



BHARAT HEAVY ELECTRICALS LIMITED

TIRUCHIRAPPALLI

Supplier Development Cell - Outsourcing Department

Requirement of New Vendors for Structural Fabrication / Boiler Components including pressure parts / Piping Products

About BHEL:

BHEL, a Maharatna PSU under Government of India is India's largest engineering and manufacturing enterprise in the energy and infrastructure sectors. Established in 1964, BHEL is a leading power equipment manufacturer globally and one of the earliest and leading contributors towards building an Aatmanirbhar Bharat.

Supply of Components / equipment for Thermal Power plants is One of the major Business portfolio of BHEL. Among the various products in a Thermal power plant, Boiler and its related components are manufactured at BHEL's Trichy Manufacturing facility.

Business opportunity in BHEL Trichy:

In order to meet our Country's growing Power demand, Government of India has set an ambitious target of adding 80 GW of power by 2032. Currently BHEL has received & executing orders for the following projects:

SI No	Project	Rating (MW)	SI No	Project	Rating (MW)
1	NTPC Talcher St-III 7	660	23	DVC Raghunathpur 4	660
2	NTPC Talcher St-III 8	660	24	TSGENCO Singareni St-II	800
3	MEL Mahan Ph2 3	800	25	APL Kawai Ph3 1	800
4	MEL Mahan Ph2 4	800	26	APL Kawai Ph3 2	800
5	NTPC Lara St-II 1	800	27	HPGCL Yamunanagar Ph-II 1	800
6	NTPC Lara St-II 2	800	28	GSECL Ukai 7	800
7	NTPC Singrauli St-III 1	800	29	CSPGCL Korba West St-IV 1	660
8	NTPC Singrauli St-III 2	800	30	CSPGCL Korba West St-IV 2	660
9	APL Raigarh Ph-II 3	800	31	APL Mahan Ph3 5	800
10	APL Raigarh Ph-II 4	800	32	APL Mahan Ph3 6	800
11	APL Raipur 1	800	33	NLC Talabira 1	800
12	APL Raipur 2	800	34	NLC Talabira 2	800
13	NTPC Sipat St-III	800	35	NLC Talabira 3	800
14	DVC Koderma Ph-II 1	800	36	MPPCL Satpura St-V 12	660
15	DVC Koderma Ph-II 2	800	37	MPPCL Amarkantak 6	660
16	APL Mirzapur 1	800	38	NTPC Meja St-II 1	800
17	APL Mirzapur 2	800	39	NTPC Meja St-II 2	800
18	APL Kawai Ph2 1	800	40	NTPC Meja St-II 3	800
19	APL Kawai Ph2 2	800	41	NTPC Darlipalli St-II	800
20	MSPGCL Koradi 11	660	42	NTPC Telangana St-II 1	800
21	MSPGCL Koradi 12	660	43	NTPC Telangana St-II 2	800
22	DVC Raghunathpur 3	660	44	NTPC Telangana St-II 3	800
			45	HPPPL Anuppur Ph-II	800

A very good Business potential is available to the Fabrication Vendors to tap the Business opportunity available with BHEL Trichy to supply fabricated Structural items / Boiler components including pressure parts / Piping products for the above projects.

The table below gives the major product categories dealt by Outsourcing Department of BHEL Trichy and the tentative annual requirement:

Product Description	Annual Requirement (MT)
Non-pressure Parts	
Ceiling Girder	21,100
Columns	80,000
Beams & Bracings (Auto weld & General Fabrication)	1,24,000
Ducts	36,100
Bunker shell/Silo	13,200
Assembly products	11,300
Bellows	3,300
Buckstays	22,800
Machining items	12,200
Punching / Pressing / Shearing / Gen Fabr. items	12,000
Piping	24,000
Total	3,60,000
Pressure Parts	
Panels	7,800
Coils	22,600
Radiant Roof Panels & Loose Tubes	2,300
Burner Panels	400
Headers	3,300
Vessels	500
Links	4,400
Total	41,300

General overview of the Products handled is given below:

Sl.No	Material group	Materials involved	Major Processes involved in Fabrication	Weight (MT) / Handling requirements
1	Ceiling Girders	Plates IS 2062 E350 BR/B0 (40 mm, 63mm, 72 mm, 80 mm, 100 mm, etc)	Gas Cutting, Welding (SAW), Drilling, Grinding, Hot Correction, Warpage correction, Trial assembly, etc.	Up to 100 MT
2	Columns	IS 2062 E350 BR/B0 Plates (25mm, 32mm, 40 mm, etc)	Gas Cutting, Welding (SAW), Drilling, Grinding, Hot Correction, Warpage correction, Trial assembly, etc.	Up to 40 MT

SI.No	Material group	Materials involved	Major Processes involved in Fabrication	Weight (MT) / Handling requirements
3	General Fabrication items	Predominantly rolled sections (Channels (ISMC), Beams (ISMB, NPB, UB, UC, etc), Angles (ISA), Square Hollow Sections (SHS). Plates of various thickness to be welded to rolled sections.	Gas Cutting, Welding (SMAW), Drilling, Grinding, Hot Correction, etc.	Up to 12 MT
4	Plate formed Beams(AW)	Predominantly plates (above 12 mm thickness) IS 2062 E250 / E350	Gas Cutting, Welding (SAW), Drilling, Grinding, Hot Correction, Warpage correction, etc.	Up to 20 MT
5	Ducts	Plates IS 2062 (5mm, 6mm, 7mm, 8mm, 10mm)	Gas Cutting, Welding (SMAW), Drilling, Grinding, Hot Correction, Plate rolling, Plate pressing, Trial assy, etc	Up to 12 MT
6	Handrails	Tubes ERW Nb32 Medium IS1161 (ST, ERW tubes, etc)	Tube bending, Galvanizing, etc	Up to 10 MT
7	Piping products (With BHEL material)	Pipes and pipe with attachments (CS, AS upto P22)	Marking, Cutting, Edge Preparation, Fit Up, Welding, Painting, Stencilling	Up to 20 MT
8		Plate formed Pipe/Mitre Bends/Welded Tees/ reducers/Dished Ends etc.	Marking, Cutting, rolling, Edge Preparation, Welding, NDT, Painting(internal/External), Stencilling	Up to 20 MT
9		Machining CS/AS (Stubs, Flanges, Carrier Plates, Flat End closures Etc.)	Marking, Cutting and Machining to required dia/ machining as per drawing, rust preventive oil application	Up to 5 MT
10		Machining P91- Ultra sonic Testing reference Block	Marking, Cutting and machining as per drawing.	Up to 5 MT
11		Pipe Clamps (Gr.70, Gr22& Gr 91)	Marking, cutting, forming/Pressing, drilling, welding(*Preheat), assembly, PWHT, assembly, Painting, stencilling	Up to 10 MT
12	Piping products	Rigid Strut Assembly	Machining, Welding, assembly, painting, stencilling	Up to 5 MT
13	Piping products (With BHEL/Vendor material)	Tanks & Vessels/Deaerators (Low capacity Tanks IBR/Non IBR) –	Marking, Cutting, rolling and Fabrication as per drawing, NDT, Painting as per QP, stencilling	Up to 40 MT

SI.No	Material group	Materials involved	Major Processes involved in Fabrication	Weight (MT) / Handling requirements
14	Piping products (With Vendor material)	Non IBR & Low Pressure Piping - Pipes & Fittings (Pipe Sizes upto NB 900 & Thickness 22mm) <i>(Carbon Steel (SA106 GRB/GRC, IS 1239/3589 Black/G&T, SA234WPB/WPC, API 5 L GRB), Alloy Steel (P22/P11), SS/Duplex)</i>	Raw material procurement, fabrication as per drawing, Painting and Despatch to site	Up to 20 MT
15		IBR carbon Steel & Alloy Steel Piping (Upto P22) - Pipes & Fittings	Raw material procurement, fabrication as per drawing, Painting and Despatch to site	Up to 20 MT
16	Attachments (V – clip, U plate, Spacer clip, Metallic End covers, Stud, Sleeve, Hex Nut, Tube Lug, UT Reference block)	Carbon Steel	(Raw material issued by BHEL) Shearing, Punching, Pressing, Machining and Welding	Up to 10 MT
17	Pressure Parts (Panels, coils, headers, vessels, etc.)	Carbon & alloy steel	(Raw material issued by BHEL; IBR approval reqd) Fabrication as per drawing, NDT, hydro-test, Painting and Despatch to site, etc.	Up to 20 MT

COLUMNS:



DUCTS:



CEILING GIRDERS:



(A). PIPES (WITH VENDOR MATERIAL)

PLATE FORMED PIPES



PLATE FORMED PIPE WITH BRANCH & STIFFNER



Specifications:

- IS 2062 Gr A / Gr B
- SA515 Gr60 / Gr70
- Welded Pipes
- Variant 1: OD 4064 – 5000 mm
- Variant 2: OD 219 - 4000 mm
- Thickness: 6 – 25 mm

PLATE FORMED REDUCERS



MITRE BENDS



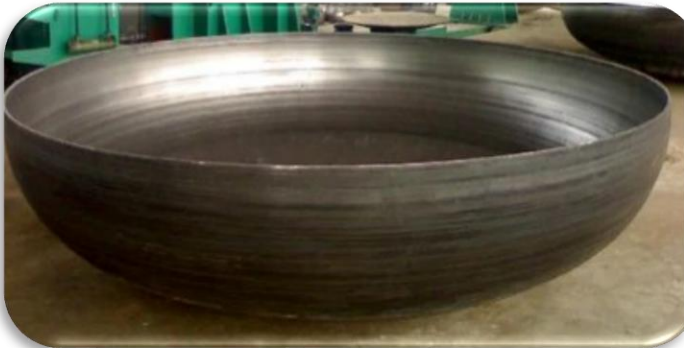
(B).PUDDLE FLANGE



Specifications:

- IS 2062 Gr A / Gr B
- SA515 Gr60 / Gr70
- OD 508 – 3000 mm
- Thickness: 6 – 25 mm

(C).DISHED END



Specifications:

- IS 2062 Gr A / Gr B
- SA515 Gr60 / Gr70
- OD 1000 – 4000 mm
- Thickness: 10 – 30 mm

(D).PIPE CLAMPS

HORIZONTAL CLAMP





Specifications:

- IS 2062
- SA515 Gr70
- SA 387 Gr22
- SA 387 Gr91
- OD: 219 – 1016 mm and ID controlled sizes also
- Thickness: 6 to 8 mm

SHOCK ABSORBER CLAMP



Specifications:

- SA515 Gr70
- SA 387 Gr22
- SA 387 Gr91
- Rod Dia M20 – M64 (SA 105, SA 182 F22, F91)
- Size OD: 219.1 – 1016 mm

TRUNNION CLAMP



Specifications:

- SA515 Gr70
- SA 387 Gr22
- SA 387 Gr91
- Thickness: 10 – 64 mm
- Size OD: 219.1 – 1016 mm

RISER CLAMP



Specifications:

- IS 2062
- SA515 Gr70
- SA 387 Gr22
- SA 387 Gr91
- OD: 219 – 1016 mm and ID controlled sizes also
- Thickness: 6 to 8 mm

U ROD CLAMP



Specifications:

- SA 105
- Dia: M12 – M64
- Size OD: 406 – 1016 mm

(E). MACHINING ITEMS

FLAT FACED FLANGE



BLANK FLANGE



SLIP ON WELD FLANGE



Specifications (Flange):

- SA 515 Gr70
- SA 105
- SA 182 F22
- Thickness: 10 – 100 mm
- Size OD: 33.4 – 3000 mm

STUBS



Specifications (Stubs):

- SA 182 F22
- SA 182 F91
- SA 105
- Thickness: 30 – 120 mm
- Size OD: NB15 – NB 100 mm

UT REFERENCE BLOCK



Specifications (UT Reference block):

- SA 335 P91 / P92
- SA 106 GRC
- SA 105
- Thickness: 30 – 120 mm
- Size OD: 219.1 – OD 1016 mm

TARGET PLATE



Specifications:

- SA 515 Gr60 / Gr70
- SA 304
- Thickness: 6 – 20 mm
- Size OD: 219.1 – 1061 mm

(F). ATTACHMENTS

COLLECTOR PLATE / WASHER PLATE



Specifications:

- CS GR12 / GR 22
- Thickness: 12 – 50 mm
- Size: 500 x 300 mm

LUG PLATE



Specifications:

- CS GR12 / GR 22
- Thickness: 6 – 20 mm
- Size: 700 x 350 mm

SCALLOPED PLATE (Straight Profile)



Specifications:

- CS GR12 / GR 22
- Thickness: 12 – 16 mm
- Size: 600 x 70 mm

SCALLOPED PLATE (Inclined Profile)



Specifications:

- CS GR12 / GR 22
- Thickness: 6 – 16 mm
- Size: 2100 x 150 mm

SHAPPED PLATES



Specifications:

- CS GR12
- Thickness: 6 – 8 mm
- Size: 100 – 1000 x 150 – 300 MM

Outsourcing Business Model: The following 2 business models are being operated:

- 1) **OSB (Outsourcing with BHEL Material)** – Material will be given by BHEL Trichy. Vendor has to collect the material from BHEL Trichy Stores and manufacture as per BHEL Drawings, deliver back to BHEL Trichy Shipping. (Vendors located within 350 km of BHEL Trichy is preferable)
- 2) **OVM (Outsourcing with Vendor Material)** – Vendor to procure the Raw Material and manufacture as per BHEL Drawings and deliver to the Project sites.

Tendering Process

Tendering for the above requirements are done through NIC portal (<https://eprocurebhel.co.in>).

The following are the types of tenders and the corresponding requirements:

- **Open tenders** – any vendor can quote, provided the pre-qualification requirements given in the tender are met. Vendor pre-registration is not mandatory.
- **Limited tenders** – only BHEL approved vendors can quote for such tenders. In other words, vendor pre-registration with BHEL is mandatory (refer below for registration procedure).

Vendor Registration procedure:

Interested Vendors shall register themselves by applying through BHEL Online Supplier Registration portal <https://supplier.bhel.in>.

The list of Material groups offered by Outsourcing Dept. for enlistment is given in the following link "<https://supplier.bhel.in> --> **Material Search** --> Select **Plant** as **Trichy (subcontractors)**". Checklists are available for each material group in the above link, against which eligibility could be ascertained.

Micro and Small Enterprises (MSE), SC/ST vendors & Women Entrepreneurs under MSE category are encouraged to apply for vendor registration for availing the benefits being accorded as per the guidelines of MSME Ministry.

For clarifications / assistance required w.r.t. Vendor enlistment, the following persons in Supplier Development Cell (SDC) can be contacted:

SI No	Name	Designation	Landline	Mobile	E – Mail ID
1	Jibu Jacob John	Sr. Manager	0431 – 257 7849	9442548984	jjjohn@bhel.in
2	S. Srinivasan	Engineer	0431 – 257 4113	9894997661	srinivasans@bhel.in