



Bharat Heavy Electricals Limited

Heavy Equipment Repair Plant

Tarna Shivpur Varanasi-221003

website: <https://herp.bhel.com>

Enquiry Number : **E-304-24-0090-61-1** Date : **02/May/2024**

Enquiry For Material :-

SI No	Material Description	Material Code	Quantity	Unit
1	ROUGH M/CD CASTING OF LOWER JOURNAL HOUSING AS PER DRG.46100402756/01 WITH MATL. AS PER SPECN. AA19511/09	BA9211123240	21.0	NOS
2	ROUGH MACHINED CASTING OF UPPER JOURNAL HOUSING(BM-010.04.01.03) AS PER DRG.36100403151/00 WITH MATL. AS PER SPECN. AA19511/09	BA9211123259	21.0	NOS
3	ROUGH M/CD CASTING OF JR. HEAD (HY-903.01) AS PER DRG. 06108800525/06 WITH MATERIAL AS PER SPECN. AA19511/09	RV1910101258	3.0	NOS

Remarks

(A) SUPPLY CONDITION :

- ITEM TO BE SUPPLIED AT HERP STORES.
- PRE-DESPATCH INSPECTION SHALL BE CARRIED OUT AS PER QUALITY PLAN NO. RV/C&F/102 REV-00 AT PARTY'S WORKS BY BHEL REPRESENTATIVE.

B) TECHNICAL DELIVERY CONDITION:

- MATERIAL SHOULD BE AS PER SPECN.AA19511/09.
- DIMENSIONS AND TOLERANCES TO BE MAINTAINED AS PER DRG.
- UN-SPECIFIED CASTING TOLERANCES TO BE MAINTAINED AS PER TOL. CL.4 OF STANDARD AA0230402.
- ALL THE TECHNICAL NOTINGS MENTIONED IN THE DRG. ,SPECIFICATION & QUALITY PLAN SHOULD BE STRICTLY FOLLOWED.
- HEAT TREATMENT CHART/REPORT IS REQUIRED.
- DIMENSIONS REPORT IS REQUIRED.
- CASTING SHOULD BE PROPERLY FETTLED.

(C) TEST CERTIFICATE: TEST CERTIFICATE:

- REQUIRED FOR CHEMICAL & MECHANICAL PROPERTIES OF RAW MATL.
- TEST RESULTS OF UT,MPI & DP.

(D) GUARANTEE CERTIFICATE: REQUIRED FOR 24 MONTHS AGAINST ANY MANUFACTURING DEFECTS FROM THE DATE OF RECEIPT AT BHEL HERP.

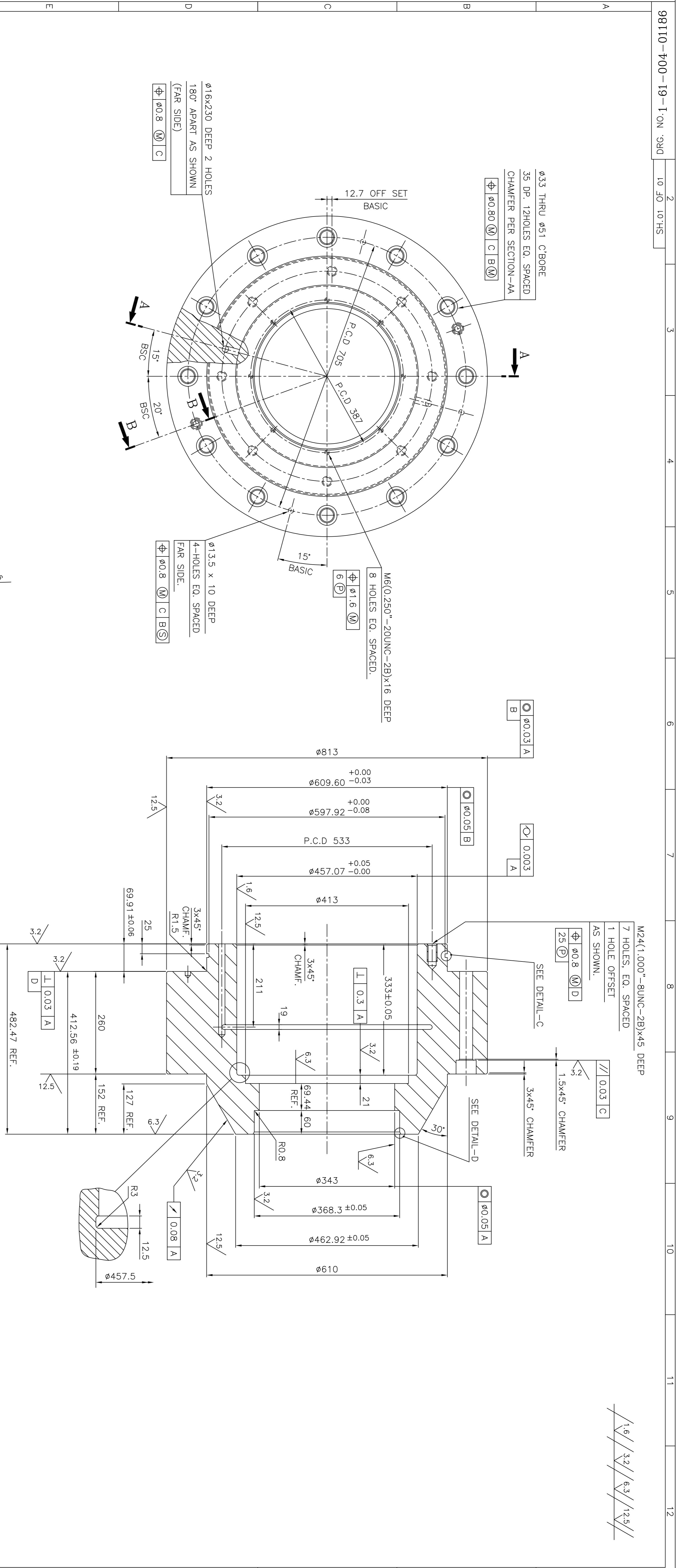
(E) PACKING INSTRUCTIONS:ITEM TO BE SUPPLIED IN PROPERLY SECURED CONDITION ON TRUCK/TRAILER AFTER APPLYING THE RUST PREVENTIVE PAINT TO AVOID RUSTING.

(F) DELIVERY REQD WITHIN 04 MONTHS FROM THE DATE OF PO.HOWEVER EARLY DELIVERY IS ACCEPTABLE.

(G) ALL OTHER TERMS AND CONDITIONS AS PER GTC.

98110-400-19-1 ON DRG 2 10 FO 10 HS 3 4 5 6 7 8 9 10 11 12

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NOTES:-

01. FOR ROUGH FORGING REFER DRG. NO. 3-61-004-90188
02. BREAK ALL SHARP EDGES AND CORNERS UNLESS OTHERWISE NOTED.
03. TOLERANCES UNLESS OTHERWISE NOTED.
FORGING ±1.6
ANGULAR ±0.1°
04. VAR. 01 - METRIC THREADS
VAR. 02 - INCH THREADS

ITEM NO.	DESCRIPTION	DRAWING NO.	VAR NO.	RAW MATERIAL SIZE OR CASTING DRG. NO. OR FORGING DRG. NO.	MATERIAL SPECN.	QUANTITY
01	FORGING				BA9413221260	958,000
					AA193332	1

THE FOLLOWING CONDITIONS APPLY EXCEPT OTHERWISE STATED.

1. REF. TO HVOZ02061 FOR UNSPECIFIED TOLERANCES.
2. CHAMFER W/OD. SHARP EDGES 1.2 TO 1.0 AT 45°
3. INTERNAL W/OD. CORNER RADI 1 TO 0.7
4. THE SURFACE ROUGHNESS WHERE-EVER NOT SHOWN SHALL BE TAKEN FROM THE BACK ROUGHNESS SHOWN OUT SIDE THE BACK SLASH GIVEN ON THE TOP MOST RIGHT CORNER OF THE DRG.

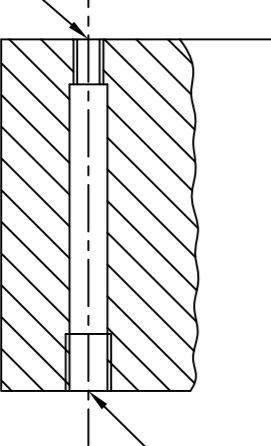
TYPE OF PRODUCT: **BHEL 280/1043 BOWL MILL**
NAME OF CUSTOMER/PROJECT: **BHARAT HEAVY ELECTRICALS LIMITED HYDERABAD**

DEPT.	UNTL. DNG. OR PLY ENGS. CODE	SCALE	WEIGHT (KG)	NO. OF ITEMS
446	1:5	958,000	30	

NAME: **UNIC** SIGN: **UNIC** DATE: **12.06.99**
CHD: **N.D.SAMUEL** APPD: **S.CHATJEE** REF. TO ASSY DRG. NO. **1-61-004-01190** ITEM NO. **03** NO. OF SHEETS **01**

TITLE: **UPPER JOURNAL HOUSING** DRAWING NO. **1-61-004-01186** SHEET NO. **01** NO. OF SHEETS **01**

SECTION-BB



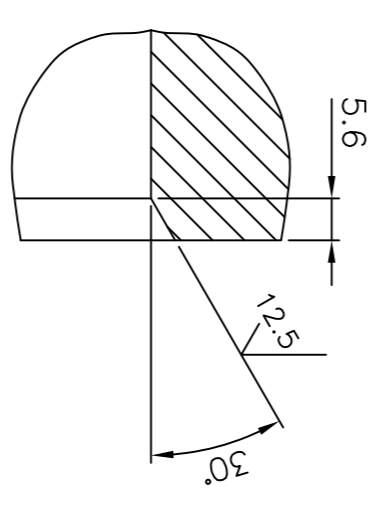
M20 THRU TO HOLE
2-HOLES AS SHOWN
(JACK SCREW)

SECTION-AA

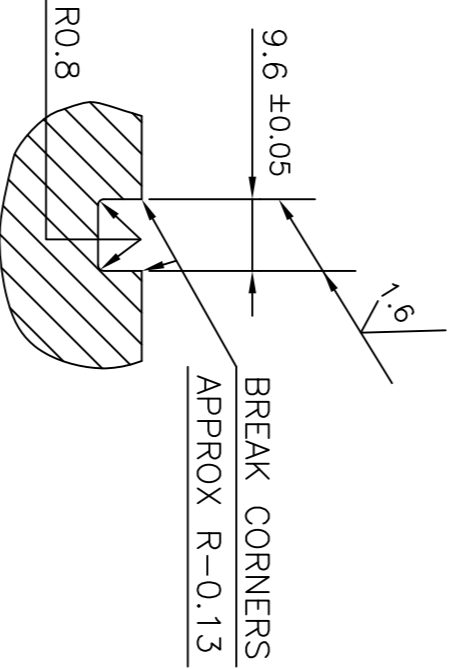


M24(1"-8UNC-2B)x50 DEEP TAP
DRILLX235 DEEP
2 HOLES, 180° APART
Ø0.8 (M) (C) (B) (M)

DETAIL-D



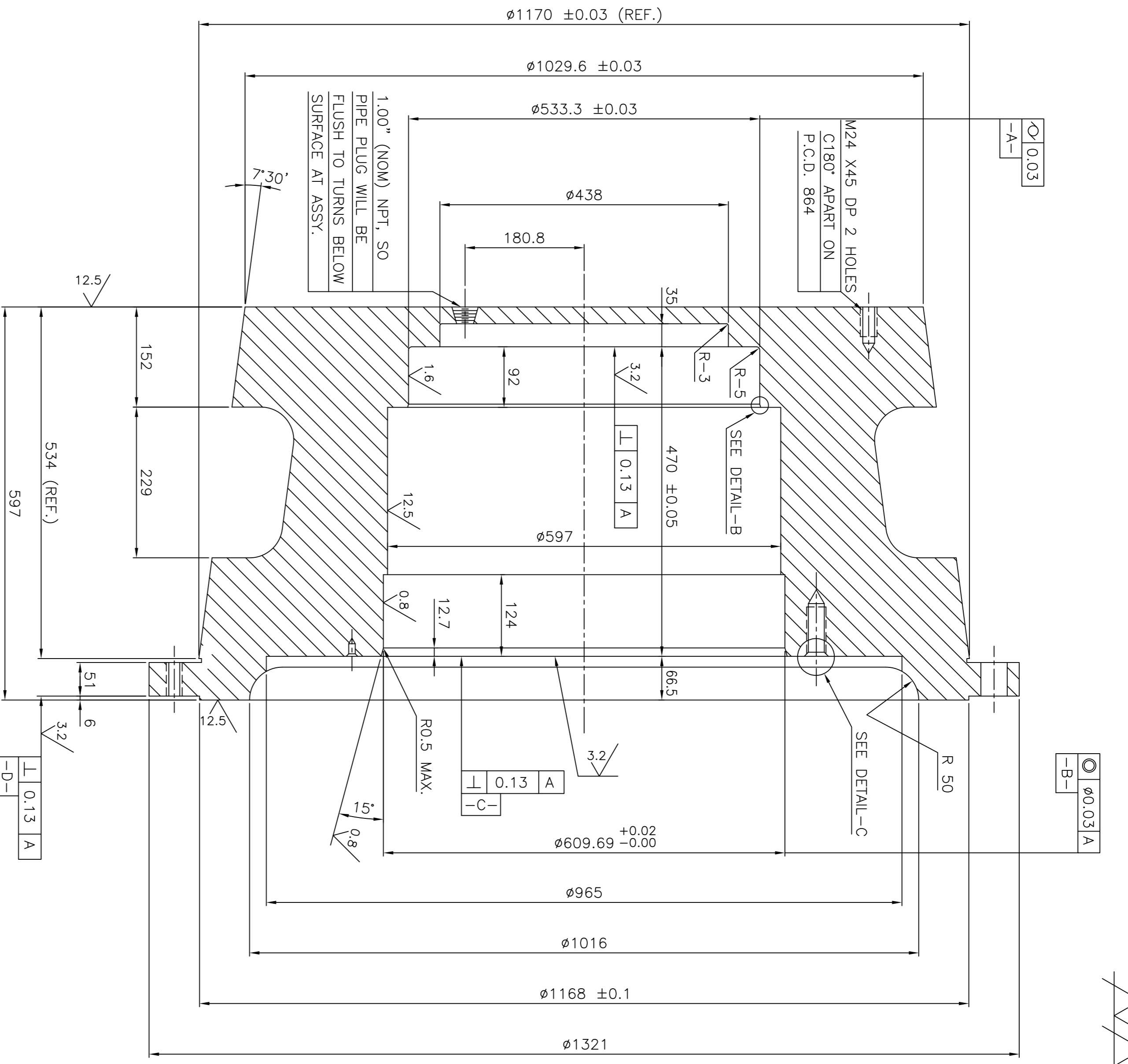
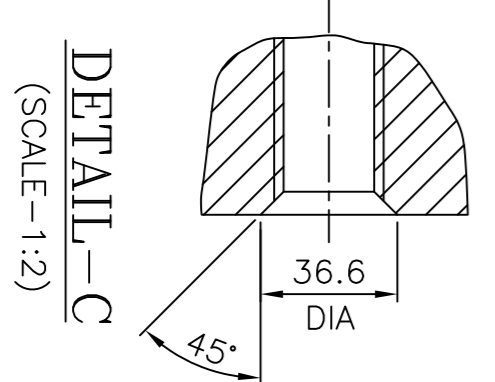
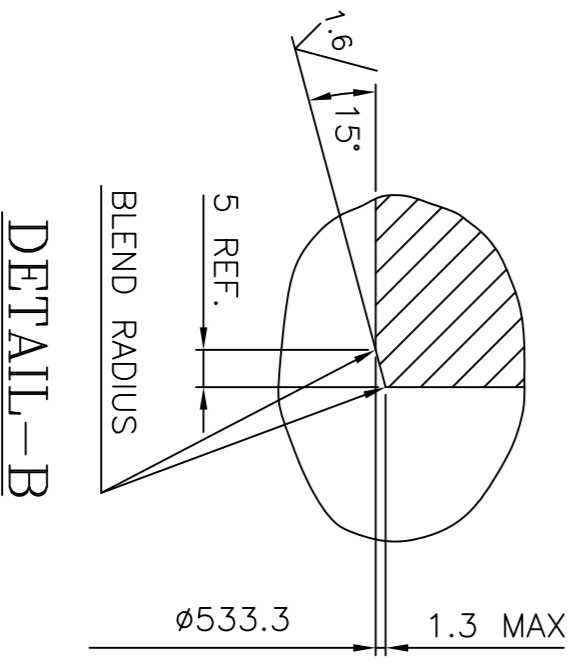
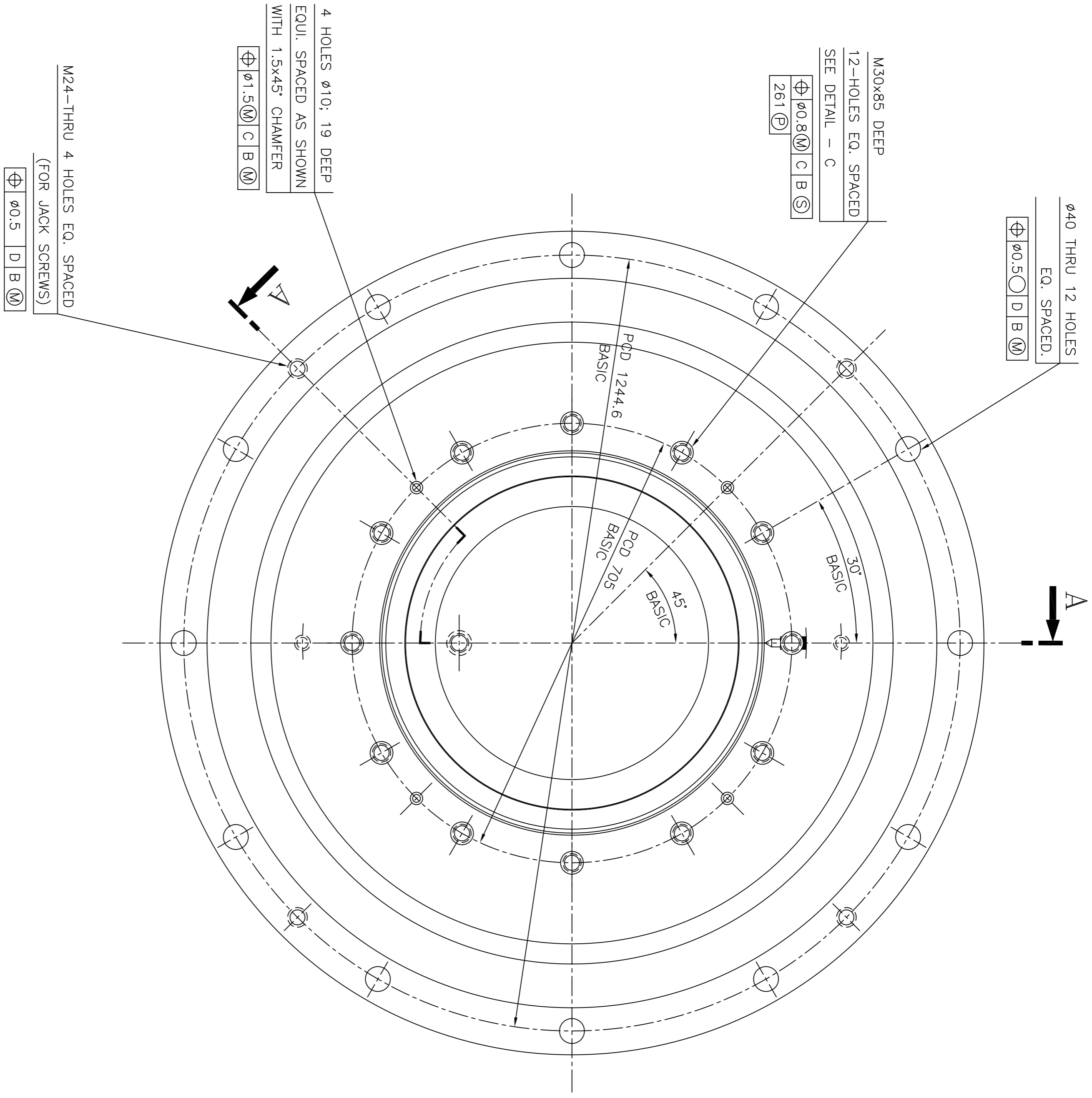
DETAIL-C



INVENTORY NO: 1-61-004-01190
SIGN. AND DATE: 12.06.99
REF. DRG. NO.: 1-61-004-01190
COMPUTER FILE NAME: 16101186.DWG

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INVENTORY NO. SIGN. AND DATE REF. DRG. NO. COMPUTER FILE NAME
 1-61-004-01480 16101480.DWG



SECTION-AA

- NOTES:-**
- RADIUS MUST NOT EXCEED 5.
 - TAPER MUST FIT FULL CONTACT FEMALE GAUGE WITH A MINIMUM OF 80% CONTACT BANDS OF NO CONTACT MUST NOT EXCEED 10° OF ARC.
 - FOR ROUGH CASTING REFER DRG. NO. 4-61-004-02756
 - BREAK ALL SHARP EDGES AND CORNERS UNLESS OTHERWISE NOTED.

ITEM NO.	DESCRIPTION	DRAWING NO.	VAR NO.	RAW MATERIAL SIZE OR CASTING DRG. NO. OR FOREIGN DRG. NO.	MATERIAL SPECN.	NET WT.	GROSS WT.	QUANTITY
01	CASTING	46100402756				3160		1

THE FOLLOWING CONDITIONS APPLY EXCEPT OTHERWISE STATED.

- REF. TO HYO230261 FOR UNSPECIFIED TOLERANCES.
- CHAMFER W/CD. SHARP EDGES 1.2 TO 1.0 AT 45°
- INTERNAL W/CD. CORNER RADIUS 1 TO 0.7
- THE SURFACE ROUGHNESS WHERE-OVER NOT SHOWN SHALL BE TAKEN FROM THE SURFACE ROUGHNESS SHOWN OUT SIDE THE SURFACE SLASH GIVEN ON THE TOP MOST RIGHT CORNER OF THE DRG.

REV.	DATE	AUTD.	APPD.	REV.	DATE	AUTD.	APPD.
CHD.				CHD.			

LOWER JOURNAL HOUSING

NAME OF CUSTOMER/PROJECT: **1103 XRP BOWL MILL**

DEPT. PLY ENGS. UNIL. DRG. OR E/M/7

SCALE: 1:5

WEIGHT (KG): 3080.000

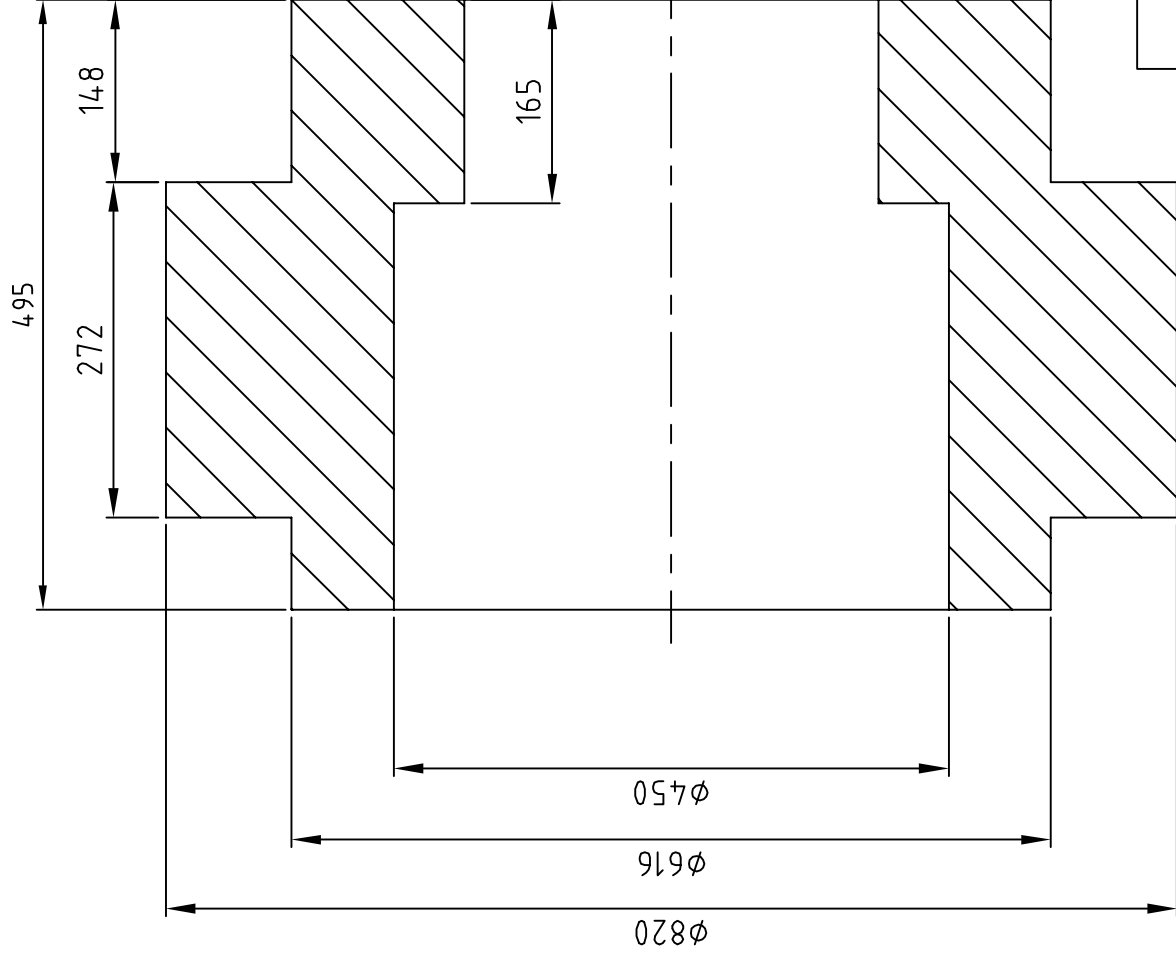
NO. OF SHEETS: 01

DATE: 18.12.07

ITEM NO.: 07

REV.: 00

DRG NO. 19-3



12.5

NOTE

1. CASTING TO BE ROUGH MACHINED TO DIMENSIONS INDICATED IN THE DRAWING
2. CHAMFER CORNERS TO R2 & FILLET RADIUS ARE TO BE R3.
3. UT, MPI & LPI TO BE CARRIED OUT AFTER R/MC TO BA75020 ACCEPTANCE LEVEL II.
4. TOLERANCE ON DIAMETERS AND LENGTHS ±1MM
5. FOR FINISH MACHINING REFER 1-61-004-01186

LOCATE HEAR ATTESTATION DETAILS VIZ

SUPPLIERS CODE

MAT SPECN

MELT NO

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FILE NAME

36103151.DWG

INVENTORY NO.

REV. DATE ALTERED CHD. APPD.

REV. DATE ALTERED CHD. APPD.

REV. DATE ALTERED CHD. APPD.

ZONE

ZONE

R/M CASTING		BA921123259		1122	
ITEM NO	DESCRIPTION	VAR. NO.	RAW MATERIAL SIZE OR CASTING DRG.NO. OR FORGING DRG.NO.	MATERIAL CODE	NET WT. GROSS WT.
					QUANTITY

THE FOLLOWING CONDITIONS APPLY EXCEPT OTHERWISE STATED...

1. REF.TO HY0230261 FOR UNSPECIFIED TOLERANCES.
2. CHAMFER M/CD SHARP EDGES 1.2 TO 1.0 AT 45°.
3. INTERNAL M/CD CORNER RADII 1 TO 0.7.
4. THE SURFACE ROUGHNESS WHEREVER NOT SHOWN SHALL BE TAKEN FROM THE SURFACE ROUGHNESS SHOWN OUT SIDE BACK SLASHES GIVEN AT THE TOP MOST RIGHT CORNER OF THE DRG.

TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT: 1043/1103 XRP BOWL MILL

BHARAT HEAVY ELECTRICALS LTD.
HYDERABAD

DEPT. PULVE. ENGG. WEIGHT (KG) 1122.0
CODE 446 SCALE 1:5

DRN. NARAYANA
CHD. AMAN SURIN
APPD. S. GHATGE

DATE 11/7/07
ITEM NO. 11/7/07

REF. TO ASSY DRG. 1-61-004-01190

TITLE: UPPER JOURNAL HOUSING

DRAWING NO. 3-61-004-03151

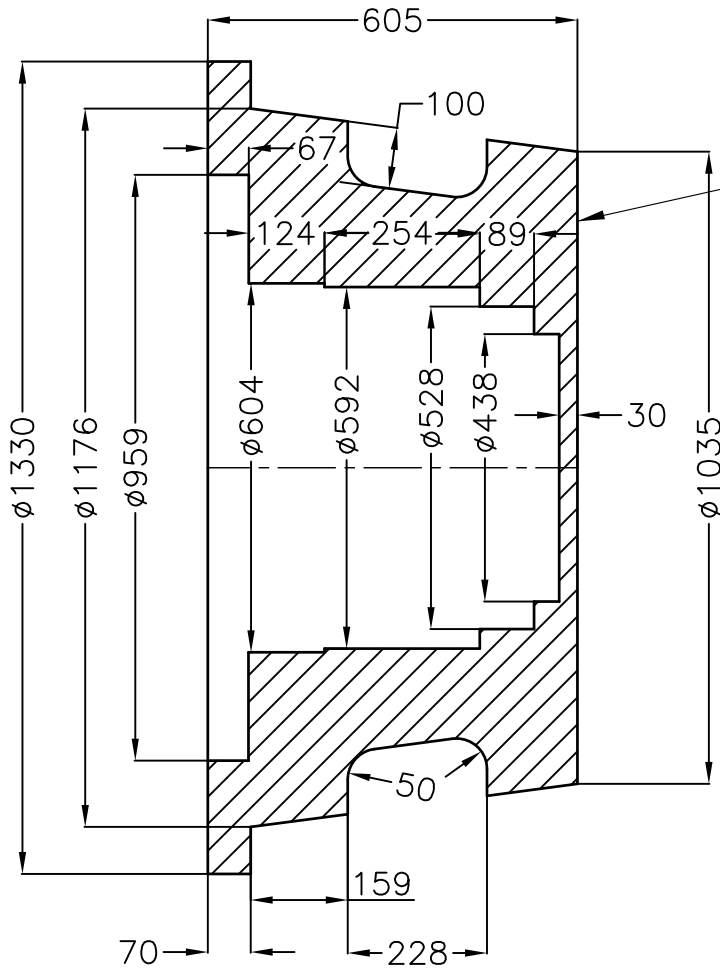
REV. 00

SHEET NO. 01 NO OF SHEETS 01

REV. DATE	ALTERED	REV. DATE	ALTERED	REV. DATE	ALTERED
01 17.6.08	CHECKED		CHECKED		CHECKED
	APPROVED		APPROVED		APPROVED

REVISED TO HAVE 3 MM ALLOWANCE ON TOOL POINT.

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ATTESTATION DETAILS VIZ
SUPPLIERS CODE
MAT SPECN
MELT NO.

NOTE

1. CASTING TO BE ROUGH MACHINED ON ALL THE SURFACES EXCEPT 100 DEEP RECESS, TO DIMENSIONS INDICATED IN THE DRAWING
2. CHAMFER CORNERS TO R2 & FILLET RADIUS ARE TO BE R3.
3. UT, MPI & LPI TO BE CARRIED OUT AFTER R/MC AS PER BA75020 ACCEPTANCE LEVEL II.
4. TOLERANCE ON OD +1, ID -1 & LENGTHS ±1MM
5. FOR FINISH MACHINING REFER DRG.NO.1-61-004-01480
6. DIAMETERS TO BE CONCENTRIC WITHIN ±0.50

R/M CASTING		BA9211123240	3160	
		AA19511		
DESCRIPTION & DRG.NO.	VAR NO.	RAW MATERIAL SIZE OR CASTING DRG.NO. OR FORGING DRG.NO.	MATL. CODE	NET.WT. GROSS WT
			MATL. SPECN.	QTY.

TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT

REF. TO HY0230261 FOR UNSPECIFIED TOLERANCES.		BHARAT HEAVY ELECTRICALS LTD. HYDERABAD		NAME	SIGN	DATE	NO.OF VAR.
		DRN.	E.M.ASHOK		13.7.07		
		CKD.	N D S	<i>[Signature]</i>	13.7.07		
	APPD.	S.GHATGE	<i>[Signature]</i>	13.7.07			
DEPT. PULV. ENGG		SCALE	WEIGHT(K.G.)	REF.TO ASSY.DRG.	ITEM NO.	NO.OF ITEM	
CODE 446		1:12	3160.0				
TITLE				DRAWING NO.		REV.	
LOWER JOURNAL HOUSING				4-61-004-02756		01	
			SHT.NO.	1	NO.OF SHT.	1	



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PERMISSIBLE DEVIATIONS FOR UNTOLERANCED DIMENSIONS OF CASTINGS

1.0 SCOPE:

This standard pertains to permissible dimensional tolerances on the as-cast surfaces of castings. This is not applicable to pressure die castings of non-ferrous metals and for castings which are difficult to produce from the technological point of view, in which case the deviations shall be agreed mutually.

NOTE: Supply in line with IS:4897 is also acceptable.

2.0 NOMENCLATURE:

2.1 Nominal Dimensions:

Nominal dimension is the dimension specified in the production drawing or in the production documents or the one to which the production deviations of the components are applicable.

2.2 Actual Dimension:

Actual dimension is the dimension measurable on the rough castings. Wherever possible several measurements of the dimensions are made and the maximum and minimum values are considered for assessment as to the compliance with tolerance limits, e.g. diameter of a ring or disc at various diametrically opposite points, the diameter of a cylinder at various points along the height, the lengths and breadths of a plate, etc.

2.3 Governing Dimensions:

Governing dimension is the maximum measurable dimension of the concerned part of the casting, in the plane perpendicular to the nominal dimension. With every nominal dimension, the corresponding governing dimension should be considered.

Governing dimension along with the nominal dimension on the rough casting, determines the limiting deviation of casting or its parts. Examples of governing dimensions for various cases are given in Table-1.

2.4 Allowable Dimensional Deviations:

a) Upper allowable deviation:

Upper allowable deviation is the difference between the upper limiting dimension and nominal dimension (of casting).

b) Lower allowable deviation:

Lower allowable deviation is the difference between the bottom limiting dimension and nominal dimension (of casting).

Revisions:

CI 29.2.2 of MOM of MRC-FCF+HTM

APPROVED :

INTERPLANT MATERIAL
RATIONALIZATION COMMITTEE-MRC(FCF+HTM)

Rev. No. 01

Amd.No.

Reaffirmed

Prepared

Issued

Dt. of 1st Issue

Dt:15.02.2005

Dt :

Year :01.10.10

Corp.R&D

Corp. R&D

MARCH, 1980



TABLE -1: GOVERNING DIMENSIONS (S)

Sl. No.	Figure	Definition
1		<p>If 'a', the thickness, is the nominal dimension, the corresponding governing dimension will be diagonal, 'Sa' lying in a plane perpendicular to 'a' since it is the greatest dimension in the plane.</p>
2		<p>If 'a' is the nominal dimension 'Sa' is the governing dimension. For the nominal dimension 'c', the governing dimension is 'Sc'. For Nominal dimension 'b', the governing dimension is 'Sb', (Diagonal of the adjacent sides for smaller thickness of the lower prism, differs very much less, from the length of adjacent sides).</p>
3		<p>For the nominal dimension 'd', the diagonal 'Sd' along the plane perpendicular to the nominal dimension, is the governing dimension, because it is the greatest dimension, in the plane along the axial section. For the nominal dimension 'h', the governing dimension is $S_h = d$. For simplicity, dimension S_d can be changed to the nearest lower measurable dimension (h or d), whichever is greater.</p>
4		<p>Distance of the holes 'a' in the casting, is assumed as separate part, and hence for the nominal dimension 'a', the diagonal 'Sa' will be the governing dimension, which is greater of the two holes, and which lies in the plane of 'a'. For simplicity, we can replace with the nearest lower dimension 'h', or the diameter of the bigger hole.</p>



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3.0 TOLERANCE CLASSES:

3.1 General:

Tolerance limits are given under five different classes in the light of different casting techniques and trade practices that could be followed. The numerical values of tolerances for a series of Nominal and Governing dimensions according to classes 1 to 5 are respectively given in tables 2 to 6. The manufacturing foundry shall choose to itself the proper tolerance limits on dimensions of pattern equipment in accordance with those of the castings to be adhered to.

For dimensions not covered by the tables given, tolerances shall be specified separately and the mutually agreed upon.

3.2 Tolerance class 1:

Tolerance limits under class 1, according to Table 2 is for high precision castings, such as investment castings.

TABLE 2: TOLERANCE CLASS 1

Nominal dimension (rough casting), mm		Governing Dimension, mm							
		From							
		6	10	18	30	80	180	315	
		To							
From	To	6	10	18	30	80	180	315	500
	6	± 0.08	± 0.10	± 0.12	± 0.12	± 0.15	± 0.15	± 0.20	± 0.25
6	10	± 0.10	± 0.12	± 0.12	± 0.15	± 0.15	± 0.20	± 0.25	± 0.30
10	18	± 0.12	± 0.12	± 0.15	± 0.15	± 0.20	± 0.25	± 0.30	± 0.30
18	30	± 0.12	± 0.15	± 0.15	± 0.20	± 0.25	± 0.30	± 0.40	± 0.40
30	80		± 0.15	± 0.20	± 0.25	± 0.30	± 0.40	± 0.40	± 0.50
80	180			± 0.20	± 0.25	± 0.30	± 0.40	± 0.50	± 0.50
180	315			± 0.25	± 0.25	± 0.30	± 0.40	± 0.50	± 0.60
315	500			± 0.25	± 0.30	± 0.40	± 0.50	± 0.60	± 0.60

3.3 Tolerance class 2:

Tolerance limits under class 2, according to Table 3 is for precision castings (e.g. castings from metal patterns, shell moulding or gravity die castings).

TABLE 3: TOLERANCE CLASS 2

Nominal dimension (rough casting), mm		Governing Dimension, mm							
		From							
		6	10	18	30	80	180	315	
		To							
From	To	6	10	18	30	80	180	315	500
	6	± 0.20	± 0.25	± 0.30	± 0.30	± 0.35	± 0.40	± 0.50	± 0.60
6	10	± 0.25	± 0.30	± 0.30	± 0.35	± 0.40	± 0.50	± 0.60	± 0.80
10	18	± 0.30	± 0.30	± 0.35	± 0.40	± 0.50	± 0.60	± 0.80	± 0.80
18	30	± 0.30	± 0.35	± 0.40	± 0.50	± 0.60	± 0.80	± 1.00	± 1.00
30	80	± 0.35	± 0.40	± 0.50	± 0.60	± 0.80	± 1.00	± 1.00	± 1.20
80	180			± 0.50	± 0.60	± 0.80	± 1.00	± 1.20	± 1.20
180	315			± 0.60	± 0.60	± 0.80	± 1.00	± 1.20	± 1.40
315	500			± 0.60	± 0.80	± 1.00	± 1.20	± 1.40	± 1.60

**3.4 Tolerance class 3:**

Tolerance limits under class 3, according to Table 4 is for mass or series production of castings requiring high degree of dimensional accuracy.

TABLE 4: TOLERANCE CLASS 3

Nominal dimension (rough casting), mm		Governing Dimension, mm							
		From							
		18	30	80	180	315	500	800	
		To							
From	To	18	30	80	180	315	500	800	1250
	6	± 0.5	± 0.5	± 0.5	± 0.6	± 0.8	± 1.0	± 1.2	± 1.5
6	10	± 0.5	± 0.5	± 0.6	± 0.8	± 1.0	± 1.2	± 1.5	± 2.0
10	18	± 0.5	± 0.6	± 0.8	± 1.0	± 1.2	± 1.2	± 1.5	± 2.0
18	30	± 0.6	± 0.8	± 1.0	± 1.2	± 1.5	± 1.5	± 2.0	± 2.5
30	80	± 0.8	± 1.0	± 1.2	± 1.5	± 1.5	± 2.0	± 2.0	± 2.5
80	180	± 0.8	± 1.0	± 1.2	± 1.5	± 2.0	± 2.0	± 2.5	± 2.5
180	315	± 1.0	± 1.0	± 1.2	± 1.5	± 2.0	± 2.5	± 2.5	± 2.5
315	500	± 1.0	± 1.2	± 1.5	± 2.0	± 2.0	± 2.5	± 2.5	± 3.0
500	800	± 1.2	± 1.2	± 1.5	± 2.0	± 2.5	± 2.5	± 3.0	± 3.0
800	1250	± 1.2	± 1.5	± 2.0	± 2.5	± 2.5	± 3.0	± 3.0	± 3.5

3.5 Tolerance class 4:

Tolerance limits under class 4, according to Table 5 is for series or mass production of castings Employing hand moulding with match plate patterns.

TABLE 5: TOLERANCE CLASS 4

Nominal dimension (rough casting), mm		Governing Dimension, mm									
		From									
		18	30	80	180	315	500	800	1250	2000	2000
		To									
From	To	18	30	80	180	315	500	800	1250	2000	3150
	6	± 0.6	± 0.8	± 0.8	± 0.8	± 1.0	± 1.5	± 1.5	± 2.0	± 2.5	± 3.0
6	10	± 0.8	± 0.8	± 0.8	± 1.0	± 1.5	± 1.5	± 2.0	± 2.5	± 3.5	± 4.0
10	18	± 0.8	± 1.0	± 1.2	± 1.5	± 1.5	± 2.0	± 2.5	± 3.5	± 4.0	± 4.0
18	30	± 0.8	± 1.2	± 1.5	± 1.5	± 2.0	± 2.5	± 3.5	± 4.0	± 4.5	± 5.0
30	80	± 1.0	± 1.2	± 1.5	± 2.0	± 2.5	± 3.0	± 3.5	± 4.0	± 4.5	± 5.0
80	180	± 1.0	± 1.5	± 2.0	± 2.5	± 3.0	± 3.5	± 4.0	± 4.5	± 5.0	± 5.0
180	315	± 1.2	± 1.5	± 2.0	± 2.5	± 3.0	± 3.5	± 4.0	± 4.5	± 5.0	± 5.5
315	500	± 1.5	± 1.5	± 2.5	± 3.0	± 3.5	± 4.0	± 4.5	± 5.0	± 5.0	± 6.0
500	800	± 2.0	± 2.0	± 2.5	± 3.5	± 4.0	± 4.5	± 5.0	± 5.0	± 5.5	± 6.0
800	1250	± 2.0	± 2.5	± 3.5	± 4.0	± 4.0	± 4.5	± 5.0	± 5.5	± 6.0	± 6.0
1250	2000	± 2.5	± 3.5	± 4.0	± 4.0	± 4.5	± 5.0	± 6.0	± 6.0	± 7.0	± 7.0
2000	3150	± 3.5	± 4.0	± 4.5	± 4.5	± 5.0	± 6.0	± 6.0	± 7.0	± 8.0	± 8.0



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3.6 Tolerance class 5:

Tolerance limits under class 5, according to table 6 is for piece production of castings by employing hand moulding including pit, sweep and skeleton moulds.

TABLE 6: TOLERANCE CLASS 5

Nominal dimension (rough casting), mm		Governing Dimension, mm											
		From											
		18	30	80	180	315	500	800	1250	2000	3150	5000	
		To											
From	To	18	30	80	180	315	500	800	1250	2000	3150	5000	8000
	6	± 0.8	± 1.0	± 1.2	± 1.2	± 1.5	± 2.0	± 2.5	± 3.5	± 4.0	± 5.0	± 6.0	± 7.0
6	10	± 1.0	± 1.0	± 1.2	± 1.5	± 2.0	± 2.5	± 3.5	± 4.0	± 5.0	± 6.0	± 6.0	± 7.0
10	18	± 1.0	± 1.2	± 1.5	± 2.0	± 2.5	± 3.5	± 4.0	± 5.0	± 6.0	± 6.0	± 7.0	± 8.0
18	30	± 1.2	± 1.5	± 2.0	± 2.5	± 3.0	± 4.0	± 5.0	± 6.0	± 7.0	± 7.0	± 8.0	± 9.0
30	80	± 1.2	± 2.0	± 2.5	± 3.0	± 3.5	± 4.0	± 5.0	± 6.0	± 7.0	± 8.0	± 9.0	± 10
80	180	± 1.5	± 2.5	± 3.0	± 3.5	± 4.0	± 5.0	± 6.0	± 7.0	± 8.0	± 8.0	± 9.0	± 10
180	315	± 2.0	± 2.5	± 3.0	± 3.5	± 4.5	± 5.0	± 6.0	± 7.0	± 8.0	± 9.0	± 10	± 11
315	500	± 2.5	± 3.0	± 3.5	± 4.5	± 5.0	± 6.0	± 7.0	± 8.0	± 8.0	± 9.0	± 10	± 11
500	800	± 3.0	± 3.5	± 4.0	± 5.0	± 6.0	± 7.0	± 7.0	± 8.0	± 9.0	± 10	± 11	± 12
800	1250	± 3.5	± 4.5	± 5.0	± 6.0	± 6.0	± 7.0	± 8.0	± 9.0	± 9.0	± 10	± 11	± 12
1250	2000	± 4.0	± 5.0	± 6.0	± 6.0	± 7.0	± 8.0	± 8.0	± 9.0	± 10	± 11	± 12	± 12
2000	3150	± 5.5	± 6.0	± 7.0	± 8.0	± 8.0	± 9.0	± 9.0	± 10	± 11	± 12	± 13	± 14
3150	5000	± 7.0	± 8.0	± 8.0	± 9.0	± 9.0	± 10	± 11	± 12	± 13	± 14	± 15	± 16
5000	8000	± 8.0	± 9.0	± 9.0	± 10	± 10	± 11	± 12	± 13	± 14	± 15	± 16	± 18



4.0 TOLERANCES ON THICKNESS OF WALLS OR RIBS AND WIDTH OF GROOVES OR CHANNELS:

For deviations on thickness of walls or ribs and width of grooves or channels, the values given in Table 7 are applicable.

In these cases, the wall thickness is the nominal dimension and related maximum dimension (length, height or diagonal) shall be taken as the governing dimension.

TABLE 7: Permissible Tolerances on Thickness of walls or ribs and width of grooves or channels.

Max. overall dimension of casting, mm	Thickness of wall or rib/width of groove or channel, mm		Permissible Tolerances, mm		
	Over	Upto & incl.	Tolerance class		
			1 & 2	3 & 4	5
UP TO 500		6	± 0.2	± 0.4	± 0.8
	6	10	± 0.3	± 0.5	± 1.0
	10	18	± 0.5	± 0.8	± 1.5
	18	30	± 0.8	± 1.0	± 1.5
	30	50	± 0.8	± 1.2	± 2.0
	50	80	± 1.0	± 1.5	± 2.5
	80	120	± 1.0	± 1.8	± 2.5
ABOVE 500 UP TO 1250		10	± 0.3	± 0.8	± 1.2
	10	18	± 0.5	± 1.2	± 1.5
	18	30	± 0.8	± 1.5	± 2.0
	30	50	± 1.0	± 1.8	± 2.0
	50	80	± 1.2	± 2.0	± 2.5
	80	120	± 1.5	± 2.5	± 3.0
ABOVE 1250 UP TO 2500		10	± 0.5	± 1.2	± 1.5
	10	18	± 0.8	± 1.5	± 2.0
	18	30	± 1.0	± 2.0	± 2.5
	30	50	± 1.2	± 2.5	± 3.0
	50	80	± 1.8	± 2.5	± 3.0
	80	120	± 2.0	± 3.0	± 3.5
ABOVE 2500 UP TO 4000		18	± 1.0	± 1.5	± 2.0
	18	30	± 1.2	± 2.0	± 2.5
	30	50	± 1.5	± 2.5	± 3.0
	50	80	± 2.0	± 3.0	± 3.5
	80	120	± 2.5	± 3.5	± 4.0
ABOVE 4000		18	--	± 2.0	± 3.0
	18	30	--	± 2.5	± 3.5
	30	50	--	± 3.0	± 4.0
	50	80	--	± 3.5	± 4.5
	80	120	--	± 4.0	± 5.0



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5.0 GUIDELINES FOR SELECTION OF TOLERANCE CLASS:

Given in Table 8 for information.

Material	Technology	Tolerance Class				
		1	2	3	4	5
Non-ferrous metals	Metallic dies, Shell moulds, High precision moulds	Precision work in mass production	Precision work in mass production	Large batch production	--	--
	Sand cast, Centrifugally cast	--	--	Large batch production	Piece to batch production	Piece to small batch production
GCI, Malleable and SG iron	Expandable pattern (Investment process)	Most precision work	--	--	--	--
	Metallic dies, CO ₂ , shell moulds, High precision moulds	--	Precision work in mass production	Large batch production	Piece to batch production	--
	Sand cast, Centrifugally cast		Sample castings in mass production	Large batch production	Piece to batch production	Piece to small batch production
Cast steel	Expandable pattern	Most precision work	--	--	--	--
	Metallic dies, CO ₂ , Shell moulds, High precision moulds and Ceramic moulds	--	Precision work in mass production	Large batch production	Piece to batch production	--
	Sand cast, Centrifugally cast	--	--	Large batch production	Piece to batch production	Piece to small batch production

6.0 SPECIFYING OF TOLERANCE CLASS:

The tolerance class required shall be specifically mentioned in the casting drawing.

NOTE: If required, BHEL may specify closer or liberal tolerance, other than the ones specified above, which may be indicated in the drawing/order.

**CARBON STEEL CASTINGS-FUSION WELDING QUALITY****1.0 GENERAL**

This specification governs the quality requirements of Carbon Steel Castings-Fusion Welding Quality.

2.0 APPLICATION

For pressure containing parts for high temperature service and of quality suitable for assembly with other castings or wrought steel parts by fusion welding.

3.0 CONDITION OF DELIVERY

Normalised / Normalised & tempered

Rough machining of the castings shall be carried out, unless otherwise specified in BHEL order/drawing.

Castings shall not be painted

4.0 COMPLIANCE WITH NATIONAL STANDARDS

There is no Indian standard covering this material. However, assistance has been derived from ASTM A 216-1993, Gr: WCC, in preparing this specification.

5.0 DIMENSIONS AND TOLERANCES

The castings shall be true to the pattern/drawing.

Holes for machining up to and including 50 mm in diameter are to be cast solid, unless otherwise stated in BHEL order/drawing.

Unless otherwise specified in BHEL order/drawing, untoleranced dimensions for the castings shall be as per tolerance class 4 of BHEL standard AA 023 04 02.

Revisions :

36th MOM of MRC-FCF+HTM

APPROVED :

INTERPLANT MATERIAL RATIONALISATION
COMMITTEE-MRC (FCF+HTM)

Rev. No. 09

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Dt :

Year:04-11-2011

HYDERABAD

Corp. R&D

MARCH, 1978



6.0 MANUFACTURE

The steel for the castings shall be made by basic electric furnace process or such other process as may be agreed to between BHEL and the manufacturer.

The steel shall be fully killed.

7.0 HEAT TREATMENT

Heat treatment shall be carried out at suitable temperatures to give the properties specified.

Any flame or arc cutting which may have to be done, shall be carried out before heat treatment.

Test pieces shall also be heat treated along with the castings they represent.

8.0 FINISH

All castings shall be properly fettled and dressed and all surfaces shall be thoroughly cleaned.

Machined surfaces shall have the surface finish as indicated in the drawing

9.0 FREEDOM FROM DEFECTS

Castings shall be free from defects such as porosity, blow holes, sand inclusion, shrinkage, cavities, hard spots, cold shuts, cracks, etc., which may adversely affect machining and utility of castings.

When it is necessary to remove risers by flame cutting, care shall be taken to make the cut at a sufficient distance from the body of the casting so as to prevent any defect being introduced into the casting due to local heating.

10.0 CHEMICAL COMPOSITION

The melt analysis of steel and the permissible variation in the composition of the castings from the melt analysis shall be as specified below:

Element	Melt analysis, Percent, max	Permissible Variation, percent
*Carbon	0.25	0.02
Silicon	0.60	0.05
*Manganese	1.20	0.06
Sulphur	0.045	0.008
Phosphorus	0.040	0.008



CORPORATE PURCHASING SPECIFICATION

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Note: 1. In the interest of uniform welding, the concentration of the unspecified alloying elements shall not exceed the limits specified below. Whenever specified in the enquiry/order, the test results of these elements shall also be included in the test certificate. However, the manufacture shall ensure that these elements are within the limits specified.

Element	Percent, Max.
Copper	0.30
Nickel	0.50
Chromium	0.50
Molybdenum	0.20
Vanadium	0.03
1. Total content of these unspecified elements	1.00
2. For each reduction of 0.01% below the specified maximum carbon content, an increase of 0.04% Mn above the maximum specified will be permitted up to a maximum of 1.40%.	

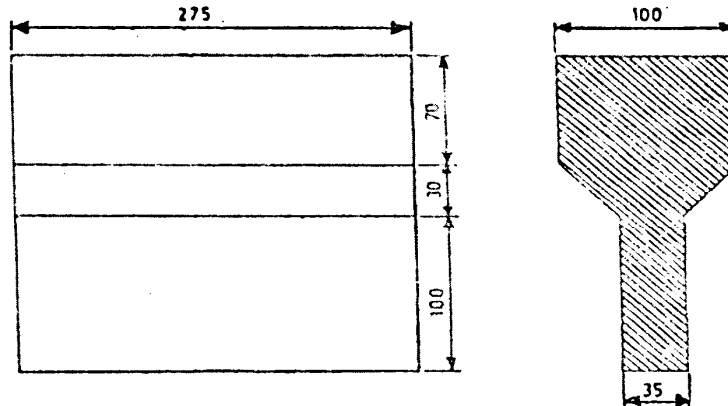
11.0 TEST SAMPLES

Manufacturers shall carryout mechanical testing as per following sampling plan.

- 11.1** Unless otherwise specified for castings weighting up to 500 kg. piece weight one keel block, separately cast per melt per heat treatment batch shall be supplied according to the sketch given below:
- 11.2** Unless otherwise specified castings weighing more than 500 kg shall be provided with integrally cast keel block.
- 11.3** Retests shall be carried out as per IS : 8800
- 11.4** Keel blocks with proper identification and representative of the castings shall be supplied along with the consignment for testing at BHEL works.



DETAIL OF KEEL BLOCK



ALL DIMENSIONS IN mm

12.0 MECHANICAL PROPERTIES:

The test pieces, after being heat treated as per clause Cl.7.0 above, shall show the following properties:

12.1 Tensile

The test pieces shall show the following properties when tested in accordance with ASTM A 370

Tensile strength	:	485 - 655 N/mm ²
Yield strength	:	275 N/mm ² , min.
Elongation on 50mm gauge length	:	22 percent, min.
Reduction in area	:	35 percent, min.

12.2 Hardness (Brinell): for information only:

150 - 205 HB.

13.0 NON-DESTRUCTIVE TESTS:

The following tests shall be conducted:

- 1) Ultrasonic examination to BHEL standard AA 085 01 04 / AA 085 01 05
- 2) Liquid penetrate examination to BHEL standard AA 085 0131.
- 3) Magnetic particle examination to BHEL standard AA 085 01 33 and norms of acceptance as per BHEL standard AA 085 01 34.

Norms of acceptance shall be as specified in BHEL order/drawing



14.0 REPAIR OF CASTINGS

The manufacturer without the prior permission of BHEL shall not carry out repair of castings.

15.0 SCOPE OF THIRD PARTY INSPECTION:

Wherever, separate quality plan is not attached, the scope of third party inspection shall be as follows:

1. Review of supplier's declared chemical composition.
2. Selection of test samples for mechanical tests and witness of mechanical tests.
3. Witness of Non-destructive tests as applicable.
4. Review of HT charts.
5. Dimensional inspection.

16.0 TEST CERTIFICATES

Three copies of test certificates shall be supplied unless otherwise stated in BHEL order, preferably in the test certificate format annexed to this specification (Annexure -1).

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

The test certificate shall bear the following information:

- i) Dimensional inspection.
- ii) Detail of heat treatment
- iii) Chemical composition & unspecified alloying elements whenever called for
- iv) Results of mechanical tests
- v) Results of NDT tests.

17.0 PACKING AND MARKING

Castings shall be suitably packed to prevent corrosion and damage during transit. Machined surfaces shall be properly protected with anticorrosive compounds. Each package or casting (when supplied separately) shall be legibly marked with the following information.

AA 195 11: C.S. Castings - F.W. Quality
BHEL Order No.
Consignment/Identification No.
Melt No.
Weight
Supplier's Name


18.0 REFERRED STANDARDS (Latest Publications Including Amendments):

- | | | | |
|-----------------|-----------------|-----------------|-----------------|
| 1. AA 023 04 02 | 2. AA 085 01 04 | 3. AA 085 01 05 | 4. AA 085 01 31 |
| 5. AA 085 01 34 | 6. ASTM A 216 | 7. ASTM A 370 | 8. IS : 8800 |




ANNEXURE 1 - RECOMMENDED TEST CERTIFICATE FORMAT FOR CASTINGS

SUPPLIERS'S NAME AND ADDRESS									
1. Customer :					6. Cast No. & Date :				
2. TC No. & Date :					7. Batch No. :				
3. PO No. :					8. Heat Code :				
4. Process of Melting :					9. Spec.. No. :				
5. Deoxidisation Process					10. Test Bar Size				
II. CASTING COVERED BY T.C.									
Sl. No.	Drawing No. & Item No.				Description	Quantity & Weight			
12. CHEMICAL COMPOSITION (PERCENT)									
Element	C	Si	Mn	S	P				
As per Min.									
Spec. Max.									
Actual Values.									
13. HEAT TREATMENT (To be accompanied by Recorder Chart, wherever called for)									
Condition	Temp. °C				Soaking Time. Hrs..			Cooling Medium	
14. MECHANICAL PROPERTIES									
	T.S. N/mm ²	Y.S. 0.5/0.2% Proof N/mm ²	% E on GL 5.65 SO	% R.A. Mn	Hardness BHN Min. 3 Values	Impact Value, Joules	Bend		
As per Min.									
Spec. Max.									
Actual Values.									
15. Surface Finish (When called for in the order/drg)									
16. DIMENSIONAL INSPECTION									
17. NON-DESTRUCTIVE TESTS									
Nature of Test	Acceptance Level	Instrument used		Range	Results	Any other details			
Ultrasonic									
Radiographic									
Dye Penetrant/ Magnetic Particle									
18. OTHER TESTS, IF ANY (MICRO- Scopic, Hydraulic, Etc.)									
19. IDENTIFICATION ON CASTING AS PER CPS.									
We hereby certify that the items mentioned above have been tested and inspected in our presence and are found to be in accordance with the drawings, specifications and purchase order.									
Signature & Seal of the Inspecting Officer (Purchase Representative)					Signature and Seal of the Chief of Quality Control Chief Metallurgist of the Supplier.				
Date :					Date :				
INSTRUCTION:									
a) If steel is produced by LD or Oxygen process, Nitrogen content should be furnished and shall not exceed 0.009%									
b) Test Certificates are to be furnished as per Purchase Order and Specifications, in A4 Size transparent paper.									
c) All the entries including signature should be in black ink.									
d) If testing is done by outside agencies, the original TCs shall be furnished.									
e) The actual Test Certificate may run into more than one A4 size paper, if needed, to facilitate filling up of details.									

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<u>TDC FOR CRITICAL STEEL CASTINGS OF BOWL MILLS</u>									
<p>1. GENERAL :</p> <p>1.1 SCOPE AND FIELD OF APPLICATION</p> <p>The purpose of this specification is to define the required quality and the general manufacturing and inspection conditions for critical steel castings of bowl mills.</p> <p>2. CHEMICAL ANALYSIS AND MECH. PROPERTIES</p> <p>The Chemical composition and Mechanical properties should be as per AA19511. (Latest Edition)</p> <p>NOTE:</p> <ul style="list-style-type: none"> - The dimensions and number of test ingots shall be sufficient to allow specimens to be taken for test, retests and, if necessary, reworking. - For each unsatisfactory test, 2 retests shall be performed. In the event that one of the retests is not satisfactory, reworking by new heat treatment is possible. <p>3. GENERAL MANUFACTURING CONDITIONS:</p> <p>3.1 GENERAL</p> <p>3.1.1 Execution of the items shall be in compliance with drawings and bills of material and with this specification.</p> <p>3.1.2 To meet the dimensional accuracy, soundness and surface condition requirements for the items, pouring shall be done in a rigid mould.</p> <p>3.1.3 The temperatures and durations of all the heat treatments shall be recorded and the recordings shall include the references of the items to ensure their traceability.</p> <p>3.1.4 Material will be supplied in Normalized condition,</p> <p>3.1.5 The manufacturing procedure is to be followed in the following sequence</p> <ul style="list-style-type: none"> • Casting , fettling • Normalizing • Keel Block Identification / stamping • Keel Block Cutting • Rough Machining • NDT Checks • Repair (If Necessary) and repeat NDT after repair. • Stress Relieving with the Keel Block • Mechanical test 									
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td data-bbox="162 1860 743 1997">Revisions : Refer table of revisions</td> <td data-bbox="743 1860 1019 1997">Prepared By SG</td> <td data-bbox="1019 1860 1305 1997">Approved By JGK</td> <td data-bbox="1305 1860 1588 1997">Date : 09.06.2005</td> </tr> </table>						Revisions : Refer table of revisions	Prepared By SG	Approved By JGK	Date : 09.06.2005
Revisions : Refer table of revisions	Prepared By SG	Approved By JGK	Date : 09.06.2005						

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<p style="writing-mode: vertical-rl; transform: rotate(180deg);"> COPYRIGHT AND CONFIDENTIAL 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. </p> <p> 3.1.6 The castings shall be stress relieved to the cycle as per Annexure D </p> <p> 3.1.7 Any weld repair carried out after the final stress relief will be followed by additional stress relief at the specified temperature and time. </p> <p> 3.1.8 All the mechanical tests shall be done subsequent to the final stress relieving operation. </p> <p> 3.1.9 Mechanical test specimen will undergo all the stress relieving operation as the original material. </p> <p> 3.1.10 In case of thin shelled castings additional stress relief may be necessary before final machining to avoid distortion due to relieving of machining stresses. </p> <p> 3.1.11 In case the test specimen represents multiple pieces, the mechanical test specimen will undergo all the stress relieving operation corresponding to the piece subject to the additional relief as per clause 3.1.6. </p> <p> 3.2 REPAIRS </p> <p> 3.2.1 SURFACE DEFECTS </p> <p> 3.2.1.1. Surface defects detected on the items in the rough machined state during the non destructive inspections (visual examination, magnetic particle inspection) can be eliminated by grinding within the limit of the dimensional tolerances indicated on the drawings. </p> <p> 3.2.1.2. No surface excavation after final machining is accepted. </p> <p> 3.2.2 REPAIR WELDING: </p> <p> 3.2.1.1. Other defects outside the criteria including internal defects can be repaired by welding to bring the items into compliance with the inspection criteria. </p> <p> 3.2.1.2. A qualified repair welding procedure must previously have been drawn up in accordance with ASME IX. </p> <p> 3.2.1.3. A map of major defects shall be drawn up before repair. </p> <p> 3.2.1.4. Repaired and neighbouring zones shall be given the same inspection as before (see Annexure A), together with an ultrasonic inspection with separate angle probe and transceptor (or with a suitable close field) to detect any planar defect. </p> <p> 3.2.1.5. POST WELD STRESS – RELIEVING TREATMENT: </p> <p style="padding-left: 40px;"> After welding, the items shall be given stress relieving heat treatment as per Annexure D. </p> <p> 3.3 MARKING: </p> <p> 3.3.1 The material attestation details shall be hard punched with 10 mm punch (min) at a place remaining as-cast unless otherwise specified in the drawing. </p> <p> 3.3.2 The following indications shall be included: </p> <p style="padding-left: 40px;"> a) Pattern or drawing number. b) BHEL vendor code. </p>					

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c) Heat number (to be quoted on all inspection documents)
 d) Material specification BA75020+AA19511 REV.
 e) Manufacturer monogram/initials shall not be cast on the casting.

3.3.3 The marking shall be surrounded by yellow paint to make it clearly visible.

4. GENERAL INSPECTION CONDITIONS:

4.1 GENERAL

4.1.1 The first time a type of item is made, the first casting shall be considered a prototype, but it will not be necessary to wait for the results of the inspections at the rough-machined stage before continuing with the manufacture of the other item.

4.1.2 The Quality Control Plan or manufacturing and associated inspection programme shall be drawn up. It shall indicate all the manufacturing operations in chronological order and all the inspections.

4.2 TESTS AND INSPECTIONS

The tests and inspections to be performed on the castings are as in Annexure A.

5. DOCUMENTS:

To be submitted to BHEL after manufacture and before shipment:

- Chemical analysis certificates
- Mechanical test certificates
- Heat treatment Charts (Normalizing and Stress relieving)
- Map of defects (defectogram) before repair.
- Dimensional records
- Non-destructive inspection certificates.

All of these documents shall be gathered together to form the constructor file, with a table of contents and cover pages.

6. ENCLOSED.

The following Annexure are enclosed to this specification:

Annexure A - Test & Inspection

Annexure D - Stress Reliving Cycle.

7. PACKING AND TRANSPORT

The castings shall be packed suitably and transported to avoid transit damage



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ANNEXURE – A
TEST AND INSPECTION

Type of Inspection	Ref	Method of Inspection	Acceptance Level/Criteria	Inspection Frequency	Support Document	BHEL Scope
Keel Block Identification	--	Stamping before removal	--	100%	--	W
Chemical analysis	AA19511	Standard	The result shall comply the spec	Each item	Certificates	V
Mechanical	AA19511	Standard	The result shall comply the spec.	Each item	Certificates	W
Surface		Visual	The surface shall be free from the defects like cracks or other defects detrimental to the item.	Each casting		W
Dimensions	Drawing	Dimensional	As per drg.	Each casting	Dimensional report	W
Ultrasonic (in Delivery condition)	AA0850105 or ASTM-609	AA0850105 or ASTM-609	AA0850105 or ASTM-609 Level 2- for thickness upto 50mm Level 3 - for thickness above 50mm	Each item	Certificates	W
MPI (In delivery condition)	AA0850133 Or ASTM E-709	AA0850134 Or ASTM E-125	1. Non-linear defect level 2 except cracks. 2. Cracks and hot tears are not permissible. 3. All rest level 2 4. Planar defects after repair by welding are not permissible.	Each casting	Certificate	W

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PRODUCT STANDARD

PULVERISERS

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ANNEXURE - D

STRESS RELIF CYCLE FOR CASTINGS

- 1.0 **TYPE OF FURNACE** – Electrical, Oil or gas fired.
- 2.0 **TEMPERATURE CONTROL** - The temperature of the furnace should be maintained within ± 14 °C during the operation.
- 3.0 **TEMPERATURE MEASUREMENT:** Thermocouple should be placed at 1 meter intervals to ensure uniformity of temperature.
- 4.0 **LOADING** – care should be exercised to ensure
 - 4.1 No direct impingement of flame on the components
 - 4.2 Sufficient space is maintained between components to ensure uniform heating.
 - 4.3 Components are supported to avoid distortions.
- 5.0 The stress relieving cycle to be followed for the casting is

Maximum Ruling section Thickness (Thk)	Heating rate Max (°C / Hr)	Holding Temperature (°C)	Min Holding time (Minutes)	Max Holding Time (Minutes)	Cooling rate Max (°C / Hr)
< 12 mm	80 - 100	600 – 650	30	60	80
13– 100 mm	50	600 – 650	2.5 x Thk	4 x Thk	50
> 100 mm	50	600 – 650	150 + Thk	4 x Thk	50

- 6.0 Initial temperature of the furnace before the heating cycle commences may be at 400°C maximum.
- 7.0 The temperature difference between zones during heating should be less than 100°C in any 4 meter length.
- 8.0 The specified cooling rate to be followed till the furnace is brought down to at least 400°C. Subsequently the components may be cooled preferably in furnace. In case air cooling is resorted to, necessary care should be exercised to avoid forced/ unforced air drafts.
- 9.0 The SR Chart must document the instrument calibration records, positioning, and the record of the charge.
- 10.0 The soaking temperature limits to be maintained for all components of a lot if components of various ruling sections are clubbed together in a single heat treatment charge.

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<u>TDC FOR CRITICAL STEEL CASTINGS OF BOWL MILLS</u>					
<p>1. GENERAL :</p> <p>1.1 <u>SCOPE AND FIELD OF APPLICATION</u></p> <p>The purpose of this specification is to define the required quality and the general manufacturing and inspection conditions for critical steel castings of bowl mills.</p> <p>2. <u>CHEMICAL ANALYSIS AND MECH. PROPERTIES</u></p> <p>The Chemical composition and Mechanical properties should be as per AA19511. (Latest Edition)</p> <p>NOTE:</p> <ul style="list-style-type: none"> - The dimensions and number of test ingots shall be sufficient to allow specimens to be taken for test, retests and, if necessary, reworking. - For each unsatisfactory test, 2 retests shall be performed. In the event that one of the retests is not satisfactory, reworking by new heat treatment is possible. <p>3. <u>GENERAL MANUFACTURING CONDITIONS:</u></p> <p>3.1 <u>GENERAL</u></p> <p>Execution of the items shall be in compliance with drawings and bills of material and with this specification.</p> <p>To meet the dimensional accuracy, soundness and surface condition requirements for the items, pouring shall be done in a rigid mould.</p> <p>The temperatures and durations of these treatments shall be recorded and the recordings shall include the references of the items to ensure their traceability.</p>					
Revisions: Refer to record of revisions:			Prepared: S Ghatge	Approved: JG.Kulkarni	Date: 09.06.05

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TD-106-1 Rev.No. 5	Form No.		PRODUCT STANDARD PULVERISERS HYDERABAD	Product STD no. BA75020
				Rev No. 02
				Page 2 of 9
<div style="display: flex; justify-content: space-between;"> <div style="width: 15%; border-right: 1px solid black; padding-right: 5px;"> <p style="writing-mode: vertical-rl; transform: rotate(180deg);"> COPYRIGHT AND CONFIDENTIAL 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. </p> </div> <div style="width: 85%; padding-left: 10px;"> <p>3.2 <u>REPAIRS</u></p> <p>a) <u>SURFACE DEFECTS</u></p> <p>Surface defects detected on the items in the rough machined state during the non destructive inspections (visual examination, magnetic particle inspection) can be eliminated by grinding within the limit of the dimensional tolerances indicated on the drawings.</p> <p>There shall be a gradual transition between these excavations and the surrounding surface. A magnetic particle or liquid penetrant inspection shall be performed to demonstrate the accordance with the same criteria as for the initial inspections (see annexure A). No surface excavation after final machining is accepted.</p> <p>b) <u>REPAIR WELDING:</u></p> <p>Other defects outside the criteria can be repaired by welding to bring the items into compliance with the inspection criteria.</p> <p>A qualified repair welding procedure must previously have been drawn, up in accordance with ASME IX.</p> <p>A map of major defects as per Annexure B shall be drawn up.</p> <p>Repaired and neighboring zones shall be given the same inspection as before (see Annexure A), together with an ultrasonic inspection with separate angle probe and transceptor (or with a suitable close field) to detect any planar defect.</p> <p>c) <u>POST WELD STRESS – RELIEVING TREATMENT:</u></p> <p>After welding, the items shall be given stress relieving heat treatment in the oven for all major and minor excavations as defined in Annexure B. The temperature of this heat treatment shall be less than the quality heat treatment one (less than 20 ° C)</p> <p>Repairs after surface excavations (see Annexure B) can be locally stress relieved provided that no minor or major excavations has been performed on that item, only for the heads welded on the shell.</p> </div> </div>				



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3.3. MARKING:

The material attestation details shall be hard punched with 10 mm punch (min) at a place remaining as-cast unless otherwise specified in the drawing.

The following indications shall be included:

- a) Pattern or drawing number.
- b) BHEL vendor code.
- c) Heat number (to be quoted on all inspection documents)
- d) Material specification BA75020+AA19511 REV...
- e) Manufacturer monogram/initials shall not be cast on the casting.

The marking shall be surrounded by yellow paint to make it clearly visible.

4. GENERAL INSPECTION CONDITIONS:

4.1 GENERAL

The first time a type of item is made, the first casting shall be considered a prototype, but it will not be necessary to wait for the results of the inspections at the rough-machined stage before continuing with the manufacture of the other item.

The Quality Control Plan or manufacturing and associated inspection programme shall be drawn up. It shall indicate all the manufacturing operations in chronological order and all the inspections.

4.2 TESTS AND INSPECTIONS

The tests and inspections to be performed on the castings are defined in Annexure A.



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5. DOCUMENTS:

To be submitted to BHEL after manufacture and before shipment:

- a. Chemical analysis certificates
- b. Mechanical test certificates
- c. Heat treatment certificates
- d. Map of major excavations
- e. Dimensional records
- f. Non-destructive inspection certificates.

All of these documents shall be gathered together to form the constructor file, with a table of contents and cover pages.

6. ENCLOSED.

The following Annexure's are enclosed to this specification:

- | | | |
|------------|---|----------------------------------|
| Annexure A | - | Test & Inspection |
| Annexure B | - | Cut out- defect diagrams |
| Annexure C | - | Magnetic particle test criteria |
| Annexure D | - | Liquid penetration test criteria |

7. PACKING AND TRANSPORT

The castings shall be packed suitably and transported to avoid transit damage



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ANNEXURE -A

TEST AND INSPECTION

Type of Inspection	Ref	Method of Inspection	Acceptance Level/Criteria	Inspection Frequency	Support Document
a.Dimensions	IS	Dimensional	1.As per drg.	Each casting	Dimensional report
b. Surface		Visual	The surface shall be free from the defects like cracks or other defects detrimental to the item.	Each casting	
c. Chemical analysis	AA19511	Standard	The result shall comply the spec	Each item	Certificates
d. Mechanical	AA19511	Standard	The result shall comply the spec.	Each item	Certificates
e. Ultrasonic (Rough machined condition)	AA0850104	AA0850104	Level II	Each item	Certificates
f. MPI (In rough machined condition)	AA0850133	AA0850134	1.Transition radii linear & aligned defect level 01 2. Non-linear defect level 2 3. All rest level 2 4. Planar defects after repair by welding are not permissible	Each casting -do-	Certificate -do-
g.Liquid penetration test (For heads delivered with fully machined condition)	AA0850131	Annexure D AA0850131	Defect level 01 of Annexure D.	Each head on zone shown	Certificate

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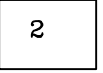

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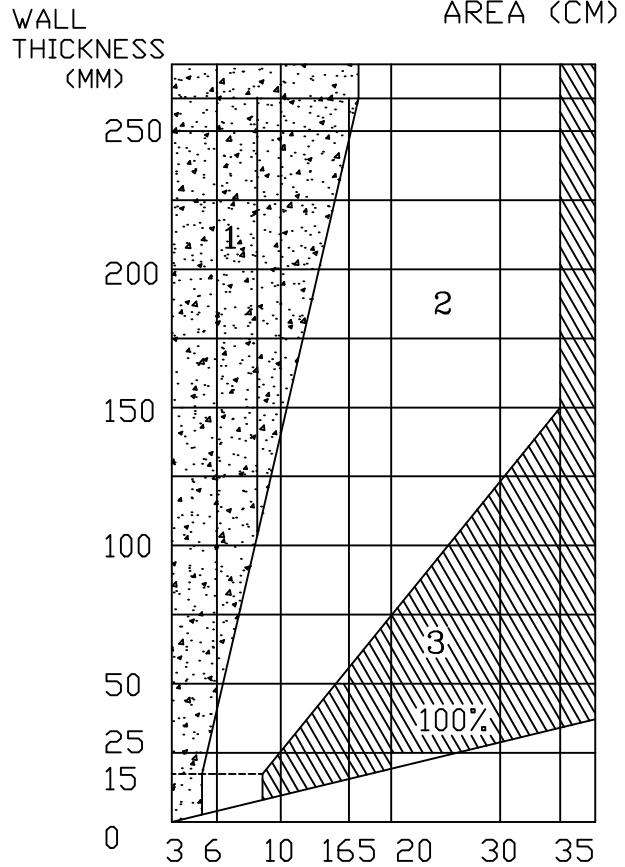
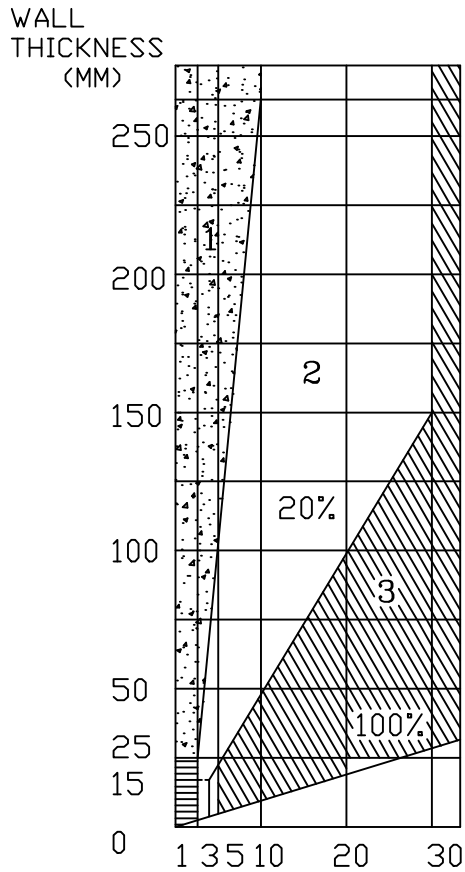
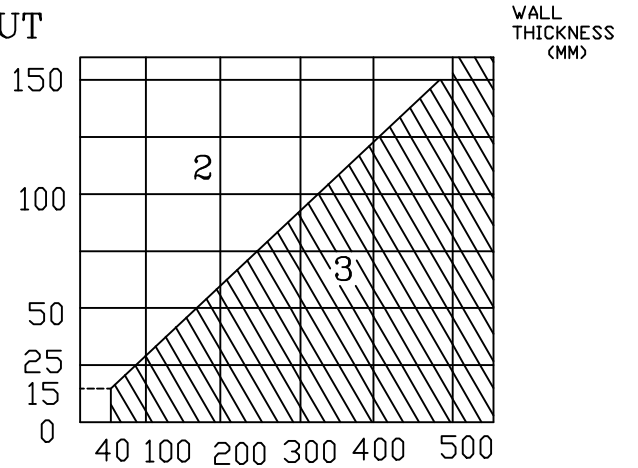
Spec.NO: BA75020

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ANNEXURE B
CUT OUT

-  ZONE
SUPERFICIAL CUT-OUTS
-  ZONE
MINOR CUT-OUTS
-  ZONE EDS
MAJOR CUT-OUTS



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COMP. FILE NAME

BA75020-06

Ref. Doc.



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ANNEXURE C (MAGNETIC PARTICLE TEST CRITERIA –STEEL CASTINGS

Equivalence ASTM E 125		1	2	3	4	5				
LEVEL		001	01	0.3	10	35	70	200	500	
Size of the indication taken into account										
SM (2) Non-linear indications	(1) Maximal whole area (sq. mm)									
	Maximal individual size (mm)	1	1	2 (4)	4 (4)	6 (4)	10 (4)	16 (4)	25 (4)	
LM (2)	Ordering of indications	Isolated or cumulated	Isolated	Isolated	Isolated	Isolated	Isolated	Isolated	Isolated	
			Cumulated	Cumulated	Cumulated	Cumulated	Cumulated	Cumulated	Cumulated	
AM (2) Liner and aligned indications	Maximal lengths of indications (mm) (1)	0	1	2	4	4	6	10	16	25
			1	3	6	6	10	16	25	40
			2	5	10	10	16	25	40	63

(1) In a frame of 105 x 148 mm .
 (2) The indication is liner if $L \geq 3l$ with L : length and l : width of the indication.
 The indications are aligned if numbering of 3 or more and if the distance between them is less than 2 mm- non linear –or if less than the greatest of the indications. The length taken into account is the distance between the beginning of the first indication and the end of the last one.
 (3) Thickness of the casting (4) 2 Indications Max. for this size



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ANNEXURE D (LIQUID PENETRANT TEST CRITERIA (STEEL CASTINGS) IN ACCORDANCE WITH ASTM E433

LEVELS	001	01	1	2	3	4	5	2		20	16						
								15	8			5	8	12			
Size of the indication taken into account (mm)	0.3																
SR (2) Non linear indications		5	8	8		16	20										
Maximal size of indication (mm)		1	3	5		12	16										
AR (2) Linear and aligned indications	Isolated or cumulated	Isolated	Cumulated	Isolated	Cumulated	Isolated	Cumulated	Isolated	Cumulated	Isolated	Cumulated	Isolated					
													0	1	2	4	4
(1) Maximal lengths of indications (mm)																	
(1) Maximal lengths of indications (mm)	“a” (3) thickness $t \leq 16$ mm	0	1	2	4	4	6	6	10	10	16	16	25	25	40	40	63
		0	1	3	6	6	10	10	16	16	25	25	40	40	63	63	63
		0	2	5	1	10	16	16	25	25	40	40	63	63	63	63	63

- In a frame of 105 x 148 mm .
- The indication is linear if $L \geq 3I$ with L : length and I : width of the indication.
The indications are aligned if numbering of 3 or more and if the distance between them is less than 2 mm- non linear –or if less than the greatest of the indications. The length taken into account is the distance between the beginning of the first indication and the end of the last one.
- Thickness of the casting .



**PLANT STANDARD
HYDERABAD**

HY0230261

REV. NO. 03

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LIST OF APPLICABLE STANDARDS ON LIMITS, FITS AND TOLERANCES

1.0 SCOPE:

The standard covers the list of applicable standards on Limits, Fits and Tolerances. These standards are applicable unless or otherwise specified.

2.0 LIST OF APPLICABLE STANDARDS:

SL. NO.	STANDARD NO.	TITLE
1.	AA0230201 -	Limits and Fits (Tolerance grade, Position and Class).
2.	AA0230202 -	Limits and sizes for commercial bolts and nuts.
3.	AA0230204 -	Guide for selection of Fits.
4.	AA0230206 -	Standard limits for Shafts (upto 500 mm).
5.	AA0230207 -	Standard limits for Shafts (above 500 mm and upto 3150 mm).
6.	AA0230208 -	Allowable deviations for dimensions without specified tolerances (linear and angular).
7.	AA0230402 -	Permissible deviations for untoleranced dimensions of castings.
8.	AA0230403 -	Tolerancing system ISO Metric Screw Threads
9.	AA0621101 -	Tolerances and Machining allowances for Flame cutting.
10.	AA0621104 -	General tolerances for welding constructions for length and angles.
11.	AA0621105 -	General tolerances for welded structures – form and position.

Revisions:

Issued :

Withdrawn standards deleted (2 Nos.).

STANDARDS ENGINEERING DEPARTMENT

Rev. No. 03

Amd. No.

Reaffirmed:

**Prepared:
MANAGER
(STDS. ENGG.)**

Approved:

AGM (E&CC)

Date of 1st issue:

Dt. OCT. 06

Dt.

Year:

MAY, 1992

HY0230261

REV. NO. 03

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**PLANT STANDARD
HYDERABAD**



NOTE:

1) AA 023 02 08

Medium class of deviation is applicable, if the same is not mentioned on the drgs./specs.

2) AA 023 04 02

Tolerance class 5 is applicable, if the same is not mentioned on the drgs./specs.

3) AA 062 11 04

Accuracy class A is applicable if the same is not mentioned on the drgs.

4) AA 062 11 05

Accuracy class E is applicable, if the same is not applicable on drgs.

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BHEL-HERP, VARANASI
QUALITY PLAN

Rough M/cd Carbon Steel Casting as per AA19511/09
(With UT AND MPI Test)

Sl.No.	Component/ Operation	Characteristic Checked	Type/Method of Check	Extent of Check	Reference Documents	Acceptance Norm	Format of Record	Agency			Remarks
								P	W	V	
1.0	Material	i. Composition ii. Heat Treatment iii. Mechanical Properties	Chemical Analysis H.T.Chart Mechanical Test	1 Sample per melt 1 Sample per H.T.Batch 1 Sample per H.T.Batch	AA19511/09 AA19511/09 AA19511/09	AA19511/09 AA19511/09 AA19511/09	T.C. HT Chart/ Report T.C.	3 3 3	- - -	2 2 2	
2.0	After rough machining	i. Soundness of casting ii. Surface Cracks iii. Dimensions	Ultrasonic test M.P.I.Test Measurement	100% 100% 10% by BHEL, 100% by Vendor	BA75020/05 Annexure-A BA75020/05 Annexure-A Drawing	BA75020/05 Annexure-A BA75020/05 Annexure-A Drawing	T.C. T.C. Dimension Report	3 3 3	2 2 2	- - -	100% UT & MPI test to be witnessed by BHEL / BHEL Nominated Inspection Agency
3.0	Final Inspection	i. Cleanliness ii. Identification & Marking iii. Prevention (from rust)	Visual Punching Heat No. Inspector Seal Visual	100% 100% 100%	---- ---- ----	---- ---- ----	I.R. I.R. I.R.	3 3 3	2 2 2	- - -	

Q.P.No.	RV/C&F/102 Rev.01	Approved by	
Date	18-09-2023	Signature & Date	
Page No.	1 of 1	BHEL	

Legend
P=Perform
W=Witness
V=Verify
2=BHEL
3=Vendor/Supplier

TC=Test Certificate
HT=Heat Treatment
DR=Dimension Report
IR=Inspection Report

चन्द्र केतु प्रजापति/Chandra Ketu Prajapati
वरिष्ठ प्रबंधक (अभियंत्रिकी एवं नियंत्रण)/Senior Manager (E & M)
भारत हेवी इलेक्ट्रिकल्स लिमिटेड
Bharat Heavy Electricals Limited
एच.ई.आर.पी.-वाराणसी/HERP-Varanasi

PQR

Sl. No.	BHEL Terms	Supplier's Compliance YES/NO
1	Offers are accepted from:	
1.a	Only Manufacturer's Offers shall be considered for the Tender Enquiry.	
2	Supplier shall give list of In-House Facilities:	
2.a	Vendor shall have in-House necessary Manufacturing facilities required for manufacturing and supply of item/s as per drawing/specification.	
2.b	BHEL reserves right to visit the Works of the Manufacturer for Physical verification of the Manufacturing facilities (as declared by them) and assessment of their Quality systems during Technical Evaluation of the Offers.	
3	Experience:	
3.a	Bidders shall submit the necessary documents proving their Experience in Supplying same or similar items to any Power Plant equipment Manufacturer (worldwide or within India) in last three years from the date of Enquiry. Documentary evidences to be submitted in the form of Customer's Purchase Order copies / Material Acceptance Report and item drawings/specifications. Documentary evidences submitted shall strictly meet all the technical requirement of the NIT.	
3.b	BHEL reserves right to verify the details from the Bidder's customers based on Documents submitted as a part of past experience. BHEL may ask for other relevant documents in line with above to review the capacity and capability of vendor with respect to enquired items.	
4	Manufacturing Process Plan:	
4.a	Bidders shall submit detailed Manufacturing process Plan along with the Technical Offer.	
5	Annual Turnover:	
5.a	Turnover of the supplier should be as per GeM (Government e-market place) guide lines (Maximum limit to be taken). Bidders should enclose Audited Balance sheets and Profit & Loss account statement of last three consecutive years in the Part I bid.	
6	Others	
6.a	Bidder will supply item/s exactly as per enquiry.	
Note: Non Submission of the above requested documents/non compliance to the above points will result in rejection of the Offers without further Notice/Intimation to the Bidder and no correspondance will be entertained at later date.		

**GENERAL COMMERCIAL TERMS & CONDITIONS OF ENQUIRY
(FOR INDIAN VENDORS)**

Amendment- 24
ANNEXURE-A

**ITEM DESCRIPTION:
ENQUIRY NO:**

Sl No	BHEL STANDARD TERMS & CONDITIONS	Confirmation of supplier (Yes/No)
1	A) OFFER MUST BE SUBMITTED IN TWO PART BID SYSTEM NAMELY TECHNO-COMMERCIAL BID & PRICE BID FOR THE ITEM AS PER ENQUIRY IN SEPARATE SEALED COVERS: (I) TECHNO – COMMERCIAL BID & (II) PRICE BID SHOULD BE CLEARLY SUPERSCRIBED THE ENQUIRY NO. AND DUE DATE ON THE ENVELOPES. (B) UN-PRICED OFFER WITH TECHNICAL BID IS REQUIRED TO BE FURNISHED BY THE VENDOR. TECHNICAL OFFER SHOULD CLEARLY REFLECT AT LEAST OUR MATERIAL CODE, ITEM DESCRIPTION & QUANTITY. (C) THE DIFFERENCE BETWEEN “UN-PRICED OFFER” AND “PRICED OFFER” SHOULD BE ONLY THE PRICES WHEREVER APPLICABLE. THE RATES AND AMOUNT SHOULD BE CLEARLY WRITTEN IN FIGURES AND WORDS BOTH WITHOUT ANY CUTTING / OVERWRITING. (D) IMPORTANT POINT FOR VENDOR WHO HAVE NOT SUBMITTED THE SRF (SUPPLIER REGISTRATION FORM) SO FAR: THE VENDORS, WHO HAVE NOT SUBMITTED THE SRF SO FAR, MUST SUBMIT THE SAME ALONG WITH PART- 1 BID. THE SRF TO BE DOWNLOADED FROM WWW.BHEL.COM OR https://herp.bhel.com .	
2	BID SHOULD BE FREE FROM CORRECTION, OVERWRITING, USING CORRECTIVE FLUID, ETC. ANY INTERLINEATION , CUTTING , ERASURE OR OVERWRITING SHALL BE VALID ONLY IF THEY ARE ATTESTED UNDER FULL SIGNATURE(S) OF PERSON(S) SIGNING THE BID ELSE BID SHALL BE LIABLE FOR REJECTION .	
3	YOUR TECHNO COMMERCIAL BID SHOULD MENTION THAT PRICE BID HAS BEEN SENT IN A SEPARATE ENVELOPE GIVING ITS REFERENCE.	
4	VENDOR TO ENSURE THAT ITEM & QUANTITY MENTIONED IN THE OFFERS ARE EXACTLY SAME AS PER ENQUIRY. IF ANY DEVIATION IS THERE PARTY MUST MENTION SPECIFIC HEREWITH OTHERWISE BHEL SHALL CONSIDER THAT ITEM & QUANTITY AS REQUIRED IN ENQUIRY.	
5	PLEASE MAKE SURE THAT THERE IS NO DISCREPANCY IN BETWEEN ACCEPTED TERMS & CONDITIONS MENTIONED IN THE CHECK LIST AND QUOTATION SUBMITTED BY VENDOR AND IF FOUND SO THEN THE TERMS & CONDITIONS WHICH ARE BENEFICIAL TO BHEL WOULD ONLY BE CONSIDERED.	
6	THE TENDER RECEIVED AFTER 14:00 HRS ON THE DUE DATE WILL NOT BE CONSIDERED.	
7	PART-I CONTAINING THE TECHNO-COMMERCIAL BID WILL BE OPENED ON THE DATE AND TIME SPECIFIED IN THE ENQUIRY, IN THE PRESENCE OF THOSE TENDERERS WHO WISH TO ATTEND. PART-II i.e., PRICE BID WILL BE OPENED ONLY OF THOSE BIDDERS WHO ARE FOUND TECHNO-COMMERCIALY SUITABLE AFTER SCRUTINY OF THEIR PART-I OFFERS.	
8	NO REVISED OFFERS WILL BE ACCEPTED UNLESS ASKED BY BHEL AFTER OPENING OF PART-1 BID IN ANY CASE.	
9	THE RATE OF GST SHOULD BE CLEARLY MENTIONED IN THE OFFER.	
10	VALIDITY OF OFFER SHOULD BE MINIMUM 90 DAYS FROM THE DATE OF TECHNO - COMMERCIAL BID OPENING OR 60 DAYS FROM THE REVERSE AUCTION DATE.	
11	BHEL RESERVES THE RIGHT TO REJECT THE OFFER, WHICH IS HAVING DEVIATIONS TO THE TERMS AND CONDITIONS GIVEN IN THE TENDER ENQUIRY.	
12	PRICING TERMS: 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 VENDORS, THE QUOTED PRICE SHALL BE TAKEN AS INCLUSIVE OF THIRD PARTY INSPECTION AND TESTING CHARGES AS CALLED FOR IN THE NIT.	
13	BID EVALUATION: UNLESS SPECIFIED IN THE TENDER, VENDOR MUST NOTE THAT BHEL WILL ARRIVE THE L1 STATUS FOR EACH ITEM ON LANDED COST BASIS. ACCORDINGLY, ORDER SHALL BE PLACED ON LOWEST BIDDER ON INDIVIDUAL ITEM BASIS ONLY, UNLESS BHEL ASK FOR TERMS OTHER THAN THIS ON EXCEPTION BASIS. 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 CASE MORE THAN ONE BIDDERS HAPPENS TO OCCUPY THE L-1 STATUS EVEN AFTER SOLICITING DISCOUNT, THE L-1 BIDDER SHALL BE DECIDED BY A TOSS/DRAW OF LOTS, IN THE PRESENCE OF THE RESPECTIVE BIDDER(S) OR THEIR REPRESENTATIVE(S). RANKING WILL BE DONE ACCORDINGLY. BHEL'S DECISION IN SUCH SITUATION SHALL BE FINAL AND BINDING.	
14	TERMS OF DELIVERY: I. FOR INDIGENOUS SUPPLIERS: THE TERMS OF DELIVERY SHOULD BE QUOTED ON F.O.R. DESTINATION (BHEL HERP STORES VARANASI) BASIS ONLY (i.e. FREIGHT & INSURANCE ON VENDOR'S ACCOUNT ONLY). IF ANY BIDDER STILL QUOTES OTHER DELIVERY TERM IN PLACE OF BHEL HERP STORES, THEIR OFFER MAY NOT BE CONSIDERED FOR FURTHER PROCESSING. IT MUST BE SPECIFICALLY NOTED.	
15	IF ANY INDIAN SUPPLIERS ARRANGE SUPPLY FROM FOREIGN PRINCIPLES/WORKS, TERMS OF DELIVERY SHOULD BE QUOTED ON CIF JNPT MUMBAI (INDIA) SEA PORT BASIS ONLY (i.e. FREIGHT & INSURANCE ON VENDOR'S ACCOUNT UPTO JNPT MUMBAI (INDIA) SEA PORT) OR CFR MUMBAI AIRPORT. HOWEVER FREIGHT CHARGES AS PER BHEL TRANSPORT CONTRACT FROM JNPT MUMBAI SEAPORT/MUMBAI AIRPORT TO BHEL VARANASI FOR EACH ITEM WILL BE LOADED AT THE TIME OF TOTAL LANDED COST CALCULATION.	
16	INSURANCE CHARGES SHALL BE TO VENDOR'S ACCOUNT ONLY IF PRICE QUOTED ON BHEL HERP STORES BASIS. IN CASE PRICE QUOTED IS ON CIF JNPT MUMBAI BASIS/ CFR MUMBAI AIRPORT BASIS, INSURANCE UP TO CIF JNPT MUMBAI/ MUMBAI AIRPORT SHALL BE IN VENDOR ACCOUNT.	
17	PAYMENT TERMS: I.FOR MSEs VENDORS: 100% AGAINST SRV WITHIN 45 DAYS THROUGH EFT (ELECTRONIC FUND TRANSFER) FROM THE DATE OF RECEIPT OF MATERIAL (DATE OF SRV) AT BHEL HERP VARANASI STORES AS PER PO. II.FOR MEDIUM ENTERPRISES VENDORS: 100% AGAINST SRV WITHIN 60 DAYS THROUGH EFT (ELECTRONIC FUND TRANSFER) FROM THE DATE OF RECEIPT OF MATERIAL (DATE OF SRV) AT BHEL HERP VARANASI STORES AS PER PO. III. FOR NON- MSME: 100% AGAINST SRV WITHIN 90 DAYS THROUGH EFT (ELECTRONIC FUND TRANSFER) FROM THE DATE OF RECEIPT OF MATERIAL (DATE OF SRV) AT BHEL HERP VARANASI STORES AS PER PO. IV.BHEL HERP WILL MAKE PAYMENTS IN TWO PARTS: - PART-I: BASIC INVOICE VALUE AND ALL OTHER CHARGES (EXCEPT GST AMOUNT) WILL BE PAID AS PER P.O. PAYMENT TERMS. PART-II: GST PORTION OF INVOICE VALUE WILL BE PAID ONLY AFTER FULFILLING FOLLOWING CONDITIONS: (A) PAYMENT OF GST AMOUNT INTO GOVT. ACCOUNT BY SUPPLIER AGAINST INVOICE RAISED TO BHEL. (B) FILING OF GST RETURN (C) DISPLAY OF GST CREDIT AGAINST BHEL GSTIN NO.09AAACB4146P2ZC IN GSTR-2B ON GSTN PORTAL. Note: 1. PAYMENT WILL BE MADE AFTER ACCEPTANCE OF MATERIAL. 2. ADVANCE PAYMENT IS NOT ACCEPTABLE BY BHEL HERP VARANASI IN ANY CASE. 3. IF ANY SUPPLIER FALLS UNDER “NON MSE” OR “NON MEDIUM” CATEGORY, THEIR PAYMENT TERM WILL BE CONSIDERED AS NON MSME SUPPLIER PAYMENT WITHOUT ANY INTIMATION.	
18	LOADING OF PAYMENT TERM: IN CASE OF DEVIATION, LOADING OF INTEREST RATE @SBI MCLR RATE + 6% (AS ON PART-1 OPENING DATE) SHALL BE LOADED WHILE ARRIVING AT LANDED COST TO BHEL.	
19	LIQUIDATED DAMAGES/ LATE DELIVERY (LD) PENALTY CLAUSE: SUBJECT TO FORCE MAJEURE CONDITIONS, FAILURE TO SUPPLY WITHIN PURCHASE ORDER DELIVERY SCHEDULE WILL MAKE THE SUPPLIER LIABLE TO AN UNCONDITIONAL PENALTY OF 0.5 % PER WEEK OR PART THEREOF SUBJECT TO THE MAXIMUM OF 10% OF THE UNDELIVERED PURCHASE ORDER VALUE EXCLUDING TAXES & DUTIES. NO GRACE PERIOD SHALL BE GIVEN.	
20	LOADING OF LIQUIDATED DAMAGES (LD): DEVIATION TO ABOVE STANDARD PENALTY CLAUSE, MAXIMUM LOADING OF 10% (IN CASE OF NON ACCEPTANCE OF LD CLAUSE) OR PART THEREOF (IN CASE OF PART ACCEPTANCE OF LD) SHALL BE LOADED WHILE ARRIVING LANDED COST TO BHEL. LOADING OF DELIVERY TERM: FURTHER IF DEVIATION IS FOUND IN THE ACCEPTED DELIVERY TERM AS WELL AS ACCEPTED PENALTY TERM, SUITABLE LOADING BASED ON TRANSPORTATION TIME TO BE TAKEN SHALL BE LOADED WHILE ARRIVING LANDED COST TO BHEL HERP STORES WHICH MAY BE AS BELOW: (i) 1% OF THE BASIC COST FOR INDIAN SUPPLIERS,	

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21	DELIVERY PERIOD: VENDOR SHOULD STRICTLY QUOTE THE DELIVERY PERIOD AS MENTIONED IN NIT.
22	IF ANY VENDOR DOES NOT SUPPLY THE ITEM WITHIN THE PURCHASE ORDER DELIVERY PERIOD, BHEL MAY/MAY NOT ACCEPT THE SUPPLY AT ITS SOLE DISCRETION.
23	<p>BANK GUARANTEE: THE COST OF BHEL FREE ISSUE MATERIALS PER SET/PER ASSEMBLY AND TOTAL COST OF FIM FOR THE ENQUIRY ARE MENTIONED IN NIT. IN THIS REGARD:</p> <p>1. PARTY WILL HAVE TO SUBMIT EQUAL AMOUNT OF SECURITY DEPOSIT (IN THE FORM OF 25% BG/FDR/DD/CHEQUE/BANK TRANSFER AND 75% INDEMNITY BOND) TOWARDS THE COST OF BHEL MATERIALS TO BE ISSUED TO THEM BEFORE THE ISSUE OF BHEL MATERIALS TO THEM. AT ANY POINT OF TIME, PROPORTIONATE SECURITY DEPOSIT OF TOTAL/CUMMULATIVE MATERIAL VALUE SHOULD BE MAINTAINED.</p> <p>2. BHEL MAY ASK THE SUPPLIER FOR SUBMISSION OF FULL SECURITY DEPOSIT AMOUNT OR PART DEPENDING UPON THE AVAILABILITY OF FREE ISSUE MATERIALS AT OUR END.</p> <p>3. PARTY MUST HAVE TO SUBMIT THE SAME WITHIN 02 WEEK TIME FROM THE DATE OF WRITTEN INTIMATION BY BHEL WITHOUT FAIL OTHERWISE IT WOULD TREATED AS FAILURE OF HONOURING PO TERMS AND ACCORDINGLY BHEL MAY CANCEL THE PURCHASE ORDER AND INITIATE ALTERNATE PROCUREMENT ACTION AT SUPPLIER RISK & COST.</p> <p>4. IN CASE OF ABSENCE OF DESIRED SECURITY DEPOSIT AT BHEL END AND ALSO NON RESPONSE OF POINT NO. 03 AS ABOVE,</p> <p>I. BHEL MAY HOLD THE PENDING PAYMENTS OF SUPPLIER AVAILABLE AT BHEL END WITHOUT ANY INTIMATION. II. IF NO PAYMENT IS PENDING AT BHEL END, ACTION FOR ALTERNATE PROCUREMENT ACTION MAY BE INITIATED. 5. THE FORMAT OF BG SHALL BE PER ATTACHED ANNEXURE-BG/FIM ONLY.</p>
24	TRANSPORTATION CHARGES FOR SENDING BHEL FREE ISSUE MATERIALS (FIM) TO THE PARTY WORKS WILL BE BORNE BY BHEL ONLY. THE FREIGHT CHARGES FOR SENDING THE BHEL FIM FROM HERP STORES TO PARTY'S WORK FOR EACH ITEM WILL BE LOADED AS PER BHEL TRANSPORT CONTRACT AT THE TIME OF TOTAL LANDED COST CALCULATION. HOWEVER, VARANASI/LOCAL BASED VENDORS WILL LIFT THE FIM FROM BHEL STORES AND BORNE ITS TRANSPORTATION CHARGES.
25	IF BHEL ISSUES FREE ISSUE MATERIALS TO THE SUPPLIER, IT MUST BE RETURNED WITHIN THE TIME LIMIT AS PRESCRIBED IN GST LAW (PRESENTLY 01 (ONE) YEAR FROM THE DATE OF FREE ISSUE DATE) TO COMPLY THE GST RULES. IF ANY VENDOR DOES NOT RETURN THE BHEL FREE ISSUE MATERIALS AS MENTIONED ABOVE, THE FINANCIAL IMPLICATION ON ACCOUNT OF THIS, IF ANY, SHALL BE RECOVERED FROM THE PARTY BILLS.
26	<p>REVERSE AUCTION: BHEL SHALL BE RESORTING TO REVERSE AUCTION (RA) (GUIDELINES AS AVAILABLE ON WWW.BHEL.COM) FOR THIS TENDER. RA SHALL BE CONDUCTED AMONG ALL THE TECHNO-COMMERCIALY QUALIFIED BIDDERS.</p> <p>PRICE BIDS OF ALL TECHNO-COMMERCIALY QUALIFIED BIDDERS SHALL BE OPENED AND SAME SHALL BE CONSIDERED AS INITIAL BIDS OF BIDDERS IN 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.</p>
27	IF ANY OF THE VENDORS DO NOT ACCEPT THE ABOVE POINT MENTIONED AT SL. NO. 26, THEIR OFFER MAY BE LIABLE FOR REJECTION WITHOUT INTIMATION.
28	<p>RISK PURCHASE: IN CASE OF DELAY IN SUPPLIES/ DEFECTIVE SUPPLIES/NON EXECUTION OF PURCHASE ORDER ETC. (FOR DETAILS, REFER GUIDELINES FOR RISK PURCHASE), BHEL MAY CANCEL THE ORDER IN FULL OR PART THEREOF/ MAY ALSO MAKE THE PURCHASE OF SUCH MATERIALS FROM ELSEWHERE/ALTERNATIVE SOURCES AT THE RISK & COST OF SUPPLIER. BHEL MAY ALSO MANUFACTURE THE ITEM IN-HOUSE IN PART OR FULL DEPENDING UPON THE URGENCY OF THE ITEM.</p> <p>GUIDELINES FOR RISK PURCHASE IS AVAILABLE ON BHEL WEBSITE "https://herp.bhel.com" at "Notice". RESPECTIVE BIDDERS / SUPPLIERS MAY REFER THIS GUIDELINE BEFORE SUBMITTING THEIR OFFER AGAINST BHEL, HERP TENDER ENQUIRIES. IN CASE RISK PURCHASE IS APPLIED, BHEL SHALL TAKE ACTION AGAINST THE NON-PERFORMING AND/OR DEFAULTING SUPPLIERS/ CONTRACTORS IN LINE WITH THIS GUIDELINE ONLY.</p>
29	BHEL MAY SHORT CLOSE/CANCEL AN ORDER AT ANY TIME DURING THE CURRENCY OF THE CONTRACT/PO IRRESPECTIVE OF THE PO DELIVERY DATE, IF (I) THE WORK PROGRESS OF THE VENDOR IS POOR, OR (II) THE DELIVERY REQUIREMENT OF THE ITEM IS VERY CRITICAL & NOT BEING MET BY THE VENDOR ON WHICH ORDER HAS BEEN PLACED, OR (III) THERE IS NO RESPONSE FOR IMPROVEMENT IN DELIVERY AS PER BHEL REQUIREMENT,
30	THE OFFERS OF THE BIDDERS WHO ARE ON THE BANNED LIST AND ALSO THE OFFER OF THE BIDDERS, WHO ENGAGE THE SERVICES OF THE BANNED FIRMS, SHALL BE REJECTED. THE LIST OF BANNED FIRMS IS AVAILABLE ON BHEL WEB SITE www.bhel.com
31	RESERVATION RIGHTS OF BHEL: – BHEL RESERVES THE RIGHT TO REJECT ANY OR ALL QUOTATIONS WITHOUT ASSIGNING ANY REASONS THEREOF. BHEL ALSO RESERVES THE RIGHT TO INCREASE OR DECREASE THE TENDERED QUANTITIES. VENDORS SHOULD BE PREPARED TO ACCEPT ORDER FOR REDUCED QUANTITIES WITHOUT ANY EXTRA CHARGES. VENDOR SHOULD ALSO BE PREPARED FOR GIVING DISCOUNT IN CASE OF INCREASE IN QUANTITY.
32	NON-DISCLOSURE AGREEMENT: ALL DRAWINGS AND STANDARDS ARE PROPRIETARY OF BHEL. IT MUST NOT BE USED IN ANY WAY DETRIMENTAL TO THE INTEREST OF THE COMPANY. ALL SUPPLIERS SHALL FURNISH NDAS (NON-DISCLOSURE AGREEMENT) AGAINST USE OF DOCUMENTS FURNISHED BY BHEL TOWARDS UN-AUTHORIZED USE EXCEPT FOR THE PURPOSE IT HAS BEEN FURNISHED.
33	<p>A. SETTLEMENT OF DISPUTES & ARBITRATION:</p> <p>I. ALL QUESTIONS/INTERPRETATIONS REGARDING SUBJECT MATTER OF THE CONTRACT SHALL BE DECIDED BY THE BHEL ON THE REQUEST OF THE VENDOR AND THE DECISION OF THE BHEL SHALL BE FINAL.</p> <p>II. IN CASE OF DISPUTE, STEPS SHALL BE TAKEN BY THE PARTIES TO THE CONTRACT TO SETTLE THE SAME THROUGH NEGOTIATIONS.</p> <p>III. IN CASE, DISPUTE IS NOT SETTLED IN NEGOTIATIONS, IT SHALL BE REFERRED TO CONCILIATOR APPOINTED BY THE COMPETENT AUTHORITY OF THE BHEL. <i>THE CONCILIATION PROCEEDINGS WITH RESPECT TO A DISPUTE AS DEFINED IN THE BHEL CONCILIATION SCHEME, 2018 AND SUBSEQUENT REVISIONS CAN BE INITIATED UNDER THE SCHEME AT ANY STAGE WHETHER BEFORE, DURING OR EVEN AFTER THE COMMENCEMENT OF ARBITRATION PROCEEDINGS OR LITIGATION BEFORE COURTS. THIS CONCILIATION SCHEME IS AVAILABLE ON OUR WEBSITES https://herp.bhel.com AND www.bhel.com .</i></p> <p>IV. IN CASE DISPUTE IS NOT SETTLED IN CONCILIATION PROCEEDINGS, THE SAME SHALL BE REFERRED TO ARBITRATION AS PER CORPORATE GUIDELINES OF THE BHEL AND THE ARBITRATION PROCEEDING SHALL BE CONDUCTED AS PER PROVISIONS OF THE ARBITRATION AND CONCILIATION ACT, 1996 READ WITH CORPORATE GUIDELINE AS AMENDED FROM TIME TO TIME.</p> <p>V. THE VENDOR SHALL CONTINUE TO PERFORM THE CONTRACT, PENDING SETTLEMENT OF DISPUTE(S).</p> <p>B. JURISDICTION: ALL DISPUTES OR DIFFERENCES ARISING OUT OF OR IN CONNECTIONS WITH THE CONTRACT SHALL BE SUBJECT TO THE EXCLUSIVE JURISDICTION OF THE COURT AT VARANASI (U.P.) ONLY.</p>
34	SPECIAL NOTE FOR BIDDERS: THE QUOTATION SHOULD BE FROM PRINCIPAL / ORIGINAL EQUIPMENT MANUFACTURER ONLY. THE OFFER OF THOSE OEM, AUTHORISING THEIR TRADER / DEALER / DISTRIBUTOR TO QUOTE AND TAKE ORDER IS LIABLE FOR DISQUALIFICATION. SINCE BHEL PREFER TO DEAL DIRECTLY WITH OEM AND NOT THROUGH DEALER / TRADER / DISTRIBUTOR OF OEM, THEREFORE, OEM MUST DIRECTLY QUOTE, TAKE ORDER AND DELIVER THE MATERIAL UNDER THEIR GUARANTEE / WARRANTEE.
35	<p>I. FOLLOWING DOCUMENTS SHOULD BE ENCLOSED AND ADDRESSED TO DGM (FINANCE) AND SAME SHALL BE DISPATCHED TO MM DEPTT. BHEL, HERP, TARNA, SHIVPUR, VARANASI-221003 FOR PAYMENT PURPOSE:</p> <p>a) 05 (FIVE) COPIES OF GST INVOICES b) COPY OF GR/RR. c) TEST CERTIFICATE AND GUARANTEE/WARRANTEE CERTIFICATE AND PDI REPORT, IF APPLICABLE. (ONE COPY).</p> <p>II. FURTHER TO ABOVE, 02 (TWO) COMPLETE SETS OF DOCUMENTS (COPIES OF ABOVE MENTIONED DOCUMENTS AT SL. NO. I FOR INDIAN SUPPLIERS (UNDER THIS CLAUSE) SHALL BE SENT FOR PURCHASE AND QUALITY DEPARTMENTS. ORIGINAL COPIES OF TC, GC, PDI REPORTS & OTHER QUALITY PAPERS SHALL BE ATTACHED IN THE SET OF DOCUMENTS FOR QUALITY DEPARTMENTS.</p> <p>III. THE VENDOR SHOULD PROVIDE BILLS & OTHER DOCUMENTS COMPLETE IN ALL RESPECT AS PER PURCHASE ORDER ALONGWITH DESPATCH OF MATERIALS. BHEL SHALL SEEK CLARIFICATION(S) (IF ANY) RELATED TO PAYMENT DOCUMENTS IN ONE GO. THE VENDOR SHOULD PROVIDE ALL SUCH CLARIFICATION(S) IMMEDIATELY. ANY DELAY IN PROCESSING OF PAYMENT, DUE TO NON RECEIPT OF CLARIFICATION(S) SOUGHT BY BHEL, SHALL BE ATTRIBUTABLE COMPLETELY TO VENDOR.</p> <p>IV. DIGITALLY SIGNED INVOICE IS ALSO ACCEPTABLE FOR PROCESSING OF PAYMENT.</p>
36	THE VENDOR SHALL ENSURE THAT THEIR BANK DETAILS ARE UPDATED WITH US FOR TIMELY PAYMENT THROUGH EFT (ELECTRONICS FUND TRANSFER).

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37	<p>GUIDELINES FOR SUSPENSION OF BUSINESS DEALINGS WITH SUPPLIERS/ CONTRACTORS: THE REVISED GUIDELINES FOR SUSPENSION OF BUSSINESS DEALINGS ARE AVAILABLE ON BHEL WEBSITE AT “www.bhel.com” on “SUPPLIER REGISTRATION PAGE”. RESPECTIVE BIDDERS / SUPPLIERS MAY REFER THIS BEFORE QUOTING AS PER THEIR REQUIREMENT. ACTION AGAINST THE DEFAULTED SUPPLIERS/ CONTRACTORS’ SHALL BE TAKEN AS PER THESE GUIDELINES ONLY.</p>	
38	<p>VENDOR MUST FOLLOW THE SEQUENTIAL DELIVERY SCHEDULE i.e. ITEMS TO BE SUPPLIED IN SUCH A MANNER THAT THE PURCHASE ORDER HAVING OLDER DELIVERY SCHEDULE SHOULD BE SUPPLIED EARLIER AND PURCHASE ORDER HAVING LATTER DELIVERY SCHEDULE TO BE SUPPLIED LATTER. IF ANY VENDOR DOES NOT FOLLOW THE SEQUENTIAL DELIVERY SCHEDULE ESPECIALLY FOR SAME ITEM, BHEL MAY ACCOUNT FOR THE ITEM IN SEQUENTIAL MANNER OR MAY RECOVER THE FINANCIAL IMPLICATION.</p>	
39	<p>ALL ABOVE ACCEPTED TERMS & CONDITIONS SHALL BE PART OF PURCHASE ORDER WITH OR WITHOUT MENTIONING IN THE PO/CONTRACT BASED ON YOUR ACCEPTANCE AND OFFER SUBMITTED.</p>	
40	<p>IMPORTANT INSTRUCTION: I.VENDORS ARE REQUESTED TO QUOTE THEIR RATE WITH DESCRIPTION MENTIONED IN THE ENQUIRY CONSIDERING ALL TECHNICAL TERMS & CONDITIONS OF THE ENQUIRY. ALSO RATES QUOTED SHOULD BE EXACTLY AS PER SL. NO. OF HARD COPY OF THE ENQUIRY (IF ENQUIRY HAS BEEN FLOATED THROUGH CONVENTIONAL MODE) OR AS PER SL. NO. APPEARING IN THE e-Procurement PORTAL (IF ENQUIRY HAS BEEN FLOATED THROUGH e-Procurement) ONLY. IT MUST BE FOLLOWED UP TO AVOID CONFUSION AT LATER STAGES. ALSO RATES TO BE SUBMITTED BOTH IN NUMERICS AS WELL AS IN WORD. IN CASE OF DISCREPENCY, RATES SUBMITTED IN WORDS SHALL BE CONSIDERED FOR FURTHER PROCESSING. II.DOCUMENTS SUBMITTED WITH THE OFFER SHOULD BE SIGNED AND STAMPED IN EACH PAGE BY AUTHORIZED REPRESENTATIVE OF THE BIDDER. II.IN CASE OF PDI, VENDOR SHALL RAISE ONLINE INSPECTION CALL IN ONLINE INSPECTION PORTAL/INTIMATE BHEL IN WRITTING (WHERE INSPECTION IS IN BHEL HERP SCOPE) AT LEAST 01 WEEK IN ADVANCE OR AS MUTUALLY AGREED PERIOD ABOUT THE DATE AND PLACE AT WHICH GOODS WILL BE READY FOR INSPECTION. IV.PURCHASER OR HIS AUTHORIZED REPRESENTATIVE SHALL BE ENTITLED TO CARRY OUT SURVEILLANCE INSPECTION OF MATERIAL AND WORKMANSHIP AT SELLER’S PREMISES OR AT HIS SUB-CONTRACTOR’S PREMISES AT ALL REASONABLE TIMES DURING EXECUTION OF THE CONTRACT. SUCH INSPECTION, EXAMINATION AND TESTING, IF MADE, SHALL NOT ABSOLVE THE SELLER FROM HIS OBLIGATIONS UNDER THE CONTRACT. V.SUCH PRE-DISPATCH INSPECTION, EXAMINATION AND TESTING, IF MADE, AT VENDOR’S WORKS SHALL NOT ABSOLVE THE SELLER FROM HIS OBLIGATIONS TO MANUFACTURE/MACHINING THE GOODS UNDER THE CONTRACT. IF DEFECTS ARE FOUND AT LATER STAGE, IT IS THE SOLE RESPONSIBILITY OF THE VENDOR TO REPLACE/RECTIFY THE SAME.</p>	
41	<p>IMPORTANT CLAUSE FOR GST: INPUT TAX CREDIT OF GST CAN BE AVAILED BY BHEL ONLY WHEN THE MATERIAL HAS BEEN PHYSICALLY RECEIVED AND GST INVOICE IS IN POSSESSION OF BHEL. THEREFORE, SUPPLIERS SHOULD ENSURE THE FOLLOWING IN RESPECT OF POS ISSUED BY BHEL: I. GST INVOICE SHOULD CONTAIN ADDRESS, GST NO. AND PAN NO. OF BHEL AS WELL AS OF SUPPLIER. APPLICABLE HSN CODE OF THE MATERIAL SHOULD BE INDICATED IN THE GST INVOICE. II. FIVE COPIES OF GST INVOICE AND LORRY RECEIPT MAY BE DESPATCHED ALONGWITH SHIPMENT OF THE GOODS IN ORDER TO AVOID ANY DELAY IN AVAILING INPUT CREDIT BY BHEL. III. DECLARE SUCH INVOICE IN HIS GSTR-1 RETURN FOR THE MONTH OF DESPATCH OF MATERIAL. IV. PAYMENT OF GST TO STATUTORY AUTHORITIES WITHIN PRESCRIBED TIME. V. IN CASE OF DISCREPANCY IN THE DATA UPOADED BY THE BIDDER IN THE GSTN PORTAL VIS-A-VIS THE TAX INVOICE OR IN CASE OF ANY SHORTAGES OR REJECTION IN THE SUPPLY, THEN BHEL WILL NOT BE ABLE TO AVAIL THE TAX CREDIT. BIDDER HAS TO RECTIFY THE DATA DISCREPANCY IN THE GSTN PORTAL OR ISSUE CREDIT NOTE OR DEBIT NOTE (DETAILS ALSO TO BE UPOADED IN GSTN PORTAL) FOR THE SHORTAGES OR REJECTIONS IN THE SUPPLIES OR ADDITIONAL CLAIMS FOR PROCESSING OF SUCH INVOICES. VI. GST TDS DEDUCTED AS PER GST ACT, IS UPOADED IN GSTN PORTAL ALONG GSTR7. BIDDERS CAN DIRECTLY DOWNLOAD THE GST TDS CERTIFICATE FROM THE GSTN PORTAL. IN CASE GST CREDIT IS DELAYED /DENIED TO BHEL DUE TO NON OR DELAYED RECEIPT OF GOODS AND OR TAX INVOICE OR EXPIRY OF TIMELINE PRESCRIBED IN GST LAW FOR AVAILING SUCH ITC OR ANY OTHER REASON NOT ATTRIBUTABLE TO BHEL, GST AMOUNT SHALL BE RECOVERABLE FROM VENDOR ALONG WITH INTEREST /PENALTY LEVIABLE ON BHEL. IN CASE SUPPLIERS DELAYS DECLARING SUCH INVOICE IN HIS RETURN AND GST CREDIT AVAILED BY BHEL IS DENIED OR REVERSED SUBSEQUENTLY AS PER GST LAW, GST AMOUNT PAID BY BHEL TOWARDS SUCH ITC REVERSAL SHALL BE RECOVERABLE FROM SUPPLIER ALONGWITH INTEREST LEVIED/LEVIABLE ON BHEL. IN CASE OF RAISING ANY SUPPLEMENTARY TAX INVOICE (DEBIT/ CREDIT NOTE), THE SUPPLIER SHALL ISSUE THE SAME CONTAINING ALL THE DETAILS AS REFERRED TO IN SECTION 34 READ WITH SECTION 31 OF GST ACT & RULES REFERRED THERE UNDER .</p>	
42	<p>STATUTORY VARIATION CLAUSE : ANY INCREASE IN THE RATE OF GST SHALL BE PAYABLE ONLY FOR DELIVERIES COMPLETED WITHIN THE SCHEDULED DELIVERY PERIOD, IN OTHER WORDS INCREASE IN THE RATE OF GST SHALL NOT BE PAYABLE FOR VALUE OF CONSIGNMENT DELIVERED AFTER THE SCHEDULED PURCHASE ORDER DELIVERY PERIOD.2.NEW TAXES AND DUTIES , IF IMPOSED SUBSEQUENT TO DUE DATE OF OFFER SUBMISSION, BY STATUTORY AUTHORITY DURING CONTRACT PERIOD (INCLUDING EXTENSION IF THE SAME IS NOT ATTRIBUTABLE TO BIDDER) SHALL BE REIMBURSED BY BHEL ON PRODUCTION OF RELEVANT SUPPORTING DOCUMENTS TO THE SATISFACTION OF BHEL . HOWEVER, BIDDER SHALL TAKE PRIOR APPROVAL OF BHEL BEFORE DEPOSITING NEW TAXES AND DUTIES.</p>	
43	<p>IMPORTANT INSTRUCTION FOR MSEs SUPPLIERS: I. “MSE SUPPLIERS CAN AVAIL THE INTENDED BENEFITS ONLY IF THEY SUBMIT ALONG WITH OFFER, ATTESTED COPIES OF EITHER EM-II CERTIFICATE HAVING DEEMED VALIDITY (FIVE YEARS FROM THE DATE OF ISSUE OF ACKNOWLEDGEMENT IN EM-II) OR VALID NSIC CERTIFICATE OR EM-II CERTIFICATE ALONG WITH CA CERTIFICATE (FORMAT ENCLOSED AS PER ANNEXURE-1 WHERE DEEMED VALIDITY OF EM-II CERTIFICATE OF FIVE YEARS HAS EXPIRED) APPLICABLE FOR THE RELEVANT FY/ (LATEST AUDITED).DATE TO BE RECKONED FOR DETERMINING THE DEEMED VALIDITY WILL BE THE DATE OF BID OPENING (PART -1 IN CASE OF TWO PART BID). NON SUBMISSION OF SUCH DOCUMENTS WILL LEAD TO CONSIDERATION OF THEIR BID AT PAR WITH OTHER BIDDERS. NO BENEFIT 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 DOCUMENTS ARE TO BE UPOADED ON THE PORTAL. DOCUMENTS SHOULD BE NOTARIZED OR ATTESTED BY A GAZETTED OFFICE. II.IN CASE OF ANY CHANGE IN THE MSE STATUS OF THE BIDDER, IT SHALL BE RESPONSIBILITY OF THE BIDDER TO NOTIFY THE CHANGE AS A PART OF THE BID DOCUMENT. IF AT A LATER DATE IT COMES TO NOTICE 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 WOULD CANCEL THE PENDING ORDER AGAINST THIS TENDER AND TAKE NECESSARY ACTION SUSPENSION OF THE BUSSINESS DEALING WITH THE BIDDER AS PER PROCUREMENT POLICY OF BHEL. III.25 % OF THE TENDERED QUANTITY IS EARMARKED FOR MSE SUPPLIERS IN THIS TENDER. IV.OUT OF THIS 25% TENDERED QUANTITY RESERVED FOR MSE SUPPLIERS, 6.25% SHALL BE EARMARKED FOR PROCUREMENT FROM MSEs OWNED BY SC/ST ENTREPRENEURS. V.OUT OF THIS 25% TENDERED QUANTITY RESERVED FOR MSE SUPPLIERS, 3% SHALL BE EARMARKED FOR PROCUREMENT FROM MSEs OWNED BY WOMEN. VI.IN CASE MSE VENDOR PARTICIPATING IN THE TENDER QUOTES WITHIN THE PRICE BAND OF “L1+15%”, THEY WILL BE ALLOWED TO SUPPLY THE 25% PORTION OF THE REQUIREMENT SUBJECT TO ACCEPTANCE OF L1 PRICE (ON LANDED COST BASIS) BY MSE VENDOR. IN CASE OF MORE THAN ONE SUCH MSE VENDOR WITHIN THE “L1+15% PRICE BAND” THE SUPPLY SHALL BE SHARED PROPORTIONATELY (TO 25% TENDERED QUANTITY). VII.IF THE L1 VENDOR HAPPENS TO BE A MSE VENDOR AGAINST ANY ITEM CODE, THEN 100% OF THE TENDERED QTY (FOR RESPECTIVE ITEM CODE) SHALL BE PROPOSED TO ORDER ON THE L1 (MSE) VENDOR, EVEN THOUGH THERE MAY BE OTHER MSE VENDORS WITHIN THE “L1+15% PRICE BAND”. VIII.IN CASE AFTER OPENING OF PRICE BID, IT IS SEEN THAT NO MSE HAS BECOME L1, THEN DEPENDING ON THE NATURE OF THE ITEM, IF IT IS NOT POSSIBLE TO SPLIT THE TENDERED ITEMS/QUANTITIES ON ACCOUNT OF REASONS LIKE CUSTOMER CONTRACT REQUIREMENTS OF SUPPLYING ONE MAKE FOR A GIVEN PROJECT OR TECHNICAL REASONS LIKE TENDERED ITEMS BEING A SYSTEM etc. THEN BHEL WOULD NOT COUNTER OFFER THE L1 PRICES EVEN THOUGH THERE MAY BE MSE BIDDERS WITHIN THE “L1+15% PRICE BAND” OF L1.</p>	
44	<p>THE STARTUPS AS DEFINED IN THE GAZETTE OF INDIA NOTIFICATION NO.: G.S.R. 127 (E) DATED 19/02/2019 WILL BE EXEMPTED FROM FULFILLING THE CRITERIA, IF MENTIONED, IN THE PQR (PRE-QUALIFYING REQUIREMENT) REGARDING PRIOR TURNOVER AND PRIOR EXPERIENCE. HOWEVER, THERE MAY BE CIRCUMSTANCES (LIKE PROCUREMENTS OF ITEMS RELATED TO PUBLIC SAFETY, HEALTH, CRITICAL SECURITY OPERATIONS AND EQUIPMENTS ETC.) WHERE BHEL MAY PREFER THE VENDORS TO HAVE PRIOR EXPERIENCE RATHER THAN GIVING ORDER TO NEW ENTITIES. FOR SUCH PROCUREMENTS, BHEL MAY NOT RELAX THE CRITERIA OF PRIOR EXPERIENCE/TURNOVER FOR THE STARTUPS.</p>	
45	<p>PURCHASE PREFERENCE FOR INDIAN VENDORS: FOR THIS PROCUREMENT, THE LOCAL CONTENT TO CATEGORIZE A SUPPLIER AS A CLASS I LOCAL SUPPLIER / CLASS II LOCAL SUPPLIER /NON LOCAL – SUPPLIER AND PURCHASE PREFERENCE TO CLASS I 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>	

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	<p>MODEL CLAUSE FOR TENDER.</p> <p>I. 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.</p> <p>II. "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 DESCRIPTIONS OF BIDDERS STATED HEREINBEFORE, INCLUDING ANY AGENCY BRANCH OR OFFICE CONTROLLED BY SUCH PERSON, PARTICIPATING IN A PROCUREMENT PROCESS.</p> <p>III. "BIDDER FROM A COUNTRY WHICH SHARES A LAND BORDER WITH INDIA" FOR THE PURPOSE OF THIS ORDER MEANS: -</p> <p>a) AN ENTITY INCORPORATED, ESTABLISHED OR REGISTERED IN SUCH A COUNTRY; OR</p> <p>b) A SUBSIDIARY OF AN ENTITY INCORPORATED, ESTABLISHED OR REGISTERED IN SUCH A COUNTRY; OR</p> <p>c) AN ENTITY SUBSTANTIALLY CONTROLLED THROUGH ENTITIES INCORPORATED, ESTABLISHED OR REGISTERED IN SUCH A COUNTRY; OR</p> <p>d) AN ENTITY WHOSE BENEFICIAL OWNER IS SITUATED IN SUCH A COUNTRY; OR</p> <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> <p>IV. THE BENEFICIAL OWNER FOR THE PURPOSE OF (III) ABOVE WILL BE AS UNDER:</p> <p>1. IN CASE OF A 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 OF 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 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 OF CAPITAL OF 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 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> <p>V. AN AGENT IS A PERSON EMPLOYED TO DO ANY ACT FOR ANOTHER, OR TO REPRESENT ANOTHER IN DEALINGS WITH THIRD PERSON.</p> <p>CERTIFICATE: IN ORDER TO AVAIL THE BENEFITS, VENDORS TO SUBMIT (ALONG WITH OFFER) THE SELF-CERTIFICATION THAT THE ITEM OFFERED MEETS THE CONTENT REQUIREMENT FOR CLASS-I/ CLASS-II LOCAL SUPPLIER AS THE CASE MAY BE, INDICATING THE PERCENTAGE OF LOCAL CONTENT. AND SHALL GIVE DETAILS OF LOCATION AT WHICH THE LOCAL VALUE ADDITION IS MADE (refer attached Make in India (Model Certificate no I).</p>	
46	<p>FORCE MAJEURE : NOTWITHSTANDING ANYTHING CONTAINED IN THE CONTRACT, NEITHER THE VENDOR NOR THE BHEL 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 BHEL OR THE VENDOR ; 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 VENDOR OR THE BHEL 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 VENDOR ALONG WITH SUPPORTING EVIDENCE AND SO GRANTED BY THE BHEL 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 BHEL, WILL NOT ENTAIL THE VENDOR TO CLAIM ANY INCREASE IN THE PRICE ON WHATSOEVER ACCOUNT. NOTWITHSTANDING ABOVE PROVISIONS, BHEL 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, BHEL MAY TAKEOVER PARTLY PROCESSED MATERIAL AT A MUTUALLY AGREED PRICE.</p>	
47	<p>FRAUD PREVENTION POLICY : THE BIDDER ALONG WITH ITS ASSOCIATE/ COLLABORATORS/ SUB-CONTRACTORS/ SUB-VENDORS/ 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>	
48	<p>SHORT SHIPMENTS/ WARRANTY/GUARANTEE REPLACEMENTS: IN CASE OF ANY SHORT SHIPMENT DURING INITIAL SUPPLY WHICH IS SUBSEQUENTLY DISPATCHED BY THE VENDOR OR ANY GUARANTEE / WARRANTY REPLACEMENTS SHALL BE DISPATCHED ON "FOR-BHEL STORES/DESIGNATED DESTINATION" BASIS FOR INDIGENOUS ITEMS. TAXES, IF ANY PAID BY INDIGENOUS VENDOR FOR GUARANTEE /WARRANTY REPLACEMENT, REPAIR ACTIVITY EXCLUDING SHORT SUPPLY SHALL BE TO VENDOR'S ACCOUNT ONLY. THE VENDOR HAS TO RAISE A CREDIT NOTE FOR SHORT SUPPLIED QUANTITY AS PER GST PROVISIONS.</p>	
49	<p>E WAY BILL: THE SUPPLIER HAS TO ARRANGE FOR E WAY BILL AS APPLICABLE FOR ANY MOVEMENT OF GOODS ALONG WITH OTHER PRESCRIBED DOCUMENTS AS PER GST LAW. THE SUPPLIER HAS ALSO TO COMPLY WITH ANY AMENDMENT AS PRESCRIBED FROM TIME TO TIME UNDER E WAY BILL RULE. ANY FINANCIAL IMPLICATION ARISES ON BHEL DUE TO NONCOMPLIANCE OF E WAY BILL RULE WILL BE PASSED ON TO THE SUPPLIER.</p>	
50	<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. IN CASE, THE BIDDER IS FOUND HAVING INDULGED IN ABOVE ACTIVITIES, SUITABLE ACTION SHALL BE TAKEN BY BHEL AS PER EXTANT POLICIES / GUIDELINES.</p>	
51	<p>THE BIDDER SHALL REGISTER THEMSELVES ON GEM PORTAL AND SHALL QUOTE THEIR GEM SELLER ID IN THEIR OFFER. GEM SELLER ID IS MANDATORY FOR PLACEMENT OF PURCHASE ORDER EXCEPT IN CASES WHERE FREE ISSUE MATERIAL IS TO BE ISSUED BY BHEL .</p>	
52	<p>REJECTION/REPLACEMENT:</p> <p>THE SELLER SHALL ARRANGE REPLACEMENT / REPAIR UNDER ITS OBLIGATION UNDER THE CONTRACT. SELLER SHALL BE GIVEN GROUND RENT FREE PERIOD OF 90 DAYS FROM THE DATE OF REJECTION TO LIFT REJECTED MATERIAL. BEYOND 90 DAYS, A GROUND RENT OF 0.25% OF VALUE OF REJECTED MATERIAL PER WEEK WILL BE LEVIED FOR A MAXIMUM PERIOD OF 4 WEEKS. BEYOND THIS PERIOD SUPPLIER FORFEITS THEIR RIGHT TO THE MATERIALS.</p>	
53	<p>CONFLICT OF INTEREST AMONG BIDDERS/AGENTS:</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</p> <p>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</p> <p>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/ SUB-ASSEMBLY 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 AUTHORISE ONLY ONE AGENT/DEALER. THERE CAN BE ONLY ONE BID FROM THE FOLLOWING:</p>	

**GENERAL COMMERCIAL TERMS & CONDITIONS OF ENQUIRY
(FOR INDIAN VENDORS)**

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ANNEXURE-A

	<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> <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. BIDDERS MUST PROACTIVELY DECLARE SUCH SISTER/ COMMON BUSINESS/ MANAGEMENT UNITS IN SAME/ SIMILAR LINE OF BUSINESS.</p>	
54	VENDOR MUST VISIT OUR WEBSITE https://herp.bhel.com REGULARLY FOR ENQUIRY/PO/CLARIFICATIONS/FOR ANY LATEST UPDATES.	
55	MSME VENDORS CAN AVAIL BENEFITS OF PAYMENT THROUGH TRENDS/RXIL.	
56	<p>"THE OFFERS OF THE BIDDERS WHO ARE UNDER SUSPENSION AS ALSO THE OFFERS OF THE BIDDERS, WHO ENGAGE THE SERVICES OF THE FIRMS DEBARRED ACROSS BHEL, SHALL BE REJECTED. THE LIST OF FIRMS DEBARRED ACROSS BHEL IS AVAILABLE ON BHEL WEBSITE WWW.BHEL.COM.</p> <p>1.0 INTEGRITY COMMITMENT, PERFORMANCE OF THE CONTRACT AND PUNITIVE ACTION THEREOF:</p> <p>1.1. COMMITMENT BY BHEL: BHEL COMMITS TO TAKE ALL MEASURES NECESSARY TO PREVENT CORRUPTION IN CONNECTION WITH THE TENDER PROCESS AND EXECUTION OF THE CONTRACT.</p> <p>BHEL WILL DURING THE TENDER PROCESS TREAT ALL BIDDER(S) IN A TRANSPARENT AND FAIR MANNER, AND WITH EQUITY.</p> <p>1.2. COMMITMENT BY BIDDER/ SUPPLIER/ CONTRACTOR:</p> <p>1.2.1. 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.</p> <p>1.2.2. 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.</p> <p>1.2.3. 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.</p> <p>IF ANY BIDDER/ SUPPLIER/ CONTRACTOR DURING PRE-TENDERING/ TENDERING/ POST TENDERING/ AWARD/ EXECUTION/ POST-EXECUTION STAGE INDULGES IN MALPRACTICES, 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 OMMITS 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 EXTANT GUIDELINES OF THE COMPANY AVAILABLE ON WWW. BHEL.COM AND/OR UNDER APPLICABLE LEGAL PROVISIONS".</p>	
57	<p>BID SECURITY OR EARNEST MONEY DEPOSIT (EMD): TO SAFE GUARD AGAINST A BIDDER'S WITHDRAWING OR ALTERING ITS/ HIS BID DURING THE BID VALIDITY PERIOD, BID SECURITY [ALSO KNOWN AS EARNEST MONEY DEPOSIT (EMD)] SHALL BE OBTAINED FROM THE 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)). THE AMOUNT OF EMD SHALL BE AS MENTIONED IN ENQUIRY.</p> <p>1. MODES OF DEPOSIT</p> <p>A) THE EMD MAY BE ACCEPTED ONLY IN THE FOLLOWING FORMS AND THE SAME MUST BE SUBMITTED BEFORE TENDER OPENING:</p> <p>(I) ELECTRONIC FUND TRANSFER CREDITED IN BHEL ACCOUNT.</p> <p>(II) BANKER'S CHEQUE/ PAY ORDER/ DEMAND DRAFT, IN FAVOUR OF BHEL.</p> <p>(III) FIXED DEPOSIT RECEIPT (FDR).(IN THE NAME OF " BIDDER'S NAME A/C BHEL")</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>2. FORFEITURE OF EMD</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 SHALL 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>3. RETURN OF EMD</p> <p>(I) BID SECURITIES OF THE UNSUCCESSFUL BIDDERS SHALL BE RETURNED TO BIDDER 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. SHALL BE RETURNED WITHIN 30 DAYS OF DECLARATION OF RESULT OF FIRST STAGE I.E. TECHNICAL EVALUATION ETC.</p> <p>(II) BID SECURITY SHALL 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>	
58	<p>PERFORMANCE SECURITY (PS): TO ENSURE DUE PERFORMANCE OF THE CONTRACT, PERFORMANCE BANK GUARANTEE (PBG) OR SECURITY DEPOSIT (SD), HEREAFTER REFERRED AS PERFORMANCE SECURITY SHALL BE OBTAINED FROM THE SUCCESSFUL BIDDER AWARDED THE CONTRACT. THE PERFORMANCE SECURITY OF REQUIRED AMOUNT IS TO BE SUBMITTED BY THE DATE SPECIFIED IN THE PO/CONTRACT.</p> <p>1. 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 SHALL 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>(C) PERFORMANCE SECURITY IS TO BE FURNISHED WITHIN 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>2. FORFEITURE OF PERFORMANCE SECURITY: 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>3. RETURN OF PERFORMANCE SECURITY (PS): PS SHALL BE REFUNDED TO THE BIDDER 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>4. THE PERFORMANCE SECURITY SHALL NOT CARRY ANY INTEREST.</p>	
59	BREACH OF CONTRACT, REMEDIES AND TERMINATION: IN CASE OF BREACH OF CONTRACT, WHEREVER THE VALUE OF SECURITY INSTRUMENTS LIKE PERFORMANCE BANK GUARANTEE AVAILABLE WITH BHEL AGAINST THE SAID CONTRACT IS ATLEAST 10% OF THE CONTRACT VALUE, THE SAME BE ENCASHED. IN CASE THE VALUE OF THE SECURITY	

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	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.	
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NOTE:

1. PLEASE FILL IN THIS FORMAT AND SEND COMPULSORILY ALONG WITH QUOTATION WITH VENDOR'S SEAL, SIGNATURE AND DATE.

SIGNATURE ALONG WITH SEAL AND DATE:

On Bidder's office letter pad

Make in India (Model Certificate) Annexure-I

Self-Declaration

Enquiry No.	
Enquiry Date	

In line with Government public procurement order Number P-45021/2/2017-B.E-II dated 15.06.2017, and further modified order dt. 28.05.2018, 29.05-2019 and 04.06.2020

I / We hereby declare that I / We are a "Local Supplier" meeting the requirement of minimum local content (.....%) defined in the above government notification for the goods against above mentioned enquiry Number.

Details of location at which local value addition will be made is as follows:

Door No.	
Street / Address 1	
Street / Address 2	
District	
State	
Country	
PIN Code	

We also understand that the false declarations will be considered as breach of Integrity and liable for action.

For Company Name:

Seal:

Signature:

Date:

Place:

(Please fill all Yellow color field)