

	BHEL – Tiruchirappalli - 620014, India. Quality Assurance Department TECHNICAL DELIVERY CONDITIONS	DOC No: TDC:0:404 Rev: 18 Effective Date: 21/02/2018 Page: 1 of 3
Product: Carbon, Alloy & Stainless Steel Forgings (Boilers And Valves)		

Revisions Record:

Rev 09: New materials F23, F91 & F92 requirements added in Cl.1.0, Cl.2.0, and Cl.4.0 to Cl.6.0. CE marking certification clarity included in Cl.10.

Rev 10: Cl 1:F6a Class 2 added, Code case corrected. Cl 2: Steel makers names removed and requirement for creep testing added as per IBR Reg 4, Cl 4: Tempering temperature and soaking time modified for SA 182 F91, F92 & F23. Cl 4 & 10: Photomicrograph requirement added for F91 & F92 forgings, Cl 2, 6 & 10: modified for SS, Cl 5: Bend test Clarified, Cl 6: Wet MPI added.

Rev 11: Cl 2 Pt 3, 4, 5 modified. Cl 6 – Wet MPI for CS, AS added, Cl 10.1 – IBR Forms indicated

Rev 12: Cl 1, 2, 4, 6 and 7 – requirements for grades SA 182 F1, SA 336 F1, F12, F22 Cl 3 and F91 added (for Neyveli Project). Creep test criteria in-line with BHEL R&D included. Cl 2 Pt 8 modified. Cl 6 Pt 1 – SA388 changed to ASTM A 388 based on ASME Sec II Ed 2013.

Rev 13: Dt: 17/11/2014: Cl 2 Cl 4 Cl 10 Cl 12 modified.

Rev 14: Dt: 06/10/2015: Cl.4.3, 5.2, 5.8, 10.1.b.9 added; Cl 1.0, 2.1, 2.2, 2.3, 4.1, 4.2, 5.3, 6.2, 9.0, 10 modified.

Rev 15: Dt: 23/12/2015: Cl 1, 2, 3, 5, 6, 7, 10, 11 & 12 modified.

Rev 16: Dt: 06/02/2017: Cl 1 changed to indicate the use of latest revisions of referred codes, standards, specifications, drawings, procedures, etc; Tempering temperature added for F12 material in Cl 4, Requirements of API 6D removed from Cl 1, 2, 4, 5, 10, 12 since the API 6D certificate license was not applied for; Definitions for relevant, linear and rounded indications provided in Cl 6; Type 3.2 certification changed as per BS EN 10204-2004 in Cl 10.2.

Rev 17: Dt: 27/11/2017: Cl 1, 4 modified to include SA 266 & SA 336 F92 materials; Cl 5 modified to include 100% hardness testing & Creep testing requirements; Cl 6 changed to include UT for forgings above 40 mm; Cl 10 modified suitably.

Rev: 18 Dt: 21/02/2018 – Material SA182 F51 added in Cl 1 based on Engineering/Valves input and minor corrections made in Cl 4 & 5.

1. MATERIAL SPECIFICATIONS:

All the codes, standards, specifications, drawings & procedures, etc., referred in this TDC shall be of latest revision as on the date of Enquiry/Purchase Order, whichever is earlier, unless specified otherwise.

Carbon Steel (CS)	:	SA 105, SA 266, SA 350 LF 2
Alloy Steel (AS)	:	SA 182 F12 Class 2, F22 Class 3, SA 182 F23 (Code case: 2199), SA 182 F91 & SA182 F92 (Code Case: 2179), SA 182 F1, SA 336 F1, SA 336 F12, SA 336 F22 Cl 3, SA 336 F91, SA 336 F92 (Code Case: 2179)
Stainless Steel (SS)	:	SA 182 F6a Class 2, F6a Class 3, SA 182 Gr. F 304, 304L, 316, 316L, 316H, 321, 321H, 347 & 347H; F51 AISI 410 for TOA Gland and bushings.
Additional Requirement	:	As listed below (Supplementary to above material specifications)
Size and Quantity	:	As per Purchase order & Drawing.

2. CHEMICAL COMPOSITION & PROCESS

- Melting: fully killed.
Product analysis per heat: CS: C ≤ 0.25% , AS: SA182 F23: Si: 0.25-0.50% & Cu: 0.25max
SA182 F92: Si: 0.10-0.50%, Ni: 0.30 max & Cu:0.25% max
- Raw material Steel for IBR forging items to be inspected at Mill & test certificate countersigned by IBR approved inspecting authority, if the mill is not approved under IBR as well known steel maker.
- Forging: Hot working to ensure uniformity of structure & strength with reduction ratio in area 4:1 min from ingot to final forging, close to final size & shape. Flow lines to be parallel to axis of openings. Forged Items ordered to this TDC shall be forged to the nearest shape before machining to final dimensions as per respective drawing.
- Blooms / Billets used for forgings (Side Length or Dia ≥ 50mm) shall be UT tested. For Acceptance criteria refer Cl.6.0. For finished bars, this can be done at final stage.
- SS: All raw materials used in steel making including incoming scrap shall be checked by supplier to ensure freedom from radioactivity.
- Tolerance for chemistry shall be as per the applicable material specifications/standards specified in Cl 1.

3. DIMENSIONS AND TOLERANCES

Dimensions & their tolerances shall be as per drawing. For untoleranced dimensions: CS & AS: as per SA 29;
SS: as per SA 484.

4. HEAT TREATMENT(HT)

- Heat treatment shall be as per applicable drawing. Unless otherwise specified, the following heat treatment shall be following:

CS: SA 105: Normalised; SA 266: As per material specification;

SA 350 LF 2: Normalised at 880-900°C & Tempered at 620-640°C.

AS: Normalised and Tempered. For F12: Tempering at 650°C (min).

For SA 182 F91, F92 & F23, SA336 F91, SA 336 F92: Normalising at 1050-1080°C & Tempering at 750-780°C.

SS: As per applicable material specification & grade.

AISI 410: Supply in Quenched & Tempered condition as below.

Quenching at 955-1010°C in air or water or oil or Polymer. Soaking 30 mts/inch maximum thk. Tempering at 663°C.min. Soaking :60 mts/inch maximum thickness and air cool.



Product: Carbon, Alloy & Stainless Steel Forgings (Boilers And Valves)

- 2) Photomicrograph test for F91 & F92 forgings - one per heat treatment lot per size and shall be reported in test certificate. Acceptance – The material shall be free from any micro fissures. Microstructure shall show lath tempered martensite and also to be examined for grain growth. Photomicrograph with 400x (Min) magnification along with Photomicrograph report to be provided. The actual magnification and result of actual microstructure shall be certified/indicated.

5. MECHANICAL TESTS

- 1) Extent of test: One Specimen for each size/heat/HT batch from sample product or identical test coupon.
2) **Tensile test:** The test specimens shall be removed from a test coupon (TC) after the final heat-treatment cycle. Perform tensile tests at room temperature in accordance with the procedures specified in ASTM A370. Perform a minimum of one tensile test. All yield strengths shall be determined using 0.2 % offset method of ASTM A370. The results of the tensile test(s) shall satisfy the applicable material specification requirements.

If the results of the tensile test(s) do not satisfy the applicable requirements, two additional tests on two additional test specimens (removed from the same TC with no additional heat treatment) may be performed in an effort to qualify the material. The results of each of these tests shall satisfy the applicable requirements.

- 3) **Additional requirements for SA182 F23, F91 & F92:**
F91: Yield: (0.2% offset): Min 450 MPa; Tensile: Min 630 MPa, Max 850 MPa; Hardness (HBW): Min 195, Max 248.
F92: Tensile: Min 630 MPa, Max 850 MPa; Hardness (HBW): Min 191, Max 269
F23: Tensile: Min 510 MPa, Max 730 MPa; Hardness (HBW): Min 150, Max 220
Hardness testing shall be 100% as per ASTM E10 or E18.
4) AISI 410: Hardness (100% testing shall be as per ASTM E10 or E18): 197-235 HBW. No other mechanical test required.

Additional requirements of tests: (Other than AISI 410 Only)

- 5) **Bend test: Acceptance as per IBR**
CS: Sample 19mm.Thick(t) x 25.4mm width to be bent 180 deg. around mandrel of radius 6.35 mm.
AS, SS: Sample 19mm.Thick(t) x 25.4mm width to be bent 180 deg. Around mandrel of radius = 1.5 x t.
6) **Impact test for QCNR Valves & CRHNR Valves:** CS, AS and SS: 1 / HT batch. As per ASTM A370, 2mm Charpy-U notch, at Room temperature. Acceptance: Avg of 3 specimens: 36 Joules, Min Single value: 24 Joules
7) **For PED 2014/68/EU (CE-marking) items:** Charpy- V impact test at 20°C as per ASTM A370, Acceptance: Avg of 3 specimens: 40 Joules, Min. single value: 27 Joules.
8) Creep testing & reporting shall be carried out as per SIP:RM:01 (latest revision) whenever indicated in the Enquiry/Purchase Order/Engineering Drawing.

6. NON DESTRUCTIVE TEST

- 1) Extent of test: for each product. Stage of test : After heat treatment.
2) **Volumetric NDE - UT:** As per ASTM A388. All finished forgings of dia/wall thickness > 40 mm; All Body & yoke of special class valves & all forgings of SA 182 F91, F92 & F23, SA 336 F91.
Acceptance: ASME Sec.VIII Div. 2 Cl.3.3.4.
3) **Surface NDT -**
a) **Relevant indication:** Surface-rupture NDE indication with major dimensions > 1.6 mm (1/16 in).
b) **Linear indication:** Surface NDE indication whose length is ≥ three times its width.
c) **Rounded indication:** Surface NDE indication whose length is < three times its width.
d) **MPI for CS & AS : 100% : As per ASTM A275.**
Dry MPI: CS, AS (other than SA 182 F91, F92, F23, SA 336 F91) : all sizes.
Wet MPI : SA 182 F91, F92, F23; SA 336 F91: all sizes.
Acceptance: ASME B16.34 Appendix II. Linear Indications like cracks, folds & other injurious defects are unacceptable.
e) **LPI for SS: 100%: ASTM E165. Acceptance:** No linear indications acceptable.
4) **SS:** Finished forgings shall be checked for radioactive contamination and reported. Survey meter shall be used to measure at 5 cm near the surface. Acceptance limits: Shall be less than 0.1 milli Rontgen (MR) per hr or 1 micro Sievert per hr.

7. WORKMANSHIP AND FINISH

Forged items to spec SA336 shall be machined in the inside surface as it is meant for steam application. Items to be proof machined as per drawing or shot blasted for CS/AS; Pickled & passivated as per ASTM A380 for SS, & be free from scales & defects like laps, seams, folds, cracks, etc. Machined items (except SS) to be coated with a layer of transparent rust preventive before despatch.

8. REPAIR

Repairs by fusion welding are prohibited. Surface defects can be removed by mechanical means and defective areas smoothly dressed up with the adjacent surface. Minimum thickness after repair to meet drawing / Specification.



Product: Carbon, Alloy & Stainless Steel Forgings (Boilers And Valves)

9. MARKING AND PACKING

Details of stamping on each item with low stress stamps: Heat/melt number; material specification, grade & class; Code case number (for Gr 92 & 23); Maker's emblem/code & Inspection Authority's seal. Forgings to be properly packed and dispatched to avoid damage during transit.

10. INSPECTION AND CERTIFICATION

10.1 For IBR Items:

- Products shall be inspected at supplier's works/mill and the applicable IBR Form must be countersigned by the Inspecting Authority as indicated below in case the supplier's works/mill is not recognised as a "Well known Forger/Steel maker" under IBR:
 - ☐ **Imported Items:** Inspecting Authority approved by IBR for the Country of origin.
 - ☐ **Indigenously Supplied items:** Director of Boilers/Chief Inspector of Boilers/Inspecting Authority approved by IBR, for the respective state in India.
- Certification in IBR Form III-G for IBR items from "IBR-Well Known Forger" or "Inspecting Authority", as applicable, to be submitted. IBR Form III-G and a separate **manufacturer** Test certificate in English language with following details, shall accompany the product (including proof machined):
 - Purchase Order No.(BHEL), TDC No & its revision no, Test certificate no & date.
 - Specification, Grade & Class with applicable year of code, Code case number (for Gr 92 & 23), Heat Number, Drawing No., Quantity & Size.
 - Supplier of the steel used in making the finished product (well known and others in IBR Form IV).
 - Melting & forging process, Chemistry with incidental elements-Heat wise, Product analysis, Carbon Equivalent (CE).
 - Heat treatment details of the material and test bars. For F91, F92 supplies – Photomicrograph at 400x resolution.
 - Mechanical test results- Tensile (UTS, YTS (0.2% offset), % elongation, % reduction in area), Bend, Impact, Hardness and NDE test results with reference & acceptance standards.
- Repair details if any, Certified copy of TC for starting material.
- For SS:** Measured Radioactivity levels shall be reported in the Mill Test Certificate (not to be recorded in IBR Form).
- Creep test report as per SIP:RM:01 (latest revision) whenever indicated in the Enquiry/Purchase Order/Engineering Drawing.

10.2 For PED 2014/68/EU (CE-marking) items, the test certificates with details specified in Cl 10 (b) shall be submitted as per BS EN 10204.

- For pressure parts**, test certificates of type 3.1 or 3.2 are acceptable.

Type 3.1 – Suppliers shall have ISO 9001-2008/2015 certification certified by Notified Body recognized by European Community and test certificate certified by supplier's authorized inspection representative.

Type 3.2 – Components inspected and test certificates certified by both the supplier's authorized inspection representative and Notified Body recognized by European Community.
- For non-pressure parts**, test certificates of type 2.2 are acceptable.

Type 2.2 – suppliers test certificates signed by suppliers authorized inspection representative with test results as required by this TDC.

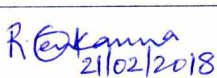
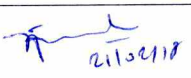
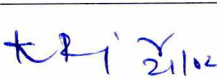
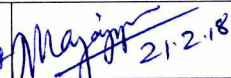
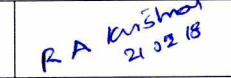
11. AUDIT CHECKS AT BHEL

BHEL reserves the right to carry out audit checks for chemistry, HT condition, mechanical test and NDT on representative test bars or job. Supplies found defective during check or subsequent processing at BHEL will be rejected.

12. END USE

Valve bodies, bonnets, discs, socket ends, body guides, etc., Pressure part fittings in boilers & low, high temperature service like discs, socket weld tees, elbows, weld neck flanges & stubs (except drum nozzles) meeting IBR, ASME Section I, ASME B16.34 and PED 2014/68/EU.

Non pressure part items in boilers and valves: For these, requirements on starting material, bend test and inspection by IBR are not required.

 21/02/2018	 21/02/18	 21/02/18	 21.2.18	 21.02.18	 21/02/18
Venkanna Rupani	G. Panneer Selvam	K. Rajasekaran	R. Rajappan	R. Ananthakrishnan	Amit Roy
Sr.Engineer/ QA	DGM/QA	SM/Valves/Engg	SDGM/MM	AGM/Valves/ Purchase	AGM/QA& BE
Prepared By	Reviewed By				Approved By



70-006

Bharat Heavy Electricals Limited

High Pressure Boiler Plant, Tiruchirappalli-620 014, India.

Grams : BHARATELEC

Phone : --

Telex : 0455 - 211, 212, 295 & 298

FAX : 91 - (0431) - 52710

PRODUCT ENGINEERING/VALVES

VL:STDC:023

REV.00

PAGE 1 OF 6

TDC FOR UNTOLERANCED DIMENSIONS IN CASTING & FORGING DRAWINGS

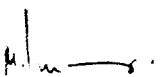
Scope :

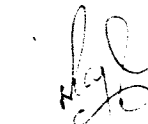
This technical delivery condition specifies the tolerance for the untoleranced dimension for the castings and forgings wherever tolerances are not specified in the applicable drawing applicable material TDC.

A. Castings :

Nominal dimension (in mm)	Tolerance on diameter & height (in mm)
UPTO 4	± 0.5
OVER 4 UPTO 16	± 1.0
OVER 16 UPTO 65	± 1.5
OVER 65 UPTO 125	± 2.0
OVER 125 UPTO 250	± 2.5
OVER 250 UPTO 500	± 3.0
OVER 500 UPTO 1000	± 4.0
OVER 1000 UPTO 1600	± 5.0

B. Forgings : As per Table (1), (2), (3) & (4)


PREPARED


CHECKED


APPROVED
(S. KUMAR)
SM/PE/VSB
28/2/94

TABLE 1. LENGTH, WIDTH, HEIGHT, MISMATCH, RESIDUAL FLASH AND TRIMMED FLAT OF DROP, PRESS AND UPSIDE FORGINGS (NORMAL TOLERANCES)

DROP, PRESS & UPSET FORGINGS - TOLERANCES FOR: LENGTH, WIDTH & HEIGHT*																				
MISMATCH	RESIDUAL FLASH (+) TRIMMED FLAT (-)	TRIM LINE		WEIGHT (KG)	DIFFICULTY OF MATERIAL	COMPLEXITY	MISMATCH ; RESIDUAL FLASH & TRIMMED FLAT (*DIA & LENGTH FOR UPSET FORGINGS)													
		ASYMMETRIC	STRAIGHT OR SYMMETRIC				NOTE: CENTRE TO SURFACE; STEP IN ONE DIE; + $\frac{1}{3}$, - $\frac{1}{3}$ OF TOTAL TOLERANCE													
							INTERNAL DIMENSION: REVERSE + AND - SIGNS.													
							MM													
							ABOVE	TO												
							11	12	31	100	160	250	400	630	1000	1600	2500			
0.4	0.5	/	/	0-0.4	/	/	1.1	1.2	1.4	1.6	1.8	2	2.5	2.8						
0.5	0.6	/	/	0.4-10	/	/	1.2	1.4	1.6	1.8	2	2.2	2.5	2.8						
0.6	0.7	/	/	10-18	/	/	1.4	1.6	1.8	2	2.2	2.5	2.8	3.2						
0.7	0.8	/	/	18-32	/	/	1.6	1.8	2	2.2	2.5	2.8	3.2	3.6						
0.8	1	/	/	32-56	/	/	1.8	2	2.2	2.5	2.8	3.2	3.6	4						
1	1.2	/	/	56-10	/	/	2	2.2	2.5	2.8	3.2	3.6	4	4.5						
1.2	1.4	/	/	10-20	/	/	2.2	2.5	2.8	3.2	3.6	4	4.5	5						
1.4	1.7	/	/	20-50	/	/	2.5	2.8	3.2	3.6	4	4.5	5	5.6						
1.7	2	/	/	50-120	/	/	2.8	3.2	3.6	4	4.5	5	5.6	6.3						
2	2.4	/	/	120-250	/	/	3.2	3.6	4	4.5	5	5.6	6.3	7						
2.4	2.8	/	/		/	/	3.6	4	4.5	5	5.6	6.3	7	8						
		/	/		/	/	4	4.5	5	5.6	6.3	7	8	9						
		/	/		/	/	4.5	5	5.6	6.3	7	8	9	10						
		/	/		/	/	5	5.6	6.3	7	8	9	10	11						
		/	/		/	/	5.6	6.3	7	8	9	10	11	12						
		/	/		/	/	6.3	7	8	9	10	11	12	14						
QUALITY (NORMAL)																				

TABLE 2 THICKNESS FOR DROP, PRESS AND UPSET FORGINGS AND EJECTOR MARKS FOR DROP AND PRESS FORGINGS (NORMAL TOLERANCES)

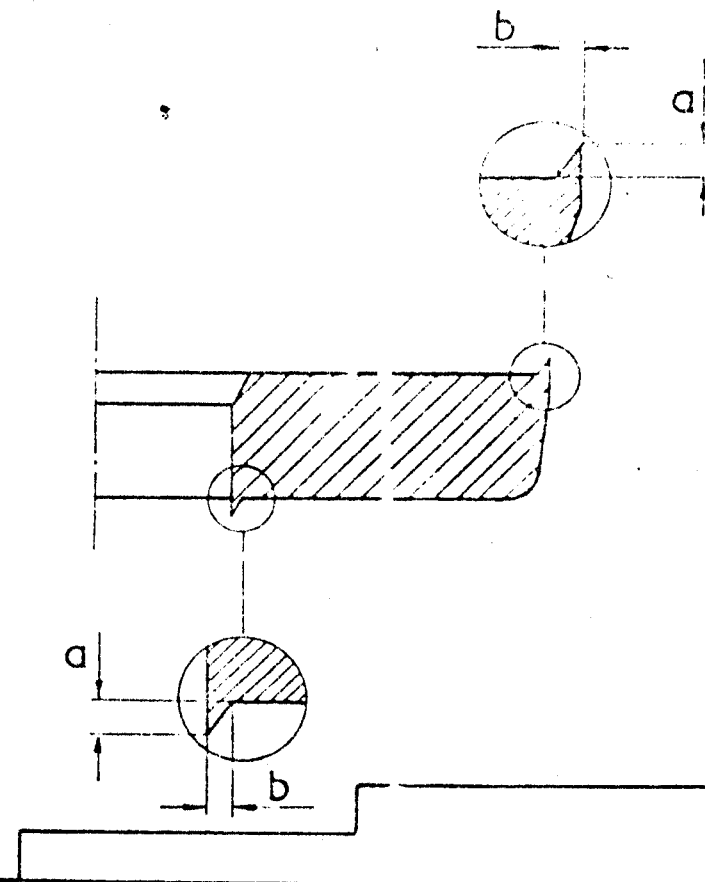
DROP, PRESS & UPSET FORGINGS - TOLERANCES FOR: THICKNESS; EJECTOR MARKS *																	
EJECTOR MARKS	WEIGHT (kg) ABOVE - TO (INCL)	DIFFICULTY OF MATERIAL M1 M2	COMPLEXITY				* (DROP AND PRESS FORGINGS ONLY)										
			S1 A 0.63 < 1	S2 A 0.32 ≤ 0.63	S3 A 0.16 ≤ 0.32	S4 A 0.05	0 ABOVE	TO (INCL) M M									
								16	40	63	100	160	250	> 250			
1	0-0.4			1	1.1	1.2	1.4	1.6	1.8	2							
1.2	0.4-1.2			1.1	1.2	1.4	1.6	1.8	2	2.2							
1.6	1.2-2.5			1.2	1.4	1.6	1.8	2	2.2	2.5							
2	2.5-5			1.4	1.6	1.8	2	2.2	2.5	2.8							
2.4	5-8			1.6	1.8	2	2.2	2.5	2.8	3.2							
3.2	8-12			1.8	2	2.2	2.5	2.8	3.2	3.6							
4	12-20			2	2.2	2.5	2.8	3.2	3.6	4							
5	20-36			2.2	2.5	2.8	3.2	3.6	4	4.5							
6.4	36-63			2.5	2.8	3.2	3.6	4	4.5	5							
8	63-110			2.8	3.2	3.6	4	4.5	5	5.6							
10	110-200			3.2	3.6	4	4.5	5	5.6	6.3							
12.6	200-250			3.6	4	4.5	5	5.6	6.3	7							
QUALITY (NORMAL)				4	4.5	5	5.6	6.3	7	8							
				4.5	5	5.6	6.3	7	8	9							
				5	5.6	6.3	7	8	9	10							
				5.6	6.3	7	8	9	10	11							
				6.3	7	8	9	10	11	12							

TABLE 3 STRAIGHTNESS, FLATNESS AND CENTRE TO CENTRE DIMENSIONS FOR DROP, PRESS AND UPSET FORGINGS

DROP, PRESS AND UPSET FORGINGS																
NOTE. QUALITY E DOES NOT APPLY TO UPSET FORGINGS																
RANGE OF TOLERANCES FOR STRAIGHTNESS AND FLATNESS																
LENGTH ABOVE TO (INCL)	MM															
	0 100	100 125	125 160	160 200	200 250	250 315	315 400	400 500	500 630	630 800	800 1000	1000 1250	1250 1600	1600 2000	2000 2500	
QUALITY	NORMAL															
	0.6	0.7	0.8	0.9	1	1.1	1.2	1.4	1.6	1.8	2	2.2	2.5	2.8	3.2	
RANGE OF TOLERANCES FOR CENTRE TO CENTRE DIMENSIONS																
LENGTH ABOVE TO (INCL)	MM															
	0 100	100 160	160 200	200 250	250 315	315 400	400 500	500 630	630 800	800 1000	1000 1250					
QUALITY	NORMAL															
	±0.3	±0.4	±0.5	±0.6	±0.8	±1	±1.2	±1.6	±2	±2.5	±3.2					
	0.6	0.8	1	1.2	1.6	2	2.4	3.2	4	5	6.4					

TABLE 4 FILLET, EDGE RADIUS AND BURRS FOR DROP, PRESS AND UPSET FORGINGS

DROP, PRESS AND UPSET FORGINGS		
FILLET AND EDGE RADIUS TOLERANCES		
r MM ABOVE — TO (INCL)	+	—
0 — 10	50%	25%
10 — 32	40%	20%
32 — 100	32%	15%
> 100	25%	10%
BURR TOLERANCES (AND PARTING LINE FINS FOR UPSET FORGINGS)		
WEIGHT (kg) ABOVE — TO (INCL)	a	b
0 — 1	1	0.5
1 — 6	1.6	0.8
6 — 40	2.5	1.2
40 — 250	4	2



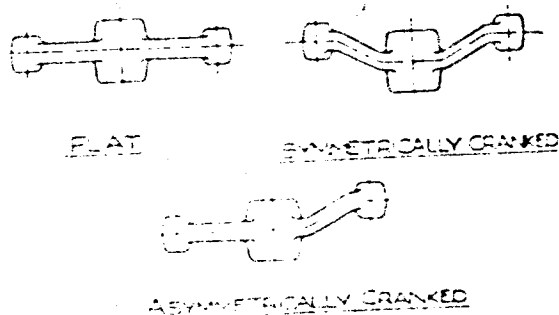


Fig. 1. Die boxes

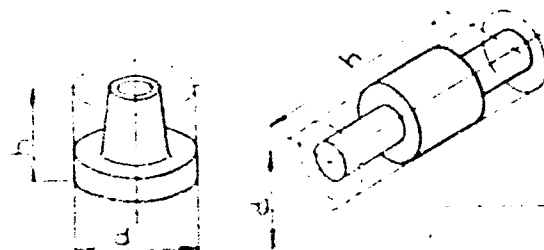


Fig. 2. Enveloping shapes of circular forgings

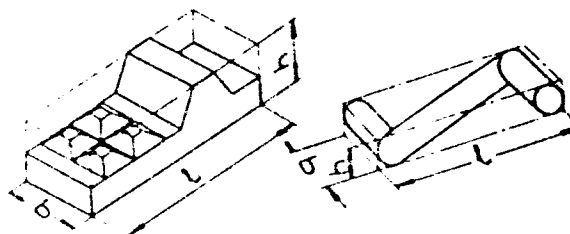


Fig. 3. Enveloping shapes of non-circular forgings

NOTE :

1. The type of steel used is determined as falling within one of the following categories :
 - a. M1 - steel with carbon content not more than 0.65% and total of specified alloying elements not more than 5%
 - b. M2 - steel with carbon content above 0.65% or total of specified alloying elements above 5%.
2. Complexity factor of a forging is the ratio of the weight of the forging to the weight of the overall shape necessary to accommodate the maximum dimensions of the forging.

The resulting complexity factor is determined as falling within one of the following categories :

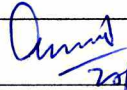
- S4 - Upto and including 0.16
- S3 - Above 0.16 upto and including 0.32
- S2 - Above 0.32 upto and including 0.63
- S1 - Above 0.63 upto and including 1.00



BHARAT HEAVY ELECTRICALS LIMITED
TIRUCHIRAPPALLI - 620 014, INDIA

QUALITY ASSURANCE

CREEP TESTING REQUIREMENTS AS PER IBR

REV	DATE	PREPARED BY	REVIEWED BY	APPROVED BY
00	20/11/2017	Abdur Rahman Sultan	G. Panneer Selvam	Amit Roy
		 20/11/2017	 20/11/17	 20/11/17

RECORD OF REVISIONS

Rev. No.	Clause No.	Details of Revision
00	---	Fresh issue

1.0 SCOPE

Creep testing is required as per IBR for all alloy & stainless steels of pressure parts & valves used in boilers (Fossil & HRSG/CFBC/BFBC Boilers) being erected in India.

Creep testing is required for product forms like pipes, tubes, forgings, fittings, plates, castings, etc., whenever indicated in the Enquiry/Purchase Order/Engineering Drawing.

2.0 CREEP TESTING REQUIREMENTS

Creep testing shall be done in line with the following:

If starting raw material (Ingot, billet, bloom, etc.) is sourced from Indian steel makers, then, supplier shall produce the Creep test report for each material grade and product form being supplied by them as per the Table 1 given below:

Table 1. Creep Stress rupture testing Requirements

Sl. No	Steel Type and Grade	Testing hours – min. (hrs.)	Testing Temperature (°C)	Stress Value (MPa)	No. of tests & Specimen Size
1	Alloy Steels (AS) – Grade 11, 12 and Grade 22	1000	550	100	Two no. of tests with preferably M10 round sample
2	Alloy Steels (AS) – Grade 91, 92 and 23	1000	600	120	Two no. of tests with preferably M10 round sample
3	All Stainless Steels (SS) grades	1000	600	110	Two no. of tests with preferably M10 round sample

- Creep testing shall be done at National Metallurgical Laboratory, Jamshedpur or Corporate Research & Development Laboratory of Bharat Heavy Electricals Limited, Hyderabad.
- In case the supplier sources the raw materials (slabs/ingots/blooms, etc.) from more than one source, the creep tests shall be done for all the sources from whom they would source the steels for BHEL supply.
- Creep testing shall be done as per ASTM E139 (latest) or BS EN ISO 204 (latest).
- Acceptance Criteria:** The samples tested shall not rupture and shall meet the requirement of 1,000 hours of creep testing at indicated temperatures & stress values as per Table 1.
- Reporting: As per Table 2.

Table 2. Suggested/Recommended Format for Reporting the Creep Testing Data:

Sl No	Description	Details/Results
1	Name and Address of the Product Manufacturer	
2	Name and Address of the Raw Material Supplier	
3	Product Form	
4	Material Specification & Grade (Code Case, if applicable)	
5	Heat/Melt No, Sl No (if applicable)	
6	Heat treatment details (Type & Temperature)	
7	Name and Address of Testing Laboratory	
8	Testing method/ Standard (ASTM E139 or BS EN ISO 204) &	

	Revision/Edition	
9	Test Sample Size	
10	No. of test samples	
11	Temperature at which test is conducted (°C)	
12	Stress value observed (MPa)	
13	Test Start Date & Time	
14	Test End/Reporting Date & Time	
15	Test duration (hours of creep testing)	
16	% Elongation at the reporting/completion of test	
17	Test witnessed by (Name of Inspector & Agency)	
18	Test Result (Accepted/Not Accepted)	

%%%%%%%%%

Item	PGr	Material	Matl Desc	Net Wt	Document	Vr
10	FTA	921539620000	BODY_F92_GLV_6_3500SPL-G398	617.00	3VR67931077P	01

Note: The Vendors to quote item-wise unit rates in the e-Procurement System and such rate sl

>Forging Cost

>Heat Treatment Cost

>Testing and Inspection Charges

>Machining Charges and other Tender Requirements if any

TDC Ref	Spec	Qty	Unit	Non-NTPC	Delivery Schedule	Inspection by
TDC:0:404/18	SA182 F92	12	No	12	16 Weeks	IBR
		12		12		

shall be inclusive of the following,

Projects	Quoted/Not Quoted	Unit Rate	Currency	Exchange Rate
North Chennai, Uppur				

Unit Rate after Conversion	Total Rate after Conversion	GST(in %)-for Indigenous Bidders

P&F(in % on Unit Price)

--

Bharat Heavy Electricals Limited
Tiruchirappalli
Material Management-Valves
General Terms and Conditions-For F92 Material Grade Machined Forgings

1. QUOTATIONS:

a. **BID system:** The offers are invited in Two part bid system (Part I will be Techno-commercial bid and part II will be Price Bid). Techno-commercially suitable vendors alone will be intimated for price bid opening.

b. **Requirement:**

- i. The lead participant to the tender should be a Forging Manufacturer with in-house machining facility, details of which have to be provided to BHEL. In case of Outsourcing of machining facilities BHEL intends to satisfy itself that the Vendor has arrangement for machining. A document for the tie-up/MOU/Purchase Order on the machining house has to be provided with the details of machining facility available along with the Techno-Commercial Bid documents
- ii. In case of a Foundry other than well-known Foundries, they should have approval witness forging by IBR / IBR authorized inspection agency.
- iii. Inspection requirements (IBR or ASME) may vary from project to project (refer Annexure-4) and hence Suppliers must comply with the inspection requirements (Clause- 10 of respective TDCs).
- iv. The list of Customers to whom same or similar Forgings have been supplied along with recent performance certificates is to be enclosed.

c. **Language:** The Offer submitted should be in ENGLISH only and accompanied by detailed technical literature, catalogue and detailed dimensional drawings in ENGLISH only or otherwise the offers will not be considered.

d. **Submission of tender:**

- i. E-Procurement: The bidder shall submit the bid online in BHEL e-Procurement portal at
["https://bhel.abcpurchase.com/EPROC/](https://bhel.abcpurchase.com/EPROC/)

The bidder would be required to register on the above e-procurement portal for submitting their bids.
Offers through mail and Hardcopies are not acceptable.

- ii. Non- Procurement: Each offer should be sent in double cover separately and the same should be sealed and super scribed with correct Tender No., item of supply and due date of opening. Two or more quotations should not be sent in one cover. Price Bid should contain only Price in Rs per unit for each type. Tender should be sent to the below mentioned address:

The Tender Opening Cell / Valves
Room No. -26, Building -24
Bharat Heavy Electricals Limited
Tiruchirappalli - 620014, Tamilnadu, India
Or
Email ID: tender_cell@bheltry.co.in

- e. **Late tenders:** Tender received after 2.00 pm on due date will be considered as Late tender. Late tenders will not be considered under any circumstance.
- f. **Regulations:** Tenders should be free from CORRECTION AND ERASURES. Corrections if any must be attested. All amounts shall be indicated both in words as well as figures. Where there is difference between amount quoted in words and figures, amount quoted in words shall prevail.
- g. **PVC:** Price Variation clause not acceptable. Prices should be firm.
- h. **Catalogue:** Manufacturer's name, Trade Mark or Patent No. if any should be specified. Illustrative leaflets giving technical particulars are required along with quotation.
- i. **Samples:** Samples should be submitted separately if specially requested in tender before due date of the enquiry. They should be clearly marked with the enquiry No and date on the outside cover to facilitate identification.
- j. **GST Number:** GST registration number, HSN number (Item wise) with applicable taxes should be mentioned in quotation. If the vendor is not GST registered the offer is liable for rejection.

- k. **Deviation:** Any deviations from the specification are to be furnished separately as "Schedule of Deviation". If there is no deviation vendor should indicate "No Deviation".
- l. **Confirmation:** Confirmation for compliance is to be given in the offer for all the techno commercial conditions specified in the specification.

2. COMMERCIAL TERMS & CONDITIONS:

a. Terms of Payment:

For Indigenous Suppliers: 100% after 45 days on satisfactory receipts and acceptance of material at BHEL stores/ Site acknowledgement.

Any deviation in the above payment terms except payment through LC/Advance will attract loading as "Base rate of SBI (as applicable on the date of bid opening. Techno-commercial bid opening in case of two part bids) + 6% shall be considered for loading for the period of relaxation sought by bidder. Offers of indigenous Suppliers with payment terms as CAD at site, Confirmed LCs, Advance payment or any other payment terms are liable for rejection.

For Import Supplies: Payment term is 100% payment on CAD basis after 45 days from the date of receipt of documents, specified in PO, at BHEL bank. Respective bank charges to respective account.

Any deviation in the above payment term will attract loading as "Base rate of SBI (as applicable on the date of bid opening. Techno-commercial bid opening in case of two part bids) + 6% shall be considered for loading for the period of relaxation sought by bidders.

In case of Usance LCs the loading will be considered @ 1.5% on the offered Value. For unconfirmed LC at sight the loading will be considered @ 3.5% on the offered Value. CAD at site, Confirmed LCs, Advance payment or any other payment terms are liable for rejection.

- b. **Liquidated Damage:** Liquidated damages shall be 0.5% of the total order value or part thereof subject to a maximum of 10% of the total order value. For staggered delivery schedule, LD shall be 0.5% of the undelivered portion per week of the delay or part thereof subject to a maximum of 10% of the total order value.

Any deviation from the above LD clause, loading will be applied to the extent to which it is not agreed by the bidder (at offered value)

Under GST regime, BHEL has to discharge GST liability on LD recovered from suppliers/contractors. Hence applicable GST shall also be recoverable from suppliers/contractors on LD amount. For this Debit note will be issued by BHEL indicating the respective supply invoice number.

c. Delivery Terms:

For Indigenous Suppliers: FOR BHEL Trichy inclusive of freight and insurance

For Import Supplies: CFR Chennai seaport as per incoterm 2010

- d. **Validity of Offer:** Prices should be valid for period as mentioned in the "Mandatory Confirmation Checklist".
- e. **Delivery period:** Delivery schedule shall be strictly as per BHEL tender requirement which are as indicated against each item in our tender. If supplier offers more than the required delivery period BHEL will operate 0.5% loading factor for evaluation of their offer for every week delay.
- f. **Fixed price:** Prices quoted by the bidder shall be fixed and not subject to any escalation whatsoever during the period of bid validity and execution of the Purchase Order. Prices shall be written in words and figures. In the event of differences, the price in words shall be valid and binding. Only Unit prices shall be considered for evaluation.
- g. **Risk Purchase:** The purchaser at his option will be entitled to terminate the contract and to purchase elsewhere at the risk and cost of seller either the whole of goods or any part which the supplier has failed to deliver or dispatch within the time stipulated as aforesaid or if the same were not available, the best and the nearest available substitute therefore.

Supplier shall be liable for any loss which the purchaser may sustain by reason for such risk purchases in addition to penalty at the rate mentioned in clause-2(B) above. Non acceptance to risk purchase clause the offer is liable for rejection.
- h. **Miscellaneous:** Any conditions which might have been quoted by the seller and are in contravention to the terms of PO and which have not been specifically accepted by Purchaser will not be applicable to the contract/PO.

- i. If any re-work done on forgings due to raw material fault during processing at BHEL, the same cost will be debited from your account/running bills.
- j. If any rejection taken place during processing, the entire cost incurred till that stage will be recovered from your running bills.

3. SUBMISSION OF BIDS:

i. Techno-Commercial Bid (PART – A):

Techno-Commercial Bid covering technical conditions, delivery conditions and all commercial conditions except the price along with the filled up copy of Annexure-4 clearly indicating “QUOTED/NOT-QUOTED” for the Bill of Quantities. The “Mandatory Confirmation Checklist” to be fully read and against each Clause the Bidder has to indicate “Accepted/Not-Accepted”. The signed and sealed “Mandatory Confirmation Checklist” has to be uploaded by the Bidder as part of Techno-Commercial Bid. In case of non-acceptance of any of the Clauses of “Checklist”, BHEL reserves the right to reject the Offer. For those Vendors not registered with BHEL, the following additional conditions are applicable over and above the General Terms and Conditions,

- The Vendor should submit the Techno-Commercial Offer along with duly filled-in Supplier Registration Form (SRF) which can be downloaded from our website www.bhel.com. The data given in the SRF must be backed by supporting documents. If the Bidder is outside India, in addition to the above a copy of the latest D&B (M/s DUN & BRADSTREET) Statement shall also be submitted.
- The Vendors must furnish, along with the Techno-Commercial Offer, the list of manufacturing and inspection facilities along with the company product catalogues.
- Those Vendors who are registered in other BHEL Units as a Permanent Vendor can submit the following details:
 - a) Name of the BHEL Unit- Under which the Vendor is registered as a Permanent Vendor and also the date of such registration.
 - b) Vendor Code and Vendor Performance Rating (VPR) in the corresponding BHEL Unit.
 - c) Nature of items supplied along with the material specification and technical requirements.

ii. Price Bid:

Price bid shall be submitted in the e-procurement system as per Annexure-4 and the prices shall be mentioned in figures and words both.

4. OTHER CONDITIONS:

a. Indian Agent & Agency commission:

- i. An Indian Agent can represent / submit offer of only one original equipment manufacturer (OEM) against a particular Tender. If any Indian Agent represents two or more than one OEM against the same tender, then the Offer will be rejected.
- ii. The CFR - Cost and Freight Chennai Sea Port, price quoted by the Foreign Bidder shall also include the Agency commission. The bidder shall furnish authenticated copy of the Agency Agreement detailing the precise relationship between them and their mutual interest in the business so as to consider the offer of the Indian Agent for the indigenous portion of the supply. For the main equipment, the offer should be from the Principal / OEM. The bidders have to furnish the original Authorization Letter for the Indian Agent along with the Techno-Commercial Offer.

b. Short Shipment / Warranty Replacement: In case of any short shipment in the main equipment / spares, the customs duty levied on such supplies, shall be borne by the Supplier. Any warranty replacement during the warrantee period shall be on FOR, BHEL, Tiruchirappalli – 620014, basis only.

c. Point by point technical confirmations of all pages of our technical specifications are required with your sign and

seal along with the Techno-Commercial Offer (Part-A).

- d. The Drawings and Technical documents given in this enquiry are the sole property of BHEL and therefore should not be misused in any form.

5. Compliance / Acceptance required for following points to ensure Input Tax Credit

- a. Supplier shall mention their GSTN registration number in all their invoices and invoices shall be in the format as specified/prescribed under GST laws. Invoices shall necessarily contain Invoice number (in case of multiple numbering system is being followed for billing like SAP invoice no, commercial invoice no etc., then the Invoice No which is linked/uploaded in GSTN network shall be clearly indicated), item description as per PO, Quantity, Rate, Value, applicable taxes with nomenclature (like IGST, SGST, CGST & UTGST) separately, HSN/ SAC Code, etc.
- b. All invoices shall bear the HSN Code for each item separately (Harmonized System of Nomenclature)/ SAC code (Services Accounting Code).
- c. A declaration to the effect that all invoice particulars are/were uploaded in the GSTN network/ portal & all tax liability as per GST rules and regulations have been and will be discharged, shall be mentioned in the invoice. If not mentioned in the invoice, a separate declaration shall be submitted as per the requirement of BHEL.
- d. All documents like Mill Test Certificate, LR copy, Guarantee/Warranty certificate, work completion certificate, any other document mentioned in PO, shall be sent along with the vehicle/consignment. For all consignments received within the calendar month, input credit will be availed within that month in line with monthly returns filing cycle. In case of any discrepancy in the document or non-submission of documents mentioned in the PO, then BHEL will not be able to accept or account the material, in such case availing of tax credit will be deferred to next month or so.
- e. In case of discrepancy in the data uploaded by supplier in the GSTN portal or in case of any shortages or rejection in the supply, then BHEL will not be able to avail the tax credit and will notify the supplier of the same. Supplier has to rectify the data discrepancy in the GSTN portal or issue credit note (details to be uploaded in GSTN portal) for the shortages or rejections in the suppliers, within the calendar month notified by BHEL.
- f. For any such delay in availing of tax credit for reasons attributable to supplier (as mentioned above), interest (calculated @ SBI Base Rate + 6%) along with penalty (if any) will be deducted/recovered for the delayed period i.e. from the month of receipt till the month tax credit is availed, from the running bills.

6. Special Provisions for Micro and Small Enterprises (MSE):

- a. 20% of the tendered quantity is earmarked for MSE suppliers in this tender.
- b. Out of the 20% tendered quantity reserved for MSE suppliers, 4% shall be earmarked for procurement from MSE owned by SC/ST entrepreneurs.
- c. In case MSE vendor participating in the tender quotes within the price band of LI +15%, they will be allowed to supply the portion of the requirement subject to acceptance of LI price by MSE vendor. In case of more than one such MSE, the supply shall be shared proportionately.
- d. MSE suppliers can avail the intended benefits only if they submit along with offer, attested copies of either EM II certificate having deemed validity (Two years from the date of issue of acknowledgement in EM II) or valid NSIC certificate or EM II certificate along with CA certificate applicable for the year, certifying quantum of investment in plant and machinery within the permissible limit as per the act for relevant status (Micro or small) where the deemed validity of EM II is over. Date to be reckoned for determining the deemed validity will be the last date of technical bid submission. Non submission of such documents will lead to consideration of their bids at par with other bidders and MSE status of such suppliers shall be shifted to Non MSE supplier till the supplier submits these documents.

7. GENERAL CONDITIONS:

- a. BHEL reserves the right to finalize the tender as per item sl no wise or as a total package or project wise. Separate orders will be released for each project and documents should be supplied for each order separately.
- b. The rates shall be quoted separately for each item in the format as given in the Annexure-4.
- c. BHEL reserves the right to increase or reduce or split the Tender Quantity and to NOT to order for some or all material based on the changes in project.
- d. BHEL shall have the right to visit vendor works during the execution of contract along with end customer for verifying status, inspection and testing of the material.
- e. BHEL reserves the right to negotiate or re-float the tender in case the quoted prices are not acceptable.
- f. Supplier shall arrange packing to avoid lose or damages during Road Transport, Site handling & Storage.
- g. BHEL reserves the right to finalize the tender either through price bid opening or through Reverse Auction route. The Terms and Conditions for RA is enclosed vide Annexure-G for reference.
- h. BHEL reserves the right to reject the offer of a particular bidder due to unsatisfactory past performance in the execution of a contract at any of BHEL projects / units.
- i. The Drawings and Technical documents given in this enquiry are the sole property of BHEL. This should not be misused in any form.
- j. Purchase Order, PO Item SI No, Material code, Quantity should be clearly marked on the packing
- k. Confirmation for compliance is to be given in the offer for all the conditions specified above and to the respective Purchase Specification.
- l. If any supplier is not honoring their own quotation or any of its conditions within the validity period, the action will be taken against those suppliers in line with "Guidelines for suspension of business dealings with suppliers/contractors" (refer www.bhel.com)

8. DOCUMENTATION:

- a. **With Consignment:** Duplicate for transporter copy, Original Invoice, Packing List, Delivery Challan, O&M manual (if applicable) Material Test Certificate, Test Certificates, Compliance Certificate, Guarantee/Warranty Certificate and other documents mentioned in PO/TDC/Drawing.
- b. **Online Submission:** Supplier should upload the soft copy of all Test Certificates in BHEL website <http://vis.bheltry.co.in/vis/index.jsp> at Vendor information system tab.
- c. **To Purchase:**
 - i. FOR BHEL TRICHY case- Original Invoice, duplicate for transporter copy, Packing list, LWB and Delivery challan.
 - ii. FOR Site case- Original Invoice, Original LWB, Original Packing List, Original IBR documents, Original despatch clearance Certificate and Inspection report, Test certificates as per PO, Original Site Acknowledgment etc...
- d. **Identification:** Material code, Purchase Order, PO item SI No, Unique SI No if any should be provided in all despatch documents, materials and packing clearly.

9. TENDER EVALUATION:

- a. **PART I Techno-commercial Bid.**
 - i. All vendors should submit General arrangement drawing, datasheet and C&I diagram (If any) of the offered product
 - ii. Point by point technical confirmation of all pages of our technical specifications and commercial conditions are required with your sign and seal along with techno commercial Offer.
 - iii. Offers from supplier not having technical capability or not agreed for commercial terms, will be rejected.
- b. **PART II Price Bid.**
 - i. Bidders qualified for both part I will be intimated for participating in priced bid opening/Reverse Auction.
 - ii. L1 bidder will be decided based on landed cost for the equipment to BHEL.
 - iii. For evaluation, the exchange rate shall be taken as TT selling rate of SBI on date of Part-1 bid opening.

10. TENDER EVALUATION METHODOLOGY:

- a. Techno-Commercial Bid will be opened on the due date of the tender. The offers submitted by the bidder will be evaluated against the tender conditions. In case of New Bidders:
- **Indigenous Bidders:** The Supplier Registration Forms (SRF) will be evaluated and also a BHEL team will visit the Vendor Works to know the capacities / capabilities / credentials of the Foundry. If found suitable then their Offer / Quotation shall be taken up for further evaluation and if not found suitable then their Offer / Quotation shall be rejected.
 - **Foreign Bidders:** The Supplier Registration Forms (SRF) and M/s DUN & BRADSTREET Statement will be evaluated. If found suitable then their Offer / Quotation shall be taken up for further evaluation and if not found suitable then their Offer / Quotation shall be rejected.
 - **Those Bidders already registered in other BHEL units:** If the nature of items supplied to other BHEL units along with the technical requirements and VPR is found acceptable then the Bidder shall be considered for registration.
- b. The Bidders qualified during Techno-Commercial Bid Evaluation will be pre-intimated for participating in Price Bid Opening / Reverse Auction. The L1-Bidder will be decided based on the landed cost to BHEL.
- c. Evaluation of Offers shall be on the basis of delivered / landed cost (Net cash outflow to BHEL).

11. ENCLOSURES:

- Annexure- 1 : TDC
- Annexure- 2 : TDC for Untoleranced Dimensions
- Annexure- 3 : SIP (Creep Testing Requirements)
- Annexure- 4 : Bill of Quantities
- Annexure- A : General Tender Terms and Conditions
- Annexure- B : PQR
- Annexure- C : Performance Bank Guarantee
- Annexure- D : List of Consortium Banks
- Annexure- E : NDA
- Annexure- F : List of IBR Inspecting Authorities
- Annexure- G : Terms and Conditions for Reverse Auction
- Annexure- H : IBR Form-III(G)

Bharat Heavy Electricals Limited
Tiruchirappalli
Material Management/Purchase-Valves

Ref: MM: PUR: VALVES

SI No	Pre-Qualification Requirements (PQR) for the procurement of F92 Forgings to the Specification: SA182 F92, A182 F92 and SA336 F92 through Open Tender (As per TDC: 0:404 Rev 18) Note: Suppliers to attach requested/supporting documents against each PQR for Offer Evaluation	Remarks
A) Organisational Capability		
1	Manufacturers having manufacturing facilities for Forgings are only eligible to participate. Offer from traders, fabricators and stockists are not acceptable and will not be considered for evaluation.	
2	Suppliers without the basic manufacturing facilities in-house shall not be considered for tender evaluation. In-house facilities for hot finishing and cold finishing, rolling/forging, Heat Treatment, UT Testing, Wet MPI and other testing as per applicable TDC are mandatory requirements for consideration of the offer. Details of the Mill with the list of manufacturing facilities and the list of testing equipment & instruments with recent calibration details need to be submitted.	
3	If the Supplier is not having steel making facility, then the source of raw material for steel manufacturing shall be indicated. If the Supplier is dependent on more than one source for steel making, all the sources should be indicated and the supplies should be restricted to the indicated list of raw material Suppliers only. For the submitted raw material sources, the Supplier shall confirm that the raw material test certificates will be furnished along with product test certificates also.	
4	Chemical and Mechanical Testing shall be done in-house or at Labs certified as per standard ISO 17025 or at Government approved Labs.	
5	Suppliers shall submit a valid ISO 9001 Certificate or a Quality Management System Certificate or a written down procedure for quality management.	
B) Technical Competence		
6	Point by point confirmation to the TDC requirements (Annexures- 1 and 2) is mandatory for consideration of the submitted Offer. A signed copy of the TDC must be submitted.	
7	Point by point confirmation to the SIP (Annexure- 3) is mandatory for consideration of the submitted Offer. A signed copy of the SIP must be submitted.	
8	Suppliers shall submit the list of facilities available at the Mill (from raw material stage to finished product stage) & also a Manufacturing Quality Plan to meet the TDC requirements.	
9	Suppliers shall submit the experienced Manpower details specific to NDE requirements.	
10	Suppliers should produce the statutory/mandatory certification (Annexure- L) for the items covered under this tender for NTPC as well as Non-NTPC items as per applicable TDC.	

Bharat Heavy Electricals Limited
Tiruchirappalli
Material Management/Purchase-Valves

Ref: MM: PUR: VALVES

SI No	Pre-Qualification Requirements (PQR) for the procurement of F92 Forgings to the Specification: SA182 F92, A182 F92 and SA336 F92 through Open Tender (As per TDC: 0:404 Rev 18) Note: Suppliers to attach requested/supporting documents against each PQR for Offer Evaluation	Remarks
C)	Past Experience/Performance	
11	Suppliers should have supply history of F92 Grade Forgings. As proof of having manufactured and supplied F92 Grade Material, the Supplier shall submit a copy of the MTC, unpriced PO copy, Bill of Lading, etc.	
12	Details of Supplies made in the recent past mentioning, year-wise, the quantity, specification, size and customer details along with the unpriced PO copies, proof of supply (such as invoice, bill of lading copies and test certificates) covering minimum and maximum sizes for the tendered specifications shall be submitted.	
13	Suppliers shall indicate their annual installed capacity for the tendered specifications & it shall be more than the tendered quantity.	
14	For items pertaining to NTPC, the Supplier should have experience in supplying F92 Material Grade preferably Valve Forgings and in this case the Purchase Order shall be released upon further approval of the Supplier by NTPC depending upon their experience, etc. In this regard, proper supporting documents shall be submitted by the Supplier as proof of having supplied F92 Forgings	
D)	Financial Soundness	
15	Indigenous suppliers shall submit the Audited copies of annual balance sheets, profit & loss statements and IT returns filed for the last four years (or from the date of incorporation whichever is less).	
16	Import Suppliers shall submit the latest D&B report/Credit reform report.	

BANK GUARANTEE FOR PERFORMANCE SECURITY

(Non-Judicial Stamp paper/e-stamp paper of appropriate value as per Stamp Act prevailing in the State(s))

Bank Guarantee No:

Date:

To

NAME

& ADDRESSES OF THE BENEFICIARY

IFSC AND MICR CODE

Dear Sirs,

1. In consideration of Bharat Heavy Electricals Limited (hereinafter referred to as the 'Employer' which expression shall unless repugnant to the context or meaning thereof, include its successors and permitted assigns) incorporated under the Companies Act, 1956 and having its registered office at _____¹ through its Unit at.....(name of the Unit) having awarded to (Name of the Vendor / Contractor / Supplier) (VENDOR CODE) with its registered office at _____² hereinafter referred to as the ' Vendor / Contractor / Supplier ', which expression shall unless repugnant to the context or meaning thereof, include its successors and permitted assigns), a contract Ref No.....dated³ valued at Rs.....⁴ (Rupees -----)/FC.....(in words.....) for⁵ (hereinafter called the 'Contract') and the Vendor / Contractor / Supplier having agreed to provide a Contract Performance Bank Guarantee, equivalent to% (... Percent) of the said value of the Contract to the Employer for the faithful performance of the Contract,

2. we,, (hereinafter referred to as the Bank), having registered/Head office at and inter alia a branch at being the Guarantor under this Guarantee, hereby, irrevocably and unconditionally undertake to forthwith and immediately pay to the Employer any sum or sums upto a maximum amount of Rs -----⁶ (Rupees -----) without any demur, immediately on first demand from the Employer and without any reservation, protest, and recourse and without the Employer needing to prove or demonstrate reasons for its such demand.

3. Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs. _____.

4. We undertake to pay to the Employer any money so demanded notwithstanding any dispute or disputes raised by the Vendor / Contractor / Supplier in any suit or proceeding pending before any Court or Tribunal, Arbitrator or any other authority, our liability under this present being absolute and unequivocal.

5. The payment so made by us under this Guarantee shall be a valid discharge of our liability for payment thereunder and the Vendor / Contractor / Supplier shall have no claim against us for making such payment.

6. We thebank further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Contract/satisfactory completion of the performance guarantee period as per the terms of the Contract and that it shall continue to be enforceable till all the dues of the Employer under or by virtue of the said Contract have been fully paid and its claims satisfied or discharged.

7. We.....BANK further agree with the Employer that the Employer shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Contract or to extend time of performance by the said Vendor / Contractor / Supplier from time to time or to postpone for any time or from time to time any of the powers exercisable by the Employer against the said Vendor / Contractor / Supplier and to forbear or enforce any of the terms and conditions relating to the said Contract and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said Vendor / Contractor / Supplier or for any forbearance, act or omission on the part of the Employer or any indulgence by the Employer to the said Vendor / Contractor / Supplier or by any such matter or thing whatsoever which under the law relating to sureties would but for this provision have effect of so relieving us.

8. The Bank also agrees that the Employer at its option shall be entitled to enforce this Guarantee against the Bank as a principal debtor, in the first instance without proceeding against the Vendor / Contractor / Supplier and notwithstanding any security or other guarantee that the Employer may have in relation to the Vendor / Contractor / Supplier's liabilities.

9. This Guarantee shall remain in force upto and including.....⁷ and shall be extended from time to time for such period as may be desired by Employer.

10. This Guarantee shall not be determined or affected by liquidation or winding up, dissolution or change of constitution or insolvency of the Vendor / Contractor / Supplier but shall in all respects and for all purposes be binding and operative until payment of all money payable to the Employer in terms thereof.

11. Unless a demand or claim under this guarantee is made on us in writing on or before the⁸we shall be discharged from all liabilities under this guarantee thereafter.

12. Any claim or dispute arising under the terms of this document shall only be enforced or settled in the Courts at Tiruchirappalli.

13. We..... BANK lastly undertake not to revoke this guarantee during its currency except with the previous consent of the Employer in writing.

Notwithstanding anything to the contrary contained hereinabove:

a) The liability of the Bank under this Guarantee shall not exceed.....⁶

- b) This Guarantee shall be valid up to⁷
- c) Unless the Bank is served a written claim or demand on or before (minimum 3 to 6 months from the expiry date)⁸ all rights under this guarantee shall be forfeited and the Bank shall be relieved and discharged from all liabilities under this guarantee irrespective of whether or not the original bank guarantee is returned to the Bank.

14. We, _____ Bank, have power to issue this Guarantee under law and the undersigned as a duly authorized person has full powers to sign this Guarantee on behalf of the Bank.

For and on behalf of
(Name of the Bank)

Dated.....

Place of Issue.....

BANK EMAIL ID:

BANK PHONE NO:

AUTHORISED SIGNATORIES CELL PHONE NO:

BANK FAX NO:

¹ NAME AND ADDRESS OF EMPLOYER I.e Bharat Heavy Electricals Limited

² NAME AND ADDRESS OF THE VENDOR /CONTRACTOR / SUPPLIER.

³ DETAILS ABOUT THE NOTICE OF AWARD/CONTRACT REFERENCE

⁴ CONTRACT VALUE

⁵ PROJECT/SUPPLY DETAILS

⁶ BG AMOUNT IN FIGURES AND WORDS

⁷ VALIDITY DATE

⁸ DATE OF EXPIRY OF CLAIM PERIOD

List of Consortium Banks			
	Nationalised Bank		Nationalised Bank
1	Allahabad bank	19	Vijaya Bank
2	Andhra bank		Public Sector Banks
3	Bank of Baroda	20	IDBI
4	Canara Bank		Foreign bank
5	Corporation bank	21	CITI Bank N.A
6	Central bank	22	Deutsche Bank AG
7	Indian Bank	23	The Hongkong and Shanghai Banking Corporation Limited
8	Indian Oversea Bank	24	Standard Chartered Bank
9	Oriental bank of Commerce	25	The Royal Bank of Scotland N.V.
10	Punjab National Bank	26	J P Morgan
11	Punjab & Sindh Bank		Private bank
12	State Bank of India	27	Axis Bank
13	State Bank of Hyderabad	28	The Federal Bank Limited
14	Syndicate Bank	29	HDFC
15	State Bank of Travancore	30	Kotak Mahindra Bank
16	UCO Bank	31	ICICI
17	Union Bank of India	32	Indusind Bank
18	United Bank of India	33	Yes Bank

 BHEL - TRICHY	THIRD PARTY NON-DISCLOSURE AGREEMENT		Doc.No. : ISMS-04/TP/011
			Ver. No: 3.0 Rev. No: 00
	Date : 27 - 10 - 14		

THIRD PARTY NON-DISCLOSURE AGREEMENT

I, _____, on behalf of the _____ (Name of Company), acknowledge that the information received or generated, directly or indirectly, while working with BHEL, Trichy on contract is confidential and that the nature of the business of the BHEL, Trichy is such that the following conditions are reasonable, and therefore:

I warrant and agree as follows:

I, or any other personnel employed or engaged by our company, agree not to disclose, directly or indirectly, any information related to the BHEL, Trichy Without restricting the generality of the foregoing, it is agreed that we will not disclose such information consisting but not necessarily limited to:

- Technical information: Methods, drawings, processes, formulae, compositions, systems, techniques, inventions, computer programs/data/configuration and research projects.
- Business information: Customer lists, project schedules, pricing data, estimates, financial or marketing data,

On conclusion of contract, I, or any other personnel employed or engaged by our company shall return to BHEL, Trichy all documents and property of BHEL, Trichy, including: drawings, blueprints, reports, manuals, computer programs/data/configuration, and all other materials and all copies thereof relating in any way to BHEL, Trichy 's business, or in any way obtained by me during the course of contract. I further agree that I, or any others employed or engaged by our company shall not retain copies, notes or abstracts of the foregoing.

This obligation of confidence shall continue after the conclusion of the contract also.

I acknowledge that the aforesaid restrictions are necessary and fundamental to the business of the BHEL, Trichy and are reasonable given the nature of the business carried on by the BHEL, Trichy I agree that this agreement shall be governed by and construed in accordance with the laws of country.

I enter into this agreement totally voluntarily, with full knowledge of its meaning, and without duress.

Dated at _____, this ____ day of _____, 20__.

Name

Company

Signature

LIST OF IBR Approved Inspecting authorities

INSPECTING AUTHORITIES

(As on 31/03/2017)

Sl. No.	Name of the Authority	Area of Operation
1.	Director of Boilers, Andhra Pradesh	Andhra Pradesh
2.	Chief Inspector of Boilers, Arunachal Pradesh	Arunachal Pradesh
3.	Chief Inspector of Boilers, Assam	Assam
4.	Chief Inspector of Boilers, Bihar	Bihar
5.	Chief Inspector of Boilers, Chhattisgarh	Chhattisgarh
6.	Chief Inspector of Boilers, Daman & Diu and Dadra & Nagar Haveli	Daman & Diu and Dadra & Nagar Haveli
7.	Chief Inspector of Boilers, Delhi	N.C.T.D.
8.	Chief Inspector of Boilers, Goa	Goa
9.	Director of Boilers, Gujarat	Gujarat
10.	Chief Inspector of Boilers, Haryana	Haryana & Chandigarh
11.	Chief Inspector of Boilers, Himachal Pradesh	Himachal Pradesh
12.	Chief Inspector of Boilers, Jharkhand	Jharkhand
13.	Director of Boilers, Karnataka	Karnataka
14.	Director of Boilers, Kerala	Kerala
15.	Director of Boilers, Madhya Pradesh	Madhya Pradesh
16.	Director of Boilers, Maharashtra	Maharashtra
17.	Chief Inspector of Boilers, Meghalaya	Meghalaya

18.	Chief Inspector of Boilers, Manipur	Manipur
19.	Chief Inspector of Boilers, Mizoram	Mizoram
20.	Chief Inspector of Boilers, Nagaland	Nagaland
21.	Director of Boilers, Odisha	Odisha
22.	Director of Boilers, Punjab	Punjab
23.	Chief Inspector of Boilers, Puducherry	Puducherry
24.	Chief Inspector of Boilers, Rajasthan	Rajasthan
25.	Director of Boilers, Tamil Nadu	Tamil Nadu
26.	Director of Boilers, Telangana	Telangana
27.	Chief Inspector of Boilers, Tripura	Tripura
28.	Director of Boilers, Uttar Pradesh	Uttar Pradesh
29.	Chief Inspector of Boilers, Uttarakhand	Uttarakhand
30.	Chief Inspector of Boilers, West Bengal	West Bengal
31.	M/s Lloyd's Register Asia 63-64, Kalpataru Square, 6 th Floor, Kondivita Lane, Off. Andheri-Kurla Road Andheri(E), Mumbai-400059	Whole of India except the State of Jammu & Kashmir
32.	M/s Bureau Veritas(India) Pvt Ltd. Marwah Centre, 6 th Floor Opp Ansa Inds. Estate, K. Marwah Marg Off. Saki-Vihar Road, Andheri (East), Mumbai 400 072	Whole of India except the State of Jammu & Kashmir
33.	M/s ABS Industrial Verification(India) Pvt. Limited 10 th Floor, Lakhani's Centrum, Sector 15, Plot No. 27, CBD Belapur (E), Navi Mumbai 400 614	Whole of India except the State of Jammu & Kashmir

34.	M/s TÜV India Pvt. Limited (TUV Nord Group) 801, Raheja Plaza-1, L.B.S. Marg, Ghatkopar(W), Mumbai-400 086	Whole of India except the State of Jammu & Kashmir
35.	M/s Intertek India Pvt. Limited E-20, Block-B1, Mohan Co-operative Industrial Estate, Mathura Road, New Delhi-110 044	Whole of India except the State of Jammu & Kashmir
36.	M/s TÜV SÜD South Asia Pvt. Ltd. TÜV SÜD House, Off Saki Vihar Road, Saki Naka, Andheri (East), Mumbai-400 072	Whole of India except the State of Jammu & Kashmir
37.	M/s TÜV Nord Systems GmbH Co.KG Langemarckstr 20, D-451141 Essen, GERMANY	Europe, Brazil, China, Korea, Middle East countries, Thailand & Turkey
38.	M/s British Engineering Services Limited 5, New York Street, Manchester, M1 4JB, United Kingdom	Europe
39.	M/s Japan Inspection Company Limited RBM Higashiguchi Yaesu Bldg. 10F, No. 2-9, 1-Chome, hatchobori, Chou-ku Tokyo, 104-0032, Japan	All countries in Asia except India
40.	M/s S.G.S. Korea Company Ltd. Industrial Division, 50, sinsan-ro 29 beon-gil Saha-gu, Busan, Korea (604-838)	Korea & Japan
41.	M/s Bureau Veritas 67-71, Boulevard du Chateau 92200 Neuilly-sur-Seine, FRANCE	All countries except India
42.	M/s Lloyds Register Verification Ltd. 71, Fenchurch Street London EC 3M, U.K.	All countries except India
43.	M/s Velosi certification Bureau Limited Unit 4 Bennet Court, Bennet Road, Reading, Berkshire, RG2 0QX, United Kingdom	Europe, China, Malaysia, Middle East countries & USA
44.	M/s TÜV Rheinland AG Am Grauen Stein, D-51105 Koln Germany	All countries except India

45.	M/s OOO "TekhnoLogicheskieEnergosistime" 109, Vezelskaya, Belgorod, 308015 Russia	Russia, Ukraine, USA, Germany, China & Italy
46.	M/s Engineering Bureau Franke International 55, Amurskaya St., Dnepropetrovsk 49108, Ukraine	Ukraine, Russia, Belarus, China, Uzbekistan, Poland, Belgium, Romania & Czech Republic
47.	M/s ARISE Boiler Inspection & Insurance Insurance Company Risk Retention Group Grand Bay 1,7000 South Edgerton Road Suite 100, Brecksville OH 44141 USA	USA & Canada
48.	M/s Tata Projects Limited SBU-Quality Services, Splendid Tower, 6 th Floor, H.No. 1-8-364, 437, 438 & 445, Begumpet Hyderabad-500 003 Telangana	All countries except India
49.	M/s TÜV SUD Industries Service GmbH Westendstr, 199 80686 Munich Germany	All countries except India
50.	M/s TÜV Thüringen e.v., Service Centre Erfurt, Melchendorfer Str. 64 99096 Erfurt, Germany	Europe & China
51.	M/s SGS-CSTC Standards Technical Services Co. Ltd. 9 th Building No. 69, KangQiao Industrial Park, Block 1159, KangQiao East Road, Pudong District, Shanghai-201 319 China	China
52.	M/s Intertek Inspection Services UK Limited 5 th Floor, 35 Perrymount Road, Haywards Heath, West Sussex, RH16 3BW, United Kingdom	All countries except India
53.	M/s ABSG Consulting Inc 16855 Northchase Drive Houston, TX 77060 United States of America	All countries except India
54.	M/s Hartford Steam Boiler Inspection & Insurance Company, One State Street, 8 th Floor, P.O. Box 299, Hartford, Connecticut 06141-0299 U.S.A.	All countries except India
55.	M/s Certification Engineers International Limited D 101-106, First Floor International Technology Centre CBD Belapur Station Complex, Navi Mumbai- 400 614	All countries in Europe, Middle East and China

56.	M/s Det Norske Veritas AS Veritasveien 1, PO Box 300 N-1322, Hovik, Norway	Europe, South & North America and Asia(except India)
57.	M/s SGS-TÜV Saar GmbH Am TUEV 1, D-66280 Sulzbach Germany	Europe
58.	M/s Korean Register of Shipping 36, Myeongji Ocean City 9-ro, Gangseo-gu, Busan, Republic of Korea	All countries in Asia except India
59.	M/s AIB-Vincotte International sa Jan Olieslagerslaan 35, 1800 Vilvoorde, Belgium	Europe

Annexure-G

GENERAL TERMS AND CONDITIONS OF REVERSE AUCTION

Against this enquiry for the subject item/system with detailed scope of supply as per enquiry specification, BHEL may resort to "REVERSE AUCTION PROCEDURE" i.e. ON LINE BIDDING ON INTERNET.

- a. For the proposed reverse auction, technically and commercially acceptable bidders only shall be eligible to participate.
- b. BHEL will engage the services of a service provider who will provide all necessary training and assistance before commencement of on line bidding on internet.
- c. BHEL will inform the vendor in writing in case of reverse auction, the details of service provider to enable them to contact & get trained.
- d. Business rules like event date, time, start price, bid decrement, extensions etc. also will be communicated through service provider for compliance.
- e. Vendors have to fax the compliance form in the prescribed format (provided by service provider) before start of Reverse auction. Without this, the vendor will not be eligible to participate in the event.
- f. BHEL will provide the calculation sheet (e.g. EXCLE sheet) which will help to arrive at "Total cost to BHEL" like packing & forwarding charges, taxes and Duties, Freight charges, insurance, service Tax for services and loading factors (for non- compliance to BHEL standard commercial terms & conditions) for each of the vendor to enable them to fill-in the price and keep it ready for keying in during the Auction.
- g. Reverse auction will be conducted on scheduled date & time.
- h. At the end of Reverse Auction event, the lowest bidder value will be known on the network.
- i. The lowest bidder has to fax the duly signed filled-in prescribed format as provided on case-to-case basis to BHEL through service provider within 24hours of Auction without fail.
- j. Any variation between has on-line bid value and the signed document will be considered as sabotaging the tender process and will invite disqualification of vendor to conduct business with BHEL as per prevailing procedure.

FORM III-G
(See regulations 81 to 85)

Certificate of manufacture and test of forgings

Certificate No. and date

Heat Number

Details of raw material

Maker's name and address

Customer's name and address

Drawing Nos.

Description and quantity _____ Sl.No. _____

Forge shop identification _____

Chemical composition

Heat treatment

Physical test results.

(i) Tensile strength

(ii) Transverse bend test

(iii) Elongation

(iv) Other tests

Certified that the particulars entered herein by us are correct. This satisfies the requirements of Indian Boiler Regulations, 1950.

Maker's Representative
(Name and signature)

Maker _____
(Name and Signature)

Name and signature of
Competent Person

Name and signature of
Inspecting Authority/Well Known Forge.



BHARAT HEAVY ELECTRICALS LIMITED

TIRUCHIRAPALLI - 620014

Materials Management Valves Purchase

Ref: ENFTA18008

Sl. No	BHEL Condition	Confirmation of Supplier
A1	Signed and sealed copy of Annexure- 1	
A2	Signed and sealed copy of Annexure- 2	
A3	Signed and sealed copy of Annexure- 3	
A4	Signed and sealed copy of Annexure- 4 (without the price details)	
A5	Signed and sealed copy of Annexure- A	
A6	Signed and sealed copy of Annexure- B	
A7	Signed and sealed copy of Annexure- C	
A8	Signed and sealed copy of Annexure- E	
A9	Signed and sealed copy of Annexure- G	
A10	Signed and sealed copy of Annexure- H	
1	The item wise rates shall be quoted only on the basis of unit price for Forged, machined and tested Forgings as per Annexure- 4, conforming to the Technical delivery conditions Doc Ref No TDC:0:404 rev 18 or latest applicable, drawings & special terms and conditions. The quoted unit rate shall be inclusive of following parameters: ➤ Forging Cost ➤ Heat treatment cost ➤ Testing and Inspection charges ➤ Machining Charges and other tender requirements if any.	
2	Price & Quotation Validity: Prices shall be quoted on "FIRM PRICE" basis and item wise only. For indigenous Supplies: FOR BHEL TRICHY inclusive of Packing & Forwarding charges if any. For Import Supplies: CFR/CIF Chennai seaport as per incoterm 2010 Validity of offer shall be 120 days from the date of Techno-Commercial bid opening.	
3	Vendor should give confirmation to BHEL's Technical Specification. Any deviations from the specification are to be furnished separately as "Schedule of Deviations". If there is no deviation Vendor should indicate "No Deviation".	



BHARAT HEAVY ELECTRICALS LIMITED

TIRUCHIRAPALLI - 620014

Materials Management Valves Purchase

Ref: ENFTA18008

4	Delivery Period: Within 16 weeks from the date of PO.	
5	Payment Terms shall be as per Clause- 2(a) of General Tender Terms & Conditions attached in Annexure-A.	
6	LD Clause shall be as per Clause- 2(b) of General Tender Terms & Conditions attached in Annexure-A.	
7	Risk Purchase Clause shall be as per Clause- 2(f) of General Tender Terms & Conditions attached in Annexure-A.	
8	GST No along with the HSN code should be mentioned in the Offer and the GST benefit (If any) shall be passed on to BHEL (for indigenous bidders only).	
9	Testing: Tests on the Forgings should be carried out by qualified persons only and as per the guidelines given in the TDC and Forgings shall meet all requirements (Physical properties, Chemical properties, Heat Treatment, NDE, dry and wet MPI, LPI, UT, Visual, Surface finish, etc.) of relevant standards mentioned in the TDC/Material Standards/Drawings as applicable. All testing charges shall be inclusive in price and no extra charges shall be paid. The Supplier has to give Standard Test coupon free of cost along with the main items.	
10	Any replacement shall be supplied free of charge on FOR Site basis/destination specified by BHEL.	
11	Records of supply history of the F92 Grade Material along with the Unpriced PO copy should be attached along with Techno-Commercial bid (Part-1).	
12	Repair on Forgings: All Forgings shall be supplied free of defects like forging laps, hot shortness and process variable defects like buckling, high/low hardness, improper tensile/yield strengths, etc. If any of the Forgings is found to be containing defects more than the allowable limit, the same shall be upgraded at Forge Shop itself before dispatch to BHEL with necessary documentation, enabling BHEL to make use of such forgings immediately for production. During review at BHEL Trichy, if any defects are noticed, then the Forgings will be sent back to the Supplier for rectification (in this case BHEL shall decide about the areas to be repaired). The Supplier shall complete the necessary rework and supply the good Forgings back within 10 days along with revised TC. The transport charges incurred will be to Vendor's account. If any rework is done on the Forgings by BHEL the repair charges shall be deducted from any of the running bills of the Vendor.	



BHARAT HEAVY ELECTRICALS LIMITED

TIRUCHIRAPALLI - 620014

Materials Management Valves Purchase

Ref: ENFTA18008

13	Replacement of Rejections: In case of rejection of Forgings after machining / assembly / testing due to defects more than the allowable limits or in case of a major variation in dimensions, etc. then the entire cost incurred till that stage shall be deducted from any of the running bills of the Vendor. The Forgings that are received and are not acceptable during inspection at BHEL shall be intimated through Rejection Memo or similar communication from BHEL and shall have to be lifted by the Vendor from BHEL Stores within 60 days at their own risk & cost and shall give authorization letters to their transport carriers for arranging collection of rejected forgings from BHEL Stores Department. If the material is not lifted within 60 days, BHEL will not be responsible for any loss/demurrage. BHEL reserves the discretion to levy storage charges for material not lifted within 60 days. Necessary deductions on account of such rejections shall be made from any of the running bills of the Vendor. The Vendor shall also ensure that the rejected Forgings are replaced. Corresponding quantity shall be treated as unsupplied against respective Purchase Order till replacement is received and accepted at BHEL.	
14	BHEL shall be entitled to terminate the Contract and to purchase from elsewhere at the risk and cost of the Vendor, either the whole of the goods or any part thereof which the supplier has failed to deliver or dispatch within the time stipulated as aforesaid or if the same were not available, the best and the nearest available substitute therefore. Vendor shall be liable for the losses, which BHEL may sustain by way of such risk purchase in addition to aforesaid penalty at the rate mentioned in LD clause.	
15	Force Majeure: If at any time during the continuance of the contract, the performance in which or in any part by either party of any obligations under the contract are prevented or delayed by reason of any war, hostilities, acts of public enemy, civil commotion, sabotage, fires, explosions, epidemics, quarantine restrictions, or acts of God (hereinafter referred to as "events" then provided the notice of happening of any such event is given by either party to the other within 21 days of the occurrence thereof, neither party shall by reason of such event be entitled to terminate the contract nor shall either party have any claim for damages against the other in respect of such non-performance and delay in performance and delivery under the contract shall be resumed as soon as practicable after such event has come to an end or ceased to exist. If the performance in whole or part of any obligation under the contract is prevented or delayed by reason of any such event, claims of extension of time shall be granted for periods considered reasonable by BHEL subject to prior notification by the vendor to BHEL of the particulars of the event and supply to BHEL, if required, of any supporting evidence. Any waiver of time in respect of partial shipment shall not be deemed a waiver of time in respect of remaining deliveries.	



BHARAT HEAVY ELECTRICALS LIMITED

TIRUCHIRAPALLI - 620014

Materials Management Valves Purchase

Ref: ENFTA18008

16	Tenders should be free from CORRECTIONS AND ERASURES. Corrections if any must be attested and stamped by authorized person. All amounts shall be indicated both in words as well as figures. If any difference is noted in between amount quoted in words and figures, amount quoted in words shall prevail and binding.	
17	No revision in prices will be acceptable after opening of the bids unless otherwise there is a change in the scope of supply.	
18	BHEL reserves the right to negotiate or re-float the tender in case the quoted prices are not acceptable.	
19	If any Supplier is not honouring their own quotation or any of its conditions within the validity period, the action will be taken against those suppliers in line with "Guidelines for suspension of business dealings with suppliers/contractors" .	
20	The L1 Vendor will be finalized item-wise based on the total cash out flow to BHEL against each enquiry SI No	
21	For all the supplies (Against each Heat) supplier should provide test bar of size at free of cost.	
22	The Creep requirement must be met as per TDC/SIP/CIP and as mentioned in the Tender Instructions.	

For Bill of Quantities, TDC, SIP, CIP, Drawings-please refer respective Annexures.

If any other condition which might have been mentioned by the seller in the price bid quotation which are in contravention to the terms prescribed / agreed in Techno-Commercial bid and which have not been specifically accepted by purchaser will not be applicable to contract.

NOTE: -

- It will be taken that by way of signing this document the Vendor has confirmed that all the terms and conditions stipulated in the Enquiry have been fully understood by them and all the relevant clarifications & details have been obtained.
- Your specific acceptances to BHEL Payment Terms, LD and Risk Purchase Clause are essential for consideration of your offer. Otherwise your offer is liable for rejection.
- The tender will be finalized on item-wise basis only.

Signature & Office Seal of the Vendor