

ANNEXURE- D

SL NO	MATLCD	DESCRIPTION	PRQTY	WEIGHT(MT)	TDC	TOLERANCE
10	152000081500	ID PIPE-315X95X1500-SB-167 UNS6617	3.000	3.242	TDC 125 REV 01 / TDC 437 REV 01	ID: (+0, -2.0)mm, Thickness:(+3.2, -0) mm, Length:(+50, -0)mm
20	152000082000	ID PIPE-315X95X2000-SB-167 UNS6617	2.000	2.161	TDC 125 REV 01 / TDC 437 REV 01	
30	152000085000	ID PIPE-315X95X5000-SB-167 UNS6617	15.000	16.208	TDC 125 REV 01 / TDC 437 REV 01	
40	152000091500	ID PIPE-610X38X1500-SB-167 UNS6617	3.000	2.049	TDC 125 REV 01 / TDC 437 REV 01	
50	152000095000	ID PIPE-610X38X5000-SB-167 UNS6617	15.000	10.247	TDC 125 REV 01 / TDC 437 REV 01	
60	152000102000	ID PIPE-250X76X2000-SB-167 UNS6617	2.000	1.375	TDC 125 REV 01 / TDC 437 REV 01	
70	152000112000	ID PIPE-550X137X2000-SB-167 UNS6617	2.000	5.222	TDC 125 REV 01 / TDC 437 REV 01	
80	152000121500	ID PIPE-250X137X1500-SB-167 UNS6617	3.000	4.412	TDC 125 REV 01 / TDC 437 REV 01	
90	152000222000	ID PIPE-315X152.5X2000-SB-564 UNS6617	2.000	3.956	TDC 125 REV 01 / TDC 437 REV 01	
			47.000	48.872		
100	152010012000	ID PIPE-320X150X2000-ASMESA494UNSN26625	2.000	3.912	TDC:AUSC/HWR-001 REV 00	ID: (+0, -2.0)mm, Thickness:(+3.2, -0) mm, Length:(+50, -0)mm
			2.000	3.912		
110	159511135000	ID PIPE-315X95X5000-SA312TP316	5.000	5.403	TDC: 1D1 REV 16	as per TDC
			5.000	5.403		
		G TOTAL=	54.000	58.187		

ANNEXURE - E

SI	MATLCD	DESCRIPTION	Vendor code	Vendor Name	Updated Phone No.	Updated E-mail Id, If any	PAN of the Business (along with copy of PAN Card)	GSTIN No. along with Screen shot of the GST website displaying your GSTIN Number	HSN Code
10	152000081500	ID PIPE-315X95X1500-SB-167 UNS6617							
20	152000082000	ID PIPE-315X95X2000-SB-167 UNS6617							
30	152000085000	ID PIPE-315X95X5000-SB-167 UNS6617							
40	152000091500	ID PIPE-610X38X1500-SB-167 UNS6617							
50	152000095000	ID PIPE-610X38X5000-SB-167 UNS6617							
60	152000102000	ID PIPE-250X76X2000-SB-167 UNS6617							
70	152000112000	ID PIPE-550X137X2000-SB-167 UNS6617							
80	152000121500	ID PIPE-250X137X1500-SB-167 UNS6617							
90	152000222000	ID PIPE-315X152.5X2000-SB-564 UNS6617							
100	152010012000	ID PIPE-320X150X2000-ASMESA494 UNSN26625							
110	159511135000	ID PIPE-315X95X5000-SA312TP316							

Annexure - E

Record of Revision:

Rev 00: 06/10/14: Fresh Issue

Rev 01: 10/12/14: Cl 2, 4, 5 and 9 corrected

1. Material:

Specification	:	ASME SB167 (Latest on the date of Purchase Order)
Material	:	UNS N06617
Additional Requirement	:	As listed below (Supplementary to Specification)
Size and Qty.	:	As per Purchase order

2. Chemical Composition and Process:

Material shall be produced by using vacuum induction melting (VIM) followed by vacuum arc re-melting (VAR) or electro slag refining (ESR). Any other suitable melting and re-melting process shall be used only after approval from the purchaser.

Product Analysis: As per spec. Raw materials used in making of pipes including incoming scrap shall be checked by supplier to ensure freedom from radioactivity. Pipes shall be made by seamless process/ extruded process and shall be hot worked annealed or cold work annealed.

Heat Analysis in weight %: Test method as per ASTM E1473

Element	Cr	Fe	Mn	Mo	Co	Al	C	Cu	B	Si	S	N	Ti	Ni
Wt %	21-23	1.5 max	0.3 max	8-10	11-13	0.8-1.3	0.05-0.08	0.05 max	0.002-0.005	0.3 max	0.008 max	0.05 max	0.3-0.5	Bal

3. Dimensional Tolerances & Straightness:

- OD/ID and Wall thickness tolerances as per BHEL PO and relevant Drawing.
- The Pipes shall not deviate from straightness by more than 1mm in any one shall not be more than 6mm over the entire length. A sharp bend at the end or kink and twist are not acceptable. These limitations are applicable for any given plane.

4. Heat Treatment:

UNS N06617 – solution annealed in the range 1150°C to 1175°C.

5. Mechanical Tests:

Extent of test: one sample/for each size/heat/HT batch; on final heat treated condition samples:

UNS N06617: Tensile Strength: Min 665 MPa, Yield Strength (0.2% off set): Min 240 MPa, Elongation (L=5.65√A), min 35%

Microstructure: Grain size ASTM No 2 to 5.

6. Non-destructive testing & Hydro testing: (Preferably on-line automated)

Each tube shall be examined for its integrity of full section over its entire length.

Eddy current testing: Eddy current testing shall be conducted as per ASTM E 571. 100 % area shall be inspected to ensure absence of surface and sub-surface defects.

Ultrasonic Testing: For thickness equal to and greater than 3.6 mm UT shall be conducted as per ASTM E213. Calibration: 2 axial notch (one ID & one OD) and 2 transverse notch (one ID & one OD) shall be used to standardise the system settings (to draw DAC) for circumferential scan and axial scan respectively. Notch shall be of length 50mm and depth 3% (maximum) of nominal thickness of job (Minimum depth shall be 0.3 mm). For OD less than 30mm one notch in outer surface (OD) is sufficient for calibration. The direction of scanning shall be clockwise & anti clockwise for circumferential scan to find longitudinal discontinuity and two axial direction for axial scanning to find transverse discontinuity. Scanning shall be done with scanning sensitivity of reference level plus 6 dB. Evaluation shall be carried out with reference sensitivity.

Acceptance criteria: Any discontinuity crossing the DAC shall not be acceptable irrespective of length. Any discontinuity with indication less than DAC shall be sized and if the length of discontinuity is greater than 10 mm it shall not be acceptable. All indications shall be sized and reported.

Hydro testing: Extent of test: On all pipes as per ASME SB 829 Cl 5.2 with S = 163MPa.

7. Workmanship and Finish:

The Inside & outside surfaces of the pipes shall be free from any imperfections. The material shall be plain, uniform in quality and condition, smooth, straight or flat and free of wrinkles, overlaps, tears, cracks & defects like laps, seams, folds, cracks, pitting etc. Localised imperfections, if any, may be removed by skin machining only to a surface finish of ≤ 6.3 microns ensuring the wall thickness, inside and outside diameter. Local depressions or ground spots are not acceptable. No repairs/weld repairs permitted. Pipes (inside & outside) to be clean & shot blasted to remove scales after HT.

8. Marking & Packing:

Details to be identified: On Each Pipe 1) Heat number 2) Specification & grade 3) Size 4) Maker's emblem/code, 5) No. of pipes 6) Inspector's seal.

- i) Upto OD 31.8 (Excl.) – SI.No: 1 to 7 to be stamped on metal or plastic tag attached to bundle.
- ii) OD 31.8 to OD 76.1 (Incl.) – SI.No:1 to 5, 7 to be paint stencilled on each pipe, 1 to 7 to be stamped on metal or plastic tag attached to bundle.
- iii) OD > 76.1- SI.No: 2,3,4,5 & 7 to be hard stamped with round edged stamp at 100mm from an end of each pipe and 1 to 5 to be paint stencilled on each pipe.

9. Inspection & Certification:

- a) Products shall be inspected at works and the applicable IBR Form must be Countersigned by the Inspecting Authority as indicated below:
- b) Imported Items: Inspecting Authority approved by IBR for the Country of origin (To be concurred by BHEL before placing PO). Indigenously Supplied items: Boiler Inspectorate/Directorate of respective State.
- c) Certification in IBR Form-IIID (Annexure – I) for IBR items from “IBR-Well Known Pipe Maker” and for Others IBR Form-IIIA (Annexure – II) as per enclosed format to be submitted.
- d) Manufacturer's Test certificate (MTC) (ORIGINAL in ENGLISH with following details):
 - i) Purchase Order No. (BHEL), TDC No. & Test certificate No., Size and Quantity-Melt wise.
 - ii) Specification and Grade with year of code, Code case number, Heat Number, Steel & Pipe making process, chemistry including incidental elements-Ladle and product Analysis.
 - iii) Supplier TC of the steel used in making the finished product – Well known steel maker IBR Form IV & others Form IVA.
 - iv) Details of steel ingot, Melting & forming process, Chemistry including incidental elements – Heat wise.
 - v) Heat treatment details of the material and test bars, Mechanical test results with reference & acceptance standard.
 - vi) NDE examination test results with reference & acceptance standard.
 - vii) Results of dimensional data sheet
- e) Survey meter shall be used to measure radioactive contamination at 5cm near the surface. Acceptance limits: Shall be less than 0.1 milli Rontgen (MR) per hr or 1 micro Sievert per hr. The Measured Radioactivity levels shall be reported in the Mill Test Certificate. (Not to be recorded in IBR Form).

All the tests specified here shall be carried out at works and the test results shall be furnished in the test certificates (4 copies). The bars shall be inspected and certified by the inspecting agency authorised by BHEL, wherever specified in the purchase order.

f) Quality Plan:

Before start of production the manufacturer shall submit a Manufacturing and Inspection plan (MIP) to BHEL product QA for approval. The MIP shall constitute of:

- | | | |
|---|--|---|
| i) melting & refining, | vi) internal tests and inspection before final heat treatment, | xi) marking preservation and dispatch, |
| ii) ingot weight and type, | vii) quality heat treatment along with parameters, | xii) test instructions for NDE examinations along with sketches |
| iii) hot rolling/extrusion process | ix) test and inspections after heat treatment | xiii) type of machining and examinations. |
| iv) top bottom end discard percentages, | x), test certificate requirements, | |
| v) position of the part in ingot, | | |
| vi) preliminary heat treatment, | | |

g) 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 are liable for rejection.

h) End Use

To be used in pipes of boilers and headers for Advanced Ultra-Super Critical (AUSC) boiler applications.

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Prepared by	Reviewed by			Approved by

Record of Revision:

Rcv 00: 06/10/14: Fresh Issue

Rev 01: 10/12/14: Cl 2, 4, 5, 6 and 9 corrected

1. Material:

Specification : ASME SB564 (Latest on the date of Purchase Order)
 Material : UNS N06617
 Additional Requirement : As listed below (Supplementary to Specification)
 Size and Qty. : As per Purchase order

2. Chemical Composition and Process:

Material shall be produced by using vacuum induction melting (VIM) followed by vacuum arc re-melting (VAR) or electro slag refining (ESR). Any other suitable melting and re-melting process shall be used only after approval from the purchaser.

Forged bar shall be ensured for uniform structure & strength with reduction ratio in area: 3:1 min. from ingot to finished forging. Forgings shall be manufactured as close to the final shape as possible.

Product Analysis: As per spec

Heat Analysis in weight %: Test method as per ASTM E1473

Element	Cr	Fe	Mn	Mo	Co	Al	C	Cu	B	Si	S	N	Ti	Ni
Wt %	21-23	1.5 max	0.3 max	8-10	11-13	0.8-1.3	0.05-0.08	0.05 max	0.002-0.005	0.3 max	0.008 max	0.05 max	0.3-0.5	Bal.

Raw materials used in making of forged bars including incoming scrap shall be checked by supplier to ensure freedom from radioactivity.

3. Dimensions and Tolerances:

- Dimensions and tolerances: As per BHEL purchase order and relevant drawings.
- The forged pipes shall not deviate from straightness by more than 1mm in any one shall not be more than 6mm over the entire length. A sharp bend at the end or kink and twist are not acceptable. These limitations are applicable for any given plane

4. Heat Treatment on Forging:

UNS N06617 – solution annealed in the range 1150°C to 1175°C.

5. Mechanical Tests:

Extent of test: one sample/for each size/heat/HT hatch; on final heat treated condition samples:

UNS N06617: Tensile Strength: Min 655 MPa, Yield Strength (0.2% off set): Min 241 MPa, Elongation ($L=5.65\sqrt{A}$), min 35%

Macrostructure: Grain size ASTM No 2 to 5.

6. Non-destructive testing & Hydro testing:

UT: 100% for all diameters. Notch depth 3% of max thickness. Testing method and acceptance shall be as per supplementary requirement in ASME SB-564.

Reference hole as per table: UT testing reference hole for inspection in radial direction		
Dia of forging, mm	Dia of ref flat bottom hole, mm	Remarks
$D \leq 150$	3.2	
$150 < D \leq 400$	6.4	
$400 < D \leq 600$	6.4	
$600 < D \leq 1200$	6.4	1. Sensitivity of 6.4mm hole shall be ensured at 600mm depth and the scan should be carried out from throughout the circumference to cover the complete diameter. 2. Dual element transducer shall be used to inspect the near surface areas within the dead zone of the single element transducer used for inspection as described in point 1.

LPI: 100% - test method & acceptance as per supplementary requirements in ASME SB-564.

All the chemicals used for LPI shall meet the requirement that total halogen and sulphur of each material shall not exceed 1% by weight of residue. Recommended for NP grade (nuclear purpose) LPI consumables.

Hydro: On all pipes as per B 829 Cl 5.2 with $S = 163\text{MPa}$.

7. Workmanship and Finish:

The Inside & outside surfaces shall be free from any imperfections. The material shall be plain, uniform in quality and condition, smooth, straight or flat and free of wrinkles, overlaps, tears, cracks, seams, folds, pitting etc. Localised imperfections, if any, may be removed by skin machining only to a surface finish of ≤ 6.3 microns ensuring the wall thickness. Local depressions or ground spots are not acceptable. Loose scales shall be removed by blast cleaning in surfaces after heat treatment. No repairs/weld repairs permitted.

BHEL Trichy-14	Quality Assurance	Technical Delivery Conditions
Product: Forgings/Forged pipes of UNS N06617 (SB564) for Advanced Ultra Super Critical (AUSC) Boilers & Valves		
Document No. TDC: 0:437	Rev.No.01	Effective Date: 10/12/2014
		Page 2 of 2

8. Marking & Packing:

Details of stamping on front face of each item with low stress stamps and border by oil paint: (1) Heat number, (2) Specification & grade, (3) Size, (4) Maker's emblem/code, (5) Identification details as per drawing. Work inspectors stamp next to heat number. The Forgings are to be properly packed and despatched to avoid damage during transit.

9. Inspection & Certification:

The inspection and tests to be witnessed by an IBR approved inspecting agency, in case the Forge shop is not recognised as a "Well known Forger" under IBR.

IBR Form IIIG countersigned by applicable inspection agency and Test certificate with following details, shall accompany the product (including proof machined). Well known Forger shall provide IBR Form IIIF and Test certificate with following details, shall accompany the product (including proof machined). Also Manufacturer Test Certificate shall be provided with the following details: -

1. Purchase Order No. (BHEL), TDC No. & Test certificate number.
2. Specification, Grade with applicable year of code, Heat Number, Drawing No., Quantity & Size
3. Supplier TC of the steel used in making the finished product - Well known steel maker IBR Form IV & others Form IVA.
4. Details of steel ingot, Melting & forging process, Chemistry including incidental elements - Heat wise.
5. Heat treatment details of the material and test bars, Mechanical test results with reference & acceptance standard.
6. NDE examination test results with reference & acceptance standard.
7. Results of dimensional data sheet

Survey meter shall be used to measure radioactive contamination at 5cm near the surface. Acceptance limits: Shall be less than 0.1 milli Rontgen (MR) per hr or 1 micro Sievert per hr. The Measured Radioactivity levels shall be reported in the Mill Test Certificate. (Not to be recorded in IBR Form).

All the tests specified here shall be carried out at works and the test results shall be furnished in the test certificates (4 copies). The bars shall be inspected and certified by the inspecting agency authorised by BHEL, wherever specified in the purchase order.

10. Quality Plan:

Before start of production the manufacturer shall submit a Manufacturing and Inspection plan (MIP) to BHEL product QA for approval. The MIP shall constitute of:

- | | | |
|---|--|--|
| i) melting & refining, | vii) preliminary heat treatment, | xii) marking preservation and dispatch, |
| ii) ingot weight and type, | viii) internal tests and inspection before final heat treatment, | xiii) test instructions for NDE examinations along with sketches |
| iii) forging process, press rating, | ix) quality heat treatment along with parameters, | xiv) type of machining and examinations. |
| iv) top bottom end discard percentages, | x) test and inspections after heat treatment, | |
| v) position of the part in ingot, | xi) test certificate requirements, | |
| vi) sketch of the forging process and its forging ratios, | | |

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 are liable for rejection.

12. End Use

To be used in forgings for Advanced Ultra-Super Critical (AUSC) boiler applications.

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Prepared by	Reviewed by			Approved by

TECHNICAL SPECIFICATIONS FOR THE SUPPLY OF CAST ALLOY PIPE WITH NICKEL ALLOY 625 MATERIAL

1. Material:

Specification : ASME SA494
(Latest on the date of Purchase Order)
Material : UNS N26625
Additional Requirement : As listed below (Supplementary to Specification)
Size and Qty. : As per Purchase Order

2. Chemical Composition and Process:

Material shall be produced by using Electric Arc Furnace (EAF) or Induction Furnace followed by Argon Oxygen Decarburization Process(AOD). Any other suitable melting and re-melting process shall be used only after approval from the purchaser.

Product Analysis: As per spec

Heat Analysis in weight %: Test method as per ASTM E1473 or Test Methods E 354

Element	C	S	Cr	Fe	Mn	Mo	Si	Nb	Al	Ti	N	Ni
Weight by %age	0.06 max	0.015 max	20 to 23	5.0 max	1.0 max	8 to 10	1.0 max	3.15 to 4.5	0.2 max	0.2 max	0.05 max	Bal.

The Al & Ti percentage in the composition shall be in the range of +/- 0.02 of the value specified.

Raw materials used in making of casting including incoming scrap shall be checked by supplier to ensure freedom from radioactivity.

3. Dimensions and Tolerances:

- Dimensions and tolerances: As per BHEL purchase order and relevant drawings.
- The centrifugally cast pipes shall not deviate from straightness by more than 1mm in a length of ONE Metre and shall not be more than 6 mm over the entire length of pipe. A sharp bend at the end or kink and twist are also not acceptable. These limitations are applicable for any given plane

4. Heat Treatment of Cast Pipe :

UNS N26625- The material shall be heated to 1175° C [2150°F] minimum, hold for sufficient time to heat casting to temperature, quench in water or rapid cool by other means. Vendor may refer Table 2 of SA 494.

5. Mechanical Tests:

Extent of test: one sample/for each size/heat/HT batch ;

on final heat treated condition samples:

UNS N26625: 0.2% Yields strength: ≥ 275 N/mm², Tensile strength: ≥ 485 N/mm²,
Elongation: $\geq 25\%$

Tensile strength at 600 Deg C, 650 Deg C , 700 Deg C and 725 DegC - for information only



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6. Non-destructive testing & Hydro Testing :

The Casting shall be inspected by Liquid Penetrant method and Radiography.

100% Radiographic examination shall be as per ASTM E94 and acceptance to Level 2 as per ASTM E446/186/280.

Liquid Penetrant Examination on the surface as per ASTM E165/AA0850131 acceptance AA0850132 - Level I

Linear accelerator shall be used for the X-ray evaluation of the heavier section Ni alloys castings. The density and grain size of the Ni alloy requires at least three (3) times longer exposure times compared to the equivalent steel castings.

The details given in Appendix 7 of ASME section VIII Division 1 shall form the basis as applicable for critical castings. The Appendix, though applicable for steel castings is also applied for Inconel 625

Hydro-Testing : On all pipes as per B 829 Cl 5.2 with S = 163MPa.

7. Workmanship and Finish :

The Inside & outside surfaces shall be free from any imperfections. Cleaning may be accomplished by blasting with clean sand or metallic corrosion-resistant shot or by other approved methods. The material shall be plain, uniform in quality and condition, smooth, straight or flat and free of wrinkles, overlaps, tears, cracks, seams, folds, pitting etc.

Localised imperfections, if any, may be removed by skin machining only to a surface finish of ≤ 6.3 microns ensuring the wall thickness. Local depressions or ground spots are not acceptable. Loose scales shall be removed by blast cleaning in surfaces after heat treatment. No repairs/weld repairs permitted.

8. Repair by Welding

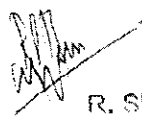
Repairs shall be made by using a welding procedure and operators capable of producing sound welds. The composition of deposited weld metal shall be similar to that of the castings (AWS A5.14 ER NiCrMo3 or AWS A5.11 E NiCrMo3).

Weld repairs shall be considered major in the case of a casting that has leaked on hydrostatic test or when the depth of the cavity after preparation for repair exceeds 20% of the actual wall thickness, or 1 in. (25 mm), whichever is smaller, or when the extent of the cavity exceeds approximately 10 in.2 (65 cm2).

All other weld repairs shall be considered minor. Major and minor weld repairs shall be subject to the same quality standards as are used to inspect the castings.

9. Marking & Packing:

Details of stamping on front face of each item with low stress stamps and border by oil paint: (1) Heat number, (2) Specification & grade, (3) Size, (4) Maker's emblem/code, (5) Identification details as per drawing. Work inspectors stamp next to heat number. The Cast Alloy Pipes are to be properly packed and despatched to avoid damage during transit.



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10. Inspection & Certification:

11.

The inspection and tests to be witnessed by an IBR approved inspecting agency, in case the Foundry Shop is not recognised as a "Well known Foundry" under IBR.

IBR Form IIIG countersigned by applicable inspection agency and Test certificate with following details, shall accompany the product (including proof machined).

Well known Cast Alloy Pipe Supplier shall provide IBR Form IIIF and Test certificate with following details, shall accompany the product (including proof machined). Also

Manufacturer Test Certificate shall be provided with the following details: -

1. Purchase Order No. (BHEL), TDC No. & Test certificate number.
2. Specification, Grade with applicable year of code, Heat Number, Drawing No., Quantity & Size
3. Supplier TC of the steel used in making the finished product – Well known steel maker IBR Form IV & others Form IVA.
4. Details of steel ingot, Melting & casting process, Chemistry including incidental elements - Heat wise.
5. Heat treatment details of the material and test bars, Mechanical test results with reference & acceptance standard.
6. NDE examination test results with reference & acceptance standard.
7. Results of dimensional data sheet

Survey meter shall be used to measure radioactive contamination at 5cm near the surface. Acceptance limits: Shall be less than 0.1 milli Rontgen (MR) per hr or 1 micro Sievert per hr. The Measured Radioactivity levels shall be reported in the Mill Test Certificate. (Not to be recorded in IBR Form).

All the tests specified here shall be carried out at works and the test results shall be furnished in the test certificates (4 copies). The bars shall be inspected and certified by the inspecting agency authorised by BHEL, wherever specified in the purchase order.

12. Quality Plan:

Before start of production the manufacturer shall submit a Manufacturing and Inspection Plan (MIP) to **BHEL** for approval.

The MIP shall constitute of:

- i) melting & refining,
- ii) ingot weight and type,
- iii) casting process
- iv) discard percentages,
- v) preliminary heat treatment,
- vi) internal tests and inspection before final heat treatment,
- vii) quality heat treatment along with parameters,
- viii) test and inspections after heat treatment,
- ix) test certificate requirements,
- x) marking preservation and dispatch,
- xi) test instructions for NDE examinations along with sketches
- xii) type of machining and examinations

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13. 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 are liable for rejection.

14. End Use

To be used in castings for Coal Fired Thermal Power Plant operating at Temperature above 720 Deg C and steam pressure around 320 kgf/sq.cm .



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	BHEL – Tiruchirappalli - 620014, India. Quality Assurance Department TECHNICAL DELIVERY CONDITIONS	Doc No: TDC:0:101 Rev No: 16 Effective Date: 18/08/2015 Page: 1 of 2
Product: Seamless Steel Pipes (for Boiler And Piping)		

Record of Revision:

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Rev 09: 15/02/03:CI.3.0 revised

Rev 10: 27/01/04 CI.8 Hydraulic test removed, further clauses renumbered, Annexures introduced for CI.11. In CI.2 limits for carbon in Gr C modified. In CI. 4 normalizing made mandatory for all pipes of Gr C & Gr B meant for fitting. In CI.5.0 test coupon for pipes meant for fittings removed.

Rev 11: 28/12/07 CI 1, P92 included.P2, P5, P9, 304L, 321 Deleted.CI.4, 10, 11, modified.

Rev 12: 29/07/10 CI 1, P91, P92 Deleted and included in TDC 0123; CI: 4, 5, 7, 8, 10, 11 modified.

Rev 13: 28/10/12 CI 2, 6 & 11 modified for SS material

Rev 14: 29/12/12 CI 4 – Heat treatment for CS modified. CI 6 – corrected.

Rev 15: 28/11/13 TDC 123 Rev 00 and TDG 32 Rev 03 merged with TDC 101 Rev 15 & Product description modified. CI 3 added. CI 5, CI 8, CI12 modified. SA335 Gr 91, 92 included (CI 1) and subsequent dimensional tolerance (CI 3), heat treatment (CI 5), mechanical testing (CI 6), and photomicrograph (CI 7 III) added. SA335 Gr 23 removed from TDC 123 Rev 00

Rev 16: CI 3– OD & ID tolerance revised, CI 5– temperature for Gr 91, 92 modified, CI 6 – mechanical test values changed in-line with ALSTOM purchase specification, CI 7 – PMI magnification & frequency clarified, CI 9&11 – modified, CI 12-changed as per latest IBR.

1. MATERIAL:

Specification	: ASME (Latest on the date of Purchase Order (PO)):
Carbon Steel (CS)	: SA106 Gr B & C
Alloy Steel (AS)	: SA 335 Gr P11, P12, P22, P91 & P92 (Code Case: 2179)
Stainless Steel (SS)	: SA 312 Gr TP 316, TP 316L
Additional requirement	: As listed below (Supplementary to Specification).
Pipe Size and Qty	: As per PO

2. CHEMICAL COMPOSITION:

- i) Ladle and Product Analysis:

SA 106 Gr B:	Carbon: 0.25% Max.
SA 106 Gr C:	Thickness <=20mm Carbon: 0.25 Max.
	Thickness > 20mm Carbon: 0.30 Max.
SA335 GrP92:	Si: 0.10-0.50%; Ni: 0.30max and Cu: 0.25max
- ii) All raw materials used in steel making including Incoming scrap shall be checked by supplier to ensure freedom from radioactivity (Applicable for SS material only).

3. DIMENSIONAL TOLERANCES:

- i) SA335 Gr P91, P92: For outside diameter (OD) controlled Pipes the tolerance on OD shall be: $\pm 1\%$ (Max: 4mm) of Nominal OD.
- ii) Other than SA335 Gr P91, P92: For outside diameter (OD) controlled Pipes the tolerance on OD shall be: $\pm 1\%$ (Max: 6mm) of nominal OD.
- iii) ID specified pipes are specified by the maximum internal diameter and minimum wall thickness. The tolerance if not specified in the PO shall be ID: +0.0mm, -3.2mm & Thickness: +6.4mm, -0.0mm
 Weight per metre: +10%, -5% on nominal weight **
 ** Nominal weight of ID pipe per metre shall be calculated as follows,
 $W_{nom} = (ID_{nom} + t_{nom}) * t_{nom} * 0.02466 \text{ kg/metre}$, where
 $ID_{nom} = ID_{max} - 1.6\text{mm}$; $t_{nom} = t_{min} + 3.2\text{mm}$

4. STRAIGHTNESS:

The Pipes shall not deviate from straightness by more than 1mm in any one meter and shall not be more than 6mm over the entire length. A sharp bend at the end or kink and twist are not acceptable. These limitations are applicable for any given plane.

5. HEAT TREATMENT:

The heat treatment temperatures and soaking time shall be reported in the test certificate.

5.1 CS: Hot Finished: OD $\leq 76.1\text{mm}$ no heat treatment required. OD > 76.1mm shall be in Normalised condition.

CS: Cold Finished: All sizes – In sub critical annealed, fully annealed or in Normalised condition.

5.2 AS: All sizes – SA335 Gr P11, P12 & P22 – Either in Normalised and tempered or Isothermal Annealed condition.

5.3 AS: All sizes – SA335 Gr P91 & P92: All pipes Normalised as per specification and Tempered between 750-780°C.

5.4 SS: All sizes – Solution Annealed condition as per specification.

6. MECHANICAL TESTS:

As per specification. Quantum of test: As per specification – For each nominal size per heat per heat treatment batch. (Minimum 2 pipes for first 100 pipes and 1 per 100 or part thereof for pipes over 100 numbers, as per IBR). For alloy steel pipes meant for fitting (As indicated in the Purchase order), test coupon shall be in normalised and tempered condition.

P91- Ts: Min: 630MPa, Max: 850MPa; Ys: (0.2% offset): 450MPa Min; Hardness (HB): Min: 195 Max: 250

P92- Ts: Min: 630MPa, Max: 850MPa; Hardness (HB): Min: 190 Max: 250

P91, P92 hardness shall be checked on each pipe and values reported in MTC.

	BHEL - Tiruchirappalli - 620014, India. Quality Assurance Department TECHNICAL DELIVERY CONDITIONS	Doc No: TDC:0:101 Rev No: 16 Effective Date: 18/08/2015 Page: 2 of 2
Product: Seamless Steel Pipes (for Boiler And Piping)		

7. NON DESTRUCTIVE TEST:

i) ULTRASONIC TEST : ASTM E213

Calibration: Axial 50 mm long V or Square notch, one in OD and the other in ID. Depth: 5% of Max. Thickness (min of 0.3 mm. max: 1.5mm).

For ID < 16mm one notch in OD is enough. Scanning: Clockwise and Anti clockwise.

ii) SS: Finishad pipes shall be checked for radioactive contamination and reported. Survey meter shall be used to measure at 5cm near the surface.

Acceptance limits: Shall be less than 0.1 milli Rontgen (MR) per hr or 1 micro Sievert per hr.

iii) Photomicrograph test for P91 & P92 pipes - Photomicrograph test shall be carried out from a specimen of pipe in the as finished condition for individual size (OD and wall thickness) per heat per heat treatment batch. Acceptance norms - The Material shall be free from any micro fissures. Microstructure shall show tempered martensite and also to be examined for any grain growth and delta ferrite (to be maintained within 3% for Gr92 and within 2% for Gr91 when measured as per VD TUV 1272). Photomicrograph with 400x (Min) magnification along with Photomicrograph report to be provided. The actual magnification and structure shall be indicated in the report.

8. FINISH AND REPAIR:

The Inside & outside surfaces of the pipes shall be free from any imperfections & defects like laps, seams, folds, cracks, pitting etc. Localised imperfections, if any, may be removed by skin machining only to a surface finish of ≤ 6.3 microns ensuring the wall thickness, inside and outside diameter. Local depressions or ground spots are not acceptable. Loose scales shall be removed by blast cleaning in both inside and outside surface. Repair by welding is prohibited.

9. MARKING:

Details to be Identified: On Each Pipe 1) PO. Number 2) Maker's emblem/code 3) Specification & grade (& code case for P92) 4) Heat number 5) Size 6) No. of pipes 7) Inspector's seal.

i) Upto OD 31.8 (Excl.) - SI.No: 1 to 7 to be stamped on metal or plastic tag attached to bundle.

ii) OD 31.8 to OD 76.1 (Incl.) - SI.No: 1 to 5, 7 to be paint stenciled on each pipe, 1 to 7 to be stamped on metal or plastic tag attached to bundle.

iii) OD > 76.1 - SI.No: 2, 3, 4, 5 & 7 to be hard stamped with round edged stamp at 100mm from an end of each pipe and 1 to 5 to be paint stenciled on each pipe.

iv) Colour Coding: Longitudinal colour bands on the entire length of all pipes: As per the procedure SIP:PP:21 (latest).

10. PRESERVATION:

All pipes except SS shall be applied with resin type rust preventive coating with visibility to stenciled details on outside and either with rust Preventive coating or rust inhibitor inside. Thick Black coating which camouflages the Surface of the pipes is not permitted. SS pipes to be surface treated as per ASTM A380 both inside and outside. Ends to be closed with end caps for secured storage.

11. PACKING:

1) Thickness ≤ 2.5 mm in boxes. 2) OD ≤ 159 mm in bundles. Others in loose condition.

Pipe bundles to be < 4 tons of equal no. of pipes, fastened with galvanised strap/ anti-rust coated (1x25mm.min.) for Carbon Steel & Alloy Steel and by Nylon strap for Stainless Steel at 2 ends & at 1m interval. Wooden pallets to cover pipes are not permitted.

12. INSPECTION AND CERTIFICATION (In English Only):

a) Products shall be inspected at works and the applicable IBR Form must be Countersigned by the Inspecting Authority as indicated below:

b) Imported Items: Inspecting Authority approved by IBR for the Country of origin (To be concurred by BHEL before placing PO). Indigenously Supplied Items: Director/Chief Inspector of Boilers of respective State.

c) Certification in IBR Form III-A for IBR items from "IBR-Well Known Pipe Maker" or "Inspecting Authority", as applicable, to be submitted.

d) Manufacturer's Test certificate (MTC) (ORIGINAL in ENGLISH) with following details:

i) Purchase Order No. (BHEL), TDC No. & Test certificate No., Size and Quantity-Melt wise.

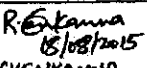
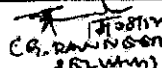
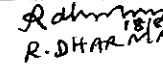
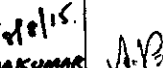
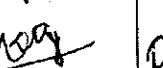
ii) Specification and Grade with year of code, Code case number (for P92), Heat Number, Steel & Pipe making process, chemistry including incidental elements-Ladle and product Analysis.

iii) Heat Treatment details with actual temperature and soaking time, Mechanical test Results.

iv) For P91, P92 supplies - the Photomicrograph test report along with photomicrograph with 400x (min) magnification shall be furnished.

v) Detailed N.D.E. report with reference norms, Acceptance standards and test results.

e) For SS: Measured Radioactivity levels shall be reported in the Mill Test Certificate. (Not to be recorded in IBR Form)

 R. Venkanna (VENKANNA RUPANE) QA	 C. G. RANGANATHAN QA	 R. DHARMAR QC	 M. NANDANAKUMAR MM	 A. PRASAD QA/PC, Chennai	 R. SANKARANARAYANAN QA
Prepared By	Reviewed by				Approved By

BHARAT HEAVY ELECTRICALS LIMITEDMM/RM/PURCHASE/PIPES
BHEL / TRICHY-620 014.**ANNEXURE-B**

OT/ ENQ NO- 1201700014

Enquiry Terms & Conditions for Supply of Seamless INCONEL & SS Pipes

Note: This Annexure has to be mandatorily filled & signed by the manufacturer (or) mill and submitted along with Technical bid.

Any deviation to the below mentioned terms shall be stated specifically in the comments column for each term and also in case of acceptance to our terms, it will be construed that the whole term is understood and agreed in totality without any deviation. (If otherwise mentioned).

Sl No	BHEL Requirements	Supplier Comments
01.	<u>Material specification:</u> Supply shall be made strictly as per Specifications mentioned in the enquiry.	
02.	<u>Specification, Size & Quantity:</u> a) Specification, size and quantity shall be as given in enquiry. b) All pipes are to be supplied fully meeting the TDC as indicated in Annexure- D. c) If there is any deviation, the same should be mentioned clearly with the specific clause no. of the TDC/TDG and the deviation against it in the e- procurement offer itself. d) All pipes are to be stenciled and colour coded, longitudinally and continuously throughout the length of the pipe with specific details as listed out in the above respective TDCs and the SIPPP 21 Rev 07. e) All pipes are to be supplied to the specific length detailed in the description. Any deviation in length has to be indicated in the offer itself. Supplier shall indicate the place of manufacture & mill name in the offer.	
03.	<u>Pre-Qualification requirements (PQR) for the procurement of Seamless ALLOY ASMESA494 UNS N26625 pipes</u> <u>A) Organizational Capability:</u> 1. Manufacturers of Nickel based alloy pipes through casting (preferably for high temperature service) conforming to National / International standards and having foundry are only eligible to participate. Offer from traders and stockist are not acceptable and will not be considered for evaluation. Vendor to indicate the nature of the firm. 2. Suppliers without basic manufacturing facilities in-house, shall not be considered for evaluation. In house facilities for hot forming, Heat treatment & Non-Destructive Testing are mandatory requirements for consideration of the offer. Heat treatment furnace calibration certificate issued by government approved agency along with procedure for calibration shall be submitted. 3. If the supplier is not having nickel alloy melting facility, then source of raw material shall be informed. The nickel alloy manufacturer shall be from IBR approved well known maker or certified by IBR approved inspecting authority. If the supplier is dependent on more than one source for nickel alloy making, all the sources should be indicated, and the supplies should be restricted to the indicated list of raw material suppliers. For the submitted raw material sources, the supplier shall confirm the raw material test certificate/s along with product test certificate/s approved by IBR shall be furnished. 4. Chemical, Mechanical testing shall be done in-house or at Labs certified as per ISO 17025 or Government approved labs. 5. Suppliers shall submit a valid ISO 9001 certificate or Quality management system certificate or Written down procedure. 6. Suppliers shall submit filled in supplier facility report (format attached). 7. BHEL reserves the right to visit supplier works to audit & inspect to ensure the capability for technical evaluation. 8. BHEL reserves the right to inspect the item ordered at any stage at vendor's works and if found not meeting the stipulated conditions, material is liable for rejection. 9. BHEL reserves the right to inspect the first lot of materials at vendor's works for giving clearance before bulk production.	

B) Technical Competence:

1. Point by point confirmation to the TDC requirements is mandatory for consideration of offer.
2. Suppliers shall submit the list of facilities available at the mill (Raw material to finished product), manufacturing process flow chart & manufacturing quality plan to meet the TDC requirements along with technical bid.
3. Suppliers shall submit the experienced manpower details specific to Manufacturing, Quality and NDE requirements.
4. Suppliers has to give BHEL the calibration block used for ultrasonic testing of pipes along with the main pipe.
5. Manufacturer's test certificates (MTC), RT, LPI and hydro test reports as per TDC requirement to be submitted for BHEL approval before dispatch.

C) Past Experience/Performance

1. Suppliers shall indicate their annual installed capacity for the tendered specification and it shall be more than the tendered quantity in this specification.
2. Suppliers shall have supplied pipes to the tendered specification or a similar specification (subject to BHEL discretion). Details of supplies made in recent past detailing the quantity, Specification, size & customer details, year wise along with the unpriced PO copies, proof of supply (such as invoice / bill of lading copies and sample test certificates) covering minimum and maximum sizes for the tendered specifications shall be submitted.

D) Financial Soundness:

1. Indigenous suppliers shall submit Audited copies of annual reports/complete set of annual accounts for the last four years (or from date of incorporation whichever is less).
2. Import suppliers shall submit latest D&B report.

Necessary supporting documents shall be submitted for meeting each of the above Pre-Qualification Criteria for evaluation of the offers.

BHEL reserves the right to consider/Not-consider the offers based on the evaluation of documents submitted for the above Pre-Qualification Criteria. BHEL also reserves the right to have on-site assessment of the facilities at supplier's works during the bid evaluation.

04. **Pre-Qualification requirements (PQR) for the procurement of Seamless ALLOY UNS6617 pipes**

A) Organizational Capability:

1. Manufacturers of seamless Nickel based alloy pipes (preferably for high temperature service) conforming to National / International standards having Seamless Pipe manufacturing unit/Forge shop are only eligible to participate. Offer from traders, re-rollers, fabricators and stockist are not acceptable and will not be considered for evaluation. Vendor to indicate the nature of the firm.
2. Suppliers without basic manufacturing facilities in-house, shall not be considered for evaluation. In house facilities for hot forming, Heat treatment & Non-Destructive Testing are mandatory requirements for consideration of the offer. Heat treatment furnace calibration certificate issued by government approved agency along with procedure for calibration shall be submitted.
3. If the supplier is not having nickel alloy melting facility, then source of raw material shall be informed. The nickel alloy manufacturer shall be from IBR approved well known maker or certified by IBR approved inspecting authority. If the supplier is dependent on more than one source for nickel alloy making, all the sources should be indicated and the supplies should be restricted to the indicated list of raw material suppliers. For the submitted raw material sources, the supplier shall confirm that the raw material test certificate/s will be furnished along with product test certificate/s.
4. Chemical, Mechanical testing shall be done in-house or at Labs certified as per ISO 17025 or Government approved labs.
5. Suppliers shall submit a valid ISO 9001 certificate or Quality management system certificate or Written down procedure.
6. Suppliers shall submit filled in supplier facility report (format attached).
7. BHEL reserves the right to visit supplier works to audit & inspect to ensure the capability for technical evaluation.

8. BHEL reserves the right to inspect the item ordered at any stage at vendor's works and if found not meeting the stipulated conditions, material is liable for rejection.
9. BHEL reserves the right to inspect the first lot of materials at vendor's works for giving clearance before bulk production.

B) Technical Competence:

1. Point by point confirmation to the TDC requirements is mandatory for consideration of offer.
2. Suppliers shall submit the list of facilities available at the mill (Raw material to finished product), manufacturing process flow chart & manufacturing quality plan to meet the TDC requirements along with the technical bid.
3. Suppliers shall submit the experienced manpower details specific to Manufacturing, Quality and NDE requirements.
4. Suppliers has to give BHEL the calibration block used for ultrasonic testing of pipes along with the main pipe.
5. Manufacturer's test certificates (MTC), Ultrasonic test report and hydro test report as per TDC requirement to be submitted for BHEL approval before dispatch.

C) Past Experience/ Performance

1. Suppliers shall indicate their annual installed capacity for the tendered specification & it shall be more than the tendered quantity in this specification.
2. Suppliers shall have supplied pipes to the tendered specification or a similar specification (subject to BHEL discretion). Details of supplies made in recent past detailing the quantity, Specification, size & customer details, year wise along with the unpriced PO copies, proof of supply (such as invoice / bill of lading copies and sample test certificates) covering minimum and maximum sizes for the tendered specification shall be submitted.
3. Suppliers shall have supplied at least **25 Metric Tonne** of any Nickel alloys pipes where Nickel percentage should be more than **40%** as on the date of tender release.
4. Suppliers should have previous experience in making any Nickel alloy pipes with thickness more than 30mm for pipe.

D) Financial Soundness:

1. Indigenous suppliers shall submit Audited copies of annual reports/complete set of annual accounts for the last four years (or from date of incorporation whichever is less).
2. Import suppliers shall submit latest D&B report.

Necessary supporting documents shall be submitted for meeting each of the above Pre-Qualification Criteria for evaluation of the offers.

BHEL reserves the right to consider/Not-consider the offers based on the evaluation of documents submitted for the above Pre-Qualification Criteria. BHEL also reserves the right to have on-site assessment of the facilities at supplier's works during the bid evaluation.

05 Pre-Qualification requirements (PQR) for the procurement of Seamless SA312TP316 pipes

A) Organizational Capability:

1. Manufacturers of Seamless stainless steel pipes (preferably for high temperature service) conforming to National / International standards having Seamless Pipe manufacturing unit are only eligible to participate. Differ from traders, re-rollers, fabricators and stockist are not acceptable and will not be considered for evaluation. Vendor to indicate the nature of the firm.
2. Suppliers without basic manufacturing facilities in-house, shall not be considered for evaluation. In house facilities for Heat treatment & Non-Destructive Testing are mandatory requirements for consideration of the offer. Heat treatment furnace calibration certificate issued by government approved agency along with procedure for calibration shall be submitted.
3. If the supplier is not having stainless steel melting facility then source of raw material for the manufacturing shall be from IBR approved well known maker or certified by IBR approved inspecting authority. If the supplier is dependent on more than one source for stainless steel making, all the sources should be indicated and the supplies should be restricted to the indicated list of raw material suppliers. For the submitted raw material sources, the supplier shall confirm the raw material test certificate/s along with product test certificate/s approved by IBR shall be furnished.
4. Chemical, Mechanical testing shall be done in house or at Labs certified as per ISO 17025 or Government approved labs.

5. Suppliers shall submit a valid ISO 9001 certificate or Quality management system certificate or Written down procedure.
6. Suppliers shall submit filled in supplier facility report (Format enclosed).
7. BHEL reserves the right to visit supplier works to audit & inspect to ensure the capability for technical evaluation.
8. BHEL reserves the right to inspect the item ordered at any stage at vendor's works and if found not meeting the stipulated conditions, material is liable for rejection.
9. BHEL reserves the right to inspect the first lot of materials at vendor's works for giving clearance before bulk production.

B) Technical Competence:

1. Point by point confirmation to the TDC requirements is mandatory for consideration of offer.
2. Suppliers shall submit the list of facilities available at the mill (Raw material to finished product) & manufacturing quality plan to meet the TDC requirements along with the technical bid.
3. Suppliers shall submit the experienced manpower details specific to Manufacturing, Quality and NDE requirements.
4. Supplier has to give BHEL the calibration block used for ultrasonic testing of pipes along with the main pipe.
5. Manufacturer's test certificates (MTC), Ultrasonic test report and hydro test report as per TDC requirement to be submitted for BHEL approval before dispatch.

C) Past Experience/ Performance:

1. Suppliers shall indicate their annual installed capacity for the tendered specification & it shall be more than the tendered quantity in this specification.
2. Suppliers shall have supplied pipes in tendered specification or a similar specification (subject to BHEL discretion). Details of supplies made in recent past detailing the quantity, Specification, size & customer details, year wise along with the unpriced PO copies, proof of supply (such as invoice / bill of lading copies and sample test certificates) covering minimum and maximum sizes for the tendered specifications shall be submitted.

D) Financial Soundness: (Not applicable for the vendors already permanently registered with BHEL/Trichy for the tendered items)

1. Indigenous suppliers shall submit Audited copies of annual reports/complete set of annual accounts for the last four years (or from date of incorporation whichever is less).
2. Import suppliers shall submit latest D&B report.

Necessary supporting documents shall be submitted for meeting each of the above Pre-Qualification Criteria for evaluation of the offers.
BHEL reserves the right to consider/Not-consider the offers based on the evaluation of documents submitted for the above Pre-Qualification Criteria. BHEL also reserves the right to have on-site assessment of the facilities at supplier's works during the bid evaluation.

06

Online Supplier Registration:

All vendors who are not registered vendor of BHEL, Trichy for the tendered specification may also submit duly filled-in Supplier Registration form (SRF) through online portal <http://www.supplier.bhel.in> and submit all relevant documents as required.

07

Offer Submission:

- Offer is to be submitted in **TWO part bids system** (Technical bid + Price bid) in the E-Procurement portal. Scan copy of the filled Annexure-A, Tender documents etc., shall be uploaded in the EPS portal.
- The offer is to be submitted within **2.00 P.M** on or before the due date.
- At its option, BHEL may consider extending the due date/s for the tender openings. Sufficient notice would be given by BHEL for such extensions and it will be published as corrigendum in following websites,
<https://bheleps.buyjunction.in>
<http://tenders.gov.in>
<http://eprocure.gov.in>

➤ After the scrutiny of PQR & technical bids, the price bids of only techno-commercially qualified offers shall be opened with prior intimation.

- 08 Authorization for participation in EPS portal through DSC:**
- i) **E-Tender Participation requirements**
Either Principal or authorized agent shall register their Digital Signature Certificate (DSC) (Class 3- SHA2- 2048 BIT- SIGNING & ENCRYPTION). Suppliers are advised to go through the FAQ available in the web portal (<https://bheleps.buyjunction.in>). DSC shall be registered for the authorized person and all transaction done using that DSC against our tenders shall be taken as valid communication and shall be binding on principal/agent and is valid legally.
- ii) **For foreign Principal**
In case of Principal (being foreigner), they may apply for DSC through Indian embassy at their country and can register with us for participating in E-tenders. Details of the applicable procedure is available in the webpage <http://www.cca.gov.in/cca/>.
- iii) **For Indian agent**
In case of agents participating/registering their DSC (of authorized person), it will be at the sole authorization of principal to their agents to participate on their behalf and all transactions done using that DSC against our tenders shall be known as valid communication and shall binding on principal and is legally valid.
- Please intimate the authorized person name, Mail ID for registering DSC with BHEL to participate in E-Tenders
- iv) The suppliers has to indicate the name of the mill person & agent, Contact no, email IDs, who is responsible for bid submission & further clarification query.

09 Validity: Offer/Price validity of 60 days is required after the price bid opening in case you are technically and commercially qualified.

10 Delivery:
The offer shall clearly indicate delivery period in fixed number of weeks / Months from the date of Purchase Order.

- 11. Terms of Delivery:**
- A. INDIGENOUS:**
- Bidders should submit their offer for FOR Destination -BHEL Stores, Trichy. The quote should be inclusive of all charges, including testing, packing & forwarding, inspection etc.
 - Any other extra charges like GST- SGST, CGST/IGST etc. are to be indicated clearly. The offer will be evaluated on total landed cost to BHEL Trichy.
 - Any other Tax are to be indicated in offer and is payable extra only on submission of documentary proof.
 - ITC: If the tenderer is availing ITC for this input material, the effect of preformed credit should be passed on to the purchaser. Tenderer under ITC shall be preferred.
 - The soft copies of the Invoice, LR copy & Test certificates shall be forwarded to BHEL immediately after dispatch.

Information for Indigenous suppliers:

- Response to Tenders for Indigenous supplier will be entertained only if the vendor has a valid GST registration no which should clearly mentioned in the offer. If any specific exemption is available, a declaration with due supporting documents need to be furnished for considering the offer.
- Supplier shall mention their GSTIN 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.
- All invoices shall bear the HSN Code for each item separately (Harmonized System of Nomenclature)/ SAC code (Services Accounting Code).
- 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.
- All documents like Mill Test Certificate, LR copy, Guarantee/Warrantee 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.

6. 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.
7. For any such delay in availing of tax credit for reasons attributable to supplier (as mentioned above), interest (calculated @ SBI Base Rate + 6%) alongwith penalty if any will be deducted for the delayed period i.e. from the month of receipt till the month tax credit is availed, from the running bills.

B. IMPORTS:

- Import vendors to submit offers on CFR (Cost & Freight), Chennai port (LIFO – Liner In Liner Out) basis.
- Port of loading should be indicated without fail.
- Port of discharge should be Chennai.
- The preferred shipment mode "Containerized Cargo or Break Bulk" shall be specified clearly in the offer.

FOR CFR INCO TERMS – CONTAINERIZED CARGO

- a.) For CFR terms, moved through CONTAINERS (Suppliers should clearly specify this in their offer) it would be presumed by BHEL that the freight charges quoted is on LIFO (LINER IN LINER OUT) basis including extra charges, if any, like Container Imbalance Charges, Trade Imbalance charges or any other charges payable to the Liner. No other charges other than the quoted Freight rate will be paid by BHEL excepting applicable Terminal Handling Charges, Container cleaning Charges, DO charges to Shipping Liner at Discharge Port. 14 FREE DAYS FOR Container detention shall be provided. If any deviation is taken by Tenderer, a loading of 22% on the freight rate per MT shall be considered by BHEL for arriving at the Total landed Cost.
- b.) In case of shipment through Containers on CFR basis, the BL should bear the endorsement that "14 free days for Container Detention is applicable".

BREAKBULK CARGO

- a.) For CFR terms, moved through BREAK BULK BASIS (Suppliers should clearly specify this in their offer) it would be presumed by BHEL that the freight charges quoted is on LIFO (LINER IN LINER OUT) basis.
- b.) The materials will be Custom cleared from Port itself.

12

INFORMATION TO IMPORT SUPPLIERS:

- A) The Indian imposed, a penalty on late filing of Bill of Entries (Air/Sea Shipments) by the importer. The maximum free time allowed is 24 hrs from the time of arrival of cargo at final port of discharge. Rs.5000/- per day (for Initial 03 days) & Rs.10000/- per day (thereafter)**
- a.) The vendor should furnish the Non-Negotiable Documents (Air Way Bill/Bill of Lading, Commercial Invoice, Packing List, and Certificate of Origin) either by email or post/courier to BHEL well before the landing of cargo at final port of discharge.
- b.) Vendor will be held responsible for the penalty arises against the late filing of Bill Of entry due to:
- (i) Non availability of Non-Negotiable Documents (NNDs) before the cargo arrival
 - (ii) Discrepancy in documents
 - (iii) Short landing of Consignments (For shipments on CFR/CPT/CIF/CIP – Chennai Port)
- B) All the shipments for the contracts (POs) finalized on CFR/CPT -Chennai Port, CIF/CIP-Chennai Port, DDU/DDP Chennai Port basis**
- (i) Delivery Orders involving multiple agencies like liners/freight forwarders are not allowed. There must be a single agency office at the final discharge Port (Chennai) for issuing the Delivery Order to BHEL.
 - (ii) The detention/demurrage charges arises due to the delay in collection of Delivery Orders from multiple agencies of liner/freight forwarder also whose offices are not at available Chennai, the same amount will be deducted from Vendor's bills only.
 - (iii) Apart from the normal charges like Terminal Handling Charges, Container cleaning Charges, Delivery Order Charges at final port of discharge will not be borne by BHEL.
 - (iv) The liner/freight forwarders should be properly communicated by the Vendor for not to claim such charges for issuing Delivery Order. If the liner/freight forwarder claims such charges in their invoices, the same amount will be deducted from the Vendor bills without any prior intimation in order to avoid the delay in Customs clearance. The likely additional/hidden costs or charges are:

- | | | |
|--------|---|--|
| a. CIC | - | Container Imbalance Charges/Surcharges |
| b. EIC | - | Equipment Imbalance Charge/Surcharges |
| c. CAF | - | Container/Currency Adjustment Factor |
| d. BAF | - | Bunker adjustment Factor |
| e. RDS | - | Rupee Depreciation Surcharge |
| f. CDS | - | Currency Depreciation Surcharge |

13. Transport Conditions for Import:

The Original Documents (Bill of Lading, Invoice, Packing List, Certificate of Origin & Test Certificate) shall reach BHEL well in advance before the vessel arrival. The soft copies of the above shall be forwarded to BHEL immediately after shipment.

- In the event of delayed submission of documents by the supplier, an amount up to 5% of the invoice value will be retained towards demurrage & other charges and the difference if any between actual charges and recovery will be settled separately through supplementary invoice.
- In such cases, the Supplier shall authorize the Steamer / Shipping agent / transporter to freely release the consignment to BHEL by providing a "Surrender Bill of Lading".
- Otherwise, No-objection Certificate shall be issued to the Liner, authorizing BHEL to get the Delivery Order without producing the Original Bill of Lading.

Confirmation to the above is required to ensure avoidance of demurrage & detention charges at Chennai Sea-port that may arise in case of delayed presentation of documents by the Seller.

14. Payment terms:

A. Indigenous:

i) BHEL Payment term is 100% direct EFT payment after 45 days from the date of receipt and acceptance of materials.

ii) The duplicate copy of the invoice meant for the transporters should accompany the material as stipulated under C.E. rules 52a and 173c (or) 57gg. A Photostat copy of the above invoice for each Delivery Challan should be submitted along with the original bills routed through bank or submitted directly to BHEL finance department.

iii) Any deviation in the above payment term will attract loading as mentioned below. "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.

iv) Payment through bank is not preferred. In case of payment through bank is opted by supplier, BHEL prefers documents submission through bank with copy of LR and door delivery of goods to site/stores with consignee copy attached. In this case loading will be 3% on the offered value.

v) Offers of indigenous Suppliers with payment terms as LC / Advance Payment are liable for rejection.

B. Imports:

i) BHEL 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.

ii) Vendors supplying for first time to BHEL (for the tendered specification), the payment will be made after 45 days of receipt and acceptance of materials after testing at BHEL Lab.

In case of supplier quoting for LC payment, first lot of mutually agreed quantity shall be supplied with payment as CAD basis after 45 days from the date of receipt & acceptance of material after testing at our Lab. After acceptance of first lot, LC may be opened for the remaining lot.

iii) Any deviation in the above payment term will attract loading as mentioned below. "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.

iv) If the LC payment is insisted, **TWO** sets of original TCs to be submitted prior to dispatch and a certificate to that effect from BHEL should form a part of the documents to be negotiated. If this condition is not complied by the vendor, the offer is liable for rejection.

Note: LC will be opened one month prior to material readiness. Hence supplier shall intimate the material readiness accordingly for opening of LC. LC validity period will be 90 days and for any extension, applicable charges will be to supplier's account.

➤ In the case of Usance LC with 45 days credit, the loading will be considered @ 1.5% on the offered Value. Due date for payment will be considered from the date of receipt of documents at BHEL bank, as specified in PO.

➤ For LC at sight the loading will be considered @ 3.5% on the offered Value.

Normally CAD at sight and Confirmed LCs are liable for rejection.

15.	Liquidated Damage (Indigenous & Imports): 1. LD shall be: 0.5% of the total order value per week or part thereof subject to a maximum of 10% of total order value. 2. 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). 3. a) IMPORT: For CFR terms, BL date will be considered for LD calculation. b) INDIGENOUS: For "FOR Delivery terms", Lorry way bill date will be taken for LD calculation.	
16.	Risk Purchase clause : BHEL at its option will be entitled to terminate the contract and to purchase elsewhere at the risk and cost of the seller either the whole of the goods or any part which the supplier has failed to deliver or despatch within the time stipulated as aforesaid or if the same were not available, the best and the nearest available substitute thereof. The supplier shall be liable for any loss which BHEL may sustain by reason of such risk purchases in addition to LD at the maximum rate mentioned in the LD clause above. Confirm your acceptance.	
17.	Performance Bank Guarantee : The Bidder, in the event of an order, should furnish a bank Guarantee from BHEL's consortium banks (List attached) or counter – guaranty by vendor's bank to BHEL's consortium banks, at no extra cost to BHEL, in a proforma prescribed by BHEL, provided along with the order, for an amount equivalent to 10% of the contract value. The BG shall be valid for period of 18 months from the date of last shipment or 12 months from the date of receipt / acceptance at BHEL, Trichy whichever is later, with a claim period of two months. PBG shall be strictly as per BHEL format and to be submitted before the dispatch/shipping of the materials.	
18.	Non-Disclosure Agreement(NDA): The bidders shall enter into the Non-disclosure agreement totally voluntarily, with full knowledge of its meaning and without duress. (Format attached).	
19.	Patent Right The supplier shall, at all times, indemnify and keep indemnified the purchaser, free of cost, against all claims which may arise in respect of goods & services to be provided by the supplier under the contract for infringement of any intellectual property rights or any other right protected by patent, registration of designs or trademarks. In the event of any such claim in respect of alleged breach of patent, registered designs, trademarks etc. being made against the purchaser, the purchaser shall notify the supplier of the same and the supplier shall, at his own expenses take care of the same for settlement without any liability to the purchaser.	
20.	Comprehensive Economic Partnership Agreement (CEPA): Foreign suppliers shall ensure that the benefits as applicable under comprehensive economic partnership agreement (CEPA) with government of India are disclosed in the bid and relevant documents such as certificate of country of origin, issued by the appropriate authority in the country of exports, is provided by the vendor along with dispatch documents. Bids shall be evaluated with such applicable benefits. In the event of seller failing to provide appropriate documents for purchasers to avail disclosed concessional duty benefits in India, financial loss, so incurred, will be to the seller's account.	
21.	Role of Agents a. BHEL strongly discourages the engagement of Agents in India by foreign principals, to deal with BHEL, in BHEL's tenders. b. BHEL, due to business reasons would ban, would have banned Indian agents from dealing with BHEL. Any foreign principal who engages such a banned agent, or an employee of the banned agency, or any other person connected with the banned agency, at any time during the tender proceedings, would be disqualified from the tender proceedings. The decision of BHEL in this regard shall be final and be binding on the OEM. Hence in their own interests, prospective tenderers may check with BHEL. The list of banned firms is available on BHEL website www.bhel.com. In view of the requirement of BHEL, it is strongly suggested that in their own interest, foreign principals may desist from engaging any Indian agent and deal with BHEL directly and it is stressed that any Main producer proposing to deal with BHEL by engaging and through an Indian Agent does so at their own risk. BHEL shall in no way be responsible for any consequences that may arise to the foreign principal on account of the antecedents / actions of their Indian agent.	
22.	Agency Commission : ➤ In respect of offers from overseas suppliers, agency commission, if any, payable to their agents in India, shall invariable be shown separately in the Performa invoice and this will be paid by us in India, in Indian rupees, on satisfactory completion of the contract. ➤ If overseas principal has any tie-up with any third party in respect of agency commission it should be declared while submitting offers. ➤ Copies of current agency agreement / authorization letter in respect of agency commission shall be furnished along with offer, if not made available earlier. ➤ For calculation of rupee equivalent agency commission, exchange rate as prevailing on the date of order will be taken.	

23.

Evaluation Criteria:

The offers of both import vendors and indigenous vendors will be evaluated on total landed cost to BHEL, Trichy. The evaluation details with respect to the import & indigenous vendors is detailed below:

I) Indigenous Vendors

Total Landed cost = FOR Rate in INR (A) + Applicable Taxes (B) + Loading for payment term & LD (C) – Applicable input tax credit (D)

- A. Indigenous vendors submit offers on Free on Road (FOR), Trichy in INR.
- B. GST and any other charges quoted by indigenous vendors will be added to the base price.
- C. Loading for payment terms & non-acceptance of Liquidated Damages (LD) will be added to the FOR value for arriving the landed rate.
- D. However input credit is availed for GST (SGST, CGST/IGST), hence the same is excluded for arriving at the landed cost.

II) Import Vendors

Total Landed cost = CFR Rate in INR (A) + Applicable Duties (B) + Incidental Charges (C) + Loading for Container Shipment (D) + Loading for payment term & LD (E)

- A. Import vendors to submit offers on CFR (Cost & Freight), Chennai port (L/LD – Liner In Liner Out) basis in foreign currency, which will be converted to INR by multiplying with the Exchange rate (SBI TT Selling rate) as on the technical bid opening date.
- B. Customs duty, IGST, CUSTOM CESS, Safe guard duty (as per the notification No 02/2014-Customs (SG) dated 13th August 2014) and antidumping duty (as per the notification No 18/2016-Customs (ADD) dated 17.05.2016) as applicable will be added to the INR price.
- C. Incidental charges of 1.4% will be added to the CFR Value. The incidental charge is inclusive of Insurance, port handling charges, & freight charges for movement from Chennai port to BHEL, Trichy.
- D. In case of shipment through containers, If 14 free days for Container detention is not provided in the offer, a loading of 22% on the freight rate per MT shall be considered by BHEL for arriving at the Total landed Cost.
- E. Loading for payment terms & Non-acceptance of Liquidated Damages (LD) will be added to the CFR value for arriving at the landed cost.

24.

General condition:

- a) Bids including all enclosures and supporting documents like catalogues, pamphlets, etc., shall be submitted / uploaded in ENGLISH language only. If the documents submitted have other than English language, translation of the same shall be provided for evaluation.
- b) In addition to TCs in relevant IBR forms corresponding mill TCs should also be provided along with dispatch of pipes. Two sets of original and one copy of all such TCs are to be provided to BHEL, Trichy.
- c) Material is to be inspected by third party inspection agency as approved by IBR and test certificate are to be countersigned by respective Inspection agency in case the Mill is not approved by IBR.
- d) Acceptance of Test Certificates by BHEL before dispatch is must.
- e) We require the shipment of the pipes to be as per the dates mentioned against the individual items in the enquiry.
- f) Multiple PO may also be placed considering the applicable duty structure of the respective requirement/Qty.
- g) Confirmation for partial ordering to be indicated in the offer itself.
- h) No revision of prices will be entertained after the tenders are opened.
- i) For the evaluation purposes, exchange rate (TT selling rate of SBI) as on schedule date of tender opening (Part I, i.e. technical bid, in case of two part bid) shall be considered.
- j) BHEL will consider the ranking after the loading is applied as referred above wherever deviations are observed.
- k) Lowest price received against BHEL tenders need not be the technically acceptable one and in that case, BHEL reserves the right not to consider the same.
- l) BHEL reserves the right to negotiate L1 rate or re-float the tender opened if L1 price is not the lowest acceptable price to them inter-alia other reasons.
- m) In the event of our customer order covering this tender being cancelled / placed on hold / otherwise modified, BHEL would be constrained to accordingly cancel / hold / modify the tender / your purchase order at any stage of execution.
- n) Offer will be evaluated on individual item basis.

- o) Reverse auction will not be conducted for this enquiry.
- p) L1 will be arrived based on Landed cost to BHEL- Trichy.
- q) No payment will be made for the excess quantity / length.
- r) Quotes for shorter length pipes are liable for rejection and quotes for lengths exceeding the tender requirement may be evaluated suitably during technical evaluation.
- s) Offers for part quantities on item level basis are not acceptable to BHEL. While tenderers can quote for some or all the tendered items, no supplier shall quote for partial quantity of any given enquiry item. Such partial offer would not be considered in the enquiry for that item
- t) All documents submitted with the offer shall be signed and stamped in each page by authorized representative of the bidder.
- u) Offer should be submitted only as per Unit of Measurement (UOM) specified in enquiry (per meter basis).
- v) The offers of the bidders who are on the banned list as also the offer of bidders who engage the services of the banned firms, shall be rejected. The list of banned firms is available on the BHEL website -www.bhel.com.
- w) The bidder shall submit his response through bid submission to the tender on e-procurement platform at <https://bheleps.buyjunction.in>. The bidder would be required to register on the e-procurement market place <https://bheleps.buyjunction.in> and submit their bids online. SEALED COVER BIDS / E-MAILS / FAX / MANUAL OFFERS WILL NOT BE ACCEPTED.

25. Fraud Prevention Policy

"The bidder along with its associate/collaborators/sub-contractors /consultants/service providers shall strictly adhere to BHEL Fraud prevention policy displayed on BHEL website <http://www.bhel.com> and shall immediately bring to the notice of BHEL Management about fraud or suspected fraud as soon as it comes to their notice."

26. Cartel Formation:

All the firms should desist from forming cartel as the practice is prohibited under Section 3(3) (a) & (d) of the competition Act 2002. If any such instance is observed during this tender will attract disciplinary action as per BHEL policies.

27. Resolution of Disputes:

- a. If dispute or difference of any kind shall arise between the Purchaser/Consignee and the supplier in connection with or relating to the contract, the parties shall make every effort to resolve the same amicably by mutual consultations.
- b. If the parties fail to resolve their dispute or difference by such mutual consultation within 30 days of its occurrence, then, unless otherwise provided in the contract, either the Purchaser/Consignee or the supplier may give notice to the other party of its intention to commence arbitration, as hereinafter provided the applicable arbitration procedure will be as per the Arbitration and Conciliation Act, 1996 of India. In the case of a dispute or difference arising between the Purchaser/Consignee and a domestic Supplier relating to any matter arising out of or connected with the contract, such dispute or difference shall be referred to the sole arbitration of an officer in BHEL Trichy, appointed to be the arbitrator by the General Manager/MM BHEL Trichy. The award of the arbitrator shall be final and binding on the parties to the contract subject to the provision that the Arbitrator shall give reasoned award in case the value of claim in reference exceeds Rupees One lakhs (Rs. 1,00,000/-)
- c. Venue of Arbitration: The venue of arbitration shall be the place from where the contract has been issued, i.e., BHEL Trichy.
- d. Jurisdiction of the court will be from the place where the tender enquiry document has been issued, i.e., Trichy, India

28. In the event of Force Majeure:

- a. Notwithstanding the provisions contained in other clauses, the supplier shall not be liable for imposition of any such sanction so long the delay and/or failure of the supplier in fulfilling its obligations under the contract is the result of an event of Force Majeure. For purposes of this clause, Force Majeure means an event beyond the control of the supplier and not involving the supplier's fault or negligence and which is not foreseeable and not brought about at the instance of the party claiming to be affected by such event and which has caused the non-performance or delay in performance. Such events may include, but are not restricted to, wars or revolutions, hostility, acts of public enemy, civil commotion, sabotage, fires, floods, explosions, epidemics, quarantine restrictions, strikes excluding by its employees, lockouts excluding by its management, freight embargoes and Acts of GOD.
- b. If a Force Majeure situation arises, the supplier shall promptly notify the Purchaser/Consignee in writing of such conditions and the cause thereof within twenty one days of occurrence of such event. Unless otherwise directed by the Purchaser/Consignee in writing, the supplier shall continue to perform its obligations under the contract as far as reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.
- c. If the performance in whole or in part or any obligation under this contract is prevented or delayed by any reason of Force Majeure for a period exceeding sixty days, either party may at its option terminate the contract without any financial repercussion on either side.
- d. In case due to a Force Majeure event the Purchaser/Consignee is unable to fulfil its contractual commitment and responsibility, the Purchaser/Consignee will notify the supplier accordingly and subsequent actions taken on similar lines described in above sub-paragraphs

29.	Integrity Pact (IP): Signed Integrity pact should be furnished along with the offer. Offers without signed IP will not be considered for evaluation. IP should be signed by authorized official of the bidder / Vendor / Contractor.	
29	Enclosures: a) Enquiry b) TDC/TDG c) PBG Format d) NDA Format e) List of consortium banks f) SIPP g) Integrity Pact	
 (On behalf of BHEL)		<u>SIGNED BY MANUFACTURER / MILL</u> Name of Mill: Designation / Department: Seal & Signature

**Technical: Seamless Tubes & Pipes Suppliers
(Carbon / Alloy / Stainless Steel)
Supplier Facility Report**

1. Name of the Company

2. Address of the Registered Office
(Telephone, E-Mail, Fax)3. Factory Location and Address
(Telephone, E-Mail, Fax)

4. Installed Capacity (Tonnes / Year)

4.1) Carbon Steel

a) SA 192

b) SA 210 Gr. A1, C

c) SA 106 Gr. B, C

d) Riffled Tube / SA 210 Gr. C

4.2) Alloy Steel

a) SA 335 P11, P12, P22

b) SA 213 T11, T22

c) SA 335 P91, SA 213 T91

d) SA 335 P23, P92

e) SA 213 T23, T92

f) Riffled Tube /
SA 213 T12, T22, T23

4.3) Stainless Steel

a) SA 213 TP 304H

b) SA 213 TP 347H

c) SA TP 347HFG

d) Super 304H

e) Inconel

5. Are you making your own steel
(Bloom) for making Tubes / Pipes ?

YES

☐

NO

☐

Nickel based alloy Bloom

YES

☐

NO

☐

6. If yes, for Sl. No. 5

- a) Type of Furnace
- b) Capacity of furnaces
(Metric Tonnes / Melt)
- c) Facility for manufacture
of Blooms

7. If No. for Sl. No. 5

- a) Source of Raw Material (Blooms) Inonel

--

8. Tube / Pipe Manufacturing Facility details

- 8.1 Capacity of the rolling mill with respect to
Diameter (Minimum and Maximum),
Thickness (Minimum and Maximum) and
Length (Maximum)

- a) Through Hot Finishing
- b) Through Cold Finishing

- 8.2 Type & Make of Hot Mill along with the details
of the Individual Equipments

--

- 8.3 Type & Make of Cold Mill along with the details
of the Individual Equipments

--

9. Heat Treatment Facility Details

- a) Capacity of the Furnaces
- b) Type of Heat Treatment Carried out
(Batch or Continuous)

10. In House Testing Equipments Details

- a) Online UT Facilities
- b) Online Eddy Current (EC) Facility
- c) Hydro Test Facilities
(Indicate the Maximum Pressure)
- d) Chemical and Mechanical Testing Facilities
- e) RT facilities

11. Details of Accreditation for Quality Systems
(Like ISO, ASME, API etc.,)

--

12. Are you Approved by any
Third Party / Statutory Agency ?

If so, specify the Agency (Attach details in ENGLISH)

13. Have you manufactured the following

Size / Specification / Length to

SHEL or any other well-known Boiler Manufacturer for Boiler Application

Please provide the details of to whom, when and how much supplied.

a) TUBES:

TUBES REQUIREMENT- LENGTH : 6500 mm to 13800 mm			
SL. NO.	OUTER DIAMETER	WALL THICKNESS	SPECIFICATION
1	21.3 to 73.01 mm	2.13 to 14.02 mm	SA 106 Gr B / Gr C (Carbon Steel) SA 335 P12, P22, P23, P91, P92 (Alloy Steel)
2	28.6 to 76.1 mm	3.2 to 12.5 mm	SA 192 / SA 210 Gr A1 / Gr C (Carbon Steel) SA 210 Gr. C (Rifle Tubes) SA 213 T12, T22, T23 (Alloy Rifle Tubes)
3	14 to 76.1 mm	3.2 to 12.5 mm	SA 213 T11, T22, T23, T91, T92 (Alloy Steel) SA 213 TP 304 H, TP 347 H, TP 347 HFG, Super 304 H (SS)

4. upto 76.2 mm 16 mm Inconel Tubes

b) PIPES:

PIPES REQUIREMENT - LENGTH 3000 mm to 9000 mm			
SL. NO.	OUTER DIAMETER	WALL THICKNESS	SPECIFICATION
1	88.9 to 864.00 mm	3.96 to 148.0 mm	SA106 Gr B / Gr C (Carbon Steel)
2	88.9 to 965.00 mm	3.96 to 130.0 mm	SA335 P11, P12, P22, P23 (Alloy Steel)
3	127.0 to 812.8 mm	11.50 to 100.00 mm	SA335 P91, P92 (Alloy Steel)
4	88.9 to 323.9 mm	3.05 to 12.5 mm	SA312 TP304H, 321 H, 316 (SS)

5 88.9 to 900 mm 10 to 160 mm Inconel pipes

14. Please go thro the attached Technical Delivery Condition (TDC) and give point-by-point confirmation.

a) For Tubes: TDC: 0:102, 0:105, 0:119

b) For Pipes: TDC: 0:101, TDG: 32, TDG: 100, TDG: 101, TDG: 26, TDG: 6876

c) Tubes/Pipes- Inconel- TDC 127 rev 0, TDC 125 rev 01, TDC 437rev 01, HWR-001,

PLACE :

DATE :

SIGNATURE WITH SEAL

NOTE: Enclose Additional Sheets / Annexures wherever required referring the Sl. No. of this format.

CEFI40051

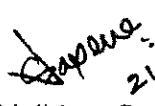
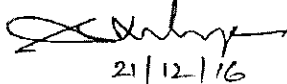
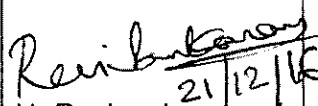
**BHARAT HEAVY ELECTRICALS LIMITED
TIRUCHIRAPALLI 620 014**

QUALITY ASSURANCE

SIP: PP: 21 Rev. 07

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**COLOUR CODES FOR TUBES AND PIPES
(FOR BOILERS, PRESSURE VESSELS & HEAT EXCHANGERS)**

REVISION	DATE	PREPARED	REVIEWED	APPROVED
01	05-02-1999	R. Sasikumar	A. R. Reddy	K. Rengachari
02	22-07-2004	K. Ganesan	U. Revisankaran	C. R. Raju
03	20-01-2009	V. Kalyanaraman	S. Selvarajan	U. Revisankaran
04	13-05-2011	C. Haritha	V. Kalyanaraman	S. Selvarajan
05	27-05-2015	Vaibhav Saxena	S. Selvarajan	U. Revisankaran
06	28-10-2015	Vaibhav Saxena	Manu Shankar. H	S. Selvarajan
07	21-12-2016	 21-12-2016 Vaibhav Saxena	 21/12/16 S. Selvarajan	 21/12/16 U. Revisankaran

RECORD OF REVISIONS

Rev. No	Clause No.	Details of Revision	Remarks
01		New Specifications included based on TDC revision.	--
02		Amendment A1 dt. 26.04.01 issued for Rev. 01 incorporated. Colour code for SA 213 Gr. T23 added.	--
03		1) Colour code for SA 213 Gr. T92, P23, P92, SA178 Gr. D added. 2) Colour code for SA 210 Gr. C modified to BLUE only.(From BLUE & GREEN)	--
04		Colour code for super 304H added	--
05		1) First para modified for clarity for colour codes containing more than one colours. 2) UNS number for Super 304H added.	--
06		Colour code for super 304H corrected in line with Revision 04.	--
07		1) First paragraph modified to include Instructions for sequence for colour code bands. 2) SI. No. column added in table. 3) Colour code for SA 312 Gr. TP 304H added.	--

Following Colour codes are to be applied as longitudinal bands (if not specified in other documents) on tubes & pipes to identify them to specification during receipt, storage, issue and processing. For heat exchanger tubes circumferential colour code can be provided at both ends of tubes (300 mm away from end). If the Colour code contains more than one Colour then bands of Colours shall be applied adjacent to each other without any overlap. ***In case of multiple colour bands, the sequence shall be maintained as indicated in the table.***

Sl. No.	Specification	Colour 1	Colour 2	Colour 3
1.	12 X 1 MØ	RED	YELLOW	
2.	13 Cr Mo 44	ALUMINIUM	BLACK	
3.	A 200 Gr. T5	ALUMINIUM	RED	YELLOW
4.	A 200 Gr. T9	ALUMINIUM	GREEN	YELLOW
5.	AISI 602	WHITE	YELLOW	
6.	API 5L Gr. B	ALUMINIUM		
7.	BS 3059 PART2 CDS/HFS 360	ALUMINIUM	BLACK	BROWN
8.	BS 3059 P2 S2 440	ALUMINIUM	BLACK	RED
9.	BS 3059 P2 S2 622 Gr. 490	ALUMINIUM	BLACK	GREEN
10.	BS 3602 PART1 CDS 360	ALUMINIUM	BLACK	BLUE
11.	NFA49-213 42C	ALUMINIUM	BLUE	BROWN
12.	NFA49-213 TU 10CD9.10	ALUMINIUM	BLUE	RED
13.	NFA49-213 TU 15CD2.05	ALUMINIUM	BLUE	GREEN
14.	NFA49-213 TU Z10CD9	ALUMINIUM	BLUE	YELLOW
15.	NFA49-213 TU Z10CDVNB09.01	ALUMINIUM	GREEN	RED
16.	SA 106 Gr. B	RED		
17.	SA 106 Gr. C	BLUE		
18.	SA 178 Gr. D	ORANGE		
19.	SA 179	BLACK	BLUE	GREEN
20.	SA 192	WHITE		
21.	SA 199 T5	BLUE	BROWN	RED
22.	SA 209 Gr. T1	ALUMINIUM	RED	
23.	SA 210 Gr. A1	YELLOW		
24.	SA 210 Gr. C	BLUE		
25.	SA 213 Gr. T11	ALUMINIUM	YELLOW	
26.	SA 213 Gr. T12	BROWN	YELLOW	
27.	SA 213 Gr. T2	BROWN	GREEN	
28.	SA 213 Gr. T22	GREEN	RED	
29.	SA 213 Gr. T23	RED	WHITE	
30.	SA 213 Gr. T5	BLACK	BROWN	GREEN
31.	SA 213 Gr. T9	BROWN	WHITE	
32.	SA 213 Gr. T91	GREEN	YELLOW	
33.	SA 213 Gr. T92	BROWN	BLUE	
34.	SA 213 Gr. TP 304	BLUE	GREEN	YELLOW
35.	SA 213 Gr. TP 304H	BLACK	BLUE	YELLOW
36.	SA 213 Gr. TP 304L	BLUE	WHITE	YELLOW
37.	SA 213 Gr. TP 309H	BLACK	BROWN	YELLOW
38.	SA 213 Gr. TP 316	BROWN		
39.	SA 213 Gr. TP 316 Ti	BLACK	BLUE	
40.	SA 213 Gr. TP 316L	BLUE	BROWN	YELLOW
41.	SA 213 Gr. TP 321	BLUE	WHITE	
42.	SA 213 Gr. TP 321H	BLACK	WHITE	
43.	SA 213 Gr. TP 347H	BLACK	YELLOW	

Sl. No.	Specification	Colour 1	Colour 2	Colour 3
44.	SA 268 Gr. TP 405	ALUMINIUM	GREEN	
45.	SA 268 Gr. TP 410	BROWN	RED	YELLOW
46.	SA 268 Gr. TP 443	BLUE	GREEN	WHITE
47.	SA 269 TP 316	GREEN	RED	YELLOW
48.	SA 312 Gr. TP 304	BLUE	YELLOW	
49.	SA 312 Gr. TP 304L	BLUE	RED	YELLOW
50.	SA 312 Gr. TP 304H	BLACK	BLUE	YELLOW
51.	SA 312 Gr. TP 316	BLACK	GREEN	
52.	SA 312 Gr. TP 316L	BLACK	BLUE	BROWN
53.	SA 312 Gr. TP 321	BLUE	BROWN	
54.	SA 312 Gr. TP 347	BLUE	RED	WHITE
55.	SA 333 Gr. 1	BLACK	BROWN	RED
56.	SA 333 Gr. 3	BLACK	GREEN	RED
57.	SA 333 Gr. 6	BLUE	GREEN	RED
58.	SA 334 Gr. 1	BROWN	GREEN	RED
59.	SA 334 Gr. 3	BLACK	RED	YELLOW
60.	SA 334 Gr. 6	BLACK	BLUE	RED
61.	SA 335 Gr. P1	BROWN	GREEN	YELLOW
62.	SA 335 Gr. P11	GREEN	WHITE	
63.	SA 335 Gr. P12	BLACK	RED	
64.	SA 335 Gr. P2	BLUE	BROWN	GREEN
65.	SA 335 Gr. P22	BLUE	RED	
66.	SA 335 Gr. P23	RED	WHITE	
67.	SA 335 Gr. P5	BLACK	BROWN	
68.	SA 335 Gr. P9	ALUMINIUM	BROWN	
69.	SA 335 Gr. P91	BROWN	RED	
70.	SA 335 Gr. P92	BROWN	BLUE	
71.	SB 163 Inconel	BLACK	GREEN	YELLOW
72.	ST 35.4	ALUMINIUM	BLUE	
73.	Steel 20	GREEN		
74.	Structural Tubes & Pipes	BLUE	BROWN	WHITE
75.	X20 Cr Mo V 121	BLACK		
76.	SA 213 UNS S30432(Super 304)	BLACK	RED	GREEN

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(TO BE STAMPED IN ACCORDANCE WITH STAMP ACT AND THE EXPIRY DATE OF BG MUST BE AFTER 60 DAYS FROM THE DATE OF COMPLETION OF WARRANTY PERIOD)

PERFORMANCE BANK GUARANTEE

In accordance of M/s. Bharat Heavy Electricals Limited (A Government of India undertaking, a company incorporated under the Companies Act 1956 having its Registered Office at "BHEL House", SIRI Fort, New Delhi 110 049) through its High Pressure Boiler Plant Division located at Tiruverumbur, Tiruchirapalli- 620 014 (hereinafter called 'the Company') having entered into a contract withhereinafter called 'the said contractor' which term includes 'suppliers' for the purpose of this Bond and under the terms and conditions of the contract No..... Dt Between BHEL, Trichy and as per the contract, the contractor / supplier is to furnish a performance Bank guarantee for Rs. for the due performance of the equipment to be supplied under the above referred contract and for the fulfillment of all the terms and conditions of the contract, We(indicate the name of the bank) (herein after referred to as the bank) at the request of (Contractor(s)) do here by undertake to pay the company an amount not exceeding Rs.....against any loss or damage caused to or suffered or would be caused to or suffered by the company by reason of any breach by the said contractor (s) of any of the terms and conditions contained in the said agreement.

2. We(indicate the name of the bank with full address), do hereby undertake to pay the amounts due and payable under this guarantee without any demur, merely on a demand from the Company stating that the amount claimed is due by way of loss or damage caused to or would be caused to or suffered by the Company by reason of breach by the said Contractor(s) of any of the terms and conditions contained in the said Agreement or by the reason of the contractor(s) 'failure to perform' the said agreement. 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.

3. We undertake to pay unconditionally to the Company any money so demanded notwithstanding any dispute(s) raised by the Contractor in any suit, or proceedings pending before any Court or Tribunal or Arbitration or before any other authority relating thereto our liability under this present being absolute and unequivocal. The payment under this guarantee would not wait till the disputes have been decided by any Court or Tribunal or in the arbitration proceedings or by any other authority. The payment so made by us under this Bond shall be a valid discharge of liability for payment thereunder and the Contractor(s) shall have no claim against us for making such payment.

4. We.....(indicate the name of Bank), 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 Agreement and that it shall continue to be enforceable till all the dues of the Company under or by virtue of the said Agreement have been fully paid and its claims satisfied or discharged or till Office / Department/ Division of the Company certifies that the terms and conditions of the said Agreement have been fully and properly carried out by the said Contractor(s) and accordingly discharges this guarantee.

5. (I) Unless a demand or claim under this guarantee is made on us in writing on or before the _____ we shall be discharged from all the liability under this guarantee thereafter. But where such claim or demand has been preferred by the Company with the Bank before the expiry of the said date, the claim shall be enforceable notwithstanding the fact that the said enforcement is effected after the said date.

(ii) For the purpose of this clause, any letter making demand on the Bank by M/s. BHEL dispatched by Registered Post with Ack.Due or by Telegram or by any Electronic media addressed to the above mentioned address of the Bank shall be deemed to be the claim / demand in writing referred to above irrespective of the fact as to whether and when the said letter reaches the Bank, as also any letter containing the said demand or claim is lodged with the bank personally.

6. We(indicate the name of Bank), further agree with the company that the Company 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 agreement or to extend time of performance by the said Contractor (s) from time to time or to postpone for any time or from time to time any of the powers exercisable by the Company against the said Contractor(s) and to forbear or enforce any of the terms and conditions relating to the said Agreement and we shall not be relieved from our liability by any reason of any such variation or extension being granted to the said Contractor(s) or for any forbearance, act or omission on the part of the company or any indulgence by the company to the said Contractor(s) or by any such matter or thing whatsoever which under the law relating would, but for this provision, have effect of not so relieving us.
7. This guarantee will not be discharged due to the change in the constitution of the Bank or the Contractor(s).
8. It shall not be necessary for the company to proceed against the contractor before proceeding against the guarantor-bank and the guarantee herein contained shall be enforceable against them notwithstanding any security, which the company may have obtained or obtain from the Contractor shall, at the time when proceedings are taken against the guarantor hereunder be outstanding or unrealised.
9. Any claim or dispute arising under the terms of this document shall only be enforced or settled in the Courts at Tiruchirapalli.
10. The guarantor hereby declare that it has power to execute this guarantee and the executant has full powers to do so on its behalf under the proper authorities granted to him/them by the guarantor.
11. We(indicate the name of Bank) lastly undertake not to revoke this guarantee during its currency except with the previous consent of the company in writing.

In witness whereof we....., (indicate the name of Bank) have hereunto setout Bank Seal the _____ day _____ month 200

BANK E-MAIL ID:

BANK PHONE NO.

BANK FAX NO:

List of Consortium Bank

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

INTEGRITY PACT

Between

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

and

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

Preamble

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

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

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

Section 1 – Commitments of the Principal

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

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

- 2.1 The Bidder(s)/ Contractor(s) commit himself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the tender process and during the contract execution.
- 2.1.1 The Bidder(s)/ Contractor(s) will not, directly or through any other person or firm, offer, promise or give to the Principal or to any of the Principal's employees involved

in the tender process or the execution of the contract or to any third person any material, immaterial or any other benefit which he / she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the tender process or during the execution of the contract.

- 2.1.2 The Bidder(s)/ Contractor(s) will not enter with other Bidder(s) into any illegal or undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.
- 2.1.3 The Bidder(s)/ Contractor(s) will not commit any penal offence under the relevant IPC/ PC Act; further the Bidder(s)/ Contractor(s) will not use improperly, for purposes of competition or personal gain, or pass on to others, any information or document provided by the Principal as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.
- 2.1.4 The Bidder(s)/ Contractor(s) will, when presenting his bid, disclose any and all payments he has made, and is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract.
- 2.2 The Bidder(s)/ Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.

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

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

Section 4 – Compensation for Damages

- 4.1 If the Principal has disqualified the Bidder from the tender process prior to the award according to Section 3, the Principal is entitled to demand and recover the damages equivalent Earnest Money Deposit/Bid Security.
- 4.2 If the Principal has terminated the contract according to Section 3, or if the Principal is entitled to terminate the contract according to section 3, the Principal shall be entitled to demand and recover from the Contractor liquidated damages equivalent to 5% of the contract value or the amount equivalent to Security Deposit/Performance Bank Guarantee, whichever is higher.

Section 5 – Previous Transgression

- 5.1 The Bidder declares that no previous transgressions occurred in the last 3 years with any other company in any country conforming to the anti-corruption approach or with any other Public Sector Enterprise in India that could justify his exclusion from the tender process.
- 5.2 If the Bidder makes incorrect statement on this subject, he can be disqualified from the tender process or the contract, if already awarded, can be terminated for such reason.

Section 6 – Equal treatment of all Bidders/ Contractors/ Sub-contractors

- 6.1 The Bidder(s)/ Contractor(s) undertake(s) to obtain from all subcontractors a commitment consistent with this Integrity Pact and report Compliance to the Principal. This commitment shall be taken only from those sub-contractors whose contract value is more than 20 % of Bidder's/ Contractor's contract value with the Principal. The Bidder(s)/ Contractor(s) shall continue to remain responsible for any default by his Sub-contractor(s).
- 6.2 The Principal will enter into agreements with identical conditions as this one with all Bidders and Contractors.
- 6.3 The Principal will disqualify from the tender process all bidders who do not sign this pact or violate its provisions.

Section 7 – Criminal Charges against violating Bidders/ Contractors /Sub-contractors

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

Section 8 –Independent External Monitor(s)

- 8.1 The Principal appoints competent and credible Independent External Monitor for this Pact. The task of the Monitor is to review independently and objectively, whether and to what extent the parties comply with the obligations under this agreement.

- 8.2 The Monitor is not subject to instructions by the representatives of the parties and performs his functions neutrally and independently. He reports to the CMD, BHEL.
- 8.3 The Bidder(s)/ Contractor(s) accepts that the Monitor has the right to access without restriction to all contract documentation of the Principal including that provided by the Bidder(s)/ Contractor(s). The Bidder(s)/ Contractor(s) will grant the monitor, upon his request and demonstration of a valid interest, unrestricted and unconditional access to his contract documentation. The same is applicable to Sub-contractor(s). The Monitor is under contractual obligation to treat the information and documents of the Bidder(s)/ Contractor(s) / Sub-contractor(s) with confidentiality.
- 8.4 The Principal will provide to the Monitor sufficient information about all meetings among the parties related to the contract provided such meetings could have an impact on the contractual relations between the Principal and the Contractor. The parties offer to the Monitor the option to participate in such meetings.
- 8.5 As soon as the Monitor notices, or believes to notice, a violation of this agreement, he will so inform the Management of the Principal and request the Management to discontinue or take corrective action, or heal the situation, or to take other relevant action. The Monitor can in this regard submit non-binding recommendations. Beyond this, the Monitor has no right to demand from the parties that they act in a specific manner, refrain from action or tolerate action.
- 8.6 The Monitor will submit a written report to the CMD, BHEL within 8 to 10 weeks from the date of reference or intimation to him by the Principal and, should the occasion arise, submit proposals for correcting problematic situations.
- 8.7 The CMD, BHEL shall decide the compensation to be paid to the Monitor and its terms and conditions.
- 8.8 If the Monitor has reported to the CMD, BHEL, a substantiated suspicion of an offence under relevant IPC / PC Act, and the CMD, BHEL has not, within reasonable time, taken visible action to proceed against such offence or reported it to the Vigilance Office, the

Monitor may also transmit this information directly to the Central Vigilance Commissioner, Government of India.

8.9 The number of Independent External Monitor(s) shall be decided by the CMD, BHEL.

8.10 The word 'Monitor' would include both singular and plural.

Section 9 – Pact Duration

9.1 This Pact begins and shall be binding on and from the submission of bid(s) by bidder(s). It expires for the Contractor 12 months after the last payment under the respective contract and for all other Bidders 6 months after the contract has been awarded.

9.2 If any claim is made / lodged during this time, the same shall be binding and continue to be valid despite the lapse of this pact as specified as above, unless it is discharged/ determined by the CMD, BHEL.

Section 10 – Other Provisions

10.1 This agreement is subject to Indian Laws and jurisdiction shall be registered office of the Principal, i.e. New Delhi.

10.2 Changes and supplements as well as termination notices need to be made in writing. Side agreements have not been made.

10.3 If the Contractor is a partnership or a consortium, this agreement must be signed by all partners or consortium members.

10.4 Should one or several provisions of this agreement turn out to be invalid, the remainder of this agreement remains valid. In this case, the parties will strive to come to an agreement to their original intentions.

10.5 Only those bidders/ contractors who have entered into this agreement with the Principal would be competent to participate in the bidding. In other words, entering into this agreement would be a preliminary qualification.

For & On behalf of the Principal

(Office Seal)

For & On behalf of the Bidder/ Contractor

(Office Seal)

Place-----

Date-----

Witness: _____

(Name & Address) _____

Witness: _____

(Name & Address) _____
