0	14	3810.0	3400.0	4280.0	220.0	3340.0	170.9	172.7
Total									2863.9 3086.7

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INVENTORY NO. SIGN AND DATE REF DRG NO.

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BHARAT HEAVY ELEC. LTD

BHOPAL

DRN	NAME	SIGN	DATE	NO. OF VAR
PP			24/8/12	
SS			20/8/12	
RKS			30/8/12	

REF. TO ASSY. DRG.

IT. NO.

NO.

REV.	DATE	ALTERED
		CHECKED
		APPROVED

DEPT	UNTOL. DIMS. GR.
TRE	
CODE	SCALE
405	N.T.S



TITLE

Main Leg Laminations

500MVA, 765KV ICT; PGCL NARELA & NAVSARI

DRAWING NO

34987000210

REV

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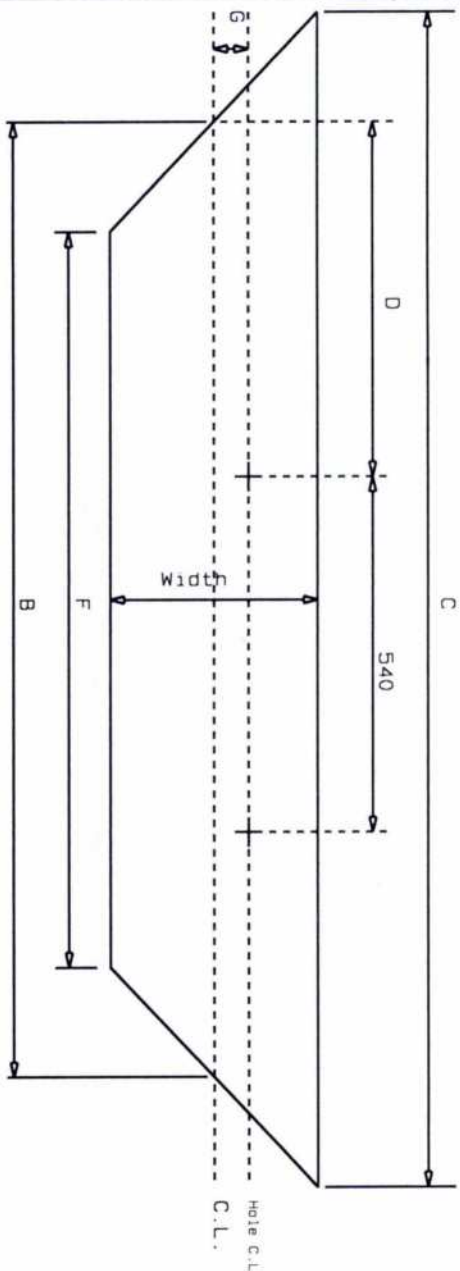
SHT NO: 7

NO OF SHTS: 17

SIZE A3

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DRG. NO.



It	Width	Thick	B	C	D	G	F	Wt-Cut
1106	645.0	74	1570.0	2215.0	367.5	0.0	925.0	564.7
1107	640.0	34	1572.5	2212.5	370.0	-2.5	932.5	257.9
1108	635.0	25	1575.0	2210.0	372.5	0.0	940.0	188.4
1109	630.0	18	1577.5	2207.5	375.0	-2.5	947.5	134.8
1110	620.0	35	1582.5	2202.5	380.0	2.5	962.5	258.8
1111	610.0	30	1587.5	2197.5	385.0	7.5	977.5	218.9
1112	600.0	25	1592.5	2192.5	390.0	2.5	992.5	180.0
1113	590.0	23	1597.5	2187.5	395.0	7.5	1007.5	163.4
1114	580.0	21	1602.5	2182.5	400.0	2.5	1022.5	147.1
1115	570.0	15	1607.5	2177.5	405.0	-2.5	1037.5	103.6
1116	560.0	17	1612.5	2172.5	410.0	2.5	1052.5	115.7
1117	550.0	17	1617.5	2167.5	415.0	-2.5	1067.5	113.9
1118	540.0	15	1622.5	2162.5	420.0	2.5	1082.5	99.1
1119	530.0	15	1627.5	2157.5	425.0	-2.5	1097.5	97.5
1120	520.0	13	1632.5	2152.5	430.0	2.5	1112.5	83.2
1121	510.0	13	1637.5	2147.5	435.0	-2.5	1127.5	81.8
1122	495.0	18	1645.0	2140.0	442.5	5.0	1150.0	110.5
1123	480.0	17	1652.5	2132.5	450.0	12.5	1172.5	101.6

1124	465.0	16	1660.0	2125.0	457.5	5.0	1195.0	93.1
1125	450.0	11	1667.5	2117.5	465.0	-2.5	1217.5	62.2
1126	435.0	14	1675.0	2110.0	472.5	-10.0	1240.0	76.9
1127	420.0	13	1682.5	2102.5	480.0	-17.5	1262.5	69.2
1128	405.0	12	1690.0	2095.0	487.5	-10.0	1285.0	61.9
1129	390.0	12	1697.5	2087.5	495.0	-2.5	1307.5	59.9
1130	375.0	11	1705.0	2080.0	502.5	5.0	1330.0	53.0
1131	355.0	14	1715.0	2070.0	512.5	15.0	1360.0	64.3
1132	335.0	12	1725.0	2060.0	522.5	25.0	1390.0	52.3
1133	315.0	12	1735.0	2050.0	532.5	35.0	1420.0	49.4
1134	295.0	10	1745.0	2040.0	542.5	25.0	1450.0	38.8
1135	275.0	10	1755.0	2030.0	552.5	35.0	1480.0	36.4
1136	255.0	9	1765.0	2020.0	562.5	25.0	1510.0	30.5
1137	235.0	7	1775.0	2010.0	572.5	15.0	1540.0	22.0
Total								3790.2

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INVENTORY NO. SIGN AND DATE REF DRG NO.

Note: Following items with negative value of G to have bolt Hole C.L. below lamination C.L. i.e., opposite to that shown on figure 1107 1109 1115 1117 1119 1121 1125 1126 1127 1128 1129

DISTRIBUTION OF PRINTS

W.O: 61229A52001,62214A51201



BHARAT HEAVY ELEC. LTD

BHOPAL

NAME	SIGN	DATE	NO. OF VAR
PP		24/8/22	
SS		29/8/22	
RKS		31/8/22	

REF. TO ASSY. DRG.

IT. NO.

NO.

REV.	DATE	ALTERED
		CHECKED
		APPROVED

DEPT	UNIT. DIMS. GR.	SCALE	WEIGHT
TRE		N.T.S.	
CODE			

TITLE

Yoke Laminations

500MVA, 765KV ICT, PGCL NARELA L NAVSARI

DRAWING NO

34987000210

REV

00

SHT. NO.

B

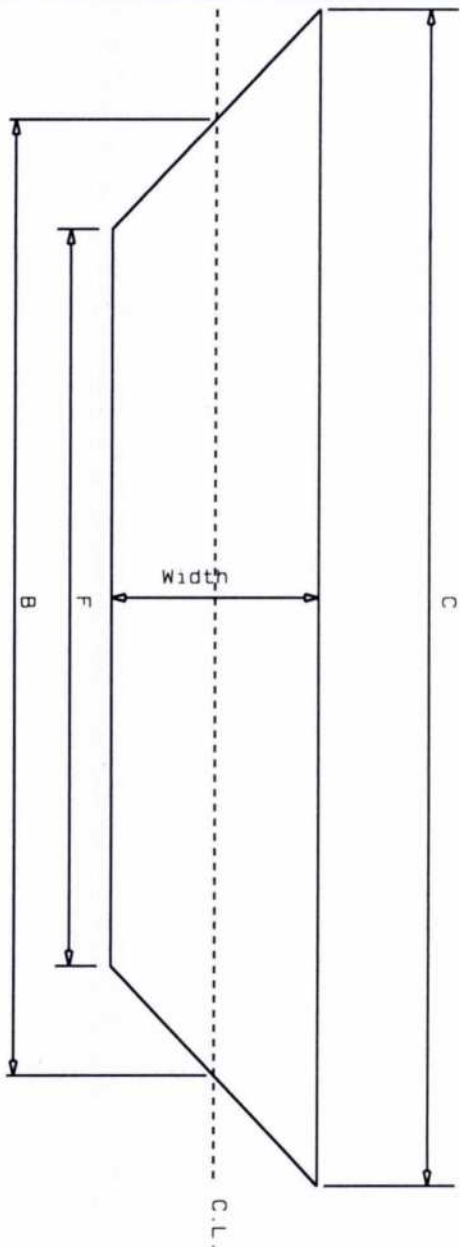
NO OF SHTS.

17

SIZE A3

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DRG. NO.



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It	Width	Thick	B	C	F	Wt-Cut
1141	645.0	148	1570.0	2215.0	925.0	1129.3
1142	640.0	68	1572.5	2212.5	932.5	515.7
1143	635.0	50	1575.0	2210.0	940.0	376.8
1144	630.0	36	1577.5	2207.5	947.5	269.6
1145	620.0	70	1582.5	2202.5	962.5	517.5
1146	610.0	60	1587.5	2197.5	977.5	437.8
1147	600.0	50	1592.5	2192.5	992.5	360.0
1148	590.0	46	1597.5	2187.5	1007.5	326.7
1149	580.0	42	1602.5	2182.5	1022.5	294.2
1150	570.0	30	1607.5	2177.5	1037.5	207.1
1151	560.0	34	1612.5	2172.5	1052.5	231.3
1152	550.0	34	1617.5	2167.5	1067.5	227.9
1153	540.0	30	1622.5	2162.5	1082.5	198.1
1154	530.0	30	1627.5	2157.5	1097.5	195.0
1155	520.0	26	1632.5	2152.5	1112.5	166.3
1156	510.0	26	1637.5	2147.5	1127.5	163.6
1157	495.0	36	1645.0	2140.0	1150.0	220.9
1158	480.0	34	1652.5	2132.5	1172.5	203.2

1159	465.0	32	1660.0	2125.0	1195.0	186.2
1160	450.0	22	1667.5	2117.5	1217.5	124.4
1161	435.0	28	1675.0	2110.0	1240.0	153.7
1162	420.0	26	1682.5	2102.5	1262.5	138.4
1163	405.0	24	1690.0	2095.0	1285.0	123.8
1164	390.0	24	1697.5	2087.5	1307.5	119.7
1165	375.0	22	1705.0	2080.0	1330.0	106.0
1166	355.0	28	1715.0	2070.0	1360.0	128.5
1167	335.0	24	1725.0	2060.0	1390.0	104.5
1168	315.0	24	1735.0	2050.0	1420.0	98.8
1169	295.0	20	1745.0	2040.0	1450.0	77.6
1170	275.0	20	1755.0	2030.0	1480.0	72.7
1171	255.0	18	1765.0	2020.0	1510.0	61.0
1172	235.0	14	1775.0	2010.0	1540.0	44.0
Total			7580.4			

SIGN AND DATE

REF DRG NO.

INVENTORY NO.

DISTRIBUTION OF PRINTS

W.O: 61229A52001, 62214A52001



BHARAT HEAVY ELEC. LTD

BHOPAL

DRN	NAME	SIGN	DATE	NO. OF VAR
PP			24/8/14	
SS			20/8/14	
RKS			31/8/12	

REF. TO ASSY. DRG.

IT. NO

NO.

REV. DATE

ALTERED

CHECKED

APPROVED

ZONE

TITLE

Yoke Laminations

500MVA, 765KV ICT, PGIL NARELA & NAUSARI

DRAWING NO

34987000210

REV

00

SHT NO:

9

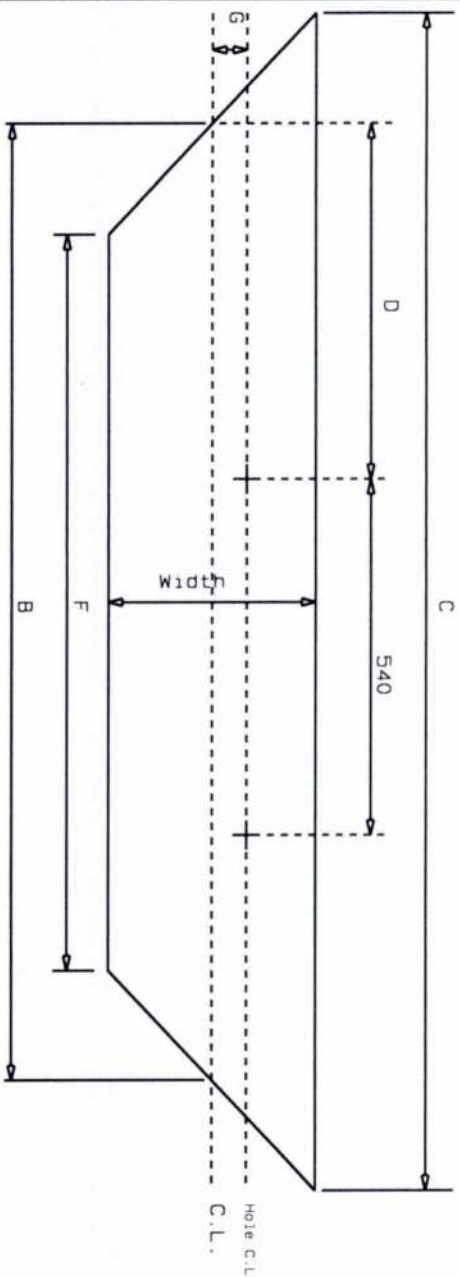
NO OF SHTS:

17

SIZE A3

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DRG NO.



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It	Width	Thick	B	C	D	G	F	Wt-Cut
1176	645.0	74	1570.0	2215.0	397.5	0.0	925.0	564.7
1177	640.0	34	1572.5	2212.5	400.0	-2.5	932.5	257.9
1178	635.0	25	1575.0	2210.0	402.5	0.0	940.0	188.4
1179	630.0	18	1577.5	2207.5	405.0	-2.5	947.5	134.8
1180	620.0	35	1582.5	2202.5	410.0	2.5	962.5	258.8
1181	610.0	30	1587.5	2197.5	415.0	7.5	977.5	218.9
1182	600.0	25	1592.5	2192.5	420.0	2.5	992.5	180.0
1183	590.0	23	1597.5	2187.5	425.0	7.5	1007.5	163.4
1184	580.0	21	1602.5	2182.5	430.0	2.5	1022.5	147.1
1185	570.0	15	1607.5	2177.5	435.0	-2.5	1037.5	103.6
1186	560.0	17	1612.5	2172.5	440.0	2.5	1052.5	115.7
1187	550.0	17	1617.5	2167.5	445.0	-2.5	1067.5	113.9
1188	540.0	15	1622.5	2162.5	450.0	2.5	1082.5	99.1
1189	530.0	15	1627.5	2157.5	455.0	-2.5	1097.5	97.5
1190	520.0	13	1632.5	2152.5	460.0	2.5	1112.5	83.2
1191	510.0	13	1637.5	2147.5	465.0	-2.5	1127.5	81.8
1192	495.0	18	1645.0	2140.0	472.5	5.0	1150.0	110.5
1193	480.0	17	1652.5	2132.5	480.0	12.5	1172.5	101.6

1194	465.0	16	1660.0	2125.0	487.5	5.0	1195.0	93.1
1195	450.0	11	1667.5	2117.5	495.0	-2.5	1217.5	62.2
1196	435.0	14	1675.0	2110.0	502.5	-10.0	1240.0	76.9
1197	420.0	13	1682.5	2102.5	510.0	-17.5	1262.5	69.2
1198	405.0	12	1690.0	2095.0	517.5	-10.0	1285.0	61.9
1199	390.0	12	1697.5	2087.5	525.0	-2.5	1307.5	59.9
1200	375.0	11	1705.0	2080.0	532.5	5.0	1330.0	53.0
1201	355.0	14	1715.0	2070.0	542.5	15.0	1360.0	64.3
1202	335.0	12	1725.0	2060.0	552.5	25.0	1390.0	52.3
1203	315.0	12	1735.0	2050.0	562.5	35.0	1420.0	49.4
1204	295.0	10	1745.0	2040.0	572.5	25.0	1450.0	38.8
1205	275.0	10	1755.0	2030.0	582.5	35.0	1480.0	36.4
1206	255.0	9	1765.0	2020.0	592.5	25.0	1510.0	30.5
1207	235.0	7	1775.0	2010.0	602.5	15.0	1540.0	22.0
Total								3790.2

1186	560.0	17	1612.5	2172.5	440.0	2.5	1052.5	115.7
1187	550.0	17	1617.5	2167.5	445.0	-2.5	1067.5	113.9
1188	540.0	15	1622.5	2162.5	450.0	2.5	1082.5	99.1
1189	530.0	15	1627.5	2157.5	455.0	-2.5	1097.5	97.5
1190	520.0	13	1632.5	2152.5	460.0	2.5	1112.5	83.2
1191	510.0	13	1637.5	2147.5	465.0	-2.5	1127.5	81.8
1192	495.0	18	1645.0	2140.0	472.5	5.0	1150.0	110.5
1193	480.0	17	1652.5	2132.5	480.0	12.5	1172.5	101.6

Note: Following items with negative value of G to have bolt Hole C.L. below lamination C.L. i.e., opposite to that shown on figure.

1177 1179 1185 1187 1189 1191 1195 1196 1197 1198 1199

DISTRIBUTION OF PRINTS

W.O: 61229A52001, 62214A52001



BHARAT HEAVY ELEC. LTD

BHOPAL

DRN	PP	NAME	SIGN	DATE	NO. OF VAR
CHKD	SS			24/8/22	
APPD	RKS			21/8/22	

REV. DATE

ALTERED

CHECKED

APPROVED

ZONE

DEPT

TRE

UNTL. DIMS. GR.

SCALE

N.T.S

WEIGHT

REF. TO ASSY. DRG.

IT. NO.

NO.

REV

00

DRAWING NO

34987000210

SHT. NO.

10

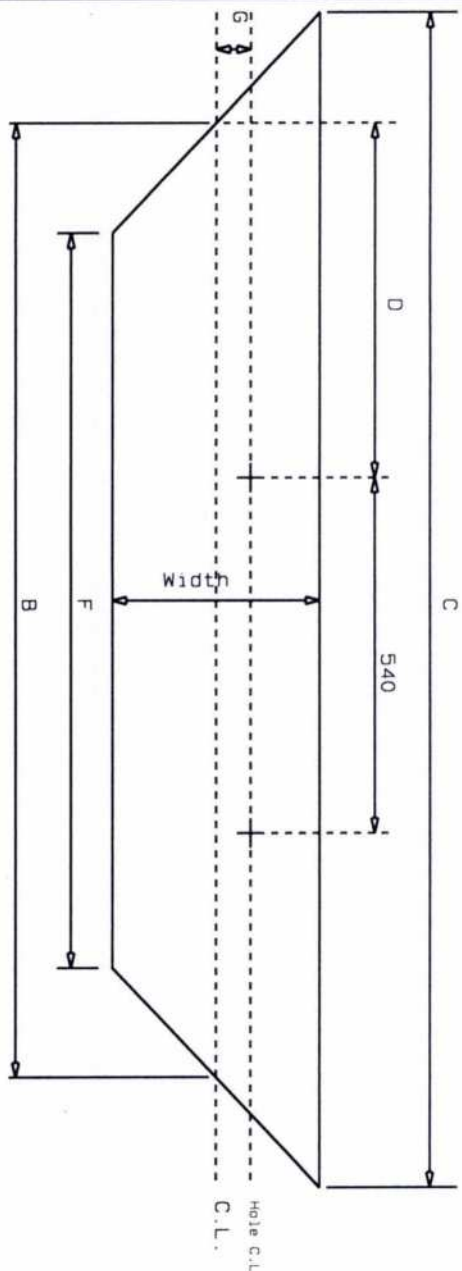
NO OF SHTS.

17

SIZE A3

0120000864C

ON DRG



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2124	465.0	16	2075.0	2540.0	977.5	5.0	1610.0	116.4
2125	450.0	11	2082.5	2532.5	985.0	-2.5	1632.5	77.7
2126	435.0	14	2090.0	2525.0	992.5	-10.0	1655.0	95.9
2127	420.0	13	2097.5	2517.5	1000.0	-17.5	1677.5	86.3
2128	405.0	12	2105.0	2510.0	1007.5	-10.0	1700.0	77.1
2129	390.0	12	2112.5	2502.5	1015.0	-2.5	1722.5	74.5
2130	375.0	11	2120.0	2495.0	1022.5	5.0	1745.0	65.9
2131	355.0	14	2130.0	2485.0	1032.5	15.0	1775.0	79.8
2132	335.0	12	2140.0	2475.0	1042.5	25.0	1805.0	64.8
2133	315.0	12	2150.0	2465.0	1052.5	35.0	1835.0	61.3
2134	295.0	10	2160.0	2455.0	1062.5	25.0	1865.0	48.0
2135	275.0	10	2170.0	2445.0	1072.5	35.0	1895.0	45.0
2136	255.0	9	2180.0	2435.0	1082.5	25.0	1925.0	37.7
2137	235.0	7	2190.0	2425.0	1092.5	15.0	1955.0	27.2
Total								4764.0

It	Width	Thick	B	C	D	G	F	Wt-Cut
2106	645.0	74	1985.0	2630.0	887.5	0.0	1340.0	713.9
2107	640.0	34	1987.5	2627.5	890.0	-2.5	1347.5	325.9
2108	635.0	25	1990.0	2625.0	892.5	0.0	1355.0	238.1
2109	630.0	18	1992.5	2622.5	895.0	-2.5	1362.5	170.3
2110	620.0	35	1997.5	2617.5	900.0	2.5	1377.5	326.6
2111	610.0	30	2002.5	2612.5	905.0	7.5	1392.5	276.2
2112	600.0	25	2007.5	2607.5	910.0	2.5	1407.5	226.9
2113	590.0	23	2012.5	2602.5	915.0	7.5	1422.5	205.8
2114	580.0	21	2017.5	2597.5	920.0	2.5	1437.5	185.2
2115	570.0	15	2022.5	2592.5	925.0	-2.5	1452.5	130.3
2116	560.0	17	2027.5	2587.5	930.0	2.5	1467.5	145.5
2117	550.0	17	2032.5	2582.5	935.0	-2.5	1482.5	143.2
2118	540.0	15	2037.5	2577.5	940.0	2.5	1497.5	124.4
2119	530.0	15	2042.5	2572.5	945.0	-2.5	1512.5	122.4
2120	520.0	13	2047.5	2567.5	950.0	2.5	1527.5	104.3
2121	510.0	13	2052.5	2562.5	955.0	-2.5	1542.5	102.6
2122	495.0	18	2060.0	2555.0	962.5	5.0	1565.0	138.3
2123	480.0	17	2067.5	2547.5	970.0	12.5	1587.5	127.2

Note: Following items with negative value of G to have bolt Hole C.L. below lamination C.L. i.e., opposite to that shown on figure

2107 2109 2115 2117 2119 2121 2125 2126 2127 2128 2129

W.O: 61229A52001, 61214A52001

DISTRIBUTION OF PRINTS



BHARAT HEAVY ELEC. LTD

BHOPAL

DRN	PP	SS	RKS	IT NO	NO. OF VAR
				31/8/22	

REF. TO ASSY. DRG.

IT NO

NO.

REV.	DATE	ALTERED
		CHECKED
		APPROVED

ZONE

TITLE

Yoke Laminations

500MVA, 765KV ICT, PGCL NARELA **NAV SARI**

DRAWING NO

34987000210

REV

00

SHT NO:

11

NO OF SHTS:

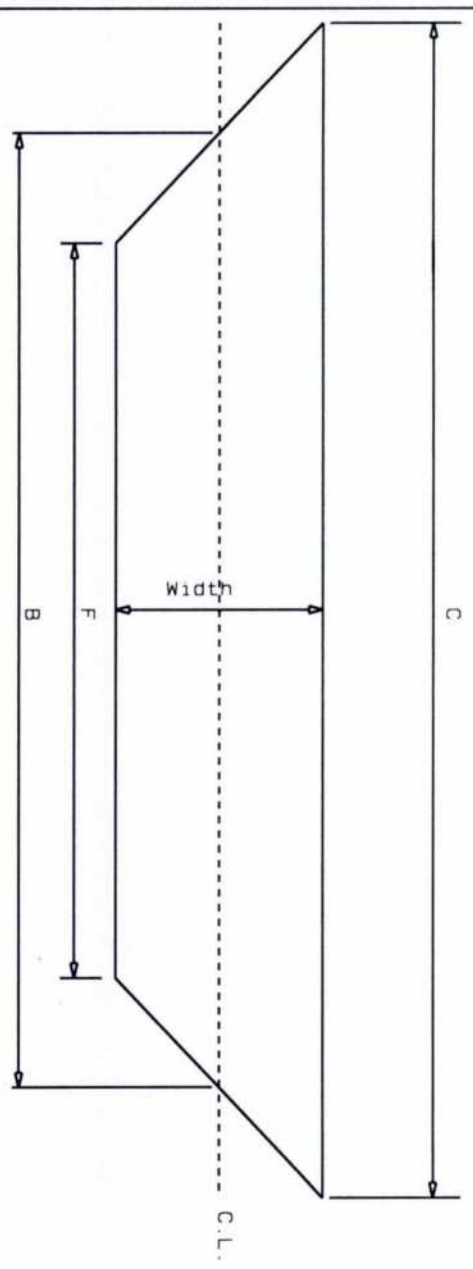
17

First Angle Projection

All dimensions in mm

0120004864E

DRG NO.



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It	Width	Thick	B	C	F	Wt-Cut
2141	645.0	148	1985.0	2630.0	1340.0	1427.8
2142	640.0	68	1987.5	2627.5	1347.5	651.8
2143	635.0	50	1990.0	2625.0	1355.0	476.1
2144	630.0	36	1992.5	2622.5	1362.5	340.5
2145	620.0	70	1997.5	2617.5	1377.5	653.2
2146	610.0	60	2002.5	2612.5	1392.5	552.3
2147	600.0	50	2007.5	2607.5	1407.5	453.8
2148	590.0	46	2012.5	2602.5	1422.5	411.6
2149	580.0	42	2017.5	2597.5	1437.5	370.3
2150	570.0	30	2022.5	2592.5	1452.5	260.6
2151	560.0	34	2027.5	2587.5	1467.5	290.9
2152	550.0	34	2032.5	2582.5	1482.5	286.4
2153	540.0	30	2037.5	2577.5	1497.5	248.7
2154	530.0	30	2042.5	2572.5	1512.5	244.7
2155	520.0	26	2047.5	2567.5	1527.5	208.6
2156	510.0	26	2052.5	2562.5	1542.5	205.1
2157	495.0	36	2060.0	2555.0	1565.0	276.6
2158	480.0	34	2067.5	2547.5	1587.5	254.3

2159	465.0	32	2075.0	2540.0	1610.0	232.7
2160	450.0	22	2082.5	2532.5	1632.5	155.4
2161	435.0	28	2090.0	2525.0	1655.0	191.8
2162	420.0	26	2097.5	2517.5	1677.5	172.6
2163	405.0	24	2105.0	2510.0	1700.0	154.2
2164	390.0	24	2112.5	2502.5	1722.5	149.0
2165	375.0	22	2120.0	2495.0	1745.0	131.8
2166	355.0	28	2130.0	2485.0	1775.0	159.5
2167	335.0	24	2140.0	2475.0	1805.0	129.6
2168	315.0	24	2150.0	2465.0	1835.0	122.5
2169	295.0	20	2160.0	2455.0	1865.0	96.0
2170	275.0	20	2170.0	2445.0	1895.0	89.9
2171	255.0	18	2180.0	2435.0	1925.0	75.4
2172	235.0	14	2190.0	2425.0	1955.0	54.3
Total :						9528

INVENTORY NO.

SIGN AND DATE

REF DRG NO.

DISTRIBUTION OF PRINTS

W.O: 61229A52001, 62214A52001



BHARAT HEAVY ELEC. LTD

BHOPAL

DRN	PP	SS	RKS	NAME	SIGN	DATE	NO OF VAR
						14/8/22	
						20/8/22	
						31/8/22	

REF. TO ASSY. DRG.

IT. NO

NO.

REV.

DATE

ALTERED

CHECKED

APPROVED

DEPT

TRF

UNITOL. DIMS. GR.

CODE

40E



SCALE

N.T.S

WEIGHT

REV. TO ASSY. DRG.

IT. NO

NO.

REV

00

NO OF SHTS.

17

REV

00

TITLE

Yoke Laminations

500MVA, 765KV ICT; PGCL NARELA & NAVSARI

DRAWING NO

34987000210

REV

00

SHT NO:

12

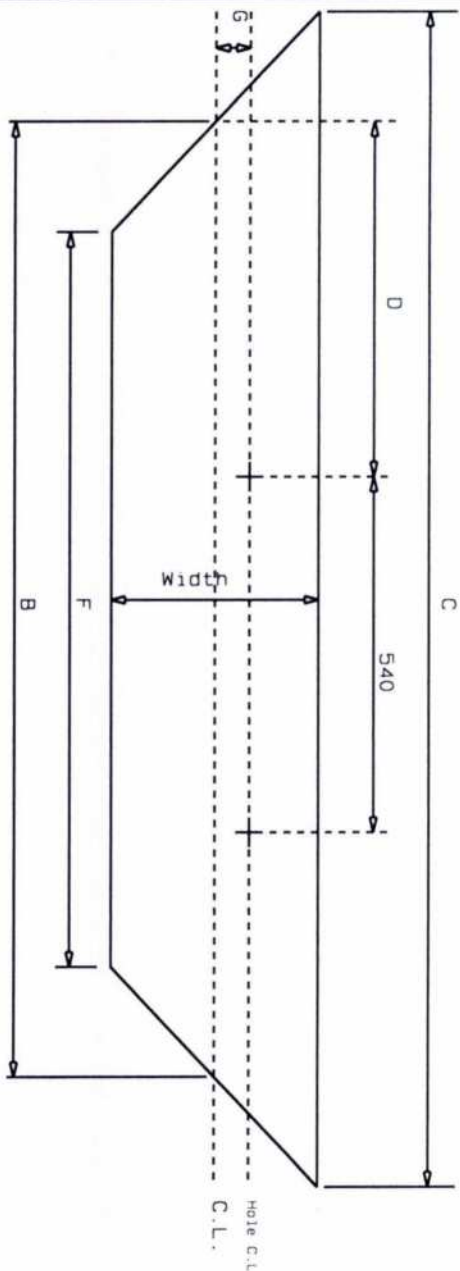
NO OF SHTS:

17

SIZE A3

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ON DRG



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It	Width	Thick	B	C	D	G	F	Wt-Cut
2176	645.0	74	1985.0	2630.0	917.5	0.0	1340.0	713.9
2177	640.0	34	1987.5	2627.5	920.0	-2.5	1347.5	325.9
2178	635.0	25	1990.0	2625.0	922.5	0.0	1355.0	238.1
2179	630.0	18	1992.5	2622.5	925.0	-2.5	1362.5	170.3
2180	620.0	35	1997.5	2617.5	930.0	2.5	1377.5	326.6
2181	610.0	30	2002.5	2612.5	935.0	7.5	1392.5	276.2
2182	600.0	25	2007.5	2607.5	940.0	2.5	1407.5	226.9
2183	590.0	23	2012.5	2602.5	945.0	7.5	1422.5	205.8
2184	580.0	21	2017.5	2597.5	950.0	2.5	1437.5	185.2
2185	570.0	15	2022.5	2592.5	955.0	-2.5	1452.5	130.3
2186	560.0	17	2027.5	2587.5	960.0	2.5	1467.5	145.5
2187	550.0	17	2032.5	2582.5	965.0	-2.5	1482.5	143.2
2188	540.0	15	2037.5	2577.5	970.0	2.5	1497.5	124.4
2189	530.0	15	2042.5	2572.5	975.0	-2.5	1512.5	122.4
2190	520.0	13	2047.5	2567.5	980.0	2.5	1527.5	104.3
2191	510.0	13	2052.5	2562.5	985.0	-2.5	1542.5	102.6
2192	495.0	18	2060.0	2555.0	992.5	5.0	1565.0	138.3
2193	480.0	17	2067.5	2547.5	1000.0	12.5	1587.5	127.2

Total 4764.0

2177	2179	2185	2187	2189	2191	2195	2196	2197	2198	2199
------	------	------	------	------	------	------	------	------	------	------

Note: Following items with negative value of G to have bolt Hole C.L. below lamination C.L. i.e., opposite to that shown on figure

2177 2179 2185 2187 2189 2191 2195 2196 2197 2198 2199

DISTRIBUTION OF PRINTS

W.O: 61229A52001, 62214AS2001



BHARAT HEAVY ELEC. LTD

BHOPAL

NAME	SIGN	DATE	NO. OF VAR
PP		24/10/22	
SS		20/10/22	
RKS		31/8/22	

REF. TO ASSY. DRG.

IT NO

NO.

REV.	DATE	ALTERED
		CHECKED
		APPROVED

DEPT	UNITOL. DIMS. GR.	SCALE	WEIGHT
TRE		N.T.S	
CODE			

TITLE

Yoke Laminations

500MVA, 765KV ICT, PGIL NARELA & NAVSARI

DRAWING NO

34987000210

REV

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SHT NO:

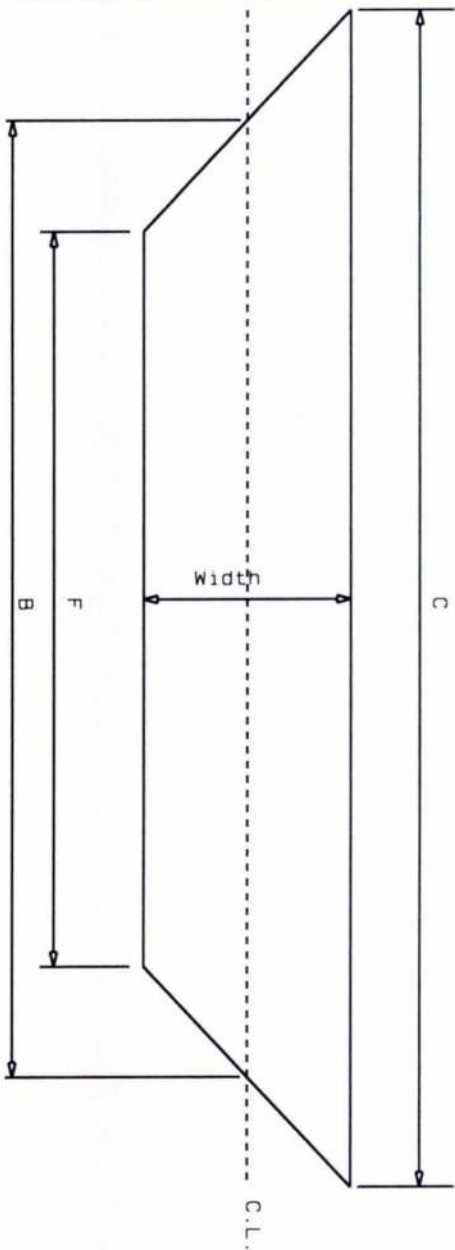
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NO OF SHTS:

17

0120004864C

DRG. NO:



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Item	Width	Thick	B	C	F	Weight
71	645.0	148	3665.0	4310.0	3020.0	2636.3
72	640.0	68	3670.0	4310.0	3030.0	1203.5
73	635.0	50	3665.0	4300.0	3030.0	876.8
74	630.0	36	3670.0	4300.0	3040.0	627.2
75	620.0	70	3660.0	4280.0	3040.0	1196.9
76	610.0	60	3650.0	4260.0	3040.0	1006.6
77	600.0	50	3660.0	4260.0	3060.0	827.4
78	590.0	46	3650.0	4240.0	3060.0	746.4
79	580.0	42	3660.0	4240.0	3080.0	671.8
80	570.0	30	3670.0	4240.0	3100.0	472.9
81	560.0	34	3660.0	4220.0	3100.0	525.1
82	550.0	34	3670.0	4220.0	3120.0	517.1
83	540.0	30	3660.0	4200.0	3120.0	446.8
84	530.0	30	3670.0	4200.0	3140.0	439.7
85	520.0	26	3660.0	4180.0	3140.0	372.9
86	510.0	26	3670.0	4180.0	3160.0	366.7
87	495.0	36	3655.0	4150.0	3160.0	490.8
88	480.0	34	3640.0	4120.0	3160.0	447.6

Item	Width	Thick	B	C	F	Weight
89	465.0	32	3655.0	4120.0	3190.0	409.8
90	450.0	22	3670.0	4120.0	3220.0	273.8
91	435.0	28	3685.0	4120.0	3250.0	338.2
92	420.0	26	3700.0	4120.0	3280.0	304.5
93	405.0	24	3685.0	4090.0	3280.0	269.9
94	390.0	24	3670.0	4060.0	3280.0	258.8
95	375.0	22	3655.0	4030.0	3280.0	227.2
96	355.0	28	3635.0	3990.0	3280.0	272.3
97	335.0	24	3615.0	3950.0	3280.0	219.0
98	315.0	24	3595.0	3910.0	3280.0	204.8
99	295.0	20	3615.0	3910.0	3320.0	160.7
100	275.0	20	3595.0	3870.0	3320.0	149.0
101	255.0	18	3615.0	3870.0	3360.0	125.0
102	235.0	14	3635.0	3870.0	3400.0	90.1
Total						17175.8

DISTRIBUTION OF PRINTS

W.O: 61229A52001, 6224A52001



BHARAT HEAVY ELEC. LTD

BHOPAL

DRN	PP	NAME	SIGN	DATE	NO. OF VAR
CHKD	SS			24/8/22	
APPD	RKS			20/8/22	
				31/8/22	

REV. DATE

ALTERED

CHECKED

APPROVED

ZONE

REV.

DATE

ALTERED

CHECKED

APPROVED

ZONE

TITLE

Aux Leg Laminations

500MVA, 765KV ICT, PGCIL NARELA & NAVSARI

DRAWING NO

34987000210

REV

00

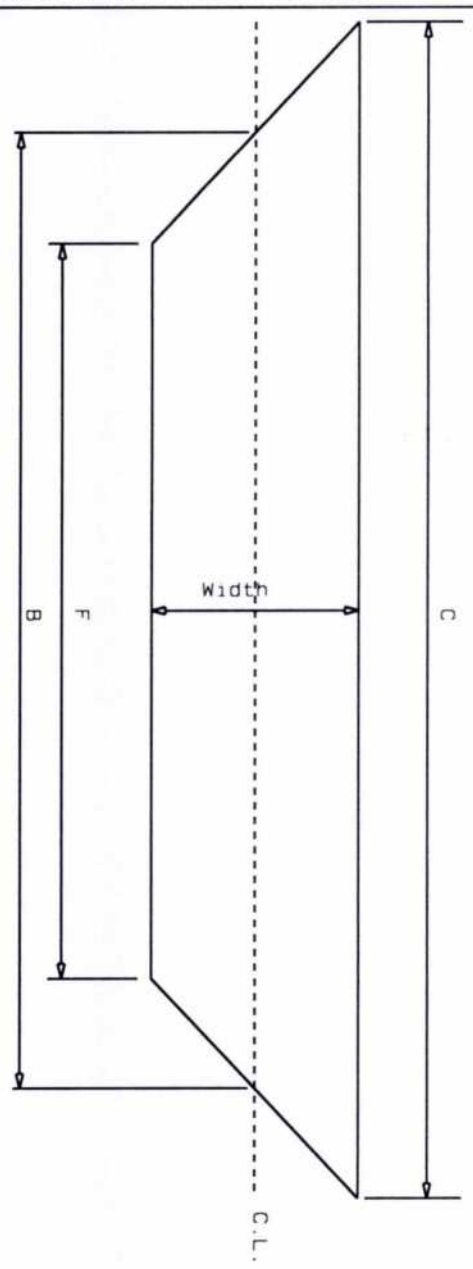
SHT NO: 14

NO OF SHTS: 17

SIZE A3

0120004864E

DRG. NO.



Item	Width	Thick	B	C	F	Weight
36	645.0	148	3605.0	4250.0	2960.0	2593.1
37	640.0	68	3610.0	4250.0	2970.0	1183.8
38	635.0	50	3605.0	4240.0	2970.0	862.5
39	630.0	36	3610.0	4240.0	2980.0	616.9
40	620.0	70	3600.0	4220.0	2980.0	1177.3
41	610.0	60	3590.0	4200.0	2980.0	990.1
42	600.0	50	3600.0	4200.0	3000.0	813.8
43	590.0	46	3590.0	4180.0	3000.0	734.2
44	580.0	42	3600.0	4180.0	3020.0	660.8
45	570.0	30	3610.0	4180.0	3040.0	465.2
46	560.0	34	3600.0	4160.0	3040.0	516.5
47	550.0	34	3610.0	4160.0	3060.0	508.7
48	540.0	30	3600.0	4140.0	3060.0	439.5
49	530.0	30	3610.0	4140.0	3080.0	432.5
50	520.0	26	3600.0	4120.0	3080.0	366.8
51	510.0	26	3610.0	4120.0	3100.0	360.7
52	495.0	36	3595.0	4090.0	3100.0	482.7
53	480.0	34	3580.0	4060.0	3100.0	440.3

Item	Width	Thick	B	C	F	Weight
54	465.0	32	3595.0	4060.0	3130.0	403.1
55	450.0	22	3610.0	4060.0	3160.0	269.3
56	435.0	28	3625.0	4060.0	3190.0	332.7
57	420.0	26	3640.0	4060.0	3220.0	299.5
58	405.0	24	3625.0	4030.0	3220.0	265.5
59	390.0	24	3610.0	4000.0	3220.0	254.6
60	375.0	22	3595.0	3970.0	3220.0	223.5
61	355.0	28	3575.0	3930.0	3220.0	267.8
62	335.0	24	3555.0	3890.0	3220.0	215.4
63	315.0	24	3535.0	3850.0	3220.0	201.4
64	295.0	20	3555.0	3850.0	3260.0	158.0
65	275.0	20	3535.0	3810.0	3260.0	146.5
66	255.0	18	3555.0	3810.0	3300.0	123.0
67	235.0	14	3575.0	3810.0	3340.0	88.6
Total						16894.2

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INVENTORY NO.

SIGN AND DATE

REF DRG NO.

DISTRIBUTION OF PRINTS

W.O: 61229A52001, 62214AS2001

BHARAT HEAVY ELEC. LTD

BHOPAL

DEPT. T&E

UNTL. DIMS. GR.

SCALE N.T.S

WEIGHT

REF. TO ASSY. DRG.

IT. NO.

NO. OF VAR.

DRN

PP

24/8/22

CHKD

SS

20/8/22

APPD

RKS

31/8/22

REV. DATE

ALTERED

CHECKED

APPROVED

ZONE

TITLE

Aux Leg Laminations

500MVA, 765KV ICT, PGCL NARELA & NAVSARI

DRAWING NO

34987000210

REV

00

01200002864E

CON DRG

NO.	Width	SLIT-WT	S-LEN (M)	NO.	Width	SLIT-WT	S-LEN (M)	NO.	Width	SLIT-WT	S-LEN (M)	NO.	Width	SLIT-WT	S-LEN (M)
1	235.0	375.3	907.7	2	255.0	520.9	1160.9	3	275.0	620.8	1283.1	4	295.0	666.0	1283.1
5	315.0	848.8	1531.5	6	335.0	902.7	1531.5	7	355.0	1116.0	1786.7	8	375.0	1174.1	1779.5
9	390.0	1309.7	1908.7	10	405.0	1649.2	2314.4	11	420.0	1827.7	2473.3	12	435.0	1937.1	2530.9
13	450.0	1843.1	2327.9	14	465.0	2361.8	2886.6	15	470.0	2886.6	3228.4	16	480.0	2694.6	3190.5
17	495.0	2778.9	3190.6	18	505.0	360.6	405.9	19	510.0	2227.8	2482.6	20	515.0	425.5	469.6
21	520.0	1489.4	1627.9	22	525.0	805.4	871.9	23	530.0	1751.6	1878.4	24	535.0	879.9	934.7
25	540.0	1779.8	1873.2	26	545.0	955.5	996.5	27	550.0	2370.3	2449.3	28	555.0	912.1	934.0
29	560.0	2086.1	2117.2	30	565.0	1176.5	1183.5	31	570.0	1873.5	1868.1	32	575.0	1257.0	1242.5
33	580.0	2661.6	2608.1	34	585.0	1282.8	1246.2	35	590.0	3299.5	3178.4	36	595.0	1658.6	1584.3
37	600.0	3268.8	3096.3	38	605.0	1919.2	1802.9	39	610.0	3976.9	3705.3	40	615.0	1447.4	1337.6
41	620.0	5568.4	5104.4	42	625.0	2189.2	1990.7	43	630.0	5467.5	4932.4	44	635.0	4655.9	4167.2
45	640.0	4722.3	4193.5	46	645.0	10978.0	9673.3	47	650.0	886.5	775.2	48	655.0	1216.6	1055.7
49	660.0	2664.5	2294.5	50	670.0	471.3	399.8	51	710.0	588.7	471.3	52	750.0	493.6	374.0
53	150.0	172.7	654.1												

Total Sitting Weight = 102567.8 KG

Nett Core Weight = 102345.0 KG

Core steel to be drawn = 105134.0 KG
(With 2.5 % Wastage)

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.

INVENTORY NO. SIGN AND DATE REF DRG NO.

DISTRIBUTION OF PRINTS
W.O: 61229A52001



BHARAT HEAVY ELEC. LTD

BHOPAL

REV.	DATE	ALTERED
		CHECKED
		APPROVED

DEPT	UNITOL. DIMS. GR.	SCALE	WEIGHT
TRE		N.T.S	
CODE			

DRN	NAME	SIGN	DATE	NO. OF VAR
PP			24/8/22	
SS			20/8/22	
RKS			31/8/22	

REF. TO ASSY. DRG.

IT. NO.

NO.

TITLE

Summary of Weights

500MVA, 765KV ICT, PGCIL NARELA

DRAWING NO

34987000210

REV

00

SHT. NO.

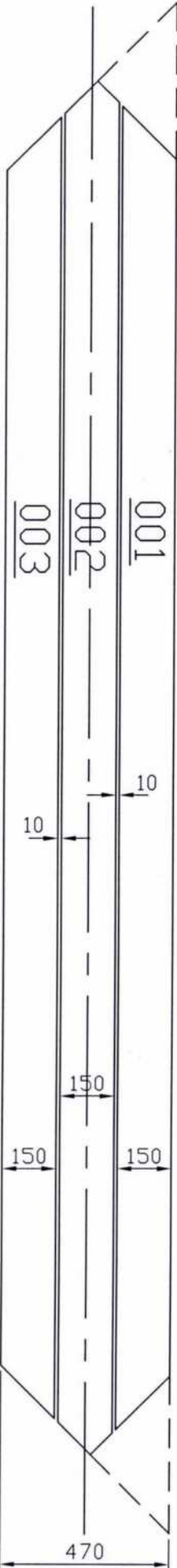
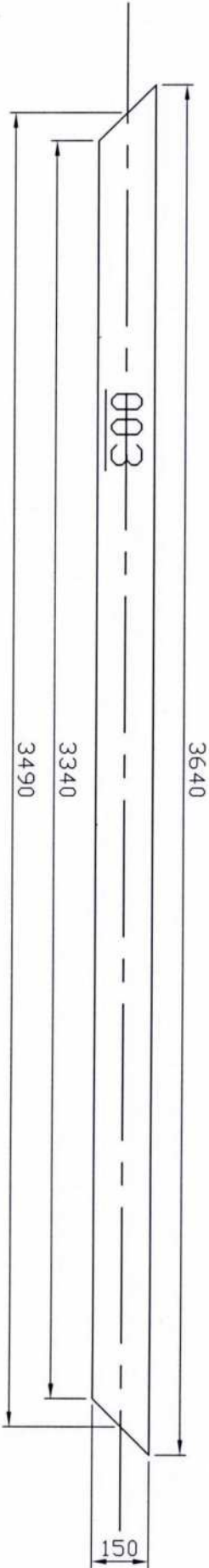
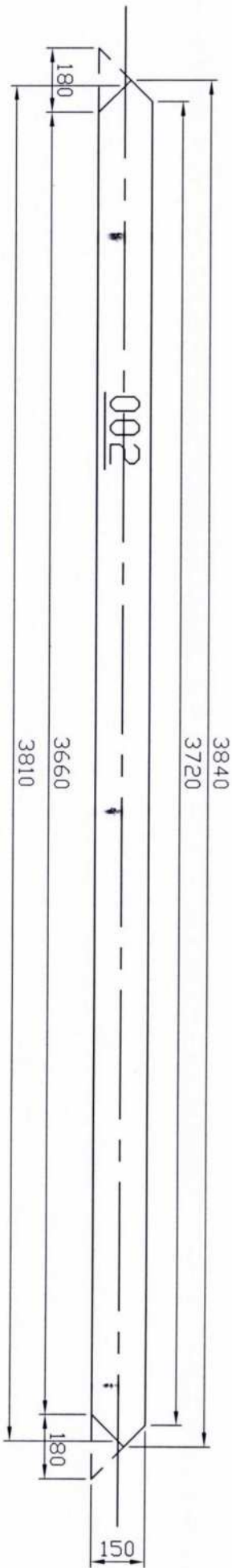
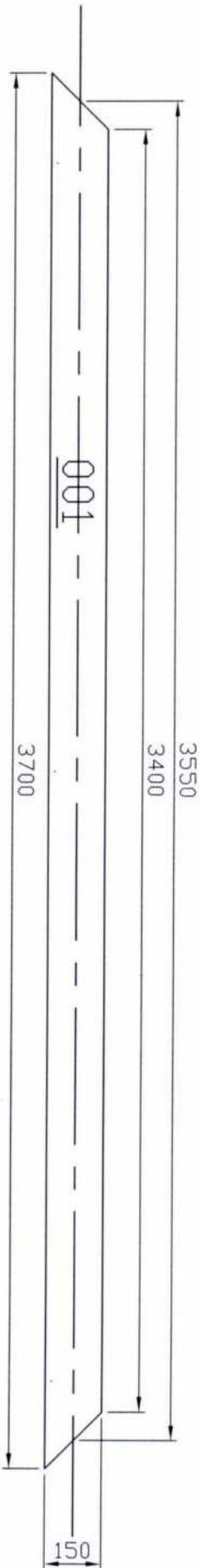
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NO OF SHTS

17

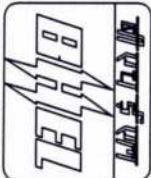
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INVENTORY NO.	SIGN AND DATE	REF DRG NO.
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DISTRIBUTION OF PRINTS

V.D. 61229A52001, 62214A52001



BHARAT HEAVY ELEC. LTD

BHDPAL

REV.	DATE	ALTERED
		CHECKED
		APPROVED

DEPT	UNIT/DWG. GR.
TRE	
CODE	
406	

SCALE	WEIGHT
N.T.S	

NAME	SIGN	DATE	NO. OF
PP		24/8/22	VAR
SS		20/8/22	
RKS		31/8/22	

REF. TO ASSY. DRG.

IT. NO.

TITLE

Splitting of last packet laminations of Main Leg
500 MVA, 765KV ICT, PGIL NARELA & NAVSARI

DRAWING NO

34987000210

REV

00

SHT NO.

17

NO OF SHTS

17



PLANT PURCHASING SPECIFICATION BHOPAL

BP 10984

REV NO. 05

PAGE 1 of 07

SUPERSEDES
BP 10984 Rev 04

COLD ROLLED GRAIN ORIENTED SHEET STEEL

23HP85d

1 GENERAL:

This specification governs the quality requirements of double side insulated, cold rolled, grain oriented magnetic steel sheets of thickness 0.23mm manufactured by means of laser scribing or plasma flame irradiation or any equivalent process.

2. APPLICATION:

Used in transformer cores.

3 CONDITION OF DELIVERY:

Cold rolled and annealed.

The sheet shall be supplied in side trimmed continuous coils, with insulation coating on both sides, as specified in clause 6.

4 COMPLIANCE WITH NATIONAL STANDARDS:

This standard is based on IS:3024

5. DIMENSIONS AND TOLERANCES:

5.1 Sizes:

The steel sheet shall be supplied to the dimensions specified on the order.

5.1.1 Thickness:

The thickness of the sheet shall be 0.23 mm.

5.1.2 Width:

The nominal standard width of the coil shall be 790, 840, 915 or 1000 mm.

The order shall clearly specify the width of the coil required.

5.1.3 Weight:

The nominal weight of the coil shall be between 1800 - 2500 kg.

Revision :

Reviewed and brought upto date.

Issued by :

STANDARDS AND MATERIALS GROUP
TECHNICAL SERVICES DEPTMENT

Rev. 05

Date : 08.02.2023

Date of first Issue: 19.07.1979

5.2 Tolerances:

5.2.1 Thickness:

Tolerance on thickness when measured with a contact micrometer at any location, not less than 9.5 mm from an edge shall not deviate more than ± 0.025 mm from the average thickness of the test lot or coil. The outer limits of acceptable thickness shall be within the range of 0.190 to 0.254 mm.

5.2.2 Width:

The tolerance of width for side trimmed coil shall be - 0 and + 3 mm.

5.2.3 Edge Camber:

The deviation of a side edge from a straight line over 2440 mm length or fraction there of shall not exceed 3.2 mm.

5.3 Waviness:

Sharp, short waves and buckles are extremely detrimental to the effective use of grain oriented electrical steel in flat laminations and shall be avoided in the delivered materials.

For material of width greater than 150 mm, the deviation from flatness (Wave Factor) expressed as a percentage, shall not exceed 1.5 %.

6. MANUFACTURE:

The sheet shall be of low carbon, silicon steel having silicon content around 3.15%. High permeability and low core-loss in the direction of rolling is to be achieved by appropriate metallurgical processes.

The thermally flattened material shall be coated with an inorganic surface coating type C2 and an inorganic surface coating, type C5, applied over the inherent C2 coating to provide extra surface insulation resistance on both sides

The steel sheets shall be uniformly coated on both sides with an insulation as stated above, as part of its manufacturing process, and the magnetic domain may be finely sub divided to achieve lower core loss by suitable means.

The insulation, coating shall be uniform throughout the length of the coil. There shall be no line marks, rough spots, dots and patches etc.

Note : Not to be confused with some discoloration / shade difference of the insulation inherent to the manufacturing process.

7. FREEDOM FROM DEFECTS:

The material shall be clean, bright, smooth and free from dents, surface defects such as holes, scabs, pits, blisters, slivers, mill marks etc. and also free from oil, grease, dust scale and rust.

The sheet surface shall not exhibit any of these defects.

8. TEST SAMPLES:

Test samples shall be selected from the consignment as follows:

8.1 Maximum Specific Total Loss:

One from each coil.

8.2 Electrical & Mechanical Tests:

One sample per consignment/lot for Mechanical Tests and Electrical Tests (Surface Insulation Resistivity and Magnetic Permeability Tests).

8.3 The test samples shall be sufficient in size to provide the necessary test pieces.

9. TEST METHODS:

Unless otherwise specified, the test shall be conducted in accordance with the relevant method specified in IS 3024

10. MECHANICAL TESTS:

10.1 Ductility:

Material shall possess good shearing and punching properties and shall be sufficiently ductile to permit normal working.

The bend test shall be carried on transversely cut test specimen of not less than 152mm long and 30 mm wide.

The test specimen shall be initially bent through 90 degree, this bend not being counted. The specimen shall then be bent backward and forward through 160 degrees. The specimen shall complete one bend without fracture.

10.2 Stacking Factor:

The surface quality of the material when measured in terms of stacking factor (viz, a minimum of 16 samples under a pressure of 0.35 MPa) shall be 94.5% minimum.

11. ELECTRICAL TESTS:

11.1 Surface Insulation Resistivity.:

When tested as per IS 649 Section-2, the surface insulation resistivity per lamination (two surfaces) of single strip specimens (5 on each side), shall show the following readings.

Average Value - 10 ohms cm², Minimum.

Individual Value - 5 ohms cm², Minimum.

11.2 Maximum Specific Total Loss:

11.2.1 Cutting of Test Specimen:

The test specimen for the single sheet tester shall consist of one sheet having the following dimensions as per IS 3024

Length : 500 mm to 530 mm

Width : 500 +0 -5 mm

The test specimen shall be cut parallel to the direction of rolling.

11.2.2 Testing:

When tested in accordance with IS 649, the specimens prepared as described in clause 11.2.1 without stress relief annealing and shall be tested at a peak magnetic flux density of 1.7 T and a frequency of 50 Hz. The specific total loss shall not be greater than 0.85 watt/kg. as measured with single sheet tester.

11.3 Magnetic Permeability Test

The induction value at 800 A/m magnetising force shall not be less than 1.85 Tesla.

12. TYPE TEST: - Ageing*

When tested at a peak Magnetic Flux Density of 1.7T and at a frequency of 50 Hz, the specific total loss of the specimen which has been heated at a temperature of 225 deg.C for 24 hours shall not deteriorate by more than 4% of the measured specific total loss (clause 11.2) of the coil concerned.

*Note: Type tests shall be carried out when "Type Approval" to a supplier is given and repeated once in two years for the approved sources.

13 TEST CERTIFICATES:

Unless otherwise stated, three copies of certificates shall be supplied along with each consignment.

In addition, the supplier shall ensure to enclose one copy of the test certificate along with their dispatch documents /shipping list to facilitate quick clearance of the material.

The test certificate shall bear the following information.

BP 10984 (Rev. 05): cold rolled grain oriented sheet steel Gr: 23HP85d

Order No,

Supplier's Name/Grade/Identification No,

Size & Weight,

Packet/Bundle No,

Test Results of Dimensions & Tolerances,

Freedom from Defects,

Details of Insulation Coating,

Type Test, Properties of

- (a) Specific Total Loss of each coil
- (b) Mechanical & Electrical properties for one random coil of each lot/consignment,
- (c) Results of chemical composition for information only.

14 PACKING AND MARKING:

The material shall be supplied preferably in coils of continuous length. However, if it becomes unavoidable, the coils of the order can be supplied with maximum of three butt weld joints. The supplier shall ensure that the welds are made in such a manner without causing damage to the areas of coil adjacent to the weld. The welds shall be clearly marked by suitable tags projecting outside the coil.

Sheets shall be packed vertically/horizontally according to the instructions given in the Annexure.

A Metal label / tag shall be securely attached with each coil or drum or bundle outside its wrapping and shall be legibly marked with the following information.

BP 10984: Cold rolled Grain Oriented Sheet Steel Gr : 23HP85d

BHEL Order No.

Manufacturer's/Supplier's name.

Identification/Coil No.

Size and Quantity supplied.

GENERAL INFORMATION FOR CALCULATION

Density - 7.65 Kg/dm³.

ANNEXURE

DETAILED INSTRUCTIONS FOR PACKING

The nominal weight of each coil shall be 1800 - 2500 Kg.

The nominal internal diameter of coil shall be 508 mm.

Packing shall be sea-worthy and shall protect the coils from damage and rusting during transit.

Coils shall be vertically/horizontally packed according to the instructions given below.

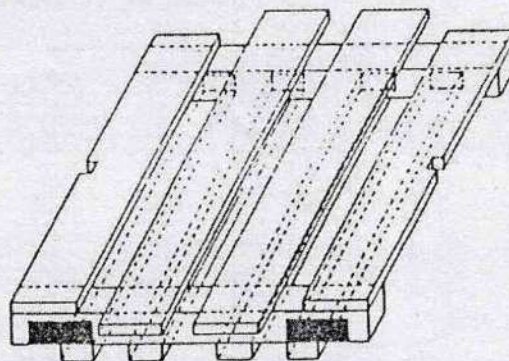
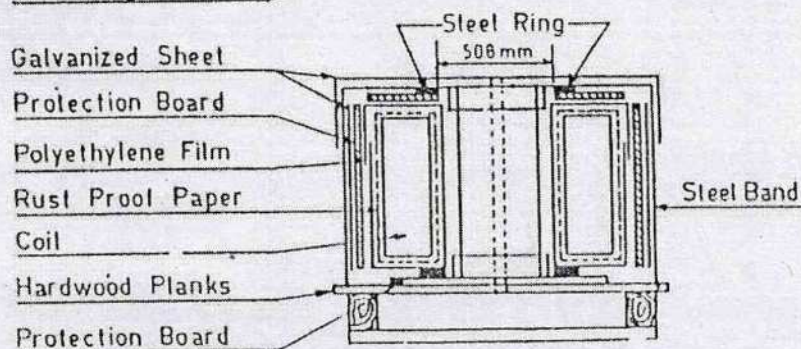
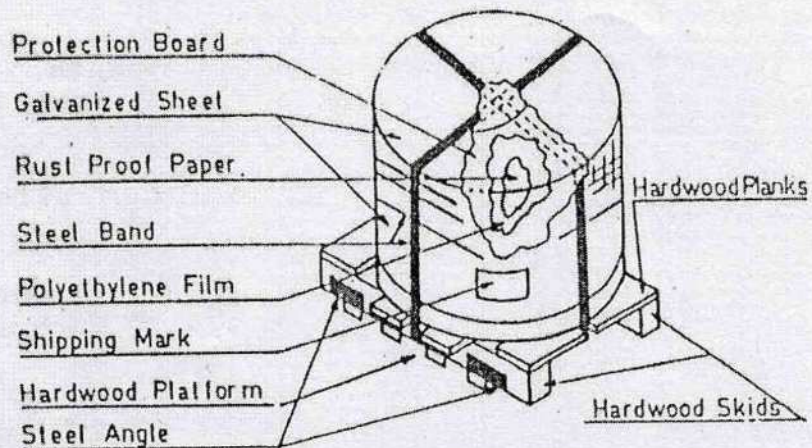
1. An annular protection board shall be placed at either end of the coil. Protection Board sleeve shall be provide at ID of the coil.
2. The coil shall then be wrapped with waterproof anti-rust crepe kraft paper by lapping axially all around the circumference.
3. The coil shall then be covered by polyethelene sheet or anti-rust waterproof paper and the ends sealed properly.
4. A galvanised sheet shall be wrapped on the outside of the coil and the top and bottom of the coil. Care shall be taken to ensure that the ends of the tops and bottom of the coils extend sufficiently over the inside diameter of the coil.
5. A galvanised sheet shall be wrapped on the inside of the coil. Care shall be taken that it overlaps sufficiently over the ends of the sheet mentioned in (4) above.
6. Steel ring made from thick angle sheets shall be placed on the rim of the inner diameter at both ends of the coil. The rings shall be held at either ends at four points by steel bands.
7. The coil shall then be mounted on wooden skids, held together by steel bands. Wooden skids must have cutouts to house the steel bands for tight fit and to avoid slippage.
8. The packing shall ensure that there is no seepage of moisture and the coils reach BHEL in completely rust free condition. It should be strong enough to withstand handling at the docks, at sea and on the road.
9. Coils shall be sufficiently tight wound to prevent collapse to an extent that would preclude their being mounted on a mandrel appropriate to the ordered internal diameter.
10. Each package shall indicate the, Sling Position, for lifting without damage. It is preferable to fix a suitable size of, 'Sheet Steel Angle', at the position where the Sling Rope is to be fitted to avoid slippage/damage/ breakage of the wooden skid at four places.

PLANT PURCHASING SPECIFICATION BHOPAL

BP 10984

REV NO. 05

PAGE 7 of 7





BP 200102B

HEAVY ELECTRICALS PLANT, BHOPAL

GENERAL TERMS AND CONDITIONS OF ENQUIRY

Sl.No.	Description
1	General:
1.1	<p>These General terms & conditions (GTC) shall apply to all enquiries, notice inviting tenders, request for quotations concerning the supply of goods and / or rendering of services to Bharat Heavy Electricals Ltd., Bhopal (hereinafter referred to as BHEL or the Purchaser) or its Projects / Customers. Special / supplementary enquiry conditions, if any, will override the conditions in this annexure. In case of placement of order these conditions will become part of Purchase Order (P.O) until unless the deviations are specifically agreed by BHEL.</p> <p>In case of any inconsistency, conflicts or contradiction among any of the contract documents, the interpretations will be based on the following order of precedence:</p> <ol style="list-style-type: none"> Amendments to Purchase Order/ Framework Agreement Purchase Order/ Framework Agreement Letter of intent (LOI)/ Letter of Award (LOA) Minutes of meeting or Clarifications agreed between Buyer and Seller as regards to the tender or the bidding conditions Corrigenda to NIT, with those of later date having precedence over those of earlier date Original NIT and annexures except documents listed in point no (vii) to (ix) below Technical specifications including their annexures Special Terms and condition of Enquiry (STC) General Terms of Enquiry (GTC)
2	General Instructions - Common for Indigenous & Foreign enquiries
2.1	<p>Through eProcurement</p> <ol style="list-style-type: none"> Interested bidders / suppliers shall submit their offer through e-procurement mode at https://eprocurebhel.co.in/nicgep/app Offers in any other mode will not be accepted. Procedure for submission of tender is available in the "Bidder Manual Kit" at e-tender portal https://eprocurebhel.co.in/. In case of any difficulty faced while registering on BHEL's e-Procurement portal developed by NIC, queries may be addressed to 0120-4001002, 0120-4001005 and 0120-4493395 email: support- eproc@nic.in. These details are also available on Contact Us page of the portal. Before uploading scanned documents if any, the bidders shall sign on all the statements, documents, certificates etc uploaded by him, owning responsibility for their correctness / authenticity. Disclaimer clause: Neither the Organization (Bharat Heavy Electricals Ltd.) nor the service provider is responsible for any failure of submission of bids due to failure of internet or other connectivity problems or reasons thereof.
2.2	Through tender room (Conventional tender)
2.2.1	<p>Sealed bids are invited for scope of Supply / Services as detailed in the enquiry.</p> <p>Bid should be free from correction, overwriting, using of corrective fluid etc. Any interlineation, cutting, overwriting shall be valid only if they are attested under full signature(s) of persons signing the bid else shall be liable for rejection.</p> <p>All overwriting/ cutting etc. will be numbered by bid opening officials and announced during bid opening.</p> <p>The bid should be submitted in English or Hindi language. Relevant enclosures, supporting documents, catalogue, samples, if any, as required as per Notice Inviting Tender (NIT) conditions shall be sent along with technical offer. Rate should be quoted in the units asked for in the enquiry.</p>
2.2.2	<p>Bids shall be submitted in a Sealed cover with Enquiry No., Due date and Bidder's name indicated on the cover.</p> <p>In case of Two Part Bid, technical bid containing technical offer, this GTC duly filled-in & signed; and un-priced copy of the Price Bid should be kept in one envelope. Price Bid containing only the price (as called for in the price format where required) should be kept in a separate envelope. Both envelopes indicating Part —I or Part-II as the case may be to be put in a bigger envelope, which should be addressed to in charge, Tender Room, Bharat Heavy Electricals Ltd. 2nd Floor, Jawahar Bhavan, Piplani, Bhopal 462022. Enquiry No., due date and bidder's name must be mentioned on all envelopes. Offer must reach tender room of BHEL Bhopal latest by 11.00 am IST on the enquiry due date.</p> <p>Bids submitted as single part bid against two – part bid, shall be rejected unless the offer is techno-commercially acceptable without seeking any clarification.</p>
2.2.3	<p>Offer received after 11.00 AM IST of the due date will be termed as "Late" and shall not be considered. However, late offer received against single tender enquiry may be considered.</p>
2.2.4	<p>Bidder can also submit offer through email id mmtender.bpl@bhel.in or if called for in the enquiry, at the designated /authorized email address indicated in the enquiry. Such email offers shall be sent only on designated email-id to reach before 11.00 am IST on the tender due date. BHEL will not be responsible for incomplete offers and the ones delivered late through e-mail. Bidder shall have no claim on e-mail offers sent to any other e-mail ID. In case of e-mail offers, the</p>



BP 200102B

HEAVY ELECTRICALS PLANT, BHOPAL

GENERAL TERMS AND CONDITIONS OF ENQUIRY

	mail subject should contain Enquiry Number, Due date and Bidder name. Bidder address including contact details shall be mentioned in the content of the mail. Without these details, the offer is liable for rejection. All techno commercial terms & conditions mutually agreed prior to price bid opening shall prevail and supersede any terms and conditions specified otherwise in price bid.
2.3	Through tender room or EProcurement
2.3.1	Commercial Conditions quoted by the bidder in any place including as stated in bidder's 'General Terms and Conditions' if any, shall not be binding on the Purchaser and the conditions contained in this annexure, including special conditions, if any, for this enquiry shall only prevail.
2.3.2	Rate should be quoted in the units asked for in the enquiry. The rates should be quoted both in figures and words. In case of discrepancy in figures and words, the rates quoted in words shall be considered.
2.3.3	The goods offered shall conform to BHEL specifications and / or National/International standards as mentioned in the Enquiry and the bidder is required to confirm his unconditional acceptance to the same. Bidders, seeking deviations from the specifications and any other conditions, may indicate the same clearly on a separate sheet indicating Sl. No. of the item, with reasons for such deviations. BHEL reserves the right to reject the offer with deviations or load the deviations suitably for evaluation.
2.3.4	Offers shall be submitted directly by bidder or his authorized agent only. Unsolicited offers shall be summarily rejected.
2.3.5	Bid in single part or techno-commercial bid in two-part system (as the case may be) will be opened on the due date. In case of two part bid, price bids of techno-commercially accepted bidder(s) only shall be opened on the assigned date, for which separate intimation will be sent to the accepted bidders.
2.3.6	<p>Whenever specified /called in special /additional /tender specific remakes of tender the Bid Security/ Earnest Money Deposit (EMD)] is to be submitted by bidders along with their bids (except Micro and Small Enterprises (MSEs) or Startups as recognized by Department for Promotion of Industry and Internal Trade (DPIIT)).</p> <p><u>Modes of deposit</u></p> <p>a) The EMD may be accepted only in the following forms:</p> <p>(i) Electronic Fund Transfer credited in BHEL account (before tender opening).</p> <p>(ii) Banker's cheque/ Pay order/ Demand draft, in favour of BHEL (along with offer).</p> <p>(iii) Fixed Deposit Receipt (FDR).</p> <p>(iv) Bank Guarantee from any of the Scheduled Banks.</p> <p>(v) Insurance Surety Bonds.</p> <p>b) In case the EMD is more than Rupees Two lakh and in case of foreign bidders, it may be in the form of a bank guarantee (in equivalent Foreign Exchange amount, in case of foreign bidders) issued/ confirmed from any of the scheduled commercial bank in India in an acceptable form. The EMD shall remain valid for a period of 45 (forty-five) days beyond the final bid validity period.</p> <p><u>Forfeiture of EMD</u></p> <p>(i) A bidder's EMD will be forfeited if the bidder withdraws or amends its/ his tender or impairs or derogates from the tender in any respect within the period of validity of the tender or if the successful bidder fails to furnish the required performance security within the specified period mentioned in the Tender.</p> <p>(ii) EMD by the tenderer to be withheld in case any action on the bidder is envisaged under the provisions of extant "Guidelines on Suspension of business dealings with suppliers/ contractors" and forfeited/ released based on the action as determined under these guidelines.</p> <p><u>Others Instructions</u></p> <p>(i) Bid securities of the unsuccessful bidders should be returned to them at the earliest after expiry of the final bid validity period and latest by the 30th day after the award of the contract. However, in case of two packet or two stage bidding, Bid securities of unsuccessful bidders during first stage i.e. technical evaluation etc. will be returned within 30 days of declaration of result of first stage i.e. technical evaluation etc.</p> <p>(ii) Bid security will be refunded to the successful bidder on conclusion of the order/ receipt of a performance security (if called in the tender).</p> <p>(iii) EMD shall not carry any interest.</p>
2.3.7	<p>1. Any discount / revised offer submitted by a bidder on its own shall be considered, provided it is received on or before the due date and time of offer submission (Part-I). Conditional discounts shall not be considered for evaluation of tenders.</p> <p>2. Unsolicited discounts / revised offers given after Part-I bid opening shall not be accepted. No change in price will be permitted within the validity period of offer.</p> <p>3. In case of changes in scope and / or technical specification and / or commercial terms & conditions, having price implication, techno-commercially acceptable bidders shall be asked by BHEL to submit the impact of such changes on</p>



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	their price bids. In case a bidder opts to submit revised price bid instead of impact called for, then latest price bid shall prevail. However in both situations, original price bid will be necessarily opened.
2.3.8	The bidders will submit Integrity Pact, duly signed by its authorized signatory, where called for in the enquiry.
2.3.9	Unregistered suppliers, who are techno-commercially qualified against the open tender, are requested to register with BHEL-Bhopal as permanent supplier by submitting the Supplier Registration Form (SRF) in online supplier registration portal (https://supplier.bhel.in/). Un-registered vendors may be approved by BHEL, if found suitable, on the basis of data furnished by them in Supplier Registration Form (SRF) for Foreign Vendors or Indigenous Vendors (as applicable)
2.3.10	BHEL expects that the bidder responds to the enquiry. Regret letter, with valid reasons for not participating in the tender will be submitted where the bidder is unable to submit offer. Repeated lack of response on the part of bidder may lead to his deletion from BHEL's approved bidder list. Refer guidelines for suspension of Business Dealings with Suppliers/Contractors available on https://www.bhel.com/sites/default/files/suspension_guidelines_abridged.pdf
2.3.11	In case of open tenders (i.e. those published in website) all corrigenda, addenda, amendments, time extensions, clarifications etc. to the tender will be hosted on BHEL website. (https://bhel.com/tenders) and additional in https://eprocurebhel.co.in/nicgep/app for e-procurement tenders. Bidders responding to these tender should regularly visit website(s) to keep themselves updated.
2.3.12	In the course of evaluation, if more than one bidder happens to occupy L-1 status effective L-1 will be decided by soliciting discounts from the respective L-1 bidders in sealed envelope and will be open in tender room. In case more than one bidder happens to occupy the L-1 status even after soliciting discounts, the L-1 bidder shall be decided by a toss/ draw of lots, in presence of the respective L-1 bidders or their representatives. Ranking will be done accordingly. BHEL's decision in such situations shall be final and binding.
2.3.13	The Purchaser can consider awarding tendered quantities among more than one bidder (after acceptance of L1 price by the other bidders) in the manner and proportion disclosed in the tender conditions. Purchaser can also consider awarding of part of the tendered quantity to other than L-1 bidder at L1 counter offered rates, if the quantity offered by the L-1 bidder is less than the quantity tendered for.
2.3.14	The bidder shall submit price bid strictly in the price format, wherever provided for, in the enquiry. Any attempt on the part of the bidder to alter the contents of the price bid format in any manner, which in the opinion of BHEL can vitiate the tendering process, will lead to rejection of the bid, <u>besides BHEL taking appropriate punitive action as deemed fit.</u> Refer Guidelines for suspension of Business Dealings with Suppliers/Contractors available on https://www.bhel.com/sites/default/files/suspension_guidelines_abridged.pdf
2.4	BHEL shall be resorting to Reverse Auction (RA) (Guidelines as available on www.bhel.com). If tender specific conditions call for reverse auction, RA shall be conducted among the techno-commercially qualified bidders. Price bids of all techno-commercially qualified bidders shall be opened and same shall be considered for RA. In case any bidder(s) do(es) not participate in online Reverse Auction, their sealed envelope price bid along with applicable loading, if any, shall be considered for ranking
2.5	BHEL reserves the right to negotiate with L1 vendor or re-float the tender for items. BHEL reserves the right to decrease the tender quantity in case where negotiation is being held.
3	Delivery Terms
3.1	Indigenous Purchase
3.1.1	Goods shall be delivered on 'FOR Destination' basis to the named destination unless otherwise called for in the enquiry.
3.2	Foreign Purchase — Imports
3.2.1	<ol style="list-style-type: none"> 1. Goods shall be despatched by Sea, unless stated otherwise in the enquiry or purchase order. 2. Terms of Delivery for Sea shipment shall be on CFR / CIF basis with 14 days' detention free period preferably at Nhava Sheva (JNPT-INNSA1) for FCL (Full Container Load) Cargo of GP & HC Containers. 3. For other cases - Other than GP & HC Containers, LCL Cargo shall be delivered at Nhava Sheva (JNPT- INNSA1) & Break-bulk Cargo at Mumbai (MPT - INBOM1). 4. For Air consignments, the terms of delivery shall be FCA at BHEL nominated Airport. In case of CIP, delivery shall be at Mumbai ACC (INBOM4). 5. Freight amount shall be indicated separately in the offer in case of CIP/CFR/CIF. 6. The number of detention free days and destination charges payable to shipping line must be mentioned in your offer and also on the Bill of Lading. 7. Offer received on FOB basis may be considered on an exceptional basis. BHEL will load freight, marine insurance & shipping line port handling charges etc. to work out landed cost at Sea Port. 8. Please visit BHEL Bhopal website https://bpl.bhel.com or refer special terms and conditions of tender enquiry for details of named Air ports and Sea ports. Name of the gateway port so chosen by the bidder shall be indicated by the Bidder in his offer.



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	<p>9a In case of CIP/CFR/CIF, the shipping line should be ready to move the containers to consignee's nominated CFS (Container Freight Station) yard and Indian agent of shipping line should issue Cargo Arrival Notice (CAN) 7 days in advance.</p> <p>9b In case of CFR contract, bidder to supply the material through a Certified Sea worthy vessel age not more than 15 years.</p> <p>9c The invoices being issued by shipping lines must be in the name of BHEL. Otherwise, BHEL will recover loss of Input Credit on GST from the vendor.</p> <p>9d While booking the shipment, bidder to also finalize destination charges and the same should appear over BL or agreed tariff to be provided to BHEL before arrival of shipment. If cargo is stuffed in container, then the same should be allowed to be moved to CFS of importer's choice without any additional charges.</p> <p>9e Load port charges shall be settled by the supplier and not be passed on to BHEL in any form of destination charges.</p> <p>10. For reasons of delay in receipt of documents from suppliers or due to the same being found to be incomplete, and or faulty, the suppliers shall be responsible to reimburse all penalties, detention and demurrages / wharfages, if any paid by BHEL (for stated reasons).</p>
3.2.2	<p>1. For delivery of FCL (Full Container Load) cargo, the Bidder shall provide minimum 14 days' detention free period from the date of delivery at Port of Discharge / Place of Delivery (in case of ICD). Wherever the detention free period offered is less than 14 days, the bids shall be loaded for the period short of 14 days' period.</p> <p>2. <u>Port Congestion charges or any additional charges claimed by the shipping line at Port of Discharge / Place of Delivery shall be to the Bidder's account.</u></p>
4	Bidder's particulars & logistics information (Bidder to give details against each of the provisions)
4.1	Name of the bidder's executive to deal with this tender / project
4.2	E-mail address of the contact person
4.3	Telephone no. of the contact person
4.4	Name of location from where the goods shall be offered for inspection and dispatch
5	Additional logistics information for Imports
5.1	Bid currency
5.2	Charges applicable at discharge port up to BHEL's CFS (Container Freight Station) to be indicated in your offer and on the B/L
5.3	Name of Airport in the country of dispatch for FCA delivery terms
5.4	Estimated number, type & size of containers for delivery of tendered quantity (applicable where the goods are to be sent in FCL)
5.5	No. of packages with cumulative gross weight and CBM volume (applicable for LCL & Break-bulk shipment)
5.6	Approx. distance in km. from Bidder's works to Port of Loading
6	Delivery Schedule & Completion date
6.1	<p>i. Instead of writing specific date against delivery offered, bidder shall commit delivery period in number of days / weeks/ months to suit the delivery period indicated in the enquiry.</p> <p>ii. Commencement of delivery period shall be reckoned from the date of PO / LOI or any other agreed milestone.</p> <p>iii. Bidder shall deliver the goods in the manner and schedule agreed under the Purchase order.</p> <p>iv. Goods shall be delivered within contractual period or any extension thereof, if any, granted by the Purchaser.</p> <p>v. If delivery is linked to approval of documents, time for submission of such documents to be indicated and delivery period to be indicated from approval of documents. This delivery schedule will be considered for processing delivery extension, wherever applicable.</p> <p>vi. BHEL reserves the right to cancel the order if material is not delivered within PO scheduled delivery.</p> <p>vii. Suitable action against defaulting vendor will be taken as per Guidelines for suspension of Business Dealings with Suppliers/Contractors available on https://bhel.com/guidelines-suspension-business-dealings-supplierscontractors</p>
6.2	<p>In case of foreign supplies, the date of Bill of Lading (B/L) or AWB shall be taken as actual date of delivery where freight until discharge port in India is in Seller's scope like CFR/CIF/CIP delivery terms.</p> <p>For Ex-works/FCA/FOB or any other delivery term where freight is in buyer's scope, date of material readiness /Test certificate/ Warehouse receipt/Freight forwarder receipt may be considered as actual date of delivery (mutually agreed).</p>



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6.3	In case of Indigenous bidders, the date of delivery at named destination in India shall be taken as contractual delivery completion date where delivery terms are FOR destination. In case of 'Ex-works' delivery terms, the date of LR / RR shall be the contractual delivery completion date.
7	Transit Insurance
7.1	Except where delivery terms are agreed on CIF basis for Imports & FOR destination basis for indigenous purchases, transit insurance will be covered by BHEL under its Open Marine Transit Insurance Policy. Bidder shall inform dispatch particulars with value of consignment to the Purchaser within 07 days of dispatch for BHEL to arrange insurance coverage in its policy. Failure on the part of bidder to inform dispatch particulars will make him liable to pay for any transit damages / losses suffered by the Purchaser.
8	Force Majeure
8.1	Notwithstanding anything contained in the contract, neither the Bidder nor the Purchaser shall be held responsible for total or partial non-execution of any of the contractual obligations, should the obligation become unreasonably onerous or impossible due to occurrence of a 'Force Majeure' which directly affects the obligations to be performed by the Purchaser or the Bidder; Such events include war, military operations of any nature, blockages, revolutions, insurrections, riots, civil commotions, insurgency, sabotage, acts of public enemy, fires, explosion, epidemics, quarantine restrictions, floods, earthquake, or acts of God, restrictions by Govt. authorities; over which the Bidder or the Purchaser has no control. The party claiming to be affected by force majeure shall notify the other party in writing without delay, within two weeks on the intervention and on the cessation of such circumstance. Extension of time sought by the Bidder along with supporting evidence and so granted by the Purchaser for the supply/ work affected, if any, shall not be construed as waiver in respect of remaining deliveries. Rescheduling of deliveries on account of force majeure conditions, if so agreed by the Purchaser, will not entail the Bidder to claim any increase in the price on whatsoever account. Notwithstanding above provisions, Purchaser shall reserve the right to cancel the order/ Contract, wholly or partly, in order to meet the overall project schedule and make alternative arrangements. If deemed necessary, Purchaser may takeover partly processed material at a mutually agreed price.
9	Penalty for Late Delivery
9.1.1	Unless covered under Force Majeure conditions aforesaid, Penalty for late delivery shall be 0.5% of the undelivered portion per week of delay or part thereof, subject to a maximum of 10% of the undelivered order value owing to delayed delivery . Total undelivered order value above shall be item wise, lot wise order value of PO . Any deviation from above, which is based on specific requirement/LD clause, shall be specified in particular tender /Special terms and condition(STC) /Additional terms and conditions(ATC) and same shall have overriding effect on anything mentioned in instant GTC. Imposition, recovery or settlement of this penalty shall not adversely affect BHEL's right to performance, compensation and termination of the order.
9.1.2	However, in case of Capital Machine / BOP (Balance of plant) where staggered deliveries may be applicable, the penalty will be levied on total order value. Any deviation based on specific requirement shall be specified separately in the NIT/STC/ATC. In case of Capital items /Balance of plant (BOP) item where services of installation /erecting & commissioning /supervision is desired with supply (Milestone delivery terms) , the LD clause will be separately mentioned in particular tender /Special terms and condition(STC) /Additional terms and conditions(ATC)
9.1.3	In case of any amendment / revision, the penalty shall be linked to the amended / revised PO.
9.1.4	Any loading on penalty clause shall be to the extent to which it is not agreed to by the bidder (at offered value)
9.2	In case the contractually agreed delivery date falls on a holiday in BHEL Bhopal, the next working day shall be taken as contractual delivery date for compliance and applicability of LD / penalty.
9.3	In case of any recovery for delayed performance, the applicable GST shall also be recoverable from bidders.
10	Indian Agents and Agency commission
10.1	BHEL prefers to deal directly with Foreign bidder, wherever required, for procurement of Goods. However if the Foreign Principal desires to avail services of an Indian Agent, then the Principal should ensure compliance to "regulatory guidelines" which will require submission of an agency agreement.
10.2	The CFR / CIF price quoted will be deemed to be inclusive of Indian Agency commission. Agency commission as disclosed by the bidder in his quoted CFR / CIF price will be paid in Indian Rupees on receipt & acceptance of Materials or it's installation at destination, as the case may be. The lower of the 'TT buying rate prevailing on the date of technical bid opening or price bid opening shall be considered for computation of Agency commission.



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10.3	In a tender either the Indian Agent on behalf of Principal / OEM or the Principal / OEM itself can bid, but both cannot bid simultaneously for same item / product in the same Tender. In case bids are received from both the Principal / OEM and the agent, bid received from the agent will be ignored.		
10.4	If an agent submits Bid on behalf of the Principal / OEM, the same agent shall not submit bid on behalf of another Principal / OEM in the Tender, for the same Item / Product.		
11	Documentation:		
11.1	Indigenous Purchase		
	<p>Bidder shall arrange to send to the consignee following documents immediately on despatch of the goods. Documents can also be uploaded at Incoming Material Document Management System (IMDMS) available at BHEL Bhopal B-2-B site of BHEL Bhopal internet page at https://bpl.bhel.com/mm/. Online submission of Invoices /e-invoices for payment can also be done in IMDMS system.</p> <ol style="list-style-type: none"> 1) Original Tax invoice in triplicate (Buyer's copy and duplicate for Transporter), 2) Consignee copy of LR & 2 sets each of Packing list, 3) Test certificate, Guarantee / Warranty certificate, 4) O & M manuals (where applicable) 5) In case of labour / mixed basis jobs, material is issued free of cost. Necessary material reconciliation is to be done and Free Issue Material Statement (FIMS) is to be submitted with each bill. 6) Pre-dispatch Inspection report /Third Party Inspection Certificates/MDCC certificate 7) Any other documents as specified in Enquiry /PO /STC/ATC of enquiry /annexure <p>The distribution of such documents will be specified in the Purchase order Terms and Conditions (BP 205315 for indigenous and BP205316 for Imported Purchases))</p>		
11.2	Foreign Purchase — Imports		
	<p>Seller shall send 1 set of following documents, in English, within 7 days of B/L date / 1 day of AWB date by courier to the Purchaser</p> <ol style="list-style-type: none"> 1. Express / Original 'Clean on board' Bill of Lading / AWB. 2. One set of Commercial Invoice, Packing list indicating container-wise Gross weight, Net weight, CBM volume, No. of packages with Dimensions of each package. 3. Original Certificate of Country of Origin (COO) issued by Chamber of Commerce. COO shall be as per requisite format where duty concession is available under Preferential Trade/Comprehensive Economic Partnership/Free Trade agreement. Customs tariff heading (CTH)/ Harmonized System of Nomenclature (HSN) code of material should be mentioned on invoice and COO in all such cases. 4. One set of Original Test Certificates and O&M Manual where called for. 5. Fumigation / Phyto-Sanitary Certificate wherever cargo is packed in wooden packing or packing of plant origin material is used. 6. Supplier should additionally forward 2 sets of original documents mentioned at point nos. 1 to 5 above along with Original Bill of Lading (OBL) or AWB through any international courier service/registered airmail within three (3) days of obtaining the same directly to the following: <table border="1"> <tr> <td> AGM (M.S) Regional Operations Division BHEL 14th Floor Centre-1 World Trade Centre, Cuffe Parade Mumbai 400 005 INDIA Email: msseabpl@bhel.in (In case of Sea freight) msair@bhel.in (In case of Air freight) </td> <td> DGM (FIN- FP) 4th Floor, Administrative Bldg. BHEL Bhopal - 462022 (India) E-mail : fin_fp.bpl@bhel.in </td> </tr> </table> <p>And confirm forwarding details to AGM (CMM- FE), BHEL Bhopal at mmfe.bpl@bhel.in</p> <ol style="list-style-type: none"> 7. In case the Seller decides to negotiate all 3 originals of B/L / AWB along with all original documents through negotiating Bank, non-negotiable documents (NNDs) consisting of copy of B/L / AWB & documents mentioned at Sl. no. 11- B2 to B5 will be sent by e-mail to the Purchaser at his e-mail address given in the PO with one copy to be mailed at mmfe.bpl@bhel.in as well as at msseabpl@bhel.in (for Sea shipment) or msair@bhel.in (for Air shipment). Other documents, as required, will be separately indicated in the Purchase Order. Additional expenditure, if any, incurred by the Purchaser by way of detention / demurrage, resulting out of delay attributable to the Seller in providing Negotiable documents, will be recovered from the Seller. <p>In case any discrepancy is raised by the Bankers / BHEL with respect to the documents submitted, vendor to facilitate clearance of goods through Delivery Order.</p> <p>Additionally, following requirements to be taken care of by the bidder during PO execution stage:</p> <ol style="list-style-type: none"> i) IEC (0588138690), GSTIN (23AAACB41461ZN) and email ID (mmfe.bpl@bhel.in) of BHEL Bhopal shall be clearly 	AGM (M.S) Regional Operations Division BHEL 14 th Floor Centre-1 World Trade Centre, Cuffe Parade Mumbai 400 005 INDIA Email: msseabpl@bhel.in (In case of Sea freight) msair@bhel.in (In case of Air freight)	DGM (FIN- FP) 4 th Floor, Administrative Bldg. BHEL Bhopal - 462022 (India) E-mail : fin_fp.bpl@bhel.in
AGM (M.S) Regional Operations Division BHEL 14 th Floor Centre-1 World Trade Centre, Cuffe Parade Mumbai 400 005 INDIA Email: msseabpl@bhel.in (In case of Sea freight) msair@bhel.in (In case of Air freight)	DGM (FIN- FP) 4 th Floor, Administrative Bldg. BHEL Bhopal - 462022 (India) E-mail : fin_fp.bpl@bhel.in		



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	<p>mentioned on B/L or AWB.</p> <p>ii) As per Uniform Customs Practice (UCP 600) for documentary credits (L/C), presentation period allowed is maximum 21 days after the date of shipment. However, for geographically closer ports where sea voyage time is less than 3-4 weeks, a shorter presentation period shall be agreed upon.</p> <p>iii) In case of CAD payment terms, Supplier shall send documents to BHEL's bank within 5 days of shipment. One set of original may be sent to any one of ROD, CMM-FE and MM, copy may be marked to the others.</p> <p>iv) For Air shipments through non-CONSOL (i.e., not through BHEL ROD's contract), Delivery Order (DO) should be given to BHEL without insisting for Bank Release Order (BRO). AWB to be drawn with BHEL Bhopal as consignee.</p> <p>v) It must be ensured that original shipping/commercial documents, if not provided to BHEL outside banking channel, should reach BHEL's bank at least 10 days prior to cargo arrival at port.</p> <p>vi) Part shipment and trans-shipment to be avoided to the extent possible especially where it is not possible to split shipping & commercial documents. Part shipment shall be strictly avoided for Airshipments.</p>
11.3	General
	<ol style="list-style-type: none"> For Hazardous chemicals, the materials safety data sheet (MSDS) is to be submitted. All certificates as called must be sent. BHEL may test any goods supplied and their decision is final irrespective of supplier's certificates. If test certificate and guarantee certificate are not received along with the document and stipulated in these specifications, BHEL reserves the right to get the material tested and recover the expenses from the supplier without awaiting supplier's confirmation Goods shall be properly packed to avoid transit damage. Suitable markings shall be provided to identify the goods with that of the PO No. and the consignee details. Goods shall be consigned to AGM (CRX), BHEL, Piplani, Bhopal - 462022, India, unless otherwise specified in the PO.
12	Pricing Terms
12.1	Prices once quoted shall remain firm within the validity or any extension thereof for placement of order, till complete execution of the order, without any escalation/increase for any reason, whatsoever, unless specifically provided for in the Enquiry & PO. In case of foreign bidders, the quoted price shall be taken as inclusive of Third Party Inspection and testing charges as called for in the NIT.
13	Price Validity :
13.1	Unless stated otherwise in the enquiry, offer shall be valid for a period of 90 days from the date of Techno- commercial (Part-I) bid opening date.
14	Taxes & Duties - Indigenous Purchase
14.1	Bidder to ensure timely remittance of SGST, CGST, IGST as applicable in time as per law.
14.2	Bidder to ensure compliance to filing of monthly GST sales return including BHELs supplies by 10 th of next calendar month in the online GST portal wherever applicable.
14.3	Bidders to declare filing of timely returns and GST remittance/likely remittance /ITC adjustment along with invoice.
14.4	Bidder to submit invoices compliant with GST invoice Rules
14.5	Bidders to comply with all statutory provisions as may be applicable at the time of despatch/sale. Any additional financial liability to BHEL on account of non-compliance by bidders shall be borne by them and shall be adjusted / recovered from the bidders. BHEL reserves the right to review the existing offers / contracts for any revision in terms, which may arise due to change in any statutory provisions to ensure that the benefit accrues to BHEL.
14.6	Bidder to ensure TAX INVOICE submission along with consignment
14.7	In respect of cases where the liability to discharge GST is on BHEL under reverse charge mechanism, bidders have to ensure timely submission of invoices and delivery of material / services to BHEL, so that there is no mismatch on both activities. In case there is any additional financial liability on BHEL on account of default on the part of the bidder on submission or delivery of material / services the same shall be passed on to them.
14.8	Vendors who fall under the E-Invoice regulations shall issue e-invoice in line with Rule 48(4) of CGST Rules read along with latest extant rules, failing which GST amount will not be reimbursed to the vendor.
14.9	In respect of free issue material by BHEL, bidders have to return the processed material within the time line as per the provisions of GST. In case of any additional tax liability on BHEL on account of non-compliance by the bidder, the additional financial implications on BHEL shall be passed on to the bidder
14.10	Bidders to provide the applicable HSN / SAC codes as called for in the enquiry
14.11	As per provisions of section 171 of the CGST Act 2017, bidders to pass on the anti-profiteering benefits accruing to them under GST regime to BHEL
14.12	With reference to section 51 of CGST act 2017 read with notification no 50/2018 – Central tax dated 13.09.2018; BHEL will be liable to deduct TDS under GST with effect from 01.10.2018. Deduction shall be made @ 2% (1% CGST + 1% SGST) or 2% IGST (as applicable) of the payment made or the amount credited. Bidder to generate & submit invoices as per above.



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	<p>The amount of TDS shall be deposited to the Government account and BHEL shall issue TDS certificate to deductees, TDS deposited in the Government account will be reflected in the electronic cash ledger of the deductee who will be able to use the same for payment of tax or any other amount.</p> <p>Deduction of TCS along with additional TDS will be as per prevailing Government guidelines.</p>
15.	Taxes & Duties - Foreign Purchase — Imports
15.1	The offered prices shall be inclusive of all the Taxes and duties as applicable in the country of bidder / country of dispatch for the quoted CFR / CIF price.
16	Payment Terms-
16.1	<p>Indigenous: 100% payment in 90 days of receipt (45 days for Micro & Small and 60 days for Medium enterprises as registered in Udyam certificate as per relevant MSME act in force) and subject to acceptance of material and relevant documents at BHEL. In case of despatch of material to site directly, site certification for receipt of materials is required unless otherwise provided for in the PO. Any deviation from the above payment terms, if accepted (by BHEL), shall be loaded @ SBI base rate + 6% for the purpose of bid evaluation.</p>
16.2	<p>Foreign: 100% against irrevocable, unconfirmed LC, payable within 90 days of the Bill of Lading (B/L) date or Payment terms of CAD payable on 90th day of B/L / AWB. In case BHEL considers any deviation in payment terms i.e. early payment based on bidder's request, then bids shall be evaluated with loading of State bank of India Base rate plus 6%, for the credit period short of 90 days. The LC shall be established 2 months prior to shipment date, valid for period of 90 days, unless agreed otherwise.</p> <p>Documents to be submitted as per UCP600 and should reach BHEL/ BHEL's bank at least 7 days prior to vessel arrival.</p>
16.3	Staggered Payment terms in case of Capital items /Balance of plant (BOP) item where services of installation /erecting & commissioning /supervision is desired with supply of items /goods will be separately mentioned in particular tender remarks /Special terms & condition /Additional terms and condition
16.4	<p>Foreign bidders to submit declaration of Permanent Establishment and Business Connection (PEBC) for remittances purpose. Declaration to be submitted in formats either in Annexure A or B whichever is applicable as per their transaction entered into with BHEL.</p> <p>In the absence of certificates from the bidder, withholding tax at applicable rates along with surcharge and cess will be recovered at the time of remittance to the bidder.</p>
16.5	Foreign bidders to submit Tax Residency Certificate (TRC) & Form 10F (for obtaining DTAA benefits) as per Annexure C in respect of services. The TRC (tax residency certificate) is to be issued by the authorities of the government of bidder's country. If the informative part of the format (other than residency) is not furnished by the authorities the same may be furnished by the bidder as a declaration.
16.6	BHEL Bhopal is registered with (TReDS) platform. MSME bidders are requested to get registered with (TReDS) platform to avail the facility as per the GOI guidelines.
17	Inspection of Goods
17.1	The Bidder shall give adequate notice, of 1 week or as mutually agreed period, in writing to the Purchaser (in case Customer inspection is involved) or BHEL appointed TPIA about the date and place at which the goods will be ready for inspection/ testing, as provided for in the contract.
17.2	<p>Purchaser or his authorized representative shall be entitled to carry out inspection of material and workmanship/Surveillance Audit at Bidder's premises or at his sub-contractor's premises at all reasonable times during execution of contract; Such inspection, examination and testing, if made, shall not absolve the Bidder from his obligations under the contract.</p> <p>Wherever required, BHEL may carry out testing at BHEL's testing Lab and in case of any rejection during such testing, replacement / rectification, as required, will have to be done by Supplier.</p> <p>If BHEL carries out any rectification of such rejected material, such cost will be recovered from Supplier's Bills.</p> <p>In case of Customer inspection as Supplier's Works, inspection clearance to be obtained from Customer and submitted to BHEL.</p>
17.3	BHEL's representative from unit or Corporate Quality (CQ) is authorised to carry out audits along with TPIA at bidder's works before clearing the items for despatch.
17.4	All costs related to inspections and re-inspections shall be borne by the Bidder. In case of inspection by BHEL and / or BHEL's customer, the cost of to & fro passage and Boarding & Lodging shall be borne by the Purchaser / Customer, unless otherwise specifically agreed. In case of foreign bidders, the cost of third party inspection, where called for, shall be deemed to be included in the quoted price. Bidder shall be responsible to provide assistance such as labour, materials, electricity, fuels, stores, apparatus, instruments at his cost, as may be required and as may be reasonably demanded to carry out such tests effectively.
17.5	<p>REJECTION:</p> <p>If any goods are rejected, BHEL shall be at liberty to take action as per following:</p>



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	<p>a) Allow the supplier, wherever mutually agreed, to rectify the rejected goods at BHEL's works within reasonable time as fixed by BHEL.</p> <p style="text-align: center;">Or</p> <p>b) Allow the supplier to make free replacement within a specified period. Rejected goods can be lifted by the supplier thereafter.</p> <p style="text-align: center;">Or</p> <p>c) In case payment has been done, allow supplier to refund equivalent value of rejected material by NEFT / RTGS or furnish Bank Guarantee for same amount before lifting the rejected goods. Fresh replacement shall be regulated as per terms and condition of the original Purchase Order. In case payment has not been done, at instructions from BHEL, supplier has to rectify the rejected goods at supplier's works within reasonable time as fixed by BHEL.</p> <p style="text-align: center;">Or</p> <p>d) Terminate the contract either in part or in whole at the discretion of BHEL and invoke Breach of Contract clause, if any, from the supplier.</p> <p style="text-align: center;">Or</p> <p>e) Any goods rejected by BHEL must be removed by the supplier after making payment through NEFT / RTGS within 30 days after receipt of the intimation of rejection. If bidder fails to lift or allow despatch of rejected material at his cost within 90 days from the intimation of rejection, his claim on rejected material shall cease.</p> <p style="text-align: center;">Or</p> <p>f) In exceptional cases, allow the supplier for one-time replacement of defective items (quantity) within reasonable time.</p>
18	Guarantee / Warranty and corresponding Repairs / Replacement of Goods
18.1	<p>Manufacturer's works test/inspection certificates shall be furnished along with the guarantee that material conforms strictly to the specification for general & special conditions as laid down in the purchase order. Goods shall comply with the specifications for material, workmanship and performance. The warranty shall be for a period of 12 months from the date of receipt. If the delivery is found non-compliant during the warranty period, leading to rejection, the Bidder shall arrange free replacement / repair of goods, within one month from the date of intimation or any mutually agreed period. The rejected goods shall be taken away by the Bidder at his cost and replaced on Delivered Duty Paid (DDP) (FOR - BHEL Stores/ designated destination basis) within such period. In the event of the Bidder's failure to comply, Purchaser may take action as appropriate, including Repair / Replenish rejected goods & disposal of rejections, at the risk & cost of the Bidder.</p> <p>In case the defects attributable to Bidder are detected during processing of the goods at purchaser's / his subcontractor's works, the Bidder shall be responsible for free replacement/ repair of the goods as required by the purchaser.</p>
19	<p>NOTE: Deviations (Commercial as well as Technical) from the tender specifications and conditions are generally not acceptable. However, deviation if any, shall be brought out clearly with proper justification in the offer. The deviation, if considered by BHEL shall be loaded for comparison, while evaluating the offer. If a bidder unconditionally withdraws any deviation before price bid opening, the same shall not be loaded. Loading criteria in respect of major commercial conditions where deviations if any are accepted shall be as per clause No.19.</p>
19.1	Evaluation and Loading Criteria:
19.1.1	<p>The evaluation currency for this tender shall be INR.</p> <p>Evaluation of the tender shall be on the basis of delivered cost, i.e. 'Total Cost to BHEL/Landed cost to BHEL ' w.r.t the technical scope and commercial conditions finalized after techno-commercial clarifications (after considering, inter alia, Customs Duty and GST / Other taxes as applicable). Exchange rate (TT selling rate of State Bank of India) applicable on the date of Part-I bid opening shall be considered for evaluation of foreign bids. If the relevant day happens to be a bank holiday in India, then the FOREX rate as on the previous bank working day shall be taken for evaluation.</p> <p>Foreign suppliers shall ensure that the benefits as applicable under Comprehensive Economic Partnership Agreement (CEPA) with Government of India are disclosed in the bid & relevant documents such as Certificate of Country of Origin, issued by the appropriate authority in the country of Export, is provided by the bidder along with dispatch documents. Bids shall be evaluated with such applicable benefits. In the event of Bidder failing to provide appropriate documents for Purchaser to avail disclosed concessional duty benefits in India, financial loss, so incurred, will be to the Bidder's account.</p>
19.1.2	<p>Common Loading factors (in case of deviation quoted by bidders)</p> <p>INDIGENOUS</p> <ol style="list-style-type: none"> 1) Deviation quoted in delivery terms in EX works against FOR destination: In case BHEL accepts the EX-Works prices, such offers will be suitably loaded with actual freight charges as per BHEL freight rate contract. 2) Loading (if any) in case of deviation in delivery period in delivery non- sensitive contracts will be declared separately in STC/ATC of particular tenders.



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	IMPORTS 1) Offer received on FOB/FCA basis may be considered on an exceptional basis. BHEL will load freight, marine insurance & shipping line port handling charges etc. to work out landed cost at Sea Port. 2) Import duty, Taxes and duties as applicable on the date of Part-I bid opening. COMMON LOADING FOR IMPORTS & INDIGENOUS that will be added for arriving the "Total Cost to BHEL" A. Loading on Deviated Penalty clause (LD) as per clause 9.1.14 of GTC B. Loading for payment terms as per clause 16.1 of GTC
20	Variation of orders
20.1	No variation to the Purchase order is permitted unless authorised in writing and signed by or on behalf of purchase executive, BHEL Bhopal.
21	Sub-contract
21.1	BHEL's order or part there off, if further to be subcontracted in exceptional circumstances the details of subcontracting and to whom to be subcontracted shall be furnished to BHEL and written permission shall be obtained from BHEL. However, it shall not absolve the supplier of the responsibility of fulfilling BHEL order requirements.
22	Recovery / deductions of amount from supplier
22.1	a Any amount on account of recovery from consignor / supplier under any condition shall be liable to be adjusted against any amount payable to the consignor/supplier against bills. b For any deficiency in supplies where deduction is involved, an amount as decided by BHEL, shall be deducted from supplier's bills.
23	Safety clause for purchase orders
23.1	The bidders shall maintain and ensure sufficient safety measures as required for inspections and test like HV test. Pneumatic test, Hydraulic test Spring test, Bend test, Material handling and safe working environment etc. to enable Inspection Agency for performing inspection. The bidder shall ensure that all the safety precautions specified in factories Act 1948 chapter-IV Section-21 to 41 are complied with respect to equipment's to be inspected. If any test equipment is found not complying with proper safety requirement, then the inspection agency may withhold inspection, till such time the desired safety requirements are met.
24	Non-Disclosure Agreement
24.1	All Drawing and technical documents relating to the product or it's manufacture submitted by one party to the other, prior or subsequent to the formation of contract, shall remain property of the submitting party. Drawing, technical documents or other technical information received by one party, shall not without the consent of the other party, be used for any other purpose than that, for which they were provided. Such technical information shall not without the consent of the submitting party, otherwise be used or copied, reproduced, transmitted or communicated to a third party. Patterns supplied by BHEL will remain BHEL's property which shall be returned by the bidder on demand to BHEL. Bidder shall in no way share or use such intellectual property of BHEL to promote his own business with others. <u>BHEL reserves the right to claim damages from the bidder, or take appropriate penal action as deemed fit against the bidder, for any infringement of the provisions contained herein.</u>
	DRAWINGS, PATTERNS & TOOLS: All drawings, patterns & tools supplied by BHEL or made at BHEL's expense are BHEL's property. These cannot be used or referred to any other party and must only be used in the execution of BHEL's orders. These should be preserved at the supplier's cost for a period of not less than 5 years. Patterns & tools should be returned to BHEL within 90 days of issue of the same.
25	Settlement of Disputes & Arbitration
25.1	All questions/interpretations regarding subject matter of the Contract shall be decided by the Purchaser on the request of the Bidder and the decision of the Purchaser shall be final.
25.2	In case of dispute, steps shall be taken by the parties to the contract to settle the same through negotiations.
25.3	In case, dispute is not settled in negotiations, it shall be referred to Conciliator appointed by the competent authority of the Purchaser.
25.4	Except as provided elsewhere in this Contract, in case amicable settlement is not reached between the Parties, in respect of any dispute or difference; arising out of the formation, breach, termination, validity or execution of the Contract; or, the respective rights and liabilities of the Parties; or in relation to interpretation of any provision of the Contract; or, in any manner touching upon the Contract, then, either Party may, by a notice in writing to the other party refer such dispute or difference to the sole arbitration of an arbitrator appointed by Head of the BHEL Unit/Region/Division issuing the Contract. The Arbitrator shall pass a reasoned award and the award of the Arbitrator shall be final and binding upon the Parties. Subject as aforesaid, the provisions of Arbitration and Conciliation Act 1996 (India) or Statutory modifications or re-enactments thereof and the rules made thereunder and for the time being in force shall apply to the arbitration proceedings under this clause. The seat of arbitration shall be Bhopal.



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	<p>The cost of arbitration shall be borne as per award of the Arbitrator.</p> <p>Subject to the arbitration in terms of Clause above, the Courts at Bhopal shall have exclusive jurisdiction over any matter arising out of or in connection with this Contract.</p> <p>Notwithstanding the existence or any dispute or differences and /or reference for the arbitration, the Contractor shall proceed with and continue without hindrance the performance of its obligations under this Contract with due diligence and expedition in a professional manner except where the Contract has been terminated by either Party in terms of this Contract. Administrative Mechanism for Resolution of CPSEs Dispute as stated in https://dpe.gov.in/guidelines/guidelines/chapters/2673.</p> <p>In the event of any dispute or difference relating to the interpretation and application of the provisions of the commercial Contract between Central Public Sector Enterprises (CPSEs)/Port Trusts inter-se and also between CPSEs and Government Departments/Organizations (excluding disputes concerning railways, Income Tax, Customs and Excise Departments), such dispute or difference shall be taken up by either party for resolution through Administrative Mechanism for Resolution of CPSEs Disputes (AMRCD) as mentioned in Department of Public Enterprises (DPE) Office Memorandum No. 4(1)/2013-DPE(GM)/FTS-1835 dated 22-05-2018 as amended from time to time."</p>
25.5	The Bidder shall continue to perform the contract, pending settlement of dispute(s).
26	Applicable Laws and Jurisdiction of Courts
26.1	Indian laws both substantive and procedural, for the time being in force, including modifications thereto, shall govern the Contract including Arbitration proceedings. The competent Courts at Bhopal in the State of Madhya Pradesh, India shall have sole jurisdiction.
27	RIGHT OF REJECTION /NON- PLACEMENT OF PO: BHEL reserves the right to accept the offers in part or in full, or cancel the Tender enquiry without assigning any reason.
28	Performance Bank Guarantee (PBG)/ Security Deposit (SD):
28.1	<p>Wherever Security Deposit (covering contract performance) is called for in the Tender /NIT , the Performance Bank Guarantee (PBG) or Security Deposit (SD), hereafter referred as performance security is to be submitted by the successful bidder awarded the contract.. Performance security is to be submitted by the date specified in the contract.</p> <p>Modes of deposit:</p> <p>a) Performance security may be furnished in the following forms:</p> <p>(i) Local cheques of Scheduled Banks (subject to realization)/ Pay Order/ Demand Draft/ Electronic Fund Transfer in favour of BHEL.</p> <p>(ii) Bank Guarantee from Scheduled Banks / Public Financial Institutions as defined in the Companies Act. The Bank Guarantee format should have the approval of BHEL.</p> <p>(iii) Fixed Deposit Receipt issued by Scheduled Banks / Public Financial Institutions as defined in the Companies Act (FDR should be in the name of the Contractor, a/c BHEL).</p> <p>(iv) Securities available from Indian Post offices such as National Savings Certificates, Kisan Vikas Patras etc. (held in the name of Contractor furnishing the security and duly endorsed/ hypothecated/ pledged, as applicable, in favour of BHEL).</p> <p>(v) Insurance Surety Bond.</p> <p>(Note: BHEL will not be liable or responsible in any manner for the collection of interest or renewal of the documents or in any other matter connected therewith)</p> <p>b) In case of GTE tenders, the performance security should be in the same currency as the contract and must conform to Uniform Rules for Demand Guarantees (URDG 758) - an international convention regulating international securities.</p> <p>a) Performance Security is to be furnished by a specified date (generally 14(fourteen) days after notification of the award) and it should remain valid for a period of 60 (sixty) days beyond the date of completion of all contractual obligations of the supplier, including warranty obligations.</p> <p>Forfeiture of Performance Security:</p> <p>The performance security will be forfeited and credited to BHEL's account in the event of a breach of contract by the supplier.</p> <p>PS shall be refunded to the contractor without interest, after he duly performs and completes the contract in all respects but not later than 60 (sixty) days of completion of all such obligations including the warranty under the contract.</p> <p>The Performance Security shall not carry any interest.</p>
28.2	Composite 'Contract Performance Bank Guarantee' of matching value/ validity, where both Security Deposit and Performance Bank Guarantee are required, shall not be construed as deviation.
28.3	Wherever the contract is for supply of Goods processed on labor basis/mixed basis from BHEL supplied materials, the materials shall be issued against a suitable Bank guarantee as specified in the particular Enquiry/STC/ATC/Annexures.
28.4	Wherever PBG (covering equipment / system / work performance guarantee) is called for in the Notice Inviting Tender (NIT) deviation shall not be accepted



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28.5	Bank Guarantee wherever called for, shall be in the BHEL prescribed format. In case the order is to be placed in foreign currency, the BG must also be in Foreign currency, so specified by the Purchaser
28.6	Wherever Security Deposit (covering contract performance) is called for in the NIT, deviation shall not be accepted.
28.7	Bidder agrees to submit performance security required for execution of the contract within the time period mentioned. In case of delay in submission of performance security, enhanced performance security which would include interest (SBI rate + 6%) for the delayed period, shall be submitted by the bidder. Further, if performance security is not submitted till such time the first bill becomes due, the amount of performance security due shall be recovered as per terms defined in NIT / contract, from the bills along with due interest
29	<p>Benefits earmarked for Purchase from Micro & Small Enterprises (MSEs) –</p> <p>All benefits as per Government of India guidelines shall be given to eligible bidders.</p> <p>MSE bidders as defined by the MSMED Act as amended from time to time can avail the intended benefits only if they submit along with the offer, self-attested copies of relevant document, Udyam Registration as applicable stipulated in the MSMED Act or its rules/ regulations as amended from time to time and /or by the buyer. Non submission of such documents as stipulated hereinbefore will lead to consideration of their bids at par with other bidders. No benefit shall be applicable for the concerned for the tender enquiry, if any deficiency in the above required documents is not submitted before the price bid opening. If the tender is to be submitted through e-procurement portal, then the above required documents are to be uploaded on the portal. This provision for MSE will apply subject to the condition that the participating MSE meets the tender requirements.</p> <p>In case of any change in the MSE status of the bidder, it shall be the responsibility of the bidder to notify the change as a part of the bid document. If at a later date it comes to the knowledge of BHEL, that the change in the status has not been intimated by the bidder and the order is obtained under the premise of an MSE then BHEL may reject the bid or, as the case may be, cancel the order and take necessary steps for suspension of the business dealing against the bidder as per the extant guidelines for suspension of business dealings with suppliers/ contractors of BHEL.</p> <p>Note: MSME benefits shall not be given to traders, Dealers or authorised agents.</p> <p>It may however be noted that MSE guidelines as on date (Date of Technical Bid Opening Part-1) shall prevail.</p> <p>As per the OM No. F. No. 1(2)(1)/2016-MA dtd. 09.02.2017 issued from the Office of Development Commissioner (Micro, Small & Medium Enterprises), "Traders and agents should not be allowed to avail the benefits extended under the PP Policy". In view of this, it is clarified that benefits of MSE (such as EMD Waiver, Tender fee exemption, Price preference, Payment preference etc.) will be given only to those MSE Vendors who are manufacturers of offered items against the NIT. No MSE benefits shall be provided to Agents / Stockists / Dealers / Traders etc. for the items offered but not manufactured by themselves.</p>
29.1	MSEs shall be given tender documents free of cost and shall be exempted from payment of EMD. Tender documents shall be issued free of cost & no EMD wherever called for will be insisted upon. MSE bidders shall submit along with bid relevant documents w.r.t. their respective MSE status as per extant norms. Date to be reckoned for determining the deemed validity will be the last date of Technical bid submission. Non- submission of such document will lead to consideration of their bid, at par with other bidders and MSE status of such bidders shall be shifted to Non- MSE supplier till the supplier submit these documents.
29.2	<p>In tender, participating MSEs quoting price within price band of L1+15% shall also be allowed to supply a portion of requirement by bringing down their price to L1 price in a situation where L1 price is from someone other than a MSE and such MSE shall be allowed to supply up to at least 25% of total tendered value. In case of more than one such MSE, the supply shall be shared proportionately.</p> <p>A quantum of 6.25% (25% out of target of 25%), so earmarked, will be reserved for MSE's owned by SC / ST entrepreneurs who submit their bid with relevant documents provided that in event of failure of such MSE(s) to participate in tender process or meet tender requirements and L1 price, 6.25% sub-target for procurement earmarked for MSE(s) owned by SC or ST entrepreneurs shall be met from other MSE(s).</p> <p>A quantum of minimum of 3% reservation within the above mentioned 25% reservation, so earmarked, will be reserved for MSE's owned by women entrepreneurs who submit their bid with relevant documents provided that in event of failure of such MSE(s) to participate in tender process or meet tender requirements and L1 price, 3% sub-target for procurement earmarked for MSE(s) owned by women entrepreneurs shall be met from other MSE(s).</p> <p>In case of indivisible tender, the full quantity shall be awarded to L1.</p>
29.3	If an enterprise falling under MSE category as defined in the MSMED Act 2006, graduates to a higher category from its original category or beyond the purview of the Act, it shall continue to avail all non-tax benefits of its original category notified by the Ministry of Micro, Small and Medium Enterprise for a period of three years from the date of such graduation to the higher category.
29.4	MSE bidders as defined by the MSMED Act as amended from time to time can avail the intended benefits only if they submit, self-attested copies of Udyam Registration certificate, along with the offer. No benefits shall be applicable for the enquiry if any deficiency in the above required documents are not submitted before price bid opening. If the tender is to



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	<p>be submitted through e-procurement portal, then the above required self-attested documents are to be uploaded on the portal.</p> <p>No benefits shall be applicable for this enquiry if any deficiency in the above required documents are not submitted before price bid opening. If the tender is to be submitted through e-procurement portal, then the above required self-attested documents are to be uploaded on the portal.</p> <p>The deemed validity will be assessed on the date of bid opening (Part 1 in case of two part bid). Non submission of such documents as stipulated hereinbefore will lead to consideration of their bids at par with other bidders. No benefit shall be applicable for the concerned for the tender enquiry, if any deficiency in the above required documents is not submitted before the price bid opening. This provision for MSE will apply subject to the condition that the participating MSE meets the tender requirements.</p> <p>In case of any change in the MSE status of the bidder, it shall be the responsibility of the bidder to notify the change as a part of the bid document. If at a later date it comes to the knowledge of BHEL, that the change in the status has not been intimated by the bidder and the order is obtained under the premise of an MSE then BHEL may reject the bid or, as the case may be, cancel the order and take necessary steps for suspension of the business dealing against the bidder as per the extant guidelines for suspension of business dealings with suppliers/ contractors of BHEL.</p> <p>In case if all the items being procured under the enquiry fall under category of reserved items as defined in “Public Procurement Policy for Micro and Small Enterprises (MSEs) Order, 2012” and if any of the MSE bidder(s) is techno commercially qualified then the price bids of only MSE bidders shall be opened. If no MSE bidder is techno-commercially qualified, then price bids of all techno-commercially qualified bidders shall be opened.</p>																								
30	<p>Integrity Pact (IP) — Independent external monitors (IEM)</p> <p>For tenders in which integrity pact is applicable, following points stand valid :</p>																								
20.1	<p>IP is a tool to ensure that activities and transactions between the company and its bidders/contractors are handled in a fair, transparent and corruption free manner. A panel of Independent External Monitors (IEMs) have been appointed to oversee implementation of IP in BHEL.</p> <p>The IP as enclosed with the tender is to be submitted (duly signed by authorized signatory who signs in the offer) along with techno commercial bid. Only those bidders who have entered into such an IP with BHEL would be competent to participate in the bidding. In other words, entering into this pact would be a preliminary qualification.</p> <div><div><p>Name: -----</p><p>Address: -----</p><p>E-mail : -----</p></div><div>}</div><div>As indicated in NIT / enquiry</div></div>																								
30.2	<p>Please refer section 8 of the IP for roles and responsibilities of IEMs. In case of any complaint arising out of tendering process, the matter may be referred to the IEM mentioned in the tender.</p> <p>NOTE: No routine correspondence shall be addressed to the IEM (phone / post/e-mail) regarding the clarifications, time extensions or any other administrative queries, etc. on the tender issued. All such clarifications/ issues shall be addressed directly to the tender issuing (procurement) department.</p> <p>For all clarifications/ issues related to the tender, please contact:</p> <table><tr><td></td><td>(1)</td><td>(2)</td></tr><tr><td>Name</td><td></td><td></td></tr><tr><td>Landline No.</td><td></td><td></td></tr><tr><td>Mobile No.</td><td></td><td></td></tr><tr><td>Email</td><td></td><td></td></tr><tr><td>Dept.</td><td></td><td></td></tr><tr><td>Address</td><td></td><td></td></tr><tr><td>Fax</td><td></td><td></td></tr></table>		(1)	(2)	Name			Landline No.			Mobile No.			Email			Dept.			Address			Fax		
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31	<p>Fraud Prevention Policy : The Bidder along with its associate/ collaborators/ sub-contractors/ sub-bidders/ consultants/ service providers shall strictly adhere to BHEL Fraud Prevention Policy displayed on BHEL website www.bhel.com and shall immediately bring to the notice of BHEL Management about any fraud or suspected fraud as soon as it comes to their notice.</p>																								
32	<p>Integrity Commitment: The offers of the bidders who are under suspension as also the offers of the bidders, who engage the services of the banned firms, shall be rejected. The list of banned firms is available on BHEL website www.bhel.com.</p> <p>Integrity commitment, performance of the contract and punitive action thereof :</p>																								
32.1	<p>Commitment by BHEL:</p> <p>BHEL commits to take all measures necessary to prevent corruption in connection with the tender process and execution of the contract. BHEL will during the tender process treat all bidder(s) in a transparent and fair manner, and with equity.</p>																								
32.2	<p>Commitment by bidder / Supplier / Contractor :</p>																								



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32.2.1	<ul style="list-style-type: none"> - The bidder / supplier / contractor commit to take all measures to prevent corruption and will not directly or indirectly influence any decision or benefit which he is not legally entitled to nor will act or omit in any manner which tantamount to an offence punishable under any provision of the Indian Penal code, 1860 or any other law in force in India. - The bidder / supplier / contractor will, when presenting his bid, disclose any and all payments he has made, and is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract and shall adhere to relevant guidelines issued from time to time by govt. of India / BHEL - The bidder / supplier / contractor will perform / execute the contract as per the contract terms & conditions and will not default without any reasonable cause, which causes loss of business / money / reputation to BHEL.
32.2.2	If any bidder / supplier / contractor during pre-tendering / tendering / post tendering / award / execution / post-execution stage indulges in mal-practices, cheating, bribery, fraud or / and other misconduct or formation of cartel so as to influence the bidding process or influence the price or acts or omits in any manner which tantamount to an offence punishable under any provision of the Indian Penal Code, 1860 or any other law in force in India, then action may be taken against such bidder / supplier / contractor as per the extant guidelines of the company available on www.bhel.com and / or under applicable legal provisions.
32.2.3	<p>Preventive checks to eliminate suspected cartel formation between suppliers</p> <p>The Bidder declares that they will not enter into any illegal or undisclosed agreement or understanding, whether formal or informal with other Bidder(s). This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.</p> <p>In case, the Bidder is found having indulged in above activities, suitable action shall be taken by BHEL as per extant policies/ guidelines</p> <p>Declaration by Bidders</p> <p>We declare that the following family firms or sister concern affiliates/ subsidiary firms are participating in the tender No _____</p> <p>1.0 _____</p> <p>2.0 _____</p> <p>3.0 _____</p> <p>I _____ hereby declare on behalf of M/s _____ and family firms or sister concern affiliates/ subsidiary firms listed above that we are not indulging in cartel formation for Enquiry No _____.</p> <p style="text-align: right;">(_____) For M/s _____ Seal and Sign</p>
33	<p>Public Procurement (Preference to Make in India), Order 2017</p> <p>For this procurement, Public Procurement (Preference to Make in India), Order 2017 Dtd 15.06.2017 and 28.05.2018 and subsequent orders issued by both DPIIT and the respective nodal ministries shall be applicable</p> <p>For this procurement, the local content to categorise a supplier as a Class I local supplier/ Class II local Supplier / Non-Local supplier is as defined in Public Procurement (Preference to Make in India), Order 2017 dated 04.06.2020 issued by DPIIT. In case of subsequent orders issued by the nodal ministry changing the definition of local content for the items of the NIT, the same shall be applicable even if issued after issue of this NIT, but before opening of Part-II bids against this NIT.</p> <p>Bidder to mention the percentage of local content and place of value addition to manufacture these items in the tender.</p>
34	RESTRICTION UNDER RULE 144 (xi) OF THE GENERAL FINANCIAL RULES 2017: As per latest government guidelines
34.1	Any bidder from a country which shares a land border with India will be eligible to bid in this tender only if the bidder is registered with the competent authority.
34.2	"Bidder" (including the term 'tenderer', 'consultant' or service provider' in certain contexts means any person or firm or company, including any member of a consortium or joint venture (that is an association of several persons, or firms or companies) every artificial juridical person not falling in any of the description of bidders stated hereinbefore, including any agency, branch or office controlled by such person, participating in procurement process.
34.3	<p>Bidder from a country which shares a land border with India" for the purpose of this order means: -</p> <ol style="list-style-type: none"> An entity incorporated, established or registered in such a country; or A subsidiary of an entity incorporated, established or registered in such a country; or An entity substantially controlled through entities incorporated, established or registered in such a county; or An entity whose beneficial owner is situated in such a country; or



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	<p>e. An Indian (or other) agent of such an entity; or</p> <p>f. A natural person who is a citizen of such a country; or</p> <p>g. A consortium or joint venture where any member of the consortium or joint venture falls under any of the above.</p>
34.4	<p>The beneficial owner for the purpose of (iii) above will be as under:</p> <p>1. In case of company or Limited Liability Partnership, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has a controlling ownership interest or who exercises control through other means.</p> <p>Explanation –</p> <p>a. “Controlling ownership interest” means ownership of or entitlement to more than twenty-five per cent of shares or capital or profits of the company.</p> <p>b. “Control” shall include the right to appoint majority of the directors or to control the management or policy decisions including by virtue of their shareholding or management rights or shareholder’s agreements or voting agreements.</p> <p>2. In case of a partnership firm, the beneficial owner is the natural person(s) who, whether acting alone or together, or through one or more juridical person, has ownership of entitlement to more than fifteen percent of capital or profits of the partnership;</p> <p>3. In case of an unincorporated association or body of individuals, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has ownership of or entitlement to more than fifteen percent of the property or capital or profits of such association or body of individuals;</p> <p>4. Where no natural person is identified under (1) or (2) or (3) above, the beneficial owner is the relevant natural person who holds the position of senior managing official;</p> <p>5. In case of a trust, the identification of beneficial owner(s) shall include identification of the author of the trust, the trustee, the beneficiaries with fifteen percent or more interest in the trust and any other natural person exercising ultimate effective control over the trust through a chain of control or ownership.</p>
34.5	An Agent is a person employed to do any act for another, or to represent another in dealings with third person.
34.6	<p>Model certificate for Tenders</p> <p><i>“I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India; I certify that this bidder is not from such a country or, if from such a country, has been registered with the competent authority. I hereby certify that this bidder fulfills all requirements in this regards and is eligible to be considered. [Where applicable , evidence of valid registration by the Competent Authority shall be attached].”</i></p>
35	<p>Conflict of Interest:</p> <p>"A bidder shall not have conflict of interest with other bidders. Such conflict of interest can lead to anti-competitive practices to the detriment of Procuring Entity's interests. The bidder found to have a conflict of interest shall be disqualified. A bidder may be considered to have a conflict of interest with one or more parties in this bidding process, if: a) they have controlling partner (s) in common; or</p> <p>b) they receive or have received any direct or indirect subsidy/ financial stake from any of them; or c) they have the same legal representative/agent for purposes of this bid; or</p> <p>d) they have relationship with each other, directly or through common third parties, that puts them in a position to have access to information about or influence on the bid of another Bidder; or</p> <p>e) Bidder participates in more than one bid in this bidding process. Participation by a Bidder in more than one Bid will result in the disqualification of all bids in which the parties are involved. However, this does not limit the inclusion of the components/ subassembly/ Assemblies from. one bidding manufacturer in more than one bid; or</p> <p>f) In cases of agents quoting in offshore procurements, on behalf of their principal manufacturers, one agent cannot represent two manufacturers or quote on their behalf in a particular tender enquiry. One manufacturer can also authorize only one agent/dealer.</p> <p>There can be only one bid from the following:</p> <p>1. The principal manufacturer directly or through one Indian agent on his behalf; and</p> <p>2. Indian/foreign agent on behalf of only one principal; or</p>



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	<p>g) A Bidder or any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the contract that is the subject of the Bid; or</p> <p>h) In case of a holding company having more than one independently manufacturing units, or more than one unit having common business ownership/management, only one unit should quote. Similar restrictions would apply to closely related sister companies.</p> <p>Bidders must proactively declare such sister/ common business/ management units in same/ similar line of business. "</p>
36	<p>Breach of contract, Remedies and Termination</p> <p>In case of breach of contract, wherever the value of security instruments like performance bank guarantee available with BHEL against the said contract is at least 10% of the contract value, the same be encashed. In case the value of the security instruments available is less than 10% of the contract value, the balance amount be recovered from other financial remedies (i.e. available bills of the contractor, retention amount, etc. with BHEL) or legal remedies be pursued. Further, levy of liquidated damages, debarment, termination, de-scoping, short-closure, etc., shall be applied as per provisions of the contract.</p>
37	<p>Option clause:</p> <p>The Purchaser reserves the right to decrease the quantity to be ordered at the time of placement of contract. The purchaser also reserves the right to increase the ordered quantity by up to 25% of the contracted quantity during the currency of the contract at the contracted rates. Bidders are bound to accept the orders accordingly.</p>

Note:

1.0 Tender Specific conditions shall override relevant provisions of this GTC

2.0 In the event of any change as notified by Govt. of India same will supersede the relevant GTC clause.

Annexure-1

INTEGRITY PACT**Between**

Bharat Heavy Electricals Ltd. (BHEL), a company registered under the Companies Act 1956 and having its registered office at "BHEL House", Siri Fort, New Delhi - 110049 (India) hereinafter referred to as "The Principal", which expression unless repugnant to the context or meaning hereof shall include its successors or assigns of the ONE PART

and

_____, (description of the party along with address), hereinafter referred to as "The Bidder/ Contractor" which expression unless repugnant to the context or meaning hereof shall include its successors or assigns of the OTHER PART

Preamble

The Principal intends to award, under laid-down organizational procedures, contract/s for CR90

landmark on front & back in E1448889

_____ (hereinafter referred to as "Contract"). The Principal values full compliance with all relevant laws of the land, rules and regulations, and the principles of economic use of resources, and of fairness and transparency in its relations with its Bidder(s)/ Contractor(s).

In order to achieve these goals, the Principal will appoint panel of Independent External Monitor(s) (IEMs), who will monitor the tender process and the execution of the contract for compliance with the principles mentioned above.

Section 1- Commitments of the Principal

- 1.1 The Principal commits itself to take all measures necessary to prevent corruption and to observe the following principles: -
 - 1.1.1 No employee of the Principal, personally or through family members, will in connection with the tender for, or the execution of a contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.
 - 1.1.2 The Principal will, during the tender process treat all Bidder(s) with equity and reason. The Principal will in particular, before and during the tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential/ additional information through which the Bidder(s) could obtain an advantage in relation to the tender process or the contract execution.
 - 1.1.3 The Principal will exclude from the process all known prejudiced persons.
- 1.2 If the Principal obtains information on the conduct of any of its employees which is a penal offence under the Indian Penal Code 1860 and Prevention of Corruption Act 1988 or any other statutory penal enactment, or if there be a substantive suspicion in this regard, the Principal will inform its Vigilance Office and in addition can initiate disciplinary actions.

Section 2 - Commitments of the Bidder(s)/ Contractor(s)

- 2.1 The Bidder(s)/ Contractor(s) commit himself to take all measures necessary to prevent corruption. The Bidder(s)/ Contractor(s) commits himself to observe the following principles during participation in the tender process and during the contract execution.

- 2.1.1 The Bidder(s)/ Contractor(s) will not, directly or through any other person or firm, offer, promise or give to the Principal or to any of the Principal's employees involved in the tender process or the execution of the contract or to any third person any material, immaterial or any other benefit which he/ she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the tender process or during the execution of the contract.
- 2.1.2 The Bidder(s)/ Contractor(s) will not enter with other Bidder(s) into any illegal or undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.
- 2.1.3 The Bidder(s)/ Contractor(s) will not commit any penal offence under the relevant Indian Penal Code (IPC) and Prevention of Corruption Act; further the Bidder(s)/ Contractor(s) will not use improperly, for purposes of competition or personal gain, or pass on to others, any information or document provided by the Principal as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.
- 2.1.4 Foreign Bidder(s)/ Contractor(s) shall disclose the name and address of agents and representatives in India and Indian Bidder(s)/ Contractor(s) to disclose their foreign principals or associates. The Bidder(s)/ Contractor(s) will, when presenting his bid, disclose any and all payments he has made, and is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract.
- 2.2 The Bidder(s)/ Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.
- 2.3 The Bidder(s)/ Contractor(s) shall not approach the Courts while representing the matters to IEMs and shall await their decision in the matter.

Section 3 - Disqualification from tender process and exclusion from future contracts

If the Bidder(s)/ Contractor(s), before award or during execution has committed a transgression through a violation of Section 2 above, or acts in any other manner such as to put his reliability or credibility in question, the Principal is entitled to disqualify the Bidder(s)/ Contractor(s) from the tender process, terminate the contract, if already awarded, exclude from future business dealings and/ or take action as per the separate "Guidelines on Banning of Business dealings with Suppliers/ Contractors", framed by the Principal.

Section 4 - Compensation for Damages

- 4.1 If the Principal has disqualified the Bidder (s) from the tender process before award / order acceptance according to Section 3, the Principal is entitled to demand and recover the damages equivalent to Earnest Money Deposit/ Bid Security.
- 4.2 If the Principal is entitled to terminate the Contract according to Section 3, or terminates the Contract in application of Section 3 above, the Bidder(s)/ Contractor (s) transgression through a violation of Section 2 above shall be construed breach of contract and the Principal shall be entitled to demand and recover from the Contractor an amount equal to 5% of the contract value or the amount equivalent to Security Deposit/ Performance Bank Guarantee, whichever is higher, as damages, in addition to and without prejudice to its right to demand and recover compensation for any other loss or damages specified elsewhere in the contract.

Section 5 - Previous Transgression

- 5.1 The Bidder declares that no previous transgressions occurred in the last 3 (three) years with any other company in any country conforming to the anti-corruption approach or with any other Public Sector Enterprise in India that could justify his exclusion from the tender process.
- 5.2 If the Bidder makes incorrect statement on this subject, he can be disqualified from the tender process or the contract, if already awarded, can be terminated for such reason or action can be taken as per the separate "Guidelines on Banning of Business dealings with Suppliers/ Contractors", framed by the Principal.


Section 6 - Equal treatment of all Bidder (s)/ Contractor (s) / Sub-contractor (s)

- 6.1 The Principal will enter into Integrity Pacts with identical conditions as this Integrity Pact with all Bidders and Contractors.
- 6.2 In case of Sub-contracting, the Principal Contractor shall take the responsibility of the adoption of Integrity Pact by the Sub-contractor(s) and ensure that all Sub-contractors also sign the Integrity Pact.
- 6.3 The Principal will disqualify from the tender process all Bidders who do not sign this Integrity Pact or violate its provisions.

Section 7 - Criminal Charges against violating Bidders/ Contractors /Subcontractors

If the Principal obtains knowledge of conduct of a Bidder, Contractor or Subcontractor, or of an employee or a representative or an associate of a Bidder, Contractor or Subcontractor which constitutes corruption, or if the Principal has substantive suspicion in this regard, the Principal will inform the Vigilance Office.

Section 8 -Independent External Monitor(s)

- 
- 8.1 The Principal appoints competent and credible panel of Independent External Monitor (s) (IEMs) for this Integrity Pact. The task of the IEMs is to review independently and objectively, whether and to what extent the parties comply with the obligations under this Integrity Pact.
 - 8.2 The IEMs are not subject to instructions by the representatives of the parties and performs his functions neutrally and independently. He reports to the CMD, BHEL.
 - 8.3 The IEMs shall be provided access to all documents/ records pertaining to the Contract, for which a complaint or issue is raised before them as and when warranted. However, the documents/records/information having National Security implications and those documents which have been classified as Secret/Top Secret are not to be disclosed.
 - 8.4 The Principal will provide to the IEMs sufficient information about all meetings among the parties related to the Contract provided such meetings could have an impact on the contractual relations between the Principal and the Contractor. The parties offer to the IEMs the option to participate in such meetings.

- 8.5 The advisory role of IEMs is envisaged as that of a friend, philosopher and guide. The advice of IEMs would not be legally binding and it is restricted to resolving issues raised by a Bidder regarding any aspect of the tender which allegedly restricts competition or bias towards some Bidders. At the same time, it must be understood that IEMs are not consultants to the Management. Their role is independent in nature and the advice once tendered would not be subject to review at the request of the organization.
- 8.6 For ensuring the desired transparency and objectivity in dealing with the complaints arising out of any tendering process or during execution of Contract, the matter should be examined by the full panel of IEMs jointly, who would look into the records, conduct an investigation, and submit their joint recommendations to the Management.
- 8.7 The IEMs would examine all complaints received by them and give their recommendations/ views to the CMD, BHEL at the earliest. They may also send their report directly to the CVO, in case of suspicion of serious irregularities requiring legal/ administrative action. Only in case of very serious issue having a specific, verifiable Vigilance angle, the matter should be reported directly to the Commission. IEMs will tender their advice on the complaints within 30 days.
- 8.8 The CMD, BHEL shall decide the compensation to be paid to the IEMs and its terms and conditions.
- 8.9 IEMs should examine the process integrity, they are not expected to concern themselves with fixing of responsibility of officers. Complaints alleging mala fide on the part of any officer of the Principal should be looked into by the CVO of the Principal.
- 8.10 If the IEMs have reported to the CMD, BHEL, a substantiated suspicion of an offence under relevant Indian Penal Code / Prevention of Corruption Act, and the CMD, BHEL has not, within reasonable time, taken visible action to proceed against such offence or reported it to the Vigilance Office, the IEMs may also transmit this information directly to the Central Vigilance Commissioner, Government of India.
- 8.11 After award of work, the IEMs shall look into any issue relating to execution of Contract, if specifically raised before them. As an illustrative example, if a Contractor who has been awarded the Contract, during the execution of Contract, raises issue of delayed payment etc. before the IEMs, the same shall be examined by the panel of IEMs. Issues like warranty/ guarantee etc. shall be outside the purview of IEMs.
- 8.12 However, the IEMs may suggest systemic improvements to the management of the Principal, if considered necessary, to bring about transparency, equity and fairness in the system of procurement.
- 8.13 The word 'Monitor' would include both singular and plural.

Section 9 - Pact Duration

- 9.1 This Integrity Pact shall be operative from the date this Integrity Pact is signed by both the parties till the final completion of contract for successful Bidder, and for all other Bidders 6 months after the Contract has been awarded. Any violation of the same would entail disqualification of the bidders and exclusion from future business dealings.
- 9.2 If any claim is made/ lodged during currency of this Integrity Pact, the same shall be binding and continue to be valid despite the lapse of this Pact as specified above, unless it is discharged/ determined by the CMD, BHEL.

Section 10 - Other Provisions

- 10.1 This Integrity Pact is subject to Indian Laws and exclusive jurisdiction shall be of the competent Courts as indicated in the Tender or Contract, as the case may be.
- 10.2 Changes and supplements as well as termination notices need to be made in writing.
- 10.3 If the Bidder(s)/ Contractor(s) is a partnership or a consortium or a joint venture, this Integrity Pact shall be signed by all partners of the partnership or joint venture or all consortium members.
- 10.4 Should one or several provisions of this Integrity Pact turn out to be invalid, the remainder of this Integrity Pact remains valid. In this case, the parties will strive to come to an agreement to their original intentions.
- 10.5 Only those bidders / contractors who have entered into this Integrity Pact with the Principal would be competent to participate in the bidding. In other words, entering into this Integrity Pact would be a preliminary qualification.
- 10.6 In the event of any dispute between the Principal and Bidder(s)/ Contractor(s) relating to the Contract, in case, both the parties are agreeable, they may try to settle dispute through Mediation before the panel of IEMs in a time bound manner. In case, the dispute remains unresolved even after mediation by the panel of IEMs, either party may take further action as the terms & conditions of the Contract. The fees/expenses on dispute resolution through mediation shall be shared by both the parties. Further, the mediation proceedings shall be confidential in nature and the parties shall keep confidential all matters relating to the mediation proceedings including any settlement agreement arrived at between the parties as outcome of mediation. Any views expressed, suggestions, admissions or proposals etc. made by either party in the course of mediation shall not be relied upon or introduced as evidence in any further arbitral or judicial proceedings, whether or not such proceedings relate to the dispute that is the subject of mediation proceedings. Neither of the parties shall present IEMs as witness in any Alternative Dispute Resolution or judicial proceedings in respect of the dispute that was subject of mediation.


विनीत सुमन / VINEET SUMAN

For & On behalf of the Principal
वरिष्ठ प्रबंधक / Sr. Manager
सी.एम.एम. - स्टील विभाग / CMM-Steel Division
(Office Seal)
बी.एच.ई.एल., भोपाल / B.H.E.L., BHOPAL

Place BHEL Bhopal

Date 24/12/24

Witness: 24.12.24
(Name & Address) ATUL KUMAR
BHEL Bhopal

For & On behalf of the Bidder/ Contractor
(Office Seal)

Witness: _____
(Name & Address) _____

Integrity Pact (IP)

Clause on IP in the tender

- (a) IP is a tool to ensure that activities and transactions between the Company and its Bidders/ Contractors are handled in a fair, transparent and corruption free manner. Following Independent External Monitors (IEMs) on the present panel have been appointed by BHEL with the approval of CVC to oversee implementation of IP in BHEL.

SI	IEM	Email
1.	Shri Otem Dai, IAS (Retd.)	iem1@bhel.in
2.	Shri Bishwamitra Pandey, IRAS (Retd.)	iem2@bhel.in
3.	Shri Mukesh Mittal, IRS (Retd.)	iem3@bhel.in

- (b) The IP as enclosed with the tender is to be submitted (duly signed by authorized signatory) along with techno-commercial bid (Part-I, in case of two/ three part bid). Only those bidders who have entered into such an IP with BHEL would be competent to participate in the bidding. In other words, entering into this Pact would be a preliminary qualification.
- (c) Please refer Section-8 of IP for Role and Responsibilities of IEMs. In case of any complaint arising out of the tendering process, the matter may be referred to any of the above IEM(s). All correspondence with the IEMs shall be done through email only.

Note:

No routine correspondence shall be addressed to the IEM (phone/ post/ email) regarding the clarifications, time extensions or any other administrative queries, etc on the tender issued. All such clarification/ issues shall be addressed directly to the tender issuing (procurement) department's officials whose contact details are provided below:

Details of contact person(s):

(1)
Name: Vineet Suman
Deptt: CMM-Steel
Address: BHEL, Bhopal
Phone: (Landline/ Mobile) 5805

Email: vineetsuman@bhel.in
Fax: _____

(2)
Name: ATUL KUMAR
Deptt: CMM-Steel
Address: BHEL BHOPAL
Phone: (Landline/ Mobile) 07552505421

Email: atul_kumar@bhel.in
Fax: _____

BHARAT HEAVY ELECTRICALS LIMITED BHOPAL
INSPECTION QUALITY PLAN FOR OFF-LOADED CRGO STEEL LAMINATION
QA PLAN NO: QA/TCB/QAP-BO/02 REV.02 **DATE: 18/04/2024**

SL No	STAGE	CHARACTERISTICS	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE CRITERIA	FORMAT OF RECORD	AGENCY		REMARKS
								M	B/T	
1	Material TC verification & correlation	Verification that material is from BHEL approved Vendor and of specified grade, Electrical, Mechanical, Magnetic properties.	Visual	100% Rolls	PO/ Relevant Drg. Spec.	PO/ Relevant Drg. Spec.	TC/ Challan, Roll Identification slip.	P	V	BHEL: Mill TC Review by BHEL before start of Production.
2	In Process Inspection	1. During Slitting: width, burr and edge bow. 2. Cropping of CRGO rolls: Cropping length and angle. Piercing hole dia, hole pitch, mitering length, burr and bow.	Measure	Surveillance Check (Min twice every shift)	BHEL Drg / std. TR 10141C	BHEL Drg / std. TR 10141C	TR	P	V	
3	Stacking	Stacking of laminations as per drg.	Visual	100%	BHEL Drg./ Spec.	BHEL Drg./ Spec.	Vendors Record	P	V	
4	Final Inspection at Vendor works	Dimension, Visual, Burr level, Review of previous records	Visual, Measure	1 Sample/Lot	BHEL Drg./ Spec.	BHEL Drg./ Spec.	TC/TR	P	W	CHP
5	Packing & Dispatch	Proper packing of lamination to avoid damage /rusting in Transit.	Visual	100%	BHEL Drg./ Spec.	BHEL Drg./ Spec.	Vendors Record	P	V	
6	Final Inspection & Testing	1. Dimensional Checks 2. Electrical, Mechanical, Magnetic properties as per spec.	Test	As per attached Sampling plan Annexure-A	Relevant BHEL material purchase specs.	Relevant BHEL material purchase specs	TR	P	W	BHEL: CHP (The sample will be drawn at BHEL Bhopal after receipt of Material and tested at BHEL Bhopal.)
M-Manufacturer, B/T-BHEL/ TPIA, TPIA-Third Party Inspection agency, P- Perform, V- Verification, W- Witness, CHP- Customer hold point. TC-Test certificate, TR- Report/QC Record/ MFG Record of Manufacturer. Note: This QAP shall be read in conjunction with Customer approved QAP/RQP/MQP for specific work Order (As applicable).										

Prepared By

सत्येंद्र कुमार सिंह / Sateesh Kumar Singh
 अभियंता / Engineer
 गुणता आश्वासन टीसीबी / Quality Assurance -TCB
 बी.एस.ई.एल., भोपाल / B.H.E.L., BHOPAL

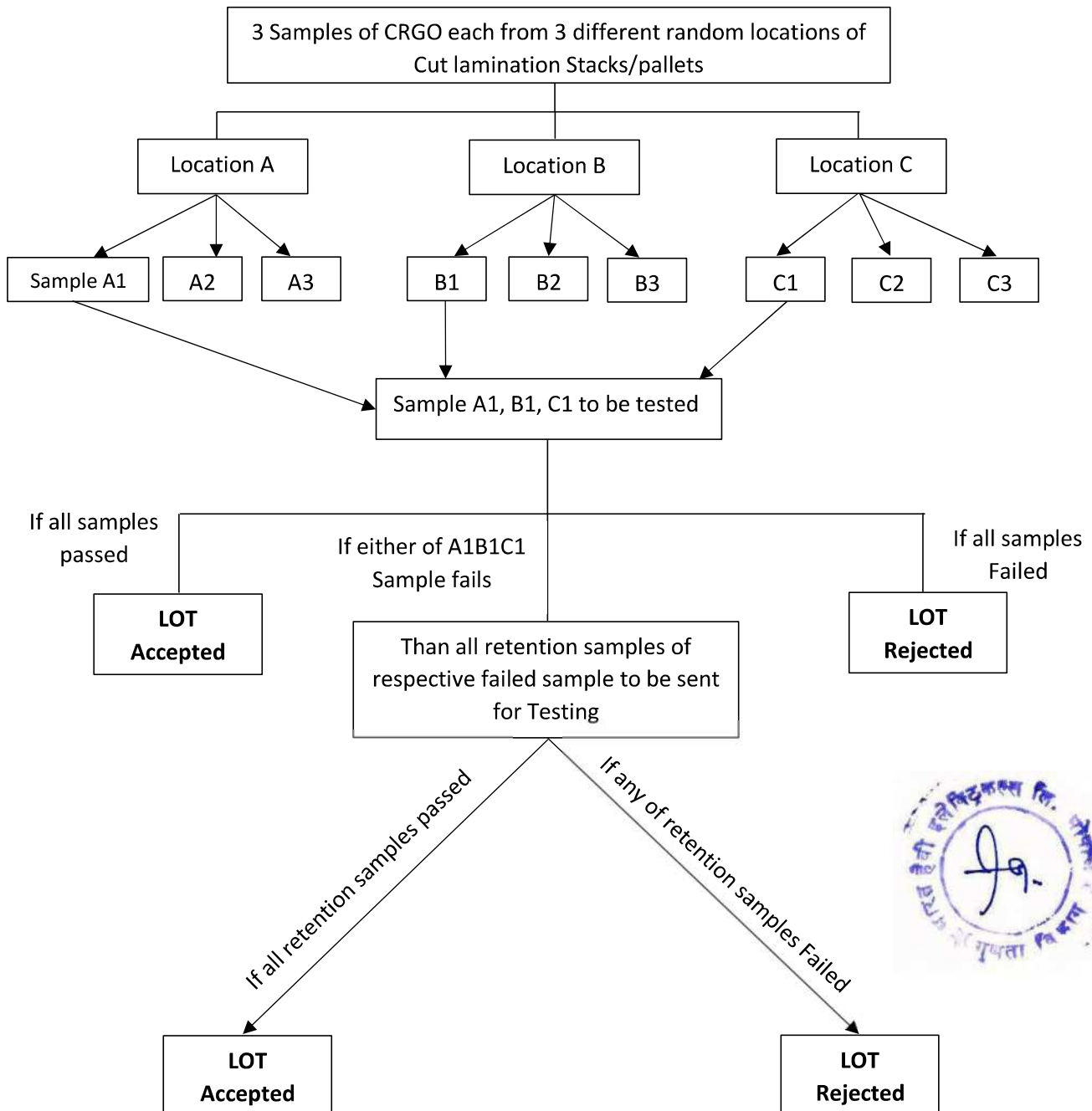
Approved By


अभिषेक कुमार शर्मा / Abhishek Kumar Sharma
 वरिष्ठ प्रबंधक / Sr. Manager
 एच.ए.एल.सी.आर. (टीसीबी) / QA & QTR-TCB
 बी.एस.ई.एल., भोपाल / BHEL, BHOPAL

ANNEXURE-A

SAMPLING PLAN FOR ACCEPTANCE OF CRGO LAMINATION PER LOT (Clause no 6 of BO QAP: QA/TCB/QAP-BO/02)

❖ CRGO Cut lamination lot received.



REF.	Comp.drg.	 Form No. 2038	उत्पाद मानक परिणामित्र शाप/अभि.निर्देश	PRODUCT STANDARD TRANSFORMER SHOP / ENGG INSTRUCTIONS	TR10141C	
				3 पृष्ठों में 1	PAGE 1 OF 3	

TITLE: - DIMENSION AND TOLERANCES FOR CORE

General: This specification governs the dimensions and tolerances on core assembly.

Compliance with standards: There is no National /International standards covering the above requirements. However following dimensions and tolerances are derived to control the process of core manufacturing. In case of any deviation, it should be referred to Engineering Department for review and clearance.

1.0 CORE DIMENSIONS :-

1.1 **DIAMETER :-** This is to be multiple of 2mm.

1.2 **LEG LENGTH :-** This is to be multiple of 2mm.

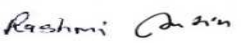
1.3 **LEG CENTER :-** This is to be multiple of 2mm.


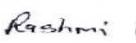
1.4 **No. OF PACKETS :-** This is to be as given below –

CORE DIA IN mm.	MAIN LEG NO.OF PACKETS	MAIN YOKE & AUX.LEG / YOKE NO. OF PACKETS**
Up to 500	10	4
502 -760	12	4 -5
More than 760	15 Or more as specified	5

** The width and area of main and auxiliary yoke packet after merging should always be more than width and area of the packets before merging .
Refer sheet TR 10137C (pages 1 to 3 for figures.)

1.5 LAMINATION WIDTH :- This is to be multiple of 10mm, however for main yokes and outer legs of 5 limbed cores, the center packed lamination can be multiple of 5 mm.

TR10141C	PAGE 1 OF 3	पुन:Rev. 09 दि. Dt. 17/11/21	SHEET REAFFIRMED.  RASHMI NITIN NKM	वितरण DISTRIBUTION.	सं.	स्वीकृत किया : APPROVED : sd/- BSB , MKS	
		पुन:Rev. 08 दि. Dt. 14/10/16	SHEET REAFFIRMED. NITIN A.DEOTA	TRE/TRM/FTM TRX/TTG/ QC-TCB/QA-TCB/ JHANSI		तैयार किया PREPD. Sd/- HKM	जारी किया ISSUED टीआरई/मानक TRE/STD.

REF.	Comp.drg.	 Form No. 2038	उत्पाद मानक परिणामित्र शाप/अभि.निर्देश	PRODUCT STANDARD TRANSFORMER SHOP / ENGG INSTRUCTIONS		TR10141C																
				3 पृष्ठों में 2	PAGE 2 OF 3																	
<p>2.0 TOLERANCES ON CORES :-</p> <p>2.1</p> <table border="1"> <thead> <tr> <th>Core Dia in mm</th> <th>ToL. On Dia in mm</th> <th>ToL. On total built up thickness in mm.</th> </tr> </thead> <tbody> <tr> <td>Up to 400</td> <td>+0 -3</td> <td>+3 -0</td> </tr> <tr> <td>402 -760</td> <td>+0 -4</td> <td>+4 -0</td> </tr> <tr> <td>762 -1100</td> <td>+0 -5</td> <td>+5 -0</td> </tr> <tr> <td>Above 1100</td> <td>+0 -7</td> <td>+6 -0</td> </tr> </tbody> </table> <p>2.2 TOLERANCE BETWEEN CENTER LINE OF TOP & BOTTOM YOKE + 2, - 0 mm.</p> <p>2.3 TOLERANCE BETWEEN CENTER LINE OF 2 CONSECUTIVE MAIN LEGS. + 1, - 0 mm.</p> <p>2.4 TOLERANCES ON CORE LEANING</p> <ul style="list-style-type: none"> - 2 mm PER METER ON MAIN LEG INCLUDING YOKES. - 3 mm PER METER ON AUX LEG INCLUDING YOKES. <p>ABOVE TO BE MEASURED USING PLUMB. LOCAL WAVINESS IN YOKES AT LEG LOCATION SHALL BE CHECKED AND SUITABLY ADDED/SUBTRACTED IN ABOVE VALUES DEPENDING UPON THE CORE BEHAVIOUR.</p> <p>2.5 TOLERANCE ON TOP INDIVIDUAL CORE PACKET ± 1.00 MM.</p> <p>2.6 TOLERANCE ON TOP/ BOTTOM YOKE WAVINESS:</p> <p>UPTO 750 Tk : ± 5 mm. UPTO 1000 Tk : ± 10 mm. ABOVE 1000 Tk : ± 15 mm,</p> <p>2.7 TOLERANCE ON MAIN/ AUX LEG LAMINATION WAVINESS:</p> <p>UPTO 750 Tk : ± 5 mm. From 750 to 1000 Tk : ± 7 mm. ABOVE 1000 Tk : ± 9 mm,</p>								Core Dia in mm	ToL. On Dia in mm	ToL. On total built up thickness in mm.	Up to 400	+0 -3	+3 -0	402 -760	+0 -4	+4 -0	762 -1100	+0 -5	+5 -0	Above 1100	+0 -7	+6 -0
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