



**FABRICATION OF PIPING & PIPING COMPONENTS**  
**THROUGH CONVERSION USING BHEL MATERIAL ANNUAL**  
**FRAMEWORK AGREEMENT 2019-20**  
**Enquiry No : 4602000001 dt 24.01.2020**

**SECTION – I**

**Sub: Fabrication Of Piping & Piping Components through Conversion Using BHEL Material on an Annual Framework agreement basis.**

BHEL – Piping Centre, T.Nagar, Chennai – 600017, hereby invites offers for the fabrication of piping & piping components through conversion with “BHEL MATERIAL, on “FRAMEWORK AGREEMENT BASIS”, as per enclosed / attached details and request to submit your offers by 14:00 Hrs on or before the due date in two Parts as below in the E-procurement website <https://bhel.abcpocure.com>

Below mentioned documents will form part of the Techno-commercial Bid and Price bid in NIT. Vendors shall ensure all the documents are uploaded as per instructions below

**1. LIST OF ANNEXURES**

Section/Annexure	Remark
Section II: Terms & conditions of tender	Bidders shall download the documents and read all terms and conditions carefully. Firm shall accept the terms and conditions of all sections and annexures in Part I offer. Bidders to agree to the terms and conditions as such without taking any deviations.
Section III: Scope of Work	
Section IV: List of Rate codes against Rate schedules	
Section V: List of Rate Schedules and Quantum details	
Section VI: Sample Set of Drawings pertaining to Rate codes	
Section VII: Quality Documents	
Section VIII: Testing and inspection procedures	
Section IX: List of Approved Paint / Electrodes suppliers	
Section X: Supplementary extra prefixed rates	
Section XI: Scrap Rates	
Section XII: Standard Risk and cost	
Section XIII: Information on RA	
Section XIV: Packing Instructions for piping and piping components	
Annexure A: Pre-Qualification Requirement (PQR)	
Annexure A 1: Annexure to PQR	
Annexure B: Techno-commercial offer	
Annexure C: Bank Guarantee Format & List of Consortium Banks	
Annexure D: Integrity Pact	
Annexure E: Non-Disclosure Agreement	
Annexure F: Declaration by the bidder	
Annexure G: Certification for MSE	
Annexure H: GST Details	

Prospective suppliers are requested to submit their offer through BHEL’s E-Procurement portal (<https://bhel.abcpocure.com/EPROC>) in Two Parts basis (Part I- Pre Qualification Requirement and Techno-Commercial bid; Part II- Price bid) on or before 14.00 HRS IST on due date. Part I bid will be opened on 14.30 HRS on the tender due date.

**2. E PROCUREMENT:**

This Tender shall be processed via E-procurement portal <https://bhel.abcpocure.com>

Please go to this link of procurement site - <https://bhel.abcpocure.com>, log in with user code and password allotted. (contact Abcpocure @ <https://bhel.abcpocure.com/EPROC/contactus>)

**Note:** The following details to be furnished along with the offer

- Complete postal address with Pin Code.
- Contact Person /s, Phone No, Mobile No, FAX No, Email ID etc.



**FABRICATION OF PIPING & PIPING COMPONENTS THROUGH  
CONVERSION USING BHEL MATERIAL AGAINST OT ENO 4602000001  
DT 24.01.2020 ON FRAMEWORK AGREEMENT BASIS**

Any other terms or conditions mentioned in your offer other than the above mentioned formats will not be evaluated and will be considered null & void. Hence your offer shall contain **ONLY** the above mentioned annexure formats.

### **3. SUBMISSION OF BIDS**

Quotation shall be furnished strictly as per the templates of ***Price Bid, Pre-Qualification Requirements & Techno Commercial Offer***, with all details as called for shall be uploaded in the E procurement website.

Quotations shall be strictly as per the price bid and should not be subjected to any correlation or indirect interpretations. Quotations shall fulfill all the above requirements. Otherwise the offers may be summarily rejected as a whole or as part thereof. Rates are to be quoted strictly as per the template taking care of all the requirements as indicated. Bidders may furnish the most competitive offer after thoroughly understanding the technical requirements and confirming to meet the same. **Any detailed technical and commercial clarification may please be obtained before submission of the offer and Price Bid.**

Bidders shall ensure to fill up all field of the following in E procurement website during Tender submission:

- a) BID PART-I - Pre - Qualification Requirement and Techno commercial Bid – (Mandatory)
- b) BID PART-II- Price Bid – (Mandatory)

**Part I:** Pre-Qualification Requirements Bid and Techno Commercial Bid part accepting technical requirements and commercial conditions **“without filling the Price portion “**

**“MONEY VALUE SHOULD NOT BE INDICATED IN THIS PART”.**

**Part II:** Price bid with filled up values called for as per the price bid template furnished in E-Procurement.

BHEL shall not be responsible for wrong quotes/uploads, missing attachments, blank file uploads in E procurement webpage. Bidders are requested to submit the offers with utmost care to reduce the chance of rejection.

### **DEVIATIONS**

All clarifications may please be obtained to ensure the technical, quality, delivery, price requirements are understood, before submitting the offer. **DEVIATION ON TENDER TERMS are not acceptable.** All the deliverables shall be meeting BHEL Technical Delivery conditions and Quality requirements. In case of any clarification/better solution, same may be clearly indicated separately.

Quotations shall fulfill all the above requirements. Otherwise the offers may be summarily rejected as a whole or as part thereof. Rates are to be quoted strictly as per the template taking care of the requirements of various project sites, including responsibility of transportation to various sites, as indicated.

### **4. INTEGRITY PACT (IP):**

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



**FABRICATION OF PIPING & PIPING COMPONENTS THROUGH  
CONVERSION USING BHEL MATERIAL AGAINST OT ENO 460200001  
DT 24.01.2020 ON FRAMEWORK AGREEMENT BASIS**

The IP as enclosed with the tender is to be submitted (duly signed by authorized signatory who signs in the offer) along with techno-commercial bid. Only those bidders who have entered into such an IP with BHEL would be competent to participate in the bidding. In other words, entering into this Pact would be a preliminary qualification.

Details of IEM for this tender is furnished below:

Sl No	IEM	Address	Phone	Email
1	Shri Arun Chandra Verma,IPS (Retd.)	Flat No. C -1204, C Tower, Amrapali, Platinum Complex, Sector 119, Noida (U.P.)	8130386387	acverma1@gmail.com
2	Shri Virendra Bahadur Singh, IPS (Retd.)	H. No. B-5/64, Vineet Khand, Gomti Nagar,Lucknow - 226010	8853760730, 9818377360	vbsinghips@gmail.com

Please refer Section-8 of the IP for Role and Responsibilities of IEMs. In case of any complaint arising out of the tendering process, the matter may be referred to the IEM mentioned in the tender.

No routine correspondence shall be addressed to the IEM (phone/post/email) regarding the clarifications, time extensions or any other administrative queries, etc., on the tender issued. All such clarification/issues shall be addressed directly to tender issuing department.

#### **5. LATEST UPDATES/ CORRIGENDUM:**

All corrigenda, addenda, amendments, time extensions, clarifications etc (if any) will be hosted on BHEL's tender notification (<http://www.bhel.com>) and Government's Central Public Procurement Portal (<https://eprocure.gov.in>) websites. Such corrigenda, addenda, amendments, time extensions, clarifications etc will not be published in newspapers or any other media. Bidders shall regularly visit the above websites to keep themselves updated. This also forms part of tender hence the same shall be enclosed with their offer.

#### **6. SUSPENSION OF BUSINESS DEALINGS**

It may please be noted that guidelines with respect to suspension of business dealings', 'Vendor evaluation format' and etc may undergo change from time to time and the latest one shall be followed. Offers of Vendors who have been banned or put under hold will not be considered for evaluation. Offers of Vendors who engage the services of Vendors banned by BHEL shall be rejected. The list of banned firms is available on BHEL web site ([www.bhel.com](http://www.bhel.com) --> Tender Notification - List of Banned Firms).Abridged version of extant 'Guidelines for suspension of business dealings with suppliers/contractors' has been uploaded and is available on [www.bhel.com](http://www.bhel.com) on "supplier registration page" at the following link: [http://www.bhel.com/vender\\_registration/pdf/Suspension-of-Business-Dealings-with-Supplier-issued-Sept13\\_abridged.pdf](http://www.bhel.com/vender_registration/pdf/Suspension-of-Business-Dealings-with-Supplier-issued-Sept13_abridged.pdf). The bidders will be governed by Suspension of Business Dealings guidelines, BHEL.

**For any clarifications, contact:** Dy. Manager, Contracts / Outsourcing, BHEL, Piping Centre 80 GN Road, T Nagar, Chennai-17.Ph. No: 044 – 28161381 / 215 / 211  
Email: meerthika@bhel.in, csugu@bhel.in, cvnathan@bhel.in.

For Bharat Heavy Electricals Ltd



**FABRICATION OF PIPING & PIPING COMPONENTS THROUGH  
CONVERSION USING BHEL MATERIAL AGAINST OT ENO 4602000001  
DT 24.01.2020 ON FRAMEWORK AGREEMENT BASIS**

**SECTION – II**  
**TERMS & CONDITIONS**

**Bidder's specific attention is drawn to the following:**

Terms and Conditions which will form part of the contract arrived through this enquiry, are thoroughly read and understood before offering the rates.

**1.0 SCOPE OF THE CONTRACT**

This contract is for the Fabrication of Boiler Piping components such as

- End chamfering of thin and thick walled pipes of both IBR and NON-IBR categories
- Welding of Attachments of both IBR and NON-IBR categories
- Fabrication of Mitre-Bends
- Plate Formed Pipes and Reducers of both IBR and NON-IBR categories
- Tanks and Vessels of both IBR and NON-IBR categories
- Cut to size & Painting of Pipes, Plates and Structural Members
- Metallic End Covers
- Bending of Pipes
- Fabrication of Clamps
- UT Reference Block/Hardness Block
- Fabrication of Welded Beams, Bolted Structures
- Machining of Components like Stubs, Flanges, Plugs, Base Pipes and Branch Pipes for Welded Tees etc.,

in accordance with PO/LOI, drawings, QCP, QP, contract QP etc., out of materials and / or components to be supplied as free issue by BHEL, the details of which will be forwarded after release of each purchase order of this contract. The detailed scope of work is as below.

Description of Work, Quantity, Value and Delivery Requirements shall be as per the Purchase Orders placed from time to time. The purchase order will be placed in lots subject to the availability of bank guarantee, potential during the above period and also depending upon the performance such as collection of raw materials in time, manufacturing according to BHEL plan / requirements, meeting quality requirements and sequential and timely dispatch of components from the vendor's works, accounting of materials and also as per the minimum required Facility available at the vendor's works to meet the job requirements, submission of documents and other reports as called for. The details of work orders and material list detailing the raw material to be supplied by BHEL will be released from time to time with respect to each work order.

The Scope of work is indicated as per Annexure-1 enclosed. It is indicative and not exhaustive.

**2.0 QUANTITY & RATE SCHEDULES:**

Total quantity covered in this enquiry is 5200 MT.

The enquiry covers the 274 Rate codes under 19 Rate schedules.

(Out of which 40 rates under Schedule 19 are prefixed supplementary extra rate codes.)



**FABRICATION OF PIPING & PIPING COMPONENTS THROUGH  
CONVERSION USING BHEL MATERIAL AGAINST OT ENO 460200001  
DT 24.01.2020 ON FRAMEWORK AGREEMENT BASIS**

Total list of Rate codes covered in this tender against each Rate Code and Unit of Measurement is given in “Section IV – List of Rate codes against Rate schedules”.

A rate schedule comprising of many rate codes relates to a group of drawings / PGMAs consisting of similar nature and content of work. The fabrication rates to be quoted against rate code shall be based on the description of work content and typical /representative drawings indicated against them.

Quantum indicated against each Rate code within a rate schedule may vary during ordering stage. Hence, tolerance of  $\pm 50\%$  shall be applicable on Rate schedule group wise quantum.

Each purchase order to be released from time to time will be operated at the rates for the respective rate-codes as per this contract. Tender quantity may increase / decrease during the period of Frame Work Agreement. BHEL does not guarantee any minimum load/quantity for any vendor.

### **3.0 RATE:**

3.1 The rates to be quoted for Rate Schedules shall be for the fabrication work, testing, trial assembly etc. as per Drawing / QWI / PO, inclusive of transport charges for collection of raw material from Stores / BHEL Trichy/Thirumayam (including multiple collections) and dispatch of finished goods to Shipping / BHEL/Trichy/Thirumayam (including multiple despatches).The rates quoted shall include all costs incidentals to comply with the terms and conditions.

3.2 Rates indicated in the rate codes shall be firm and not subject to any variation / escalation on any account during the validity of this contract. The rates as per the rate codes to this contract are for conversion work only.

3.3 Major components of cost are given below (not exhaustive)

- a) Fabrication charges inclusive of transportation charges (refer Transport charges below).
- b) Trial assembly charges as called for in the drawing or by the inspecting authority.
- c) Cost of machining wherever involved.
- d) Cost of all standard components (black bolts, nuts, washers, & split pins) and the packing materials like copper ring etc. and all consumables.
- e) Charges for testing the components, eg. Hydraulic testing wherever specified, mechanical testing for test plates etc.
- f) Packing and forwarding charges with necessary end protection either with plastic or metallic end covers as per the procedure.
- g) Cost of cleaning, power tool cleaning wherever applicable, rust preventive coat, stencilling and hard stamping of work order number DU no.etc.
- h) Charges for non-destructive testing (MPI, LPI, radiography etc). Vendors have to make their own arrangements for carrying out the heat treatment.
- i) Rectification of raw materials such as straightening of Structural etc., and straightening after heat treatment.
- j) All consumables for welding as stipulated in the drawings/welding procedures & any indirect materials required for fabrication.
- k) Collection of raw material and return of any balance material to applicable BHEL stores.



**FABRICATION OF PIPING & PIPING COMPONENTS THROUGH  
CONVERSION USING BHEL MATERIAL AGAINST OT ENO 4602000001  
DT 24.01.2020 ON FRAMEWORK AGREEMENT BASIS**

### **3.4 TRANSPORT CHARGES:**

- The rates quoted by the bidder against each rate code shall **include** cost of collection and transportation of raw materials from various stores of BHEL Trichy / Thirumayam and return of finished products to BHEL Trichy shipping and also the return of off-cuts to the concerned BHEL stores at Trichy / Thirumayam.
- Irrespective of the distance of the bidder location, same rate shall be applicable.
- No extra transport charges shall be allowed for multiple collections and dispatches.
- In case of transfer of raw materials/semi-finished items from one vendor to another vendor through IAMTV, the responsibility for collection of materials including the cost of transportation and handling etc. shall rest with second vendor (fabrication bidder dispatching the finished goods).

### **DISPATCH OF FINISHED GOODS: DIRECT TO SITE (DTS):**

- Wherever necessary BHEL may advise fabricators to dispatch finished goods directly to site through BHEL arranged vehicles as DTS. In such cases the cost of transportation not incurred by the vendor from their works to BHEL TRICHY shipping point shall be recovered from the bidder in line with BHEL TRICHY existing rate contract as below:
  - Deduction of DTS (0 to 100 km ) – Rs 230 / MT
  - Deduction of DTS (above 100 and upto 350 km) – Rs560 / MT

Extra works if any carried out as per drawings / PO requirement shall qualify for extra payment, as per rates listed in Supplementary Prefixed Rate Codes. Any other work not covered under extra Rate code, but incidental to the completion of fabrication of job till handing over to BHEL, shall be deemed to be part of the main fabrication rates.

### **3.5 SUPPLEMENTARY PREFIXED RATE CODES**

Supplementary Prefixed Rate Codes such as additional cutting & welding charges, Galvanizing, threading ,heat treatment, surface preparation , painting, etc are part of main fabrication works and shall be payable over & above the basic fabrication rates as applicable.

***It is mandatory for the bidders to accept the rates of prefixed Supplementary rate codes applicable for entering into the Framework agreement. (Refer Section X)***

The rates for basic painting schemes listed shall be calculated proportionately using the said prefixed rates at actuals based on the paint specification and DFT. Such calculated paint rates shall be added extra wherever applicable, over and above the quoted rates.

Extra charges as per applicable rate codes will be paid for the following:

On placement of PO vendor shall study the drawings, QCP etc regarding applicability of supplementary rate codes and obtain prior approval from BHEL wherever necessary before taking up fabrication job.

- a) Charges for butt welding of pipes arising due to
  - Revision of Engg. Documents
  - Supply of shorter lengths of pipes than the actual requirements
  - Provision of spool pieces like in the case of rubber lined pipes



**FABRICATION OF PIPING & PIPING COMPONENTS THROUGH  
CONVERSION USING BHEL MATERIAL AGAINST OT ENO 4602000001  
DT 24.01.2020 ON FRAMEWORK AGREEMENT BASIS**

- b) For building up of edges of pipes 1.5 time the normal ep rate will be paid wherever stress relieving and radiography tests are carried out.

A total rate of additional butt joint rate pertaining to the relevant size will be paid for (a) & (b)

- c) For D1 re-machining of pipes, edge preparation rate of relevant sizes will be paid.  
d) Fabrication charges for steel crates as per BHEL Trichy / Ranipet rate contract.  
e) Heat treatment charges only for tanks & vessels and deaerators.  
f) Additional charges due to test coupon preparation as per specific contract QP.

**NOTE:**

BHEL Sister Unit/Inter department existing rates will be operated with necessary approval from competent authority for the following,

- Extra rate schedules like Radiography Test, special paints (rubber lining, etc.),
- Rate for transportation for DTS
- Any other new requirements arising due to project specific needs.

**4.0 TECHNICAL REQUIREMENTS:**

- Fabrication shall strictly conform to the dimension and tolerance indicated in the drawings. Care must be taken to strictly adhere to the notes given in the drawing and QCP/QP.
- All machining, heat treatment and non-destructive testing shall be conducted as stipulated in the QCP/QP/TIPS.
- Bulk manufacture shall be taken up only after the approval of the first sample by BHEL inspector
- In case of manufacture with vendor's materials, test certificates shall be provided.
- Extra joints shall be avoided as far as possible. Wherever it could not be avoided, the extra joint may be provided with the proper joint approval from BHEL/PC/ENGG. Details of extra joint should be incorporated in the inspection report and to be duly attested by the inspector.
- Proper packing shall be made by the vendor to avoid transit damages.
- Any other work carried out other than the requirements of drawings/QCP shall have the prior written approval of the competent authority of Outsourcing (OS), Piping Centre, BHEL, Chennai.
- Only the right kind of matching electrodes shall be used as called for in the drawing.
- Outsourcing of dished ends from plates shall be done only through the sub vendors approved by BHEL.
- Paints and electrodes shall be procured only from BHEL TRICHY manufacturers list enclosed.

**4.1. CLEANING & PAINTING**

Wherever not specified the finished components shall be shot blasted for thermally worked pipes, & cleaned by power operated wire brush for other items, prior to application of primer and painted with



**FABRICATION OF PIPING & PIPING COMPONENTS THROUGH  
CONVERSION USING BHEL MATERIAL AGAINST OT ENO 4602000001  
DT 24.01.2020 ON FRAMEWORK AGREEMENT BASIS**

one coat of red-oxide zinc phosphate primer (alkyd based) conforming to IS 12744 and one finish coat of synthetic enamel long oil alkyd to IS 2932 of color shade smoke grey.

#### **4.2. STENCILLING & HARD STAMPING**

The following details are to be stencilled:

The work order number (13 digits), du number (3 digits), no.off, weight, colour code and flow direction.

The following details are to be hard-stamped:

The work order number (13 digits), du number, specification, melt number, firm code, quantity etc, as indicated by BHEL for pipes/tubes of thickness less than 4.5mm, material specification shall be engraved/punched with suitable punch. This shall be covered with an overcoat of transport varnish. The machined surfaces shall be given one coat of Rust Preventive Oil (BONITA COMPOUND). The inside surface of all pipes and bends is to be thoroughly cleaned before dispatch. The conditions indicated in the relevant QCP/QP shall also be complied with. Threaded portions shall be protected suitably.

#### **5.0 ISSUE AND ACCOUNTAL OF RAW MATERIAL**

##### **5.1 SCOPE OF MATERIAL SUPPLY**

- For fabrication, raw materials with necessary allowances will be issued from BHEL STORES / TRICHY / THIRUMAYAM. Please note that the raw materials will be issued as per the standard allowance norms.

##### **5.2 CUTTING PLAN**

- Economic cutting plans are to be submitted **within 15 days** from the date of issue of materials.
- After the approval of the cutting plans, any off-cut available shall be returned to BHEL stores at Trichy / Thirumayam at vendor's cost. The cutting plans as approved by Outsourcing, Piping Centre, Chennai shall be kept at works for a minimum period of 3 years from date of cutting plan approval and to be made available whenever required for verification by BHEL officials or their representatives. Marking and cutting of the issued materials shall be done in line with approved cutting plans.
- Whenever fabrication is done without proper approved cutting plans, leading to material loss, then cost of materials along with the administrative charges will be recovered from vendor.
- Materials shall be collected by the fabricator within 15 days from the date of clearance. Delay shall be reported to PC/OS with reasons.

Whenever fabrication is done without proper approved cutting plans, the excess issue over and above the net weight shall attract recovery as prime material. Any clarification in the approved cutting plan should be sought by the Vendor before proceeding for fabrication. For any approved cutting plans, if the corresponding item is undergoing changes in GMS, drawing or net weight of purchase order, Vendor



**FABRICATION OF PIPING & PIPING COMPONENTS THROUGH  
CONVERSION USING BHEL MATERIAL AGAINST OT ENO 4602000001  
DT 24.01.2020 ON FRAMEWORK AGREEMENT BASIS**

should not proceed with processing the material without appropriate revision being done to the approved cutting plan.

### 5.3 MANNER OF MATERIAL UTILISATION

- The raw materials are supplied with the original mill melt number and specification in the case of full size material.
- When the material is to be cut into smaller lengths the above details are to be transferred to the pieces and the local IB/BHEL inspection stamp obtained before cutting. As far as possible the position of the material having the original stamping is to be retained as offcut till the end and shall be returned to the BHEL, if balance left over material is returnable. If the cut-bits do not contain the attestation, proportionate cost (as decided by BHEL) of the material for the cut-bits will be recovered from the vendor.
- Normally, all the indirect materials falling within the scope of the fabricator for doing the job is to be taken care of by the fabricator themselves.

### 5.4 DEFINITION OF OFFCUT / SCRAP NORMS:

Scrap and Off-cut materials are categorized based on the material size after utilization of prime material (i.e. material issued by BHEL) for fabrication job. The size details for designating a material as scrap or off-cut is as given below:

Sl. No	Description	Scrap Size (in mm)	Offcut Size (in mm)
01	CS/AS SHEETS & PLATES	Below 500 x 250	500 x 250 & above
02	ROLLED SECTIONS, INCLUDING RODS ETC	Below 1000 length	1000 & above
03	SS SHEETS & PLATES	Below 500 x 250	500 x 250 & above
04	SS STRUCTURAL, SS RODS, SS TUBES, SS PIPES	Below 250 length	250 & above
05	NON – FERROUS: SHEET & PLATE, RODS & TUBES	Below 500 x 250	500 x 250 & above,
06	NON – FERROUS: RODS & TUBES	Below 250 Length	250 & above
08	BIG SIZE SCRAP APPLICABLE ONLY FOR CS & AS (SHEETS & PLATES	(2500 & above) x (150 to 249)	-
09	PIPES, TUBES OTHER THAN P91,P92,T23 AND SS	Below 500 length	500 & above length
10	PIPES,TUBES – P91,P92 AND T23	Below 250 length	250 & above length



**FABRICATION OF PIPING & PIPING COMPONENTS THROUGH  
CONVERSION USING BHEL MATERIAL AGAINST OT ENO 4602000001  
DT 24.01.2020 ON FRAMEWORK AGREEMENT BASIS**

THE OFFCUTS shall be TREATED AS EQUIVALENT TO PRIME MATERIALS and shall be recovered at the Prime Material cost as applicable.

All off cuts are to be returned to Stores / BHEL, at vendor's cost. All scraps shall not be returned to BHEL.

## **5.5 MATERIAL ACCOUNTAL**

5.5.1 The Vendor shall ensure completion of purchase orders in all respects including material accounting within 365 days from the date of issue of the first material from BHEL stores. This is a statutory requirement and must be strictly complied with. In case PO could not be completed within 365 days from the date of first issue of raw material due to Vendor's default, the amount payable by BHEL to government (i.e. GST @ 18% of input material value + applicable interest for 365 days) will be recovered from the Bidder as penalty. The recovery/ penalty will be calculated separately for each material gate pass wherever the period crosses 365 days under a purchase order/ contract.

5.5.2 The weights of P.O. Items as per GMS shall be the basis for accounting of the raw materials issued. The raw materials shall be issued with a process allowance of 3% for sheets and 4% for plates. This includes an invisible wastage of 2% for sheets and plates. For structural, 1% is allowed towards process allowance; this includes invisible wastage (beam, channel, angle, UC, UB, rods, pipes etc.).

5.5.3 Provisional Material accounting statement (PMAS) shall be created on the next day of PO completion and shall be displayed in VIS for Vendor Information. Any discrepancy such as weight mismatch, DU correction, variation in off-cut and scrap quantum as indicated in the PMAS, IAMTV regularization, RSV return, etc., shall be reconciled / settled with necessary proof of documents within 25 days from the PMAS date. If reconciliation is not done within 25 days, it shall be deemed that PMAS is correct in all respects. On 30th day from PMAS date, Final Material Accounting Statement shall be raised. Recovery shall be posted on 35th day from PMAS date. Once FMAS is generated, no correction shall be entertained. FMAS shall be displayed to the Vendor in VIS portal. Repeated occurrence of inordinate delay in settling the material accountal will entitle BHEL the right to terminate the contract forthwith, or to impose a temporary hold on further loading at the discretion of BHEL.

5.5.4 Failure to return the prime / offcut material will entail recovery of the value of material as fixed by BHEL from time to time plus departmental/financing charges fixed from time to time. In addition to that GST as applicable will also be recovered. Recovery towards unreturned balance material as per FMAS shall be done as per BHEL norms along with applicable statutory levies from the vendor.

5.5.5 The raw material issued to the vendor as 'free issue' in connection with the fabrication contract shall remain the property of BHEL, Chennai. The vendor shall use the above materials only for the execution of BHEL's contract/addendum and for no other purpose whatsoever. The vendor shall be responsible for the full value thereof to be assessed by BHEL, Chennai whose decision shall be binding on the fabricator.

5.5.6 The vendor shall be liable for the loss or damage to such property from whatever cause happening while such property is in the possession or under the control of the vendor, their employees, workmen or agents or any other person connected with the vendor. All the materials of



**FABRICATION OF PIPING & PIPING COMPONENTS THROUGH  
CONVERSION USING BHEL MATERIAL AGAINST OT ENO 4602000001  
DT 24.01.2020 ON FRAMEWORK AGREEMENT BASIS**

BHEL, Chennai shall under no circumstance be sold/hypothecated to any bank or to any lending institution or to any party whomsoever. It should not also be shown as the vendor's assets in any of the statements of the vendor to any party.

- 5.5.7 The vendor shall produce the materials supplied as 'free issue' by BHEL in the form of raw material, semi-finished boiler components to BHEL officials visiting the vendor's unit for verification purposes.
- 5.5.8 Inventory statement has to be submitted every month by the firm for the free issued materials. If the vendor fails to produce or properly account the materials so issued, BHEL will have the right to take further action as deemed fit including recovery of the value of the materials along with the respective administrative charges and statutory levies from the running bills of the vendor / temporary suspension of load / termination of contract / de-listing.
- 5.5.9 Any act of vendor resulting in dishonest misappropriation or conversion of the materials so issued for his own use shall constitute the offence of criminal breach of trust under Indian penal code and /or such other offences under any other provisions of law and the contractee (BHEL) shall have every right to proceed against the vendor under criminal law in order to ensure proper punishment to such Perpetrator/s for the said offence/s. In such cases, BHEL shall take all necessary steps to recover the material available with those firms.
- 5.5.10 Wherever availability of material becomes critical for certain work orders, BHEL, PC will transfer the balance material available with the vendor including the scrap sizes from one fabricator to the other. For this, necessary credit will be given during material accounting. The material transfer emanating from BHEL, Chennai is to be honored immediately or otherwise, recovery will be made at the prime material cost. Any difficulty for effecting such transfer shall be brought to the knowledge of BHEL officials immediately.
- 5.5.11 If material is transferred from one work order to another work order within the vendor's works to make use of / or due to critical conditions, as instructed by PC/OS and material transferred from one vendor to another should be regularized within fifteen days by preparing IAMTV and getting it duly attested by BHEL authorities, failing which no credit will be given to the transferred material and appropriate recoveries will be made. The material transfer as advised by PC/OS is to be honored within 15 days or otherwise, recovery will be made at the prime material cost. Any difficulty for effecting such transfer shall be brought to the knowledge of outsourcing immediately.
- 5.5.12 Short / long radius (R-1 TO 1.5D) elbows, tees, reducers, forged weld neck flanges will be supplied by BHEL. However edge preparation shall be done by the vendor wherever necessary. All other machining like machining of short / long radius elbows (R-1 TO 1.5D), tees, reducers, forged weld neck flanges, flanges from plate, stubs from rods and tubes etc shall also be done by the vendor.
- 5.5.13 Bill processing will be blocked if material accountal is not settled within 30 days from completion of last DU of the PO. Payment shall be blocked if material accountal is not settled within 37 days from completion of last DU of the PO.

**5.6 SCRAP RATES:**

Recovery of the cost of the scrap along with GST and other statutory levies, if any, shall be made from the fabricator. BHEL / Out sourcing / Trichy rate contract rates are applicable and the same is provided



**FABRICATION OF PIPING & PIPING COMPONENTS THROUGH  
CONVERSION USING BHEL MATERIAL AGAINST OT ENO 4602000001  
DT 24.01.2020 ON FRAMEWORK AGREEMENT BASIS**

in Section XI. Scrap charges will be deducted with GST as applicable. In the event of non - return of prime material / off cuts, value as per BHEL's prevailing book value + 25% / 50% for indigenous / import materials will be deducted along with GST as applicable.

GST invoice for Scrap and unreturned Offcut recoveries shall be issued to the vendor

**6.0 INSPECTION**

6.1 All fabricated components shall be offered for BHEL inspection or inspection by BHEL authorized agency and IBR (Indian boiler regulations) wherever the items are coming under the purview of IBR, which shall be arranged by the vendor. Apart from the above inspections, there may be third party inspection like LLOYDS / NTPC / NPCIL etc., as nominated by BHEL / customer as per specific customer requirements.

6.2 If any IBR DU is loaded on a vendor, then the vendor shall ask for payment challan number from BHEL. If IBR payment is not made by BHEL vendor has to pay through bank challan for the same as per IBR guidelines and later get it reimbursed from BHEL by during bill submission showing their bank challan.

6.3 If at a later date BHEL has taken up the responsibility of IBR documentation, the vendor should provide all necessary documents for BHEL to prepare the IBR documentation upon which 15% balance payment would be made.

6.4 All facilities, equipment's and instruments required for inspection shall be provided by the vendor free of cost. BHEL's representatives will have free access to vendor's works during the course of the contract.

6.5 History cards shall be maintained for all the items (DU wise) duly signed by BHEL inspector. One copy of the history card shall be handed over to documentation section of QA&C/BHEL. In addition to hard copies of all inspection documents, vendors have to submit Inspection report (IR), history cards, In-process reports/charts, COC, CHP, MDCC, LLOYDS/Third Party IR'S etc as soft copy in a CD to quality department. History cards and Radiographic Film shall be stored by the vendor for a period of 5 years after the completion of the du for any cross identification.

6.6 Form-IIIA / IIIC duly stamped by director of boilers shall be submitted within thirty days from the date of completion of last DU in a work order. Vendor is responsible for the prompt submission of IBR data booklet within the stipulated time and repeated occurrence of inordinate delay in submission of IBR certificates due to reasons attributable to the vendor, will entitle BHEL the right to terminate the contract forthwith, or to impose a temporary hold on further loading at the discretion of BHEL.

6.7 Instruments & gauges are to be calibrated as follows:

	Type	Periodicity
01	Measuring instruments/gauges	1 year
02	Limit gauges (ex. Plug/ring)	1 year



**FABRICATION OF PIPING & PIPING COMPONENTS THROUGH  
CONVERSION USING BHEL MATERIAL AGAINST OT ENO 4602000001  
DT 24.01.2020 ON FRAMEWORK AGREEMENT BASIS**

03	Temperature/Pressure gauges	6 months
04	Measuring steel tapes	Once

The calibration status shall be displayed at the vendors' works in a conspicuous location. Calibration can be performed at either BHEL or any NABL/government approved labs, traceable to national standards.

6.8 For various rate schedules, the manufacturing, handling and testing facilities requirement as specified by BHEL time to time shall be available with the vendor. BHEL representatives / authorized agents shall have free access to the fabricator's works at any time during the execution of the orders as well as for verification of requisite documents / materials.

6.9 The semi-finished components are deemed to have been accepted as ready for delivery only after IR is raised by the inspector / agency. The paint quality will be checked by BHEL at regular intervals. Samples will be collected from vendor works and will be tested at BHEL to ensure quality as per relevant standards. In case of discrepancy in meeting BHEL specification the job may be rejected / vendor may be put under suspension of business.

**7.0 TENDER PROCESSING**

**7.1 ELIGIBILITY TO QUOTE FOR RATE SCHEDULE:**

Eligibility to quote against Rate Schedule for a Bidder shall be based on their manufacturing facility available at their works. Bidders shall quote price only for the rate codes for which mandatory manufacturing facility is available as indicated in the Annexure to PQR. In any case, if a bidder quotes for a particular rate code without the mandatory manufacturing facility, such rate codes shall not be considered for that bidder. Bidder shall submit prices for rate codes in the stipulated format given by BHEL in E-Procurement Portal.

**7.2 EVALUATION OF L1 RATE**

The lowest rate for a rate code per unit of measurement shall be declared as L1 rate for that particular rate code. The L1 bidder shall be declared as details given in table below against particular schedule. L1 rate shall be counter offered to all eligible bidders except highest bidders. Price Negotiation if required will be made with eligible L1 Bidder(s) for that particular rate code. Evaluation shall be done on Total cost to BHEL.

<b><u>TABLE-1</u></b>		
<b><u>SCHEDULE WISE L1 BIDDER ARRIVAL &amp; HIGHEST BIDDER ELIMINATION</u></b>		
<b>SCHEDULE</b>	<b>L1 BIDDER ARRIVAL</b>	<b>HIGHEST BIDDER ELIMINATION</b>
<b><u>SCHEDULE- 1 to 18</u></b>	L1 bidder(s) shall be arrived for each individual rate code wise.	Highest Bidder Elimination shall be arrived for each individual rate code wise.
<b><u>SCHEDULE- 19</u></b>	Supplementary prefixed rates – Mandatory for all bidders to accept to enter the rate contract.	



**FABRICATION OF PIPING & PIPING COMPONENTS THROUGH  
CONVERSION USING BHEL MATERIAL AGAINST OT ENO 4602000001  
DT 24.01.2020 ON FRAMEWORK AGREEMENT BASIS**

### **7.3 HIGHEST BIDDER ELIMINATION:**

The bids with highest rates in the order of ranking (H1, H2, H3) will be eliminated from tender / Rate Contract as per following criteria:

Number of techno commercially accepted Bids upto/equal to 10 = H1 will be eliminated.

Number of techno commercially accepted Bids above 10 & upto/equal to 30 = H1, H2 will be eliminated.

Number of techno commercially accepted Bids – Above 30 = H1, H2, H3 will be eliminated.

There will be no elimination of H1 in case of only two qualified bidders.

If more than one bidder falls under H1 or H2, all the bidders shall be eliminated.

If price bid of three technically qualified bids are opened and load has to be distributed between L1 and L2 but two bidders have jointly become highest Bidder (H1) in an item, then lot system shall be followed to break the H1 tie. Based on the outcome of the tie breaking unique rank shall be obtained for all the bidders. Based on the unique rank only one H1 will be eliminated.

### **7.4 TIE BREAKING**

In case of tie in the lowest bidder, revised reduced price offer in sealed cover will be obtained from tied L1 Bidders to break the tie. In case of mismatch in quoted price as given in figures and words, the price mentioned in words shall be taken as the final quoted price for evaluation purpose.

- Revised price shall be either less than or equal to original quoted price.
- In case tied L1 bidder do not submit revised offer for tie breaking then original quoted rate shall be considered for further evaluation.
- In case tied L1 bidder submits increased price in revised offer for tie breaking then original quoted rate shall be considered for further evaluation.
- If tie still persists, lot system will be followed to arrive at L1 bidder. Bid with the next highest evaluated cost shall be ranked L2, and the next be L3, and so on.

BHEL reserves right to re-float or short close the Rate codes or cancel the tender if L1 rates are not acceptable or due to any other reasons.

### **TIE BREAKING OTHER THAN L1**

Before counter offer acceptance, if there is tie for ranking position other than L1, then Lot system shall be followed to break the tie. Based on the outcome of Lot subsequent ranking will be revised. Load distribution shall be based on revised ranking.

### **7.5 COUNTER OFFER AND LOAD DISTRIBUTION:**

From eligible bidders, L1 bidder will be arrived on rate code wise lowest rate basis. BHEL reserves the right to distribute the work to one or more bidders.



**FABRICATION OF PIPING & PIPING COMPONENTS THROUGH  
CONVERSION USING BHEL MATERIAL AGAINST OT ENO 4602000001  
DT 24.01.2020 ON FRAMEWORK AGREEMENT BASIS**

L1 rates arrived through Price bid/Reverse auction after negotiation (if required) on rate code basis shall be counter offered to other eligible Bidders except highest bidders in their order of ranking. If any of them do not accept, the same will be extended to other eligible bidder except highest bidders eliminated.

**Ordering will be done to a maximum of 15 bidders (including L1 bidder) by counter offering L1 rates to other eligible bidders, except highest bidders.**

Annual framework agreement will be finalized valid for the **Twelve Months period** with Bidders who accept BHEL counter offered L1 rates for those rate codes and the Supplementary Pre-fixed rates.

However, loading shall be limited to tender ranks.

Loading distribution for L1, L2... bidders shall be as per TABLE-2. However, the loading on each bidder L1 & L2 will be subject to the availability of the Bank Guarantee, production capacity, potential to execute, customer approval for the vendor (if applicable), vendor performance, MSE criteria, and specific project/ customer requirements like internal special coating requirements.

<b>TABLE-2</b>	
<b>Proposed Loading Distribution in percentage (%)</b>	
<b>No. of eligible vendors after counter offer acceptance</b>	<b>Loading percentage</b>
Only 1	L1-100%
2	L1-60 : L2-40
3	L1-50 : L2-30 : L3-20
4	L1-40 : L2-30 : L3-20 : L4-10
5 and more than 5 upto 10	L1-25 : L2-20 : ***
More than 10 upto 15	L1-15 : L2-10 : ***

Note:

- \*\*\*Quantum of Loading on the balance eligible vendors shall be **equally** split up based on tender ranking order.
  
- The quantum indicated for each ranking position in the load distribution is subject to a tolerance of  $\pm 20\%$ . However, the load distribution may vary beyond the tolerance level, depending on the assembly weight / DU loading and changes in drawings if any and subject to the availability of the Bank Guarantee, production capacity, potential to execute, customer approval for the vendor (if applicable), vendor performance, MSE criteria, and specific project/ customer requirements like internal special coating requirements.
  
- In the event of L1 rates counter offered are not accepted by any other eligible vendors, the entire order quantity for the particular rate code/schedule shall be offered to L1 bidder. If L1 bidder is ready to accept more than the minimum guaranteed load % as specified above in Table-2, the same will be loaded on them considering their capacity, BG availability, load in hand, potential to execute, customer approval for the vendor (if applicable), etc. In such case, the liability of L1 bidder w.r.t risk purchase shall be limited to the quantity accepted by the L1 bidder or the minimum load % whichever is more.



**FABRICATION OF PIPING & PIPING COMPONENTS THROUGH  
CONVERSION USING BHEL MATERIAL AGAINST OT ENO 4602000001  
DT 24.01.2020 ON FRAMEWORK AGREEMENT BASIS**

- In case vendors do not execute the orders placed on them, BHEL may take action as per suspension of business dealings with such vendors as per BHEL policy guidelines.
- Availability of bank guarantee (BG) for the required material value is a must for release of purchase order even though the firm/vendor has become L1. Non-submission of Bank Guarantee by L1 vendor shall be treated as tampering of the tendering procedure affecting ordering process and action will be taken as per suspension of business dealings with such vendors as per BHEL policy guidelines.
- Purchase order will be issued after entering into frame work agreement with the vendors. BHEL does not guarantee ordering of any minimum quantity for any firm and BHEL reserves the right to short-close the quantum indicated against a Rate Schedule.

**8.0 VALIDITY**

Validity of price bids will be 3 months from the date of Part-1 bid opening. Framework agreement signed between respective Bidder and BHEL shall be valid for ordering up to a period of 12 months from the date of approval for ordering obtained from competent authority. However, validity of the Framework Agreement is subject to further extension with mutual consent of Bidders.

**9.0 DELIVERY TERMS:**

In general, delivery period for each PO line item shall be fixed based on any one of the following, whichever is later.

- (i) XX from P.O date
- (ii) XX from the last material clearance date of the Original MIVs.
- (iii) 1 month from further material clearance date, provided the further MIV is generated within one month from corresponding original MIV clearance date for each PO Item. For XX: refer below table.

Apart from the standard delivery condition indicated above, project / product wise delivery shall be indicated. The delivery period of the following products is fixed as given below:

S no	Product Description	Schedule	Delivery Period (XX)
1	<b><u>Non- IBR Category</u></b> EP/Attachments of Pipe, Machining, Welded Beam & Box	Schedule – 1(except 1.11) Schedule - 4	<b>XX - 2 months</b>
2	<b><u>Non- IBR Category</u></b> Machining – Attachments/ Special Machining, Plate Formed Items, Tanks & vessels and Clamps	Schedule – 2, 3, 5, 6, 7  For Plate Formed Products involving special internal coating such as Poly Urethane and Glass flake.	<b>XX - 3 months</b>  <b>XX – 4 months (For PU,GF Coating products)</b>
3	Bundling & Stenciling	Schedule – 1.11	<b>XX - 45 days</b>



**FABRICATION OF PIPING & PIPING COMPONENTS THROUGH  
CONVERSION USING BHEL MATERIAL AGAINST OT ENO 4602000001  
DT 24.01.2020 ON FRAMEWORK AGREEMENT BASIS**

4	<b><u>IBR Category</u></b> EP/Attachments of Pipe, Machining, Plate formed Products, Tanks & vessels.	Schedule – 8, 9, 10, 11	<b>XX - 3 months</b>
5	For other products not covered above		<b>XX - 3 months</b>

▪ The delivery period includes time involved in material collection, cutting plan approval, collection of further materials if any and handing over of finished goods to BHEL shipping. The Delivery Challan (DC) accompanying the finished / semi-finished fabrications is to be acknowledged by BHEL as proof of receipt for Payment & Billing.

**10.0 LIQUIDATED DAMAGES (LD)**

The finished fabrications should be delivered as per the delivery date stipulated in the PO. In case of delay in delivery beyond the delivery period specified in PO at item level, Liquidated damages shall be applicable for a sum equivalent to 0.5% of the value on the PO line item (fabrication cost) for each week of delay or part thereof based on the last dispatch date of the PO line item. LD is subject to a maximum of 10% of the total value of the particular purchase order in the addendum to the contract without prejudice to any relief or compensation to BHEL, Piping Centre, Chennai under any other conditions of the contract.

**LD CALCULATION & LOADING**

LD (PO line item wise) = 0.5% \* value of PO line item \* delay in weeks or part thereof, where, delay = maximum delay occurred (last dispatch date) for the delivery of PO line item from the date of clearance of the last raw material for any particular DU

Since LD shall be recovered invoice wise, invoice should be submitted for the fully completed DUs / PO item. GST shall be applicable on the LD thus recovered from a subcontractor, and the same shall also be recovered along with the LD.

For the purpose of LD, the LR date is taken as delivery date.

**If deviating with respect to BHEL's standard LD clause, loading will be applicable to the extent to which the bidder has not agreed (for eg. if bidder agrees for maximum LD of 6%, then the remaining portion ie. 4% shall be loaded on the quoted rate during price evaluation of the offer).**

Since LD shall be recovered invoice wise, invoice should be submitted for the fully completed DUs / PO item. GST shall be applicable on the LD thus recovered from a Bidder, and the same shall also be recovered along with the LD.

**11.0 PAYMENT TERMS:**

- No advance payment shall be made by BHEL.

- **For NON-IBR PGMAS**

100% payment shall be made after 60 days against invoices (to be submitted in duplicate) supported by IR from BHEL inspector / authorized agency and DC acknowledged by shipping/stores ward BHEL, Trichy/Thirumayam.



**FABRICATION OF PIPING & PIPING COMPONENTS THROUGH  
CONVERSION USING BHEL MATERIAL AGAINST OT ENO 4602000001  
DT 24.01.2020 ON FRAMEWORK AGREEMENT BASIS**

• **For IBR PGMAS**

85% payment shall be made after 60 days against invoices (to be submitted in duplicate) supported by IR from BHEL inspector/authorized agency and DC acknowledged by receipt ward BHEL, Trichy/Thirumayam.

Balance 15% payment shall be made against:

a. Submission of quality documents-particularly IBR certificates duly authorized by respective state CIB IN FORM III-A./III-C. In this regard, a copy of covering letter with the acknowledgement of BHEL/QA&C for having received the IBR certificates from Vendor shall accompany the 15% invoices.

b. Material accountal – after completion of the last DU, material accountal shall be completed within 30 days.

The vendor shall ensure that all the claims are made against the particular work order before the submission of 15 % (final) bill since BHEL will not be able to re-open the case after receipt of 15% (final bill). This 15% bills should be submitted within 1 month from the date of completion of the work order. In case of non-submission of 15% bill the amount due to the BHEL if any, out of the balance material to be returned will be recovered from the vendor's running bills. Request for delivery extension is to be made before claiming 15% (final) bill. No request for extension /refund of penalty will be entertained after submission of the 15% (final) bill.

Payment will be made after completion of jobs in all respects as per the purchase order. Payment will be made from the date of dispatch and submission of valid invoices. The purchase order will be treated as closed once the FMAS is prepared. Recovery as per the FMAS will be done from any one of the running bills of the vendors. No request for refund of recovery will be entertained after recovery is effected.

All extra charges if any shall be claimed along with invoice before goods receipt (GR).

The vendor shall ensure that all claims are made against to particular work order and submit along with the relevant invoice. The amount due to BHEL, if any out of the balance material will be recovered from the vendors running bills.

Invoice shall be raised for DU weights as per the Purchase Order (PO). Payments shall be for the DC weight only. Painting and extra rates claim shall be admitted based on approval by BHEL.

However, if the material weight changes over  $\pm 5\%$  from the total weight of a particular purchase order due to substitution, the fabrication cost for the difference in net weight shall be paid or recovered as applicable after raising necessary PO amendment. The same can be claimed along with original invoice.

Payment dues shall be paid, provided the Vendor does not have any pending FMAS recovery with any of the Subcontracting departments of BHEL. The Purchase Order shall be treated as closed once the FMAS is prepared. Recovery as per the FMAS shall be done from any one of the running bills of the Vendor. No request for refund of penalty/recovery shall be entertained after recovery is effected. All extra charges, if any, shall be claimed along with invoice. The Vendor shall ensure that all claims are made against the particular purchase order along with relevant invoice. The amount due for BHEL, if any because of non-return of off-cut material and/or other issues, shall be recovered from the Vendor's running bills, and the applicable purchase orders shall be treated as closed.

**No supplementary bill shall be entertained once bills are processed.**

Income tax deduction at source as applicable percentage as in the IT act from time to time will be made on the value of the bills in the absence of income tax exemption certificate from the concerned IT officer.



**FABRICATION OF PIPING & PIPING COMPONENTS THROUGH  
CONVERSION USING BHEL MATERIAL AGAINST OT ENO 4602000001  
DT 24.01.2020 ON FRAMEWORK AGREEMENT BASIS**

**The concessions/ subsidies as applicable to MSE vendors as per Govt. guidelines subject shall be Extended to eligible MSE vendors subject to submission of valid documents.**

**CHECKLIST FOR SUBMISSION OF BILLS:**

Vendor should ensure that the following documents are submitted for bill processing to avoid any delay in processing of payment:

- a) Online Invoice – duly signed by Vendor with seal. Vendor shall submit 100% Invoice.
- b) Online Invoice Annexures - duly signed by Vendor with seal.
- c) GST Invoice – Original for buyer and Duplicate for transporter copies (Values to be checked with B2B tax invoice template).
- d) Original IRs – with relevant painting/SB remarks and ODC details (if applicable) - duly signed by BHEL QC inspector and Vendor with seal.
- e) Delivery Challans (DC) – duly signed by Shipping/BHEL official and Vendor with seal.

**12.0 BANK GUARANTEE/FIXED DEPOSIT:**

- 12.1 Bank guarantee (BG) for free issue of BHEL's material
- 12.2 BG shall be given by Vendor for 50% of value of materials identified to be issued to the Vendor against purchase order (PO). The value of materials shall be as per BHEL calculation.
- 12.3 The vendor shall submit revolving bank guarantee for a minimum value of Rs10 lakhs at the time of signing of the rate contract required for execution of the purchase orders (PO).
- 12.4 This BG should be kept valid for a period of 90 days after contract validity or 90 days after last bill submission date whichever is later.
- 12.5 Based on the financial capacity of the Vendor, the Vendor may decide to submit BG for additional value exceeding the maximum BG value required to be submitted to BHEL for placement of a particular PO. This is for enabling smooth execution. However, this does not warrant as the only basis for PO placement.
- 12.6 PO / loading on a Vendor shall be restricted in such a way that the cumulative value of the materials to be issued to the Vendor and the materials already issued for POs under execution with that Vendor does not exceed, at any point of time, two times the value of BG submitted by the Vendor.
- 12.7 On intimation to the Vendor regarding submission of required BG based on load identified for them, if the Vendor does not submit the required BG within 10 days, then the purchase order / loading quantity may be reduced / diverted to other Vendors.
- 12.8 Further, Vendors may take note that, even after collection of 100% materials, if the DUs are not completed within delivery schedule from "A" date (date of last material issue for a DU), total payment block shall be imposed on the vendor for all POS.
- 12.9 After completion of purchase order and submission of last bill, the Vendor can request BHEL for return of BG and the same shall be considered by BHEL.
- 12.10 Bank guarantee to the specified value for the safe custody of the materials issued by BHEL, is to be executed by any one of the banks in the list of consortium of banks or nationalized banks on behalf of the Vendor. Also, the above bank guarantee shall be executed on a non-judicial stamp paper of value Rs.100/- as per BHEL's bank guarantee format attached in Section –IV.



**FABRICATION OF PIPING & PIPING COMPONENTS THROUGH  
CONVERSION USING BHEL MATERIAL AGAINST OT ENO 4602000001  
DT 24.01.2020 ON FRAMEWORK AGREEMENT BASIS**

- 12.11 The bank guarantee should cover the recoveries to be made by BHEL towards material / faulty workmanship etc. For which proper accountal is not made within the stipulated time. If the recovery amount is more than the pending bills, the difference amount should be settled immediately by submitting demand draft(s) in favour of BHEL/ Piping centre.
- 12.12 Necessary bank guarantee (BG) / fixed deposit receipt (FDR) should be furnished and renewed in time. The release of PO / contract by BHEL shall be mainly on the strength of the BG/FDR.

**13.0 GUARANTEE FOR FINISHED GOODS:**

The vendor shall warrant that the fabrications comply as fully with the drawings and other technical conditions. If the fabrications are found defective owing to faulty workman-ship/incomplete work within a period of eighteen months from the date of dispatch from the vendor's works, the vendor shall make good of it/replace the same free of cost. Alternatively, the rework / replacement charges will be recovered.

**14.0 DOCUMENTS:**

- Purchase orders duly signed, two sets of drawings, painting scheme, applicable QP (quality plan) will be provided
- Apart from the above for IBR PGMAS one copy of the director of boilers / Tamil nadu approved drawing will be provided.
- Group certificates signed by IBR authorities for attested raw materials will be arranged by BHEL for collection.
- GMS (group manufacturing specification) is made available in B2B
- Loading advice slip with annexures and gate pass (delivery challan) with annexures shall be collected by the vendor along with material. Wherever IBR attested material is involved, group certificate also shall be collected before moving the material to works. If the job pertains to NTPC projects, group certificates to be counter signed by the NTPC authorities also.

**15.0 PREFERENCE FOR MICRO & SMALL ENTERPRISES BIDDERS**

A. In line with Gazette notification issued by Ministry of Micro small and medium enterprises on MSE suppliers, Micro & Small Enterprises (MSE) Vendors shall be given preferences.

B. 25% of the tendered Quantity is earmarked for all the eligible MSE Vendors who enter into annual rate contract. Within the 25% reservation for MSE's, 3% reservation will be applicable for women owned MSE's and 6.25% reservation will be applicable for MSE's owned by SC / ST. In event of failure of such Micro and Small enterprises to participate in the tender process or meet the tender requirements and the L1 price, the 4% sub-target for procurement ear-marked MSE owned by SC / ST entrepreneurs shall be met with other MSE enterprise/s.

C. Loading of MSE Vendors who enter into Framework Agreement (*including SC/ST owned MSE*) shall be as follows:

- i. If MSE Vendor is 'L1', 25% of the Total loading shall be given to the 'L1' vendor/ further loading shall be subject to Loading Criteria.



**FABRICATION OF PIPING & PIPING COMPONENTS THROUGH  
CONVERSION USING BHEL MATERIAL AGAINST OT ENO 4602000001  
DT 24.01.2020 ON FRAMEWORK AGREEMENT BASIS**

- ii. If 'L1' is other than a MSE Vendor, then all MSE Vendor(s) L2, L3, L4 etc (as applicable) who accept the counter offer rates shall share the 25% of total loading earmarked for MSE.
- iii. In case MSE vendors participating in the tender quotes within the price band of L1 + 15 %, they will be allowed to supply the portion of the requirement subject to acceptance of L1 price by MSE.
- iv. If L1 vendor (or) Counter Offer accepted vendor is from a Micro / Small enterprise which put together covers 25% of the total tendered value, the 25% earmarking provision is not applicable.
- v. Vendors in case of more than one such MSE, the supply shall be shared proportionately. If all vendors are MSE then this clause is not applicable.

**Documents to be submitted as proof of MSE**

MSE suppliers can avail the intended benefits only if they submit along with the offer, attested / notarized copies (by a Gazetted officer) of any one of the following documents along with copy of UAM certificate-

- Valid EM II certificate having deemed validity (5 years from the date of issue of acknowledgement in EM II).
- Valid NSIC certificate.
- Copy of CA certificate (in BHEL's standard format) applicable for the relevant financial year (latest audited).

**Definitions Of MSEs Owned By SC/ST Is As Under:**

- I. In case of proprietorship firm, proprietor must be SC/ST.
- II. In case of partnership firm, the SC/ST partners must be holding at least 51% shares in the unit.
- III. In case of private limited companies, at least 51% share must be held by SC/ST promoters.
- IV. The caste/Tribe/Community certificate issued by the following authorities in the prescribed form for SCs/STs can be considered.

**Authority To Issue SC/ST Certificate:**

- I. District Magistrate/Additional District Magistrate/Collector/Deputy Commissioner/Additional Deputy Commissioner/Deputy collector/1st class stipendiary magistrate/Sub divisional Magistrate/Taluka Magistrate/Executive magistrate/Extra Assistant commissioner.
- II. Chief Presidency magistrate/Additional chief presidency magistrate/Presidency magistrate.
- III. Revenue Officer not below the rank of tehsildar.
- IV. Sub-Divisional officer of the area where the individual and / or his family normally resides.

Date to be reckoned for determining the deemed validity will be the date of bid opening (Part 1 in case of Two part bid). Non submission of such documents will lead to consideration of their bid at par with other bidders.

No benefit shall be applicable for the Enquiry if any deficiency in the above required documents are not submitted before price bid opening. However, credentials of all MSE suppliers will be verified before considering the intended benefits for MSE suppliers at the time of tender evaluation.

**Note: The MSE Vendors shall be treated on par with other vendors during Elimination process of H1 & H2**



**FABRICATION OF PIPING & PIPING COMPONENTS THROUGH  
CONVERSION USING BHEL MATERIAL AGAINST OT ENO 4602000001  
DT 24.01.2020 ON FRAMEWORK AGREEMENT BASIS**

*“MSE Suppliers can avail the intended benefits only if they submit along with offer, attested copies of either Entrepreneur Memorandum Part II (EM II) certificate having deemed validity (Five Years from the date of issue of acknowledgement in EM II) or valid NSIC certificate or EM II certificate along with attested copy of a CA Certificate (Format enclosed at Annexure 1 where deemed validity of EM II of five years has expired) applicable for the relevant Financial year (latest audited). Date to be reckoned for determining the deemed validity will be the date of bid opening (Part 1 in case of two part bid). Non Submission of such documents will lead to consideration of their bid part with other bidders. No benefit shall be applicable for this enquiry if any deficiency in the above required documents are not submitted before price bid opening. If the tender is to be submitted through E-procurement portal, then the above required documents are to be uploaded on the portal. Documents should be notarized or attested by Gazetted officer.”*

**16.0 GOODS & SERVICES TAX (GST):**

- i. Response to Tenders for Indigenous supplier will be entertained only if the vendor has a valid GST registration No (GSTIN) which should be clearly mentioned in the offer. If the dealer is exempted from GST registration, a declaration with due supporting documents need to be furnished for considering the offer. Dealers under composition scheme should declare that he is a composition dealer supported by the screen shot taken from GST portal. The dealer has to submit necessary documents if there is any change in status under GST.
- ii. Supplier shall mention their GSTIN in all their invoices (incl. credit Notes, Debit Notes) 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), Billed to party (with GSTIN) & Shipped to party details, item description as per PO, Quantity, Rate, Value, applicable taxes with nomenclature (like IGST, SGST, CGST & UTGST) separately, HSN/ SAC Code, Place of Supply etc.
- iii. All invoices shall bear the HSN Code for each item separately (Harmonized System of Nomenclature)/ SAC code (Services Accounting Code).
- iv. Invoices will be processed only upon completion of statutory requirement and further subject to following:
  1. Vendor declaring such invoice in Form GST ANX-1
  2. Receipt of Goods or Services and Tax invoice by BHEL
- v. As the continuous uploading of tax invoices in GSTN portal (in GST ANX-1) is available for all (i.e. both Small & Large) tax payers under proposed new GST Return System, all invoices raised on BHEL may be uploaded immediately in GST portal on dispatch of material /rendering of services. The supplier shall ensure availability of Invoice in GST portal before submission of invoice to BHEL. Invoices will be admitted by BHEL only if the invoices are available in GSTN portal (in BHEL's GST ANX-2).
- vi. In case of discrepancy in the data uploaded by the 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 or debit note (details also to be uploaded in GSTN portal) for the shortages or rejections in the supplies or additional claims, within the calendar month informed by BHEL.
- vii. In cases where invoice details have been uploaded by the vendor but failed to remit the GST amount to GST Department (Form PMT-08 or Form GST RET-01 to be submitted) within stipulated time, then GST paid on the invoices pertaining to the month for which GST return not filed by the vendor will be recovered from the vendor along with the applicable interest (currently 24% p.a) and all subsequent bills of the vendor will not be processed till filing of the GST return by the vendor.



**FABRICATION OF PIPING & PIPING COMPONENTS THROUGH  
CONVERSION USING BHEL MATERIAL AGAINST OT ENO 4602000001  
DT 24.01.2020 ON FRAMEWORK AGREEMENT BASIS**

- viii. In case GST credit is denied to BHEL due to non-receipt or delayed receipt of goods and/ or tax invoice or expiry of timeline prescribed in GST law for availing such ITC, or any other reasons not attributable to BHEL, GST amount claimed in the invoice shall be disallowed to the vendor.
- ix. Where any GST liability arising on BHEL under Reverse Charge (RCM), the vendor has to submit the invoices to BHEL well within the timeline prescribed in GST Law, to enable BHEL to discharge the GST liability. If there is a delay in submission of invoice by the vendor resulting in delayed payment of GST by BHEL along with Interest, then such Interest payable or paid shall be recovered from the vendor.
- x. Under GST regime, BHEL has to discharge GST liability on LD recovered from suppliers/contracts. Hence applicable GST shall also be recoverable from suppliers/contractors on LD amount. For this Tax Invoice will be issued by BHEL indicating the respective supply invoice number.
- xi. GST TDS will be deducted as per Section 51 of CGST Act 2017 and in line with Notification 50/2018 – Central Tax dated 13.09.2018. GST TDS certificate which will be generated in GST portal subsequent to vendor accepting the TDS deduction in the GST portal, will be issued to the vendor.

**17.0 PROGRESS REPORT:**

The vendor shall from time to time render such reports concerning the progress of the contract as may be required by BHEL. The submission, receipt and acceptance of such reports shall not prejudice the rights of BHEL under the contract, nor shall operate as an estoppel against BHEL merely by reason of the fact that he has not taken notice of or objected to any information contained in such reports. Action as deemed fit will be taken if the progress of work is not satisfactory.

The vendor shall furnish a monthly report (status at the end of every calendar month) regarding the availability of free issue of material at their end as per the requirements of BHEL and furnish a plan of completion in consultation with BHEL.

Any clarification in the PO Documents w.r.to Weight of PO line item, Rate Code, painting area, Category I /III etc. shall be reported to the concerned person in OS within 7 days from the date of release of PO. Discrepancy in the PO if any, has to be settled immediately then and there within 10 days from the date of purchase order. Request for any type of PO amendment shall not be considered after acceptance of Goods Receipt.

**The Vendor shall undertake all jobs awarded to them and execute them to as per Contract terms. Failure to comply with this requirement shall be dealt in line with latest revision of BHEL's Guidelines for Suspension of Business Dealings with Suppliers/Vendors.**

In case it is found later at any stage after placement of P.O. on a Vendor that facilities required for the job are not available in working condition at Vendor's works, BHEL has the right to withdraw the order without compensation of any kind of loss to Vendor due to such withdrawal of orders. Action on default Vendors shall be taken by BHEL as per Clause 15.8 to 15.17 and/or BHEL's Guidelines for Suspension of Business Dealings with Suppliers/Vendors.

**18.0 REJECTIONS:**

For any rejections that may take place during the course of manufacturing, due to raw material defect, BHEL will allow proportionate payment to the extent of manufacturing carried out as certified by BHEL inspector. The material rejected as PDO (part disposition order) due to faulty workmanship of Vendor shall entail recovery of the value of material as fixed by BHEL from time to time which is inclusive of departmental/financing charges, etc. In addition, statutory taxes, duties and levies as applicable shall also be recovered.



**FABRICATION OF PIPING & PIPING COMPONENTS THROUGH  
CONVERSION USING BHEL MATERIAL AGAINST OT ENO 4602000001  
DT 24.01.2020 ON FRAMEWORK AGREEMENT BASIS**

The material as PDO (part disposition order) due to reasons other than faulty workman-ship shall be returned to BHEL stores, failing which recovery will be made on the value of the material plus departmental / financing charges fixed from time to time. In addition statutory taxes, duties and levies applicable will also be recovered.

**19.0 RISK OF LOSS OR DAMAGE TO BHEL PROPERTY:**

The vendor shall be liable for the loss or damage to such property from whatever cause happening while such property is in the possession or under the control of the vendor, their employees, workmen or agents or any other person connected with the vendor. All the materials of BHEL shall under no circumstances to be sold / hypothecated to any bank or to any lending institution or to any party whomsoever. It should not also be shown as the vendor's assets in any of the statements of the vendor to any party.

If the vendor fail to produce or properly account the materials so issued, BHEL will take further action as deemed fit including recovery of the value of the raw materials along with the respective administrative charges and statutory levies from the running bills of the vendor.

**20.0 SUBLETTING:**

The vendor shall not sublet or assign this contract or any part thereof without the written permission of BHEL. In the event of the vendor subletting or assigning this contract or part thereof without such permission, BHEL reserves the right to cancel the contract and execute the fabrication work elsewhere at the risk and account of the vendor. The vendor is liable for any loss or damage which BHEL may incur in consequence of such fabrication elsewhere.

Part processing: the vendor may assign for completing jobs like plasma/ water jet cutting, heat treatment, galvanizing, yellow chromating, radiography & other NDT tests, bending, acid pickling, blast cleaning, rubber lining and other special painting requirements through BHEL approved sources. The documentary evidences shall be kept at vendor works for BHEL verification.

**21.0 DELAYED EXECUTION, FAILURE & TERMINATION OF CONTRACT**

In case of delay in delivery beyond PO delivery / mutually agreed delivery, or Vendor fails /refuses to complete the PO as per terms, or insufficient facilities at Vendor's works to execute a PO, BHEL has the right to get the items ordered elsewhere at the risk and cost of the Vendor with notice to the Vendor; and the additional expenditure / difference in cost, if any, including consequential cost shall be recovered from the defaulted Vendor. Also, in such case of withdrawal of orders, Vendor shall return full material in condition as issued to them by BHEL for executing the job; otherwise, BHEL shall recover full material cost and conversion cost (in case of part processed items) from Vendor by adjusting against amount due to Vendor and/or by invoking the BG and/or by any other suitable means as decided by BHEL. In addition, BHEL may recover from the default Vendor any loss to BHEL arising due to withdrawal of orders in such case, and action shall be taken as per latest revision of BHEL Guidelines for Suspension of Business dealings with Suppliers /Vendors. Vendors are requested to visit [http://www.bhel.com/vendor\\_registration/vendor.php](http://www.bhel.com/vendor_registration/vendor.php) for details of BHEL Guidelines for Suspension of Business dealings with Suppliers / Vendors.



**FABRICATION OF PIPING & PIPING COMPONENTS THROUGH  
CONVERSION USING BHEL MATERIAL AGAINST OT ENO 4602000001  
DT 24.01.2020 ON FRAMEWORK AGREEMENT BASIS**

The default Vendor shall be liable for any loss, which BHEL may sustain by reason of such risk purchases in addition to liquidated damages as mentioned above.

No compensation shall be given to the Vendor, in case of cancellation/diversion of PO(s) even if the jobs have been processed partly.

**CANCELLATION / TERMINATION OF CONTRACT, DEFAULT / BREACH OF CONTRACT AND RISK PURCHASE:**

By Submitting the bid, Bidder explicitly accepts to BHEL's requirement, as per Standard Risk and Cost clause document Enclosed.

**ACTION AND COMPENSATION IN CASE OF BAD WORKMANSHIP**

If any work has been executed with unsound, imperfect or bad workmanship or with materials of inferior quality, the Vendor shall on demand, in writing from BHEL specifying the work, materials/articles complained of, notwithstanding that the same may have been passed, certified and paid for, forthwith, rectify the work, so specified in whole or in part as the case may require, at their own cost. In the event of the Vendor's failure to do so within reasonable period, BHEL shall rectify or remove and re-execute the work at the risk and expense of the default Vendor.

**COMPENSATION AGAINST DAMAGE OF PLANT, MACHINERY/TOOLS**

BHEL reserves the right to claim adequate compensation from the Vendor on account of any damage caused to the plant and equipment/tools handed over to them for execution of work, due to careless handling or negligence on the part of the fabricator. The total cost of recovery shall be decided by BHEL.

BHEL shall have general supervision and direction over the work. BHEL has the authority to stop the work, whenever such stoppage may be necessary to ensure the proper execution of the contract.

BHEL shall also have the authority to reject all the work which do not conform to the specification. BHEL reserves the right to suspend the work or part thereof at any time, and no claim whatsoever on this account shall be entertained. In case of any dispute, the Vendor may appeal to BHEL whose decision shall be final and binding.

**22.0 ARBITRATIONS & CONCILIATION:**

Except as provided elsewhere in this contract, in case amicable settlements is not reached between the parties, in respect of any dispute or difference; arising out of the formation, breach, termination, validity or execution of the contract; or, the respective rights and liabilities of the parties; or, in relation to interpretation of any provision of the contract; or, in any manner touching upon the contract, then, either party may, by a notice in writing to other party refer such dispute or difference to the sole arbitration of an arbitrator appointed by Head of the BHEL unit, Trichy.

The Arbitrator shall pass a reasoned award and the award of the Arbitrator shall be final and binding upon the parties.



**FABRICATION OF PIPING & PIPING COMPONENTS THROUGH  
CONVERSION USING BHEL MATERIAL AGAINST OT ENO 4602000001  
DT 24.01.2020 ON FRAMEWORK AGREEMENT BASIS**

Subject as aforesaid, the provisions of arbitration and conciliation Act 1996 (India) or statutory modifications or re-enactments thereof and the rules made thereunder and for the time being in force shall apply to the arbitration proceedings under this clause. The seat of arbitration shall be BHEL, Trichy. The cost of arbitration shall be borne as per the award of the Arbitrator.

Subject to the arbitration in terms of clause 5.0 above, the courts at Trichy shall have exclusive jurisdiction over any matter arising out of or in connection with this contract.

Notwithstanding the existence or any dispute or difference and/or reference for the arbitration, the vendor shall proceed with and continue without hindrance the performance of its obligations under this contract with due diligence and expedition in a professional manner except where the contract has been terminated by either party in terms of this contract.

**23.0 FRAUD PREVENTION POLICY:**

The bidder along with its associate/ collaborators/ sub- contractors/ sub-vendors/ consultants/ service provider 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 any fraud or suspected fraud as soon as it comes to their notice.

Fraud prevention policy and List of Nodal Officers shall be hosted on BHEL website, vendor portals of Units/ Regions intranet.

**24.0 VENDOR PERFORMANCE RATING:**

Quality, right at the first time and delivery in time are the essence of the contract.

Based on the site feedback on the quality of the finished goods received, delivery performance and service rendered; a General Feedback on the Performance will be sent to Vendors or hosted in B2B system. Vendors are required to take note of the deviations enumerated in this and improve their performance in subsequent despatches. Vendors, whose performance is poor continuously, are liable to be delisted and no orders shall be placed on them. The Vendor shall undertake all jobs awarded to them under this Contract and execute them to the satisfaction of BHEL. Failure to comply with this requirement shall be dealt in line with latest revision of BHEL Guidelines for Suspension of Business Dealings with Suppliers/Vendors.

**25.0 CONFIDENTIALITY OBLIGATION:**

All the documents of BHEL (inclusive of Drawings, GMS and Standards) made available to the Vendor should be kept in strict confidence and under no circumstance be made available to others or allow others to make use of them. Such documents should be returned to BHEL after completion of the work ordered and also as and when BHEL demands.

The above confidentiality clause is binding on the employees of the Vendors also. Any contravention will be viewed very seriously and may include cancelling the contract or legal action on the Vendor.

**26.0 VENDOR INFORMATION SYSTEM (VIS):**

BHEL will establish communication with BHEL Vendors through **Vendor Information system**. Most of



**FABRICATION OF PIPING & PIPING COMPONENTS THROUGH  
CONVERSION USING BHEL MATERIAL AGAINST OT ENO 4602000001  
DT 24.01.2020 ON FRAMEWORK AGREEMENT BASIS**

the mass communications are sent through VIS and hence Vendors are advised to access BHEL web regularly. Vendors are required to have Internet connectivity.

Vendors are required to access BHEL web site on a regular basis.

Before commencing the job, latest GMS, Quality Plan applicable to the project or PO is to be ascertained, through the VIS portal. All the Quality records are to be uploaded in VIS portal.

## **27.0 GENERAL CONDITIONS**

### **I.DEFINITION**

Throughout these conditions and in the specifications, the terms:

- a. 'THE CONTRACTEE' / 'BHEL' means the Bharat Heavy Electricals Ltd, acting through Adl. General Manager, Outsourcing, Piping Centre, Chennai, unless the contract otherwise provides.
- b. 'THE VENDOR' / 'FABRICATOR' / 'BIDDER' / 'SUB VENDOR' / ' SUB CONTRACTOR' means the person, firm, or company with whom the order for fabrication is placed and shall be deemed to include the Vendor's successor (as approved by the contractee), representatives, heirs, executors and administrators as the case may be unless excluded by the term of contract.
- c. 'DRAWINGS' means the drawings exhibited or issued for the guidance of the Vendor.

### **II.EXECUTION**

The whole contract is to be executed in the most approved substantial and workman like manner to the entire satisfaction of the BHEL or the Inspecting Officer, who shall have power to reject any of the fabrication of which he may disapprove and his decision thereon and on any question as to the true intent and meaning of the specifications of drawing or of the work necessary for the proper completion of the contract shall be final and conclusive. The BHEL may require alterations if any to be made during the progress of fabrication/machining and should these alterations be such that either party to the contract considers an alteration in the charges is justified, such alterations shall not be carried out until amended cost of fabrication /machining charges have been submitted by the Vendor and accepted by the BHEL. Should the Vendor proceed to fabricate and without obtaining the consent of the BHEL in writing to an amended cost of fabrication/machining charges, the Vendor shall be deemed to have agreed to execute fabrication at such charges as may be considered reasonable by the BHEL.

### **III.FORCE MAJEURE**

If at any time during the continuance of this contract the performance in whole or part by either party of any obligation under this contract shall be prevented or delayed by reason of war, hostilities ,acts of public enemy, civil commotions, sabotage, fire, flood, explosion, epidemic, quarantine restrictions or acts of God( here in referred to as events), then provided the notice of the happenings of any such event is given by either party to other party within 21(twenty one)days from the date of occurrence thereof, either party shall reason of such event, not be entitled to terminate this contract nor shall either party have any claim for damages against other in respect of such non-performance and delay in performance and delivery under the contract shall be resumed soon as practicable after such event has come to an end or ceased to exist and the decision of the BHEL as to whether the deliveries, have been so resumed or not shall be final and conclusive. If the performance in whole or part of any obligation under the contract is for extension of time shall be granted for periods, considered reasonable by the Vendor to the BHEL subject to prompt notification by the Vendor to the BHEL of the particulars of the



**FABRICATION OF PIPING & PIPING COMPONENTS THROUGH  
CONVERSION USING BHEL MATERIAL AGAINST OT ENO 4602000001  
DT 24.01.2020 ON FRAMEWORK AGREEMENT BASIS**

events and supply to the BHEL if required of any supporting evidence. Any waiver of time in respect of particular part and thereof shall not be deemed to be a waiver of time in respect of remaining deliveries.

#### **IV. TERMINATION OF CONTRACT**

If as a result of difficulty in procurement of raw materials or due to force majeure reasons or any other reasons whatsoever the Vendor is unable to keep the delivery schedule of BHEL the extension of time may be granted by the BHEL to the extent considered necessary. Should there be delay in supply beyond the extended date of delivery, it shall be open to the BHEL to terminate the contract in part or full and make other arrangements for executing fabrication elsewhere at the cost and risk of the Vendor.

BHEL has the right to divert any of the jobs loaded from one vendor to another, if delivery of PO is delayed more than 30 days from contractual delivery date or if the progress and response of the vendor is not meeting the requirements of BHEL at the risk and cost of the vendor on whom the job was loaded originally. Action against such vendor shall be taken as per the guidelines of suspension of business dealings.

Information regarding 'Guidelines for Suspension of Business Dealings with Suppliers/ Vendors' is now available on [www.bhel.com](http://www.bhel.com) on "supplier registration page". Bidders are requested to go through these guidelines.

#### **V. INTERPRETATION**

Any dispute or difference of opinion in respect of interpretation, effect of application of this particular condition of the Vendor of the amount recoverable hereunder from the Vendor shall be decided by the BHEL and decision shall be final conclusive.

##### **i. Book Examination Clause:**

Vendor shall, whenever required, shall produce for examination by any officer of the BHEL authorized in that behalf, any cost or other account book, account voucher, receipt letter memorandum, paper or writ or any copy of extract from any such document, and also furnish information and returns verified, in such a manner as may be required in any way relating to the execution of the contract (the decision of such officer of the BHEL on this question and relevancy of any documents, information or return, being final and binding on the parties). The obligation imposed by this clause is without prejudice to the obligation of the contract/ Purchase orders or any orders binding the Vendor.

Vendor shall, if the authorized officer of the BHEL so required (whether before or after the prices have been finally fixed), extend facilities to the officer of BHEL concerned to visit the Vendor's work for the purpose of the examining the process of manufacture and estimate or ascertaining the cost of production of the articles. If any portion of the work be carried out by the Vendor or any sub-Vendor or any subsidiary or an allied firm or Company, the authorized officer of the BHEL shall have power to secure the books of such Vendor or sub-Vendor or any subsidiary or allied firm or company and the same shall be open for inspection.

##### **ii. Set off Clauses**

Payment shall be subject to the deduction of any amount for which the Vendor is liable under this contract, or any contract in respect of which Bharat Heavy Electricals Limited, Piping centre, Chennai the BHEL.



**FABRICATION OF PIPING & PIPING COMPONENTS THROUGH  
CONVERSION USING BHEL MATERIAL AGAINST OT ENO 4602000001  
DT 24.01.2020 ON FRAMEWORK AGREEMENT BASIS**

**iii. Document Secrecy:**

- a) All the documents of BHEL (inclusive of Drawings, GMS and Standards) made available to the vendor should be kept in strict confidence and under no circumstance be made available to others or allow others to make use of them.
- b) The above **SECRECY CLAUSE** is binding on the employees of the vendors also. Any contravention will be viewed very seriously and may include cancelling the contract or legal action on the vendor.

**iv. Laws Governing the Contract:**

- a) The contract shall be governed by the Laws of the Government of India in force.
- b) Irrespective of the place of execution of the contract, place of delivery, place of payment under the contract, the contract shall be deemed to have been made at the place at which the Acceptance of the tender has been issued.

**v. Jurisdiction of the Court**

The Courts of the place from where the acceptance of the tender has been issued shall alone have jurisdiction to decide any dispute arising out of or in respect of the contract.

**vi. The Global Compact**

The Global Compact is a signature initiative of then United Nations Ex-Secretary General Mr. Kofi Annan and Four United Nation Agencies.

- \*Office of the High Commissioner for Human Rights.
- \*International Labour Organization.
- \*United nations Environment Programme.
- \*United Nations Development Programme.

This is a broad based initiative and engages:

**Individual Companies**

**Business Associations**

**International Labour**

**Human Rights, Environment and Development Organizations**

**Academic & Public Policy Institutions and United Nations.**

**The BHEL is a member of this Global Compact.**

As a participating company,

- We have the obligation to Support and respect Human Rights within our spheres of influence.
- Make sure we are not complicit in Human Rights abuses.
- Make sure we are not employing forced or compulsory labour.
- Refrain from employing Child labour.
- Eliminate discrimination in our hiring and firing policies.
- Support a precautionary approach to environmental challenges.



**FABRICATION OF PIPING & PIPING COMPONENTS THROUGH  
CONVERSION USING BHEL MATERIAL AGAINST OT ENO 4602000001  
DT 24.01.2020 ON FRAMEWORK AGREEMENT BASIS**

- Undertake initiatives to promote greater environmental responsibility.
- Encourage development and diffusion of environmentally friendly technologies.

**Vendor shall also ensure to fall in line with the above principles.**

**28.0 OTHER TERMS AND CONDITIONS**

- The offer should be submitted in two part bid basis on or before the due date & time mentioned in the E-procurement portal. Further tender due date extension, if any, will be communicated through E-procurement portal only.
- Latest updates on the important dates, Amendments, Correspondences, Corrigenda, Clarifications, Changes, Revisions, etc. to Tender Specifications will be hosted in EProcurement portal.
- Action against defaulting Bidders shall be taken in accordance with the latest revision of BHEL Guidelines for Suspension of Business Dealings with Suppliers/Vendors. Refer link:  
▪ [http://www.BHEL.com/vender\\_registration/vender.php](http://www.BHEL.com/vender_registration/vender.php).
- Any change in the constitution of the vendor unit will have to be made after getting the specific approval from outsourcing department of BHEL. Any deviation found later will be dealt with as deemed fit including cancellation of registration.
- All the statutory obligations such as ESI, PF, labour acts, factories act, environmental act, etc., will have to be taken care of by the vendor. BHEL have no liability on them. Notwithstanding the above, if any demand notice is served by the concerned statutory authorities for recovery of any of their dues on BHEL, the same would be paid to the authorities, without notice to the vendor and recovered as a due from any one of the pending/future bills of the vendor. Such act of repeated default is liable for suspension/stoppages of further business till such time the defaults/violations get vacated.
- All safety precautions and use of safety equipment are to be followed while carrying out the fabrication and dispatch of the same. The vendor must have proper tools and handling equipment. There should always be a responsible person available to oversee the operation and compliance of safety regulation etc. If any non-compliance with respect to proper safety conditions/requirements, BHEL may withhold visit/inspection, instruct stoppage of work till such time the desired safety requirements/conditions are met with.
- Safety features shall be provided in vendor's works in accordance with government laws. In addition provision of fire extinguishers, helmets, goggles and gloves as needed to personnel, shall be ensured. It shall also be ensured that lifting tools and tackles for material handling are periodically tested and validated for safe use. Firms are to ensure full safety to the personnel in the work area from machinery's and materials during operation and handling. This shall also be audited by us or by a third party or by BHEL customer periodically. Lapses in this regard will attract action as per BHEL rules.
- The measurement instrument which are used shall be in metric units only which is a statutory requirement. Tapes having combined scales shall not be used. Gauges and instruments shall be calibrated at BHEL approved sources. Due care shall be taken and all safety precautions shall be observed during hydraulic testing of pipes, fittings and vessels.



**FABRICATION OF PIPING & PIPING COMPONENTS THROUGH  
CONVERSION USING BHEL MATERIAL AGAINST OT ENO 4602000001  
DT 24.01.2020 ON FRAMEWORK AGREEMENT BASIS**

- Whenever vendors are advised to buy a few materials, it shall be ensured that the materials are procured in accordance with BHEL requirements: i.e. Meeting the necessary specification and any supplementary requirements in line with BHEL material specification, quality plans. Also vendors are requested to ensure attestation on the relevant test certificates from BHEL inspectors and carry out testing of materials as advised by BHEL before taking such materials in to use.
- BHEL shall be performing quality system audit periodically in the vendor's works to meet the above requirements. Any non-conformance shall be treated seriously. Hence vendors are requested to maintain strict conformance to the above. The requirements indicated in this contract is not exhaustive and only indicative. All steps shall be taken to fulfil the intention and purpose of the guidelines
  
- All the documents of BHEL (inclusive of Drawings, GMS and Standards) made available to the fabricator should be kept in strict confidence and under no circumstance be made available to others or allow others to make use of them. Such documents shall be returned to us on demand after completion. This secrecy clause is binding on the employees of the fabricators also. Action against defaulting Bidders shall be taken in accordance with BHEL latest Guidelines for Suspension of Business dealings with suppliers/ vendors. Refer link [http://www.BHEL.com/vender\\_registration/vender.php](http://www.BHEL.com/vender_registration/vender.php).
  
- Unauthorised act of engagement of any individual who is a full time employee of BHEL for part time/full time work by the vendor will be viewed seriously and such act is liable for suspension/total stoppage of further dealings with the vendor by the BHEL
  
- Should a vendor has a relation or relations in the case of a firm or a company of the vendor, one or more of its shareholders or Relation or relations of the shareholders employed in BHEL, or any ex-employee who has retired/resigned within a period of three years as on date of the contract or at any subsequent date after award of this contract, BHEL shall be informed of the fact, failing which, the BHEL, may in his own discretion rescind the contract.
  
- The rates of this contract are applicable for the orders likely to be placed by other units/departments of the BHEL also.
  
- BHEL has implemented ERP system and validation of data to enable acceptability at shipping has to be done before moving the goods to shipping. Vendor may utilize the B2B on line system having various features for correctness of data, better and timely DU completions.
  
- List of standard QCPs, TIPs, SQPs, BHEL approved service vendors for heat treatment, laboratory, NDT etc., will be made available in VIS.
  
- Vendors shall deploy separate and adequate (at-least 1 for stores and 1 for shipping) representatives to stores and shipping to enable delay free collection of raw materials and handing over of finished goods.
  
- Vendors shall employ separate qualified and trained persons for supervising production and inspection activities. Vendors firm shall carry out inspection of all items at each stage before offering for inspection for acceptance by BHEL.
  
- BHEL at their discretion may advise for directly dispatching the finished DUs from vendor's works to site. Vendor shall coordinate with BHEL for the required dispatch documents like BHEL invoice and packing slip etc.,



**FABRICATION OF PIPING & PIPING COMPONENTS THROUGH  
CONVERSION USING BHEL MATERIAL AGAINST OT ENO 4602000001  
DT 24.01.2020 ON FRAMEWORK AGREEMENT BASIS**

- In case it comes to notice of BHEL during the finalization of Tender / after placement of Contract and while executing the Contract, that vendor has given incomplete, false, incorrect, suppressed information & data, forged documents, fake documents / certificates or any information prejudicial to BHEL's interest, BHEL will suspend the business with the vendor at any stage and the Bank Guarantee will be forfeited. Action against such Bidders shall be taken in accordance with the latest revision of BHEL Guidelines for Suspension of Business Dealings with Suppliers/ Vendors. Refer link: [http://www.BHEL.com/vender\\_registration/vender.php](http://www.BHEL.com/vender_registration/vender.php)
- **Non-Disclosure Agreement (NDA) forms part and parcel of the Contract. Non-submission of NDA will disqualify the firm.** Format of the agreement is part of the techno-commercial bid. The same has to be downloaded from EPS and to be uploaded by Bidders in EPS during submission of Bid as a confirmation to accept the provisions of Non-Disclosure Agreement (NDA).
- The jurisdiction for any arbitration/settlement of contractual/legal issues between Contractee (BHEL) and Vendor (Bidder), shall only be at the court of Tiruchirapalli.
- BHEL will not be responsible for payment of any taxes/charges wrongly paid on account of ignorance of law or otherwise.

**LIST OF ABBREVIATIONS USED IN NIT AND THEIR DESCRIPTION**

S.NO	ABBREVIATION	DESCRIPTION
1	PO	Purchase Order
2	AS	Alloy Steel
3	CS	Carbon Steel
4	RC	Rate Code
5	RS	Rate Schedule
6	PGMA	Product Group Main Assembly
7	DC	Delivery Challan
8	DR	Dimension Report
9	IR	Inspection Report
10	NS	Nature of Supply
11	DU	Despatch-able Unit
12	MPI	Magnetic Particle Inspection
13	LPI	Liquid Penetrant Inspection
14	FMAS	Final Material Accounting Statement
15	PMAS	Provisional Material. Accounting Statement
16	QP	Quality Plan
17	GMS	Group Manufacturing Specifications
18	QCP	Quality Control Procedure
19	QWI	Quality Work Instructions
20	SRV / GR	Stores Receipt Voucher / Goods Receipt
21	RSV	Return Stores Voucher
22	IAMTV	Inter Ancillary Material Transfer Voucher
23	DTS	Direct To Site
24	TIP	Testing and Inspection procedure
25	COC	Certificate of conformance
26	CHP	Customer hold point
27	MDCC	Material despatch clearance certificate

**SECTION III SCOPE OF WORK FOR OS ANNUAL CONVERSION FRAMEWORK  
AGREEMENT: FOR FABRICATION OF PIPING & PIPING COMPONENT FOR THE YEAR  
2019-20 AGAINST ENQ 4602000001/24.01.2020**

**SCHEDULE-1 & 8 OF ANNEXURE A: NIBR & IBR EP & ATTACHMENT OF PIPE OTHER  
THAN P91/P92**

**[1.1] & [8.1] END CHAMFERING / SQUARECUT/ BOTH END OF - CS / AS / SS / PIPES / FITTINGS / STUBS, MATCHING PIECE MACHINED OUT OF PIPE (OTHER THAN P91 & P92 SPECIFICATION ) - NON- IBR & IBR**

A	MARKING, TRANSFER OF ATTESTATION (FOR IBR CASES), CUTTING AND EDGE PREPARATION /SQUARE CUT OF BOTH THE ENDS OF PIPE/FITTINGS AS PER OUR DRAWINGS, RELEVANT QCP,QP ETC. STRAIGHTTENING AS MAY BE REQUIRED
B	PROVISION OF END PROTECTION AS PER THE ENCLOSED TERMS AND CONDITIONS AND AS PER TIP:07.
C	EP OF PIPES INCLUDES, DRILLING, TAPPING OF HOLES AND MOUNTING OF RG PLUGS. IF RG PLUGS ARE NOT SUPPLIED AS STOCK ITEM, CHARGES FOR MACHINING FROM ROUNDS WILL BE PAID EXTRA AS PER ACCEPTED RATE CODE
E	FOR MATCHING PIECES MACHINED OUT OF PIPE, RELEVANT EP RATE CODE IS OPERATED.
REF	SAMPLE INDICATIVE DRAWING - 3-80-300-19825

**[1.2] & [8.2] ATTACHMENTS (FOR UNIT WEIGHT UP TO 50 KG ) - AS/CS /SS- NIBR/ IBR**

**[1.3] & [8.3] FABRICATION OF PIPE WITH ATTACHMENTS (FOR UNIT WEIGHT MORE THAN 50 KG )- CS – NIBR/IBR**

**[1.4] & [8.4] FABRICATION OF PIPE WITH ATTACHMENTS (FOR UNIT WEIGHT MORE THAN 50 KG ) - AS – NIBR/IBR**

A	MARKING, TRANSFER OF ATTESTATION (FOR IBR CASES) , CUTTING AND EDGE PREPARATION OF BOTH ENDS OF PIPE AS PER DRAWING, QCP'S, CQP'S ETC. STRAIGHTTENING AS MAY BE REQUIRED
B	WELDING OF ATTACHMENTS TO MAIN PIPE INCLUSIVE OF FLANGE, END COVER, FITTINGS TO MAIN PIPE [FLANGE, END COVER, FITTINGS WILL ALSO BE TREATED AS ONE ATTACHMENT] AS PER DRAWING, QP.
C	BOTTOM SUPPORT, SADDLE SUPPORT AND SET OF CARRIER PLATES WILL ALSO BE TREATED AS ONE ATTACHMENT.
D	ATTACHMENT THAT HAVE STRUCTURAL BEAM, STIFFNER PLATE AND PAD PLATE WILL BE TREATED AS TWO ATTACHMENT.
E	NO PIPE BUTT JOINT RATES WILL BE PAID EXTRA FOR ANY ATTACHMENTS TO THE MAIN PIPE.
F	MPI/ RADIOGRAPHY HEAT TREATMENT AND ANY OTHER TEST IF NECESSARY, AS PER THE RELEVANT QCP.CQP.SQP/TIPS ETC.
G	STENCILING & MARKING AS PER TERMS AND CONDITIONS.
H	IF FLANGES, TRUNNION, ARE NOT SUPPLIED BY BHEL AS FINISHED COMPONENT BUT ONLY RAW MATERIAL IS SUPPLIED, MACHINING COST WILL BE PAID EXTRA FOR THOSE ATTACHMENT COMPONENT. FOR ATTACHMENT CASES UNIT WEIGHT (LESS THAN 50 KG)IF RAW MATERIAL IS GIVEN FOR STUB ADDITIONAL MACHINING COST WILL BE PAID EXTRA
I	SET OF FOUR CARRIER PLATE IS CONSIDERED AS A SINGLE ATTACHMENT. EACH PAD PLATE IS TREATED AS A SINGLE ATTACHMENT.
J	FABRICATION OF PUDDLE FLANGE AS PER DRAWING, HEAT TREATMENT IS APPLICABLE IF QP CALLS FOR
K	HEAT TREATMENT CHARGES SHALL BE INCLUSIVE FOR ALL <b>AS</b> CASES WHEREEVER APPLICABLE.NO EXTRA CHARGE SHALL BE PAID
L	RATES ARE INCLUSIVE OF 10 % RT IN ADDITION TO THE NDT CALLED FOR IN THE QP WHEREEVER APPLICABLE
M	<b>IF ATTACHMENT BRANCH PIPE OD SIZE IS MORE THAN 220 MM THEN THAT PIPE WITH ATTACHMENT JOB WILL BE CONSIDERED AS WELDED TEES AND APPLICABLE WELDED TEES RATE CODE WILL BE OPERATED IRRESPECTIVE OF NO. OF ATTACHMENTS LIKE STUB, CARRIER PLATES ETC</b>
REF	SAMPLE INDICATIVE DRAWING - 1-80-433-20009

**[1.5] & [8.5] WELDED TEES /HEADERSFROM PIPE WITH OR WITHOUT ATTACHMENTS. - CS & AS- NIBR / IBR**

A	MARKING, TRANSFER OF ATTESTATION, CUTTING AS PER DRAWING.
B	FABRICATION OF 'T' / HEADERS AS PER DRAWING, QP AND HEAT TREATMENT / NDT AS APPLICABLE. (IF ATTACHMENT BRANCH PIPE OD SIZE IS MORE THAN 220 MM THEN THAT PIPE WITH ATTACHMENT JOB WILL BE CONSIDERED AS WELDED TEES AND APPLICABLE WELDED TEES RATE CODE WILL BE OPERATED)
C	EDGE PREPARATION AS PER DRAWING
D	HEAT TREATMENT CHARGES SHALL BE INCLUSIVE FOR ALL AS CASES WHEREEVER APPLICABLE.NO EXTRA CHARGE SHALL BE PAID
E	RATES ARE INCLUSIVE OF 10 % RT IN ADDITION TO THE NDT CALLED FOR IN THE QP WHEREVER APPLICABLE
REF	SAMPLE INDICATIVE DRAWING - 3-80-399-31276

**[1.6] MITRE BENDS FROM PIPE (WITH ATTACHMENT LIKE BOTTOM SUPPORT, FLANGE (FREE SUPPLY) AND STUB ,ETC..)****[1.7] MITRE BENDS FROM PIPE (WITHOUT ATTACHMENT )**

A	MARKING, CUTTING AND EDGE PREPARATION AS PER DRAWING.
B	WELDING THE CUT PIPES TO MAKE MITRE BENDS AS PER DRAWING
C	WELDING OF ATTACHMENTS <b>INCLUDING FLANGE [NO EXTRA BUTT WELDING CHARGES WILL BE PAID]</b> , IF ANY, AS PER DRAWING, AND HEAT TREATMENT AS PER QCP/CQP.
D	MPI/ RT AND ANY OTHER TEST IF NECESSARY, AS PER THE RELEVANT QCP/CQP/TIPS ETC
E	STENCILING & MARKING AS PER TERMS AND CONDITIONS.
F	IF FLANGES NOT SUPPLIED BY BHEL, MACHINING OF COST OF FLANGES WILL BE PAID EXTRA.
G	IF ANY ADDITIONAL CS BUTT JOINTS WARRANTED DUE TO MATERIAL SUPPLY BY BHEL , ADDITIONAL CHARGES WILL BE PAID .
H	PROVIDING STIFFENER PLATE WHEREVER REQUIRED.APPLICABLE FOR <b>OD &gt; 1000 MM.</b>
I	FOR ATTACHMENTS, RAW MATERIAL WILL BE ISSUED AND MACHINING OF THE SAME IS IN VENDOR'S SCOPE,
J	HEAT TREATMENT CHARGES SHALL BE INCLUSIVE FOR ALL AS CASES WHEREEVER APPLICABLE.NO EXTRA CHARGE SHALL BE PAID
K	RATES ARE INCLUSIVE OF 10 % RT IN ADDITION TO THE NDT CALLED FOR IN THE QP WHEREVER APPLICABLE
REF	SAMPLE INDICATIVE DRAWING - 3-80-463-33594 / 3-80-468-32803

**[1.8] CUT TO SIZE**

A	CUTTING OF PLATES TO SIZE AS PER GMS/DRAWING/PURCHASE ORDER
B	FABRICATION OF HANGER COMPONENTS LIKE SLOTTED HOLE TOP PLATE ETC., INVOLVING MINOR MACHINING/DRILLING
C	GRINDING ALL THE EDGES SMOOTH FREE OF ANY BURRS.
D	IN CASE OF SS FOR THICKNESS MORE THAN 5 MM/ GR91 PLATES, <b>PLASMA CUTTING RATE AS PER RELEVANT RATE SCHEDULE WILL BE PAID EXTRA BASED ON THE APPROVED CUTTING PLAN.</b>

**[1.9] & [8.6] BUNDLING & STENCILLING OF BOILERS COMPONENTS**

A	STRAIGHTTENING / SQUARING OF ENDS, POWER TOOL CLEANING.
B	HANDLING, BUNDLING AND STENCILING AS PER PROJECT REQUIREMENT.
C	THE ITEMS COVERED ARE STRUCTURALS, PIPES WITH UNIT AS RUNNING METRE INVOLVING NO EP, PLATES IN SQUARE METRE, SUPPORT PIPE WITH NO CONTOUR AND SPARE PIPES

**[1.10] CONDENSING LOOP ASSY / U TUBE ASSY(CS / AS)**

A	FABRICATION OF CONDENSING LOOP ASSY / U TUBE ASSY AS PER DRAWING / QP.
REF	SAMPLE INDICATIVE DRAWING - 3-80-999-99256

**[1.11] & [8.7] MACHINING / ATTACHMENT ITEMS OTHER THAN P91/92**

A	MARKING, TRANSFER OF ATTESTATION, CUTTING AS PER DRAWING.
B	MACHINING / WELDING OF COMPONENTS ETC., AS PER DRAWING, QP ETC.,

<b>C</b>	IN CASE OF SS, PLASMA CUTTING RATE IS INCLUSIVE. NO EXTRA CHARGES WILL BE PAID
REF	SAMPLE INDICATIVE DRAWING - 4-80-303-70787 / 3-80-834-18826 / 4-80-999-78909 / 3-80-400-12475 / 2-80-468-13401 / 3-80-612-21072 / 3-80-421-33678 / 3-80-399-30214 / 3-80-452-34317 / 4-80-320-60453 / 3-80-435-30662

**SCHEDULE-2 & 9 OF ANNEXURE A : SPECIAL MACHINING / MACHNG & ATT - NIBR OTHER THAN P91/P92**

**[2.1] MACHINING ITEMS / PART PROCESSING FOR SHOP ASSEMBLIES- NON-IBR**

<b>A</b>	MARKING, CUTTING AS PER DRAWING.
<b>B</b>	MACHINING / WELDING OF COMPONENTS /THREADING OF THE RODS, BOLTS, STUDS ETC., AS PER DRAWING, QP ETC.,
REF	SAMPLE INDICATIVE DRAWING - 4-81-005-80370 / 4-80-999-93212

**[2.2] TARGET PLATE ASSEMBLY**

<b>A</b>	CUTTING, MACHINING / WELDING OF COMPONENTS AS PER DRAWING, QP ETC.,
<b>B</b>	FABRICATION OF TARGET PLATE ASSY AS PER APPLICABLE DRAWING AND QP. TARGET PLATE WILL BE ISSUED IN FINISHED CONDITION.
REF	SAMPLE INDICATIVE DRAWING - 2-80-999-05826

**[2.3] TARGET PLATE**

<b>A</b>	MANUFACTURE OF TARGET PLATE, GRINDING AND BUFFING TO MIRROR FINISH AS PER APPLICABLE DRAWING.
REF	SAMPLE INDICATIVE DRAWING - 3-80-319-32368

**[2.4] & [9.1] ORIFICE PLATE ASSY-MACHINING -ATTACHMENT - SS / CS / AS – NON-IBR/IBR**

<b>A</b>	MARKING, TRANSFER OF ATTESTATION, CUTTING AS PER DRAWING.
<b>B</b>	FABRICATION OF ORIFICE PLATE ASSY AS PER DRAWING, QP
<b>C</b>	FABRICATION / MACHINING / WELDING OF COMPONENTS AS PER APPLICABLE DRAWING, QP ETC.
<b>D</b>	APPLYING RUST PREVENTIVE OIL ON THE MACHINED SURFACE AND PAINTING OF THE REMAINING PORTION AS PER TERMS AND CONDITIONS.
<b>E</b>	<b>NO SEPARATE CHARGE WILL BE PAID FOR PLASMA CUTTING.</b>
REF	SAMPLE INDICATIVE DRAWING - 3-80-351-33691

**SCHEDULE-3 OF ANNEXURE A : SPECIAL MACHINING COMPONENTS**

**[3.1] RIGID STRUT (INCLUSIVE OF ALL MACHINING , GALVANISING & SPECIAL PAINTING )**

<b>A</b>	FABRICATION OF RIGID STRUT ASSEMBLY AS PER DRAWING WITH BHEL RAW MATERIALS AND PAINTING AS PER THE RELEVANT QCP/DRAWINGS.
<b>B</b>	THE ROD ENDS WILL BE ISSUED BY BHEL AS FINISHED COMPONENTS.
<b>C</b>	THE RATE TO BE QUOTED SHALL BE INCLUSIVE OF CHARGES FOR MACHINING, HEAT TREATMENT, GALVANIZING AND YELLOW- CHROMATIZING OF STUDS AND EPOXY BASED SPECIAL PAINTING OF AS PER SQP/DRG.
REF	SAMPLE INDICATIVE DRAWING - 3-80-999-97163

**[3.2] &[3.3] MISCELLANEOUS FABRICATIONS / WELD ON CLEVIS & CLEVIS WITH BOLT ASSY**

<b>A</b>	RATE CODE UNDER THIS CATEGORY IS APPLICABLE WHEN NO SPECIFIC RATE CODE ARE AVAILABLE FOR THE DU
<b>B</b>	FABRICATION OF DU / COMPONENT / PART AS PER APPLICABLE DRAWING AND QP.
REF	SAMPLE INDICATIVE DRAWING - 3-80-999-99228 / 3-80-999-97291

**SCHEDULE-4 OF ANNEXURE A : WELDED BEAM & WELDED BOX**

**[4] WELDED BEAM , COLLECTING BEAM & WELDED BOX**

<b>A</b>	MARKING, CUTTING AND EDGE PREPARATION AS PER DRAWING.
<b>B</b>	WELDING THE PLATES TO FORM WELDED BEAMS/ BOXES AS PER DRAWING AND BUTT JOINTS TO BUILD UP LENGTHS, INCLUDING WELDING OF SPLICE PLATE.
<b>C</b>	DRILLING OF HOLES FOR BOLTED STRUCTURES AS PER DRAWING.

D	MPI/ LPI /RT AND HEAT TREATMENT WHEREVER REQUIRED, AS PER QCP, TIPS.
E	HEAT TREATMENT CHARGES SHALL BE INCLUSIVE FOR ALL <b>AS</b> CASES WHEREEVER APPLICABLE.NO EXTRA CHARGE SHALL BE PAID
F	RATES ARE INCLUSIVE OF 10 % RT IN ADDITION TO THE NDT CALLED FOR IN THE QP WHEREVER APPLICABLE
REF	SAMPLE INDICATIVE DRAWING - 1-80-830-20517
<b>SCHEDULE- 5 &amp; 10 PF ANNEXURE A : PLATE FORMED PRODUCT - NIBR/IBR</b>	
<b>[5.1] PUDDLE FLANGE MADE OUT OF PLATE</b>	
A	FABRICATION OF PIPE FROM PLATE
B	FABRICATION OF PUDDLE FLANGE AND HEAT TREATMENT IF APPLICABLE AS PER DRAWING AND QP.
REF	SAMPLE INDICATIVE DRAWING - 3-80-468-36068
<b>FABRICATION AND MACHINING OF SEGMENTAL FLANGES</b>	
A	MARKING, CUTTING, WELDING, DRILLING, MACHINING, HEAT TREATMENT AS PER DRAWING
B	HEAT TREATMENT CHARGES SHALL BE INCLUSIVE WHEREEVER APPLICABLE.NO EXTRA CHARGE SHALL BE PAID
REF	SAMPLE INDICATIVE DRAWING - 3-80-468-31252
<b>[5.2] FABRICATION OF MANHOLE ASSEMBLY - CS – NIBR</b>	
REF	SAMPLE INDICATIVE DRAWING - 2-80-468-13383
<b>[5.3] &amp; [10.1] PLATE FORMED ITEMS - WITH &amp; WITHOUT ATTACHMENT (INVOLVES ROLLING OF PLATES,LS WELDING &amp; SQUARE CUT/EP ) - CS– NIBR/IBR</b>	
REF	SAMPLE INDICATIVE DRAWING - 3-80-494-31309
<b>[5.4] &amp; [10.2] PLATE FORMED ITEMS - WITH &amp; WITHOUT ATTACHMENT (INVOLVES ROLLING OF PLATES,LS WELDING &amp; SQUARE CUT/EP ) - AS – NIBR/IBR</b>	
REF	SAMPLE INDICATIVE DRAWING - 3-80-494-31309
<b>[5.5] PLATE FORMED REDUCERS AND FUNNEL (INVOLVES ROLLING OF PLATES,LS WELDING &amp; SQUARE CUT/EP ) - CS &amp; AS – NIBR</b>	
REF	SAMPLE INDICATIVE DRAWING - 4-80-399-77900 / 4-80-463-83678
<b>[5.6] MITRE BENDS FROM PLATE / WELDED TEE (MAIN PIPE-SIZE) FROM PLATE / Y-PIECE FROM PLATE (WITHOUT AND WITH ATTACHMENT LIKE BOTTOM SUPPORT, FLANGE (FREE SUPPLY) AND STUB, ETC..)</b>	
<b>[5.7] MITRE BENDS FROM PLATE - SS (WITH AND WITHOUT ATTACHMENT , INCLUSIVE OF PLASMA CUTTING AND PASSIVATION)</b>	
REF	SAMPLE INDICATIVE DRAWING - 3-80-463-33594
A	MARKING, TRANSFER OF ATTESTATION, CUTTING AS PER DRAWING.
B	ROLLING/BENDING THE PLATE TO FORM THE REQUIRED SIZE OF PIPE.
C	WELDING THE SEAM AS PER DRAWING
D	MARKING, CUTTING AND EDGE PREPARATION OF PIPE AS PER DRAWING
E	WELDING THE CUT PIPES TO MAKE MITRE BENDS AS PER DRAWING
F	WELDING OF ATTACHMENTS <b>INCLUDING FLANGE [NO EXTRA BUTT WELDING CHARGES WILL BE PAID]</b> , IF ANY, AS PER DRAWING, AND HEAT TREATMENT AS PER QCP/CQP.
G	MPI/ RT AND ANY OTHER TEST IF NECESSARY, AS PER THE RELEVANT QCP/CQP/TIPS ETC.
H	STENCILING & MARKING AS PER TERMS AND CONDITIONS.
I	IF FLANGES NOT SUPPLIED BY BHEL, MACHINING OF COST OF FLANGES WILL BE PAID EXTRA.
J	IF ANY ADDITIONAL LS,CS BUTT JOINTS WARRANTED DUE TO MATERIAL SUPPLY BY BHEL , ADDITIONAL CHARGES WILL BE PAID ON CIRCUMFERENTIAL LENGTH FOR PIPES AND LONGITUDINAL LENGTH FOR PLATES
K	PROVIDING LIFTING LUG/STIFFENER PLATE WHEREVER REQUIRED.
L	FOR ATTACHMENTS, RAW MATERIAL WIL BE ISSUED AND MACHINING OF THE SAME IS IN VENDOR'S SCOPE,

M	FOR FUNNEL, PIPE/ PLATE WILL BE SUPPLIED AS RAW MATERIALS – TO BE FINISHED AS PER APPLICABLE DRAWING/QP
N	FOR C.S. PF PIPES HT REQUESTED FOR THK 19 MM AND ABOVE (AS PER GENERAL QP) AND IN CASE ANY SPECIFIC CUSTOMER REQUIREMENT OTHER THAN THE ABOVE HT CHARGES WILL BE PAID EXTRA.
<b>SCHEDULE-6 &amp; 11 OF ANNEXURE A :TANKS &amp; VESSELS -NIBR/IBR</b>	
<b>[6] &amp; [11] TANKS, VESSELS &amp; DISHED ENDS</b>	
A	FABRICATION OF VESSELS AND ACCESSORIES LIKE SUPPORT, FOUNDATION BOLTS ETC. IN ACCORDANCE WITH THE DRAWINGS ISSUED BY BHEL, OUT OF RAW MATERIALS AND / OR COMPONENTS SUPPLIED AS FREE ISSUE BY BHEL.
	ADDITIONAL CS, LS BUTT JOINTS CHARGES EXTRA FOR THE WELDING LENGTH BASED ON THE APPROVED CUTTING PLAN.
	DISHED ENDS TO BE SUPPLIED AS FINISHED COMPONENT BY BHEL. IF RAW MATERIAL IS SUPPLIED INSTEAD OF FINISHED DISHED END, ADDITIONAL CHARGES WILL BE PAID EXTRA AGAINST APPLICABLE RATE CODE FOR MAKING DISHED ENDS.
B	MANUFACTURE AND SUPPLY OF DISHED ENDS AS PER BHEL DRG AND QP.
C	MANUFACTURING, RADIOGRAPHIC TESTING AND HYDRAULIC TESTING SHALL BE CARRIED OUT AS PER RELEVANT QCPS, SQP/CQPS,TIPS ETC.
D	HEAT TREATMENT FOR TANK ASSEMBLY AS A WHOLE IF ANY WILL BE INCLUSIVE
REF	SAMPLE INDICATIVE DRAWING - 0-81-026-00420 / 1-81-026-01111 / 2-81-042-00618
<b>SCHEDULE-7 OF ANNEXURE A : CLAMPS</b>	
<b>[7] CLAMPS (AS / CS) / ROD TYPE CLAMP/ CLAMP MADE OUT OF PLATE</b>	
A	FABRICATION OF C.S./A.S. CLAMP ASSEMBLIES, WITH BHEL RAW MATERIALS AS PER DRAWINGS AND QCP/SQP/CQPS.
B	MPI & LPI WHEREVER REQUIRED OR AS CALLED FOR IN THE QCP/CQP/SQP/TIP.
C	HEAT TREATMENT AS PER QCP/CQP/SQP.
D	ASSEMBLING THE CLAMPS AS PER DRAWING
E	FOR ROD TYPE CLAMP MARKING AND CUTTING OF RODS AS PER DRAWING
	BENDING OF ROD FOR THE FORMATION OF CLAMP,
	HEAT TREATMENT AS PER APPLICABLE DRAWING / QP THREADING AT THE BOTH ENDS AS PER DRAWING.
F	HEAT TREATMENT CHARGES SHALL BE INCLUSIVE FOR ALL AS CASES WHEREEVER APPLICABLE.NO EXTRA CHARGE SHALL BE PAID
REF	SAMPLE INDICATIVE DRAWING - 3-80-830-31509 / 4-80-923-54150 / 3-80-830-31456 / 2-80-999-99254 / 2-80-999-99263 / 2-80-928-12604 / 3-80-830-31509
<b>SCHEDULE- 8 , 9 , 10 , 11 OF ANNEXURE A : IBR</b>	
<b>AS GIVEN ABOVE ALONG WITH NIBR</b>	
<b>SCHEDULE-12 &amp; 13 OF ANNEXURE A: MACHINING ITEMS– NIBR / IBR</b>	
A	MARKING, TRANSFER OF ATTESTATION, CUTTING AS PER DRAWING.
B	MACHINING OF COMPONENTS /THREADING AS PER DRAWING, QP ETC.,
REF	SAMPLE INDICATIVE DRAWING - 4-80-447-57766
<b>SCHEDULE-14 OF ANNEXURE A : P91/ P92 PIPE EP &amp; MACHINING OF P91/P92 COMPONENTS</b>	
<b>[14.1] END CHAMFERING / SQUARECUT/ BOTH END OF - P91, P92- PIPES / FITTINGS / STUBS, MATCHING PIECE MACHINED OUT OF PIPE</b>	
A	MARKING, TRANSFER OF ATTESTATION, CUTTING AND EDGE PREPARATION /SQUARE CUT OF BOTH THE ENDS OF PIPE/FITTINGS AS PER OUR DRAWINGS, RELEVANT QCP, QP ETC
B	PROVISION OF END PROTECTION AS PER THE ENCLOSED TERMS AND CONDITIONS AND AS PER TIP:07.
C	EP OF PIPES INCLUDES, DRILLING, TAPPING OF HOLES AND MOUNTING OF RG PLUGS. IF RG PLUGS ARE NOT SUPPLIED AS STOCK ITEM, CHARGES FOR MACHINING FROM ROUNDS WILL BE PAID EXTRA AS PER ACCEPTED RATE CODE

E	FOR MATCHING PIECES MACHINED OUT OF PIPE, RELEVANT EP RATE CODE WILL BE OPERATED.
F	IF SPARE/ SUPPORT PIPE WHICH HAS TO BE CUT BY THE VENDOR TO MEET THE GMS/DRG LENGTH FOR THOSE CASE 50% OF CORRESPONDING EP RATE WILL BE PAID.
<b>[14.2] MACHINING OF P91/P92 COMPONENTS</b>	
A	CUTTING OF RODS, MACHINING / THREADING OF THE RODS WITH BHEL RAW MATERIAL AS PER DRAWING.
B	ELECTRO-GALVANIZING AND YELLOW-CHROMATIZING, WHEREVER REQUIRED AS PER THE DRAWING AND RELEVANT QCP
C	APPLYING RUST PREVENTIVE OIL ON THE MACHINED PORTION AND PAINTING OF THE REMAINING PORTION AS PER TERMS AND CONDITIONS.
D	FABRICATION / MACHINING / THREADING / PARTS AS PER APPLICABLE DRAWING, QP ETC.
REF	SAMPLE INDICATIVE DRAWING - As per NIBR reference drawing
<b>SCHEDULE-15 OF ANNEXURE A P91/P92/AS/CS UT REFERENCE BLOCK / HARDNESS BLOCK</b>	
A	MANUFACTURING AND TESTING OF P91 REFERENCE BLOCKS SHALL BE AS PER THE APPLICABLE DRAWING.
B	AT MOST CARE SHALL BE TAKEN W.R.T BLOCK DIMENSIONS, SURFACE FINISH, NOTCH LOCATION & SIZE .THE TOLERANCES SHALL BE AS PER THE APPLICABLE DRAWING.
C	CIRCUMFERENTIAL & AXIAL REFERENCE BLOCKS SHALL BE IDENTIFIED BY HARD PUNCHING OF PIPE OD, THICKNESS & SPECIFICATIONS ON END FACE ONLY. NO HARD PUNCH IS ALLOWED ON PIPE SURFACES.
D	ALL THE FINISHED ITEMS SHOULD BE CALIBRATED BY THE VENDOR IN ANY 'NABL' APPROVED LABORATORY AT VENDOR'S COST.
REF	SAMPLE INDICATIVE DRAWING - 3-80-999-97833 / 3-80-999-97834
<b>SCHEDULE-16 OF ANNEXURE A: MACHINING OF WELDED TEES (BASE PIPE /BRANCH PIPE)/ SUPPORT PIPE -(IBR/NIBR)</b>	
<b>[16.1] WELDED TEES BASE PIPE ( SPEC-F11,F22,SA105,SA106GRB &amp; SA106GRC)</b>	
<b>[16.2] WELDED TEES BASE PIPE ( SPEC-F91 &amp; P91/P92)</b>	
A	MARKING, TRANSFER OF ATTESTATION, CUTTING AND EDGE PREPARATION /SQUARE CUT OF BOTH THE ENDS OF PIPE/FORGING ( INCLUDING ID/OD MACHINING) AS PER BHEL DRAWINGS, RELEVANT QCP,QP ETC
B	PROVISION OF END PROTECTION AS PER THE ENCLOSED TERMS AND CONDITIONS AND AS PER TIP:07.
C	DRILLING AND ENLARGING BRANCH OPENING AS PER DRAWING.
REF	SAMPLE INDICATIVE DRAWING - 3-80-468-36098
<b>[16.3] WELDED TEES BRANCH PIPE ( SPEC-F11,F22,SA105,SA106GRB &amp; SA106GRC)</b>	
<b>[16.4] WELDED TEES BRANCH PIPE ( SPEC-F91 &amp; P91/P92)</b>	
A	MARKING, TRANSFER OF ATTESTATION, CUTTING AND EDGE PREPARATION /SQUARE CUT AT SINGLE END OF PIPE/ FORGING ( INCLUDING ID/OD MACHINING) AS PER BHEL DRAWINGS, RELEVANT QCP,QP ETC
B	PROVISION OF END PROTECTION AS PER OF THE ENCLOSED TERMS AND CONDITIONS AND AS PER TIP: 07.
C	PROFILE MACHINING AND CHAMFERING ON OTHER SIDE AS PER DRAWING.
REF	SAMPLE INDICATIVE DRAWING - 3-80-468-33847
<b>[16.5] MACHINING OF SUPPORT PIPE ( SPEC- AS/CS)</b>	
<b>[16.6] MACHINING OF SUPPORT PIPE ( SPEC- P91/P92)</b>	
A	MAKING OF SUPPORT PIPE TO SUIT WITH THE MAIN PIPE (AS/CS) AS PER DRAWING.
B	MAKING OF SUPPORT PIPE TO SUIT WITH THE MAIN PIPE (P91/P91) AS PER DRAWING (GAS CUTTING IS NOT ALLOWED).
REF	SAMPLE INDICATIVE DRAWING - Section Detail D
<b>SCHEDULE-17 OF ANNEXURE A: METALLIC END COVER</b>	
A	METALLIC END COVER FABRICATION FROM SHEET UP TO THK 5 MM 1)FABRICATION OF METALLIC END COVER AS PER DRAWING

REF	SAMPLE INDICATIVE DRAWING - 3-00-301-31366 / 2-80-301-14023
<b>SCHEDULE-18 OF ANNEXURE A: BENDING OF PIPE</b>	
A	MARKING, TRANSFER OF ATTESTATION AND CUTTING AS PER DRAWING
B	BENDING OF PIPES AND TUBES AS PER BHEL DRAWING AND QCP AND CARRYING OUT HEAT TREATMENT IF APPLICABLE.
C	EDGE PREPARATION AS PER DRAWING
REF	SAMPLE INDICATIVE DRAWING - Section Detail A & B
<b>SUPPLEMENTARY PREFIXED RATES</b>	
<b>SCHEDULE-19 OF ANNEXURE A: EXTRA RATE SCHEDULE</b>	
<b>[19.1] HANDLING OF HIGH THK PIPE</b>	
A	<b>APPLICABLE ONLY FOR PIPE ; NOT APPLICABLE FOR PIPE WITH ATTACHMENT</b>
<b>[19.2] SS MATERIAL COST</b>	
A	ONLY WEIGHT OF FINISHED COMPONENT WEIGHT AS PER GMS / DRAWING WILL BE CONSIDERED.
<b>[19.3] PLASMA CUTTING</b>	
A	MARKING AND PLASMA CUTTING OF PLATES AS PER DRAWING AND FINISHING THE CUT EDGES WITH GRINDING.
<b>[19.4] ADDITIONAL PLATES BUTT JOINTS (AS / CS / SS)</b>	
<b>[19.5] ADDITIONAL PIPE BUTT JOINTS (AS / CS)</b>	
A	EDGE PREPARATION / SQUARE CUT OF THE PIPES/STRUCTURES AS PER DRAWING/QCP.
B	ROOT WELDING BY TIG
C	WELDING AS PER THE DRAWING/QCP
D	HEAT TREATMENT AS PER THE DRAWING/QCP
E	LPI/MPI/RADIOGRAPHY AS PER THE DRAWING/ QCP/QP
<b>[19.6] HEAT TREATMENT</b>	
A	HEAT TREATMENT AS PER DRAWING / QP.
<b>[19.7] GALVANISING, CHROMOTISING &amp; THREADING</b>	
A	THREADING / GALVANIZING / CHROMOTISING OF TUBES / PIPES / COMPONENTS AS PER DRAWINGS & QP
<b>[19.8] PAINTING CATEGORY</b>	
A	SURFACE PREPARATION WITH POWER OPERATED WIRE BRUSH/ BLAST CLEANING AS PER PAINTING Q.P (FOR BLAST CLEANING RATE WILL BE PAID EXTRA AS PER BHEL RATE SCHEDULE.
B	PAINTING SHALL BE AS PER APPLICABLE PAINTING SCHEMES OR AS PER QP/DRG
C	<b>PAINTING COST DOES NOT COVER BLAST CLEANING COST.</b>
D	PUNCHING AND STENCILING OF WORK ORDER NUMBER, DU NUMBER, QTY, WEIGHT, SUBCONTRACTOR'S CODE ETC., AS PER THE ENCLOSED TERMS, AND CONDITIONS.
E	PROVIDING END CAPS, VCI PELLETS (DOSAGE: 100GRAMS/CU.M) AND PACKING AS PER OUR LATEST QCP. (ADD IN GENERAL POINT)
F	FOR ITEMS COMING UNDER THE PURVIEW OF IBR INVOLVING PAINTING ONLY, ALL IBR FORMALITIES TO BE STRICTLY FOLLOWED.
G	RATES ARE TO BE INDICATED AS PER THE SCHEDULES WHICH WILL BE OPERATED. FOR ANY VARIATIONS IN PAINTING THICKNESS REQUIRED AS PER PROJECT REQUIREMENT, PROPORTIONATE RATES ON THE AGREED RATE SCHEDULES WILL OPERATED.
H	IF ANY COMPONENT HAS FURTHER OPERATIONS LIKE CUTTING, WELDING AT SITE, FOR THAT TWO COAT OF RED OXIDE PAINT WILL BE APPLICABLE. SUCH COMPONENTS ARE SUPPORT PIPE, SPARE PIPE , PLATE ISSUED IN SQM ETC.

I	FOR INSIDE PAINTING 100 MM EACH SIDE SHOULD BE LEFT BLANK.ENABLEING THAT PORTION PAINTING WILL BE CARRIED OUT AT/BY SITE AFTER SITE WELDING.
<b>[19.9] PU COATING OF PIPE AND PIPING COMPONENTS LIKE FLANGE</b>	
A	AS PER QP & DRAWING.
<b>[19.10] GF COATING OF PIPE AND PIPING COMPONENTS LIKE FLANGE</b>	
A	AS PER QP & DRAWING.
<b>GENERAL</b>	
A	STENCILING & MARKING AS PER 4.1 OF TERMS AND CONDITIONS.
B	NOTE : AS – ALLOY STEEL REFERRED IS UP TO P22 / F22 / GR-22 / P11 / P22
C	PROVISION OF END PROTECTION AS PER OF THE ENCLOSED TERMS AND CONDITIONS AND AS PER TIP:07.
D	IN CASE OF SPARE PIPE OR SPOOL PIPE WHERE SQUARE CUTTING IS INVOLVED 50% OF THE RELEVANT EP RATE WILL BE OPERATED PER CUTTING
E	ALL PIPE ENDS SHALL BE PROVIDED WITH END CAPS/PROTECTION IN ACCORDANCE WITH RELEVANT QCP.COST OF END CAPS IS INCLUSIVE.
F	FABRICATION COST IS INCLUSIVE OF POWER TOOL CLEANING CHARGE
G	PMI TO BE DONE BY BHEL PMI MACHINE
F	PROVIDING SILICA-GEL AS PER QCP

SECTION IV				
LIST OF RATE CODES FOR OS ANNUAL CONVERSION FRAMEWORK AGREEMENT FOR FABRICATION OF PIPING & PIPING COMPONENT FOR THE YEAR 2019-20 AGAINST ENQ 4602000001/24.01.2020				
SI No	CATEGORY	RATE CODE	DESCRIPTION	UOM
<b>SECTION- I - NON-IBR CODES</b>				
<b>SCHEDULE-1 -NIBR EP &amp; ATTACHMENT OF PIPE OTHER THAN P91/P92</b>				
<b>[1.1] END CHAMFERING / SQUARECUT/ BOTH END OF - CS / AS / SS / PIPES / FITTINGS / STUBS, MATCHING PIECE MACHINED OUT OF PIPE (OTHER THAN P91 &amp; P92 SPECIFICATION ) - NON- IBR</b>				
1	EP-NONIBR	P19001	Non IBR -END CHAMF OF UP TO OD 460 MM AND UP TO THK 20 MM	MT
2	EP-NONIBR	P19002	Non IBR -END CHAMF OF UP TO OD 460 MM AND ABOVE THK 20 MM	MT
3	EP-NONIBR	P19003	Non IBR -END CHAMF OF ABOVE OD 460 MM & UP TO OD 765 MM - THK UP TO 20 MM	MT
4	EP-NONIBR	P19004	Non IBR -END CHAMF OF ABOVE OD 460 MM & UP TO OD 765 MM AND THK ABOVE 20 MM	MT
5	EP-NONIBR	P19005	Non IBR -END CHAMF OF ABOVE OD 765 MM & UP TO OD 1220 MM AND THK UP TO 20 MM	MT
6	EP-NONIBR	P19006	Non IBR -END CHAMF OF ABOVE OD 765 MM & UP TO OD 1220 MM AND THK ABOVE 20 MM	MT
<b>[1.2] ATTACHMENTS (FOR UNIT WEIGHT UP TO 50 KG ) - AS/CS - NIBR</b>				
7	ATT-NIBR	P19007	Non IBR -FAB OF PIPE WITH ATTACHMENT AS/ CS /NIBR & PER UNIT WT UPTO 50 KG / WELDED TEE FROM PIPE UPTO OD 220(MAIN PIPE) / SADDLE SUPPORT /SLEEVE ARRANGEMENT/ FABRICATION OF SPECTACLE FLANGE - NIBR. NOTE : ATT- FLANGES/STUBS WILL BE SUPPLIED IN FINISHED CONDITION.	KG
<b>ATTACHMENTS -SS- NIBR</b>				
8	ATT-NIBR	P19008	FAB OF SS PIPE OD UP TO 610 MM WITH ATTACHMENT . NOTE : ATT- FLANGES/STUBS WILL BE SUPPLIED IN FINISHED CONDITION.	MT
<b>[1.3] FABRICATION OF PIPE WITH ATTACHMENTS (FOR UNIT WEIGHT MORE THAN 50 KG ) - CS - NIBR</b>				
9	ATT-NIBR	P19009	Non IBR -FAB OF PIPE WITH ATTACHMENT : CS & NIBR : UP TO 5 ATTACHMENTS LIKE STUBS,CARRIER PLATE,FLANGE,BOTTOM SUPPORT (SUB ASSEMBLY),ETC.) / SADDLE SUPPORT /SLEEVE ARRANGEMENT , PUDDLE FLANGE FROM PIPE	MT
10	ATT-NIBR	P19010	Non IBR -FAB OF PIPE WITH ATTACHMENT : CS & NIBR : MORE THAN 5 AND UP TO 15 ATTACHMENTS LIKE STUBS,CARRIER PLATE,FLANGE,BOTTOM SUPPORT (SUB ASSEMBLY),ETC.)	MT
<b>[1.4] FABRICATION OF PIPE WITH ATTACHMENTS (FOR UNIT WEIGHT MORE THAN 50 KG )- AS - NIBR</b>				
11	ATT-NIBR	P19011	Non IBR -FAB OF PIPE WITH ATTACHMENT : AS & NIBR : UP TO 5 ATTACHMENTS LIKE STUBS,CARRIER PLATE,FLANGE,BOTTOM SUPPORT (SUB ASSEMBLY),ETC. / SADDLE SUPPORT /SLEEVE ARRANGEMENT	MT
12	ATT-NIBR	P19012	Non IBR -FAB OF PIPE WITH ATTACHMENT : AS & NIBR : MORE THAN 5 AND UP TO 15 ATTACHMENTS LIKE STUBS,CARRIER PLATE,FLANGE,BOTTOM SUPPORT (SUB ASSEMBLY),ETC.	MT
<b>[1.5] WELDED TEES /HEADERS FROM PIPE WITH OR WITHOUT ATTACHMENTS - NIBR - CS &amp; AS</b>				
13	ATT-NIBR	P19013	Non IBR -FAB OF WELDED TEE FROM PIPE - CS & NIBR - MAIN PIPE SIZE ABOVE OD 220 MM AND UPTO OD 410 MM	NO
14	ATT-NIBR	P19014	Non IBR -FAB OF WELDED TEE FROM PIPE - CS & NIBR - MAIN PIPE SIZE ABOVE OD 410 MM & UPTO OD 1012 MM	NO
15	ATT-NIBR	P19015	Non IBR -FAB OF WELDED TEE FROM PIPE AS & NIBR - MAIN PIPE SIZE ABOVE OD 220 MM AND UPTO OD 410 MM	NO
16	ATT-NIBR	P19016	Non IBR -FAB OF WELDED TEE FROM PIPE AS & NIBR - MAIN PIPE SIZE ABOVE OD 410 MM & UPTO OD 1012 MM	NO
<b>[1.6] MITRE BENDS FROM PIPE (WITH ATTACHMENT LIKE BOTTOM SUPPORT , FLANGE(FREE SUPPLY) AND STUB</b>				
17	ATT-NIBR	P19017	Non IBR -FAB OF MITRE BEND FROM PIPE UPTO OD 410 MM (WITH ATTACHMENT)	NO
18	ATT-NIBR	P19018	Non IBR -FAB OF MITRE BEND FROM PIPE ABOVE OD 410 MM - UPTO OD 1016 MM (WITH ATTACHMENT)	NO
<b>[1.7] MITRE BENDS FROM PIPE (WITHOUT ATTACHMENT )</b>				
19	ATT-NIBR	P19019	FAB OF MITRE BEND FROM PIPE UPTO OD 410 MM	NO
20	ATT-NIBR	P19020	FAB OF MITRE BEND FROM PIPE ABOVE OD 410 MM - UPTO OD 1012 MM	NO
<b>[1.8] CUT TO SIZE AS/CS/SS to be given separately to club schedule wise</b>				
21	CTS	P19021	Non IBR - PAD PLATE UP TO 100 KG / LUG PLATE / SLOTTED HOLE PLATE / TOP PLATE / SPACER PLATE /BRACKET SIDE PLATE / STOPPER PLATE (AS/CS/SS)	NO
22	CTS	P19022	Non IBR -CUT TO SIZE OF PLATE / SHEET / BLANK DU PER PIECE WEIGHING UP TO 25 KG (AS/CS)	NO
23	CTS	P19023	Non IBR -CUT TO SIZE OF PLATE / SHEET / BLANK DU PER PIECE WEIGHING ABOVE 25 KG (AS/CS)	MT
24	CTS	P19024	Non IBR -CUT TO SIZE OF PLATE / SHEET / BLANK - SS / Gr91/ Gr92	MT
<b>[1.9] BUNDLING &amp; STENCILLING OF BOILERS COMPONENTS</b>				
25	PTG	P19025	Non IBR -BUNDLING , CLEANING (POWER TOOL) & WO STENCILLING-GI &SS PIPES & HANDLING CHARGES & STRAIGHTENING OF STRUCTURALS & PIPES & PLATES (M2)	MT
<b>[1.10] CONDENSING LOOP ASSY / U TUBE ASSY(CS / AS)</b>				
26	ATT-NIBR	P19026	Non IBR -CONDENSING LOOP ASSY / U - TUBE (AS) / (CS)	NO

<b>[1.11] MACHINING - NIBR OTHER THAN P91/P92</b>				
27	MACHNG-NIBR	P19027	Non IBR -SLEEVE / SLEEVE PIPE TO BE MACHINED FROM PIPE UP TO DIA 170 MM OR UP TO ROD DIA 115 MM	NO
28	MACHNG-NIBR	P19028	Non IBR -SLEEVE / SLEEVE PIPE TO BE MACHINED FROM PIPE ABOVE DIA 170 MM AND UP TO OD 275 MM / ABOVE ROD DIA 115 MM AND UP TO 275 MM	NO
29	MACHNG-NIBR	P19029	Non IBR -SLEEVE / SLEEVE PIPE TO BE MACHINED FROM PIPE ABOVE DIA 275 MM / ABOVE ROD DIA 275 MM	MT
30	MACHNG-NIBR	P19030	Non IBR -SLEEVE PIPE / SLEEVE PIPE ASSEMBLY (WELDED ASSY) UP TO OD 170 MM / CREEP GAUGE ASSY	NO
31	MACHNG-NIBR	P19031	Non IBR -SLEEVE PIPE / SLEEVE PIPE ASSEMBLY (WELDED ASSY) FROM ABOVE OD 170 MM AND UP TO OD 275 MM	NO
32	MACHNG-NIBR	P19032	Non IBR -SLEEVE PIPE / SLEEVE PIPE ASSEMBLY (WELDED ASSY) ABOVE OD 275 MM	MT
33	MACHNG-NIBR	P19033	Non IBR -MACHINING OF MATCHING PIECE FROM ROD DIA UP TO 40 MM/ MACHINING OF FLANGES / FLAT END CLOSURE UPTO NB 65 MM , COUPLINGS / COUPLING PIN / ADOPTERS / ADAPTERS/ REDUCERS FROM ROUND UPTO 80MM/ NIPPLES / TAIL PIPE / UNION NUT/LOAD PIN/SPACER RING/SPHERICAL PIN - NIBR/END CAP MACHINED FROM SS/AS/CS ROD UP TO DIA 80 MM /	NO
34	MACHNG-NIBR	P19034	Non IBR -MACHINING OF FLANGES ABOVE NB 65 UP TO NB 200 / FLAT END CLOSURE ABOVE NB 65 UP TO NB 200 WITH / WITHOUT ATTACHMENTS LIKE STUBS /HANDLE ETC / Non IBR -ORIFFICE PLATE (AS/CS) MADE OUT OF PLATE INCLUSIVE OF WELDING IF APPLICABLE - NIBR-CS/AS	NO
35	MACHNG-NIBR	P19035	Non IBR -MACHINING OF FLANGES ABOVE NB 200 UP TO NB 400 / FLAT END CLOSURE ABOVE NB 200 UP TO NB 400 WITH/without ATTACHMENTS LIKE STUBS /HANDLE ETC - NIBR-CS/AS	NO
36	MACHNG-NIBR	P19036	Non IBR -MACHINING OF FLANGES ABOVE NB 400 UP TO NB 800 /FLAT END CLOSURE ABOVE NB 400 UP TO NB 800 WITH/without ATTACHMENTS LIKE STUBS/HANDLE ETC - NIBR-CS/AS	NO
37	MACHNG-NIBR	P19037	Non IBR -MACHINING OF FLANGES ABOVE NB 800 AND UP TO NB 1000 / FLAT END CLOSURE ABOVE NB 800 AND UP TO NB 1000 WITH/without ATTACHMENTS LIKE STUBS /HANDLE ETC - NIBR-CS/AS	NO
38	MACHNG-NIBR	P19038	Non IBR -MACHINING OF FLANGES ABOVE NB 65 UP TO NB 200 / FLAT END CLOSURE ABOVE NB 65 UP TO NB 200 WITH ATTACHMENTS LIKE STUBS /HANDLE ETC INCLUDING CUTTING/ Non IBR -ORIFFICE PLATE UPTO NB 200 (SS) MADE OUT OF PLATE AND PLASMA CUTTING INCLUSIVE. - NIBR-SS	NO
39	MACHNG-NIBR	P19039	Non IBR -MACHINING OF FLANGES ABOVE NB 200 UP TO NB 400 / FLAT END CLOSURE ABOVE NB 200 UP TO NB 400 WITH ATTACHMENTS LIKE STUBS /HANDLE ETC INCLUDING CUTTING/Non IBR -ORIFFICE PLATE NB 200 UPTO NB 600 (SS) MADE OUT OF PLATE AND PLASMA CUTTING INCLUSIVE - NIBR-SS	NO
40	MACHNG-NIBR	P19040	Non IBR -MACHINING OF FLANGES ABOVE NB 400 UP TO NB 800 /FLAT END CLOSURE ABOVE NB 400 UP TO NB 800 WITH/without ATTACHMENTS LIKE STUBS/HANDLE ETC - NIBR-SS	NO
41	MACHNG-NIBR	P19041	Non IBR -MACHINING OF FLANGES ABOVE NB 800 AND UP TO NB 1000 / FLAT END CLOSURE ABOVE NB 800 AND UP TO NB 1000 WITH/without ATTACHMENTS LIKE STUBS /HANDLE ETC INCLUDING CUTTING - NIBR-SS	NO
42	MACHNG-NIBR	P19042	Non IBR -STUB MADE OUT OF ROD DIA UPTO 80 MM (CS/AS/SS) LENGTH LESS THAN 240 MM / Non IBR -ORIFFICE (AS/CS) MADE OUT OF ROD DIA UPTO 80 MM (NO WELDING INVOLVED) - NIBR	NO
43	MACHNG-NIBR	P19043	Non IBR - MATCHING PIECE FROM ROD ABOVE OD 40 MM UPTO OD 140 MM/ STUB /REDUCER MADEOUT OF ROD DIA ABOVE 80 MM UPTO 140 MM (CS/AS) LENGTH LESS THAN 240 MM/END CAP MACHINED FROM SS/AS/CS ROD ABOVE DIA 80 MM / Non IBR -ORIFFICE (AS/CS) MADE OUT OF ROD DIA MORE THAN 80 MM UPTO 220 MM (NO WELDING INVOLVED)- NIBR	NO
44	MACHNG-NIBR	P19044	Non IBR -MATCHING PIECE FROM ROD ABOVE OD 140 MM UPTO OD 225 MM/ STUB /REDUCER MADEOUT OF ROD DIA ABOVE 140 MM UPTO 220 MM (CS/AS) LENGTH LESS THAN 240 MM	NO
45	MACHNG-NIBR	P19045	MATCHING PIECE/REDUCER FROM FORGINGS ABOVE DIA 220 MM- AS / CS - NIBR	NO
46	MACHNG-NIBR	P19046	Non IBR -METAL TEMPERATURE STUB(CS/AS/SS) MADE OUT OF ROD /PIPE UPTO DIA 80 MM, LENGTH = MORE THAN 240 MM - NIBR	NO
47	MACHNG-NIBR	P19047	Non IBR -METAL TEMPERATURE STUB(CS/AS/SS) MADE OUT OF ROD /PIPE MORE THAN DIA 80 MM , LENGTH = MORE THAN 240 MM - NIBR	NO
48	MACHNG-NIBR	P19048	Non IBR -STUB / METAL TEMP STUB MADE OUT OF ROD DIA ABOVE 220 MM (CS/AS/SS) LENGTH LESS THAN 240 MM	NO
49	MACHNG-NIBR	P19049	Non IBR -PIPE (MACHINED OUT OF ROD UP TO DIA 100 MM) WITH STUB / TEMP STUB (MACHINED OUT OF ROD UP TO DIA 100 MM)	NO
50	MACHNG/ATT-NIBR	P19050	Non IBR -ADOPTER WITH STUB / TEMP.STUB WITH REDUCER ON BOTH ENDS.	NO
<b>SCHEDULE-2- SPECIAL MACHINING / MACHNG &amp; ATT - NIBR OTHER THAN P91/P92</b>				
<b>[2.1] SPECIAL MACHINING ITEMS / PART PROCESSING FOR SHOP ASSEMBLIES</b>				
51	MACHNG-NIBR	P19051	Non IBR -FOUNDATION BOLT UP TO M 24	NO

52	MACHNG-NIBR	P19052	Non IBR -FOUNDATION BOLT ABOVE M 24	NO
53	MACHNG-NIBR	P19053	Non IBR -TRUNNION PIPE UP TO DIA 88.9 MM (AS/CS)	NO
54	MACHNG-NIBR	P19054	Non IBR -TRUNNION PIPE ABOVE DIA 88.9 MM AND UP TO DIA 219.1 MM (AS/CS)	NO
55	MACHNG-NIBR	P19055	Non IBR -TRUNNION PIPE ABOVE DIA 219.1 MM AND UP TO DIA 325 MM (AS/CS)	NO
56	MACHNG-NIBR	P19056	Non IBR -STUD UP TO M42	NO
57	MACHNG-NIBR	P19057	Non IBR -STUD MORE THAN M42 AND UP TO M72	NO
58	MACHNG-NIBR	P19058	Non IBR -STUD MORE THAN M72	NO
<b>[2.2] TARGET PLATE ASSEMBLY</b>				
59	MACHNG/ATT-NIBR	P19059	Non IBR -TARGET PLATE ASSEMBLY (UPTO PIPE OD 356 MM) [ TARGET PLATE FREE ISSUE IN FINISH ]	NO
60	MACHNG/ATT-NIBR	P19060	Non IBR -TARGET PLATE ASSEMBLY ( ABOVE PIPE OD 356 MM) [TARGET PLATE FREE ISSUE IN FINISH ]	NO
<b>[2.3] TARGET PLATE</b>				
61	MACHNG-NIBR	P19061	TARGET PLATE ( CS)	NO
62	MACHNG-NIBR	P19062	TARGET PLATE ( SS)	NO
<b>[2.4] ORIFFICE PLATE ASSY-ATTACHMENT - SS / CS / AS - NIBR</b>				
63	MACHNG/ATT-NIBR	P19063	Non IBR -ORIFFICE PLATE ASSEMBLY (SS) MADE OUT OF ROD / PIPE AND PLASMA CUTTING, MACHINING & WELDING INCLUSIVE - NIBR	NO
64	MACHNG/ATT-NIBR	P19064	Non IBR -ORIFFICE PLATE ASSLY (AS/CS) MADE OUT OF PIPE/ ROD UPTO OD 115 MM -'D' STYLE / 'P' STYLE / ROD AND WELDING & MACHINING INCLUSIVE - NIBR	NO
65	MACHNG/ATT-NIBR	P19065	Non IBR -ORIFFICE PLATE ASSLY (AS/CS) MADE OUT OF PIPE/ ROD ABOVE 115 MM UPTO OD 170 MM -'D' STYLE /'P' STYLE / ROD AND WELDING & MACHINING INCLUSIVE - NIBR	NO
66	MACHNG/ATT-NIBR	P19066	Non IBR -ORIFFICE PLATE ASSLY (AS/CS) MADE OUT OF PIPE/ ROD ABOVE OD 170 MM AND UP TO OD 457.2 MM-'D' STYLE/'P' STYLE / ROD AND WELDING & MACHINING INCLUSIVE - NIBR	NO
<b>SCHEDULE-3 - SPECIAL MACHINING COMPONENTS</b>				
<b>[3.1] RIGID STRUT (INCLUSIVE OF ALL MACHINING , GALVANISING &amp; SPECIAL PAINTING )</b>				
67	RS	P19067	Non IBR -FAB OF RIGID STRUT WEIGHT UPTO 30 KG	NO
68	RS	P19068	FAB. OF RIGID STRUT WEIGHT GREATER THAN 30 KG TO 70 KG	MT
69	RS	P19069	Non IBR -FAB. OF RIGID STRUT WEIGHT ABOVE 70 KG	MT
<b>[3.2] MISCELLANEOUS FABRICATIONS</b>				
70	MACHNG	P19070	Non IBR -DU INVOLVING MISC MACHINING AND OR WELDING AND OR THREADING AND IF ANY EXTERNAL COATING LIKE GALVANIZING, CHROMOTIZING : DU WEIGHT UP TO 10 KG / PIECE	KG
71	MACHNG	P19071	Non IBR -DU INVOLVING MISC MACHINING AND OR WELDING AND OR THREADING : DU WEIGHT MORE THAN 10 KG / PIECE	KG
<b>[3.3] WELD ON CLEVIS &amp; CLEVIS WITH BOLT ASSY</b>				
72	ATT-NIBR	P19072	Non IBR -MACHINING OF WELD ON CLEVIS ( FORGED) INCLUDING SPECIAL COATING	NO
73	ATT-NIBR	P19073	Non IBR -WELD ON BRACKET ASSY (WELDED) / CLEVIS WITH BOLT ASSY (WELDED) INCLUDING SPECIAL COATING	NO
<b>SCHEDULE-4- WELDED BEAM &amp; WELDED BOX</b>				
<b>[4.1] WELDED BEAM , CONNECTING BEAM &amp; WELDED BOX</b>				
74	WB	P19074	Non IBR -FAB. OF AUTO WELDED BEAMS (INCLUDING SPLICING/ MPI / LPI) CS	MT
75	WB	P19075	Non IBR -FAB. OF WELDED BOX (INCLUDING SPLICING / MPI / LPI) CS	MT
76	WB	P19076	Non IBR -FAB. OF AUTO WELDED BEAMS (INCLUDING SPLICING/ MPI / LPI) AS	MT
77	WB	P19077	Non IBR -FAB. OF WELDED BOX (INCLUDING SPLICING / MPI / LPI) AS	MT
78	WB	P19078	BOLTED STRUCTURES -BEAM AND BOX MATL COMBO E250 & E350 Fe410 GR	MT
79	WB	P19079	BOLTED STRUCTURES- CHANNELS AND ANGLES MATL COMBO E250 & E350 Fe410 GR	MT
<b>SCHEDULE- 5 - PLATE FORMED PRODUCT - NIBR</b>				
<b>[5.1] PUDDLE FLANGE/ SEGMENTAL FLANGES MADE OUT OF PLATE</b>				
80	PPF	P19080	Non IBR -PUDDLE FLANGE (INCLUSIVE OF PLATE ROLLING,WELDING OF PAD PLATE AND FLANGE)	MT
81	PPF	P19081	Non IBR -FABRICATION AND MACHINING OF SEGMENTAL FLANGES ABOVE NB 1000- NB 2000 - NIBR	NO
82	PPF	P19082	Non IBR -FABRICATION AND MACHINING OF SEGMENTAL FLANGES ABOVE NB 2000 UP TO NB 4000 - NIBR	NO
<b>[5.2] FABRICATION OF MANHOLE ASSEMBLY - CS - NIBR</b>				
83	PPF	P19083	Non IBR -FAB. OF MANHOLE ASSEMBLY - WITH / WITHOUT MAIN PIPE(INCL. M/C OF ALL FLANGES) (CS)	MT
84	PPF	P19084	Non IBR -FAB. OF MANHOLE ASSEMBLY - WITH MAIN PIPE (PLATE FORMED ) & (INCL. M/C OF ALL FLANGES) (CS)	MT
<b>[5.3] PLATE FORMED ITEMS - WITH AND WITHOUT ATTACHMENT (INVOLVES ROLLING OF PLATES,LS WELDING &amp; SQUARE CUT/EP ) - CS - NIBR</b>				

85	PPF-NIBR	P19085	Non IBR -FAB OF PLATE FORMED PIPES UPTO OD 610 MM WITH AND WITHOUT ATTACHMENTS: CS-NIBR	MT
86	PPF-NIBR	P19086	Non IBR -FAB OF PLATE FORMED PIPES ABOVE OD 610 MM & UP TO OD 1016 MM WITH AND WITHOUT ATTACHMENTS - CS - NIBR	MT
87	PPF-NIBR	P19087	Non IBR -FAB OF PLATE FORMED PIPES ABOVE OD 1016 MM & UP TO OD 2540 MM WITH AND WITHOUT ATTACHMENTS - CS - NIBR	MT
88	PPF-NIBR	P19088	Non IBR -FAB OF PLATE FORMED PIPES ABOVE OD 2540 MM & UP TO OD 4100 MM WITH AND WITHOUT ATTACHMENTS - CS - NIBR	MT
<b>[5.4] PLATE FORMED ITEMS - WITH AND WITHOUT ATTACHMENT (INVOLVES ROLLING OF PLATES,LS WELDING &amp; SQUARE CUT/EP ) - AS - NIBR</b>				
89	PPF-NIBR	P19089	Non IBR -FAB OF PLATE FORMED PIPES UPTO OD 610 MM WITH AND WITHOUT ATTACHMENTS: AS-NIBR	MT
90	PPF-NIBR	P19090	Non IBR -FAB OF PLATE FORMED PIPES ABOVE OD 610 MM & UP TO OD 1016 MM WITH AND WITHOUT ATTACHMENTS - AS - NIBR	MT
91	PPF-NIBR	P19091	Non IBR -FAB OF PLATE FORMED PIPES ABOVE OD 1016 MM & UP TO OD 2540 MM WITH AND WITHOUT ATTACHMENTS - AS - NIBR	MT
92	PPF-NIBR	P19092	Non IBR -FAB OF PLATE FORMED PIPES ABOVE OD 2540 MM & UP TO OD 4100 MM WITH AND WITHOUT ATTACHMENTS - AS - NIBR	MT
<b>[5.5] PLATE FORMED REDUCERS AND FUNNEL (INVOLVES ROLLING OF PLATES,LS WELDING &amp; SQUARE CUT/EP ) - CS &amp; AS - NIBR</b>				
93	PPF-NIBR	P19093	Non IBR -FAB.OF PLATE FORMED REDUCERS (Concentric/Ecentric) UP TO 50 KG - AS / CS - NIBR	NO
94	PPF-NIBR	P19094	Non IBR -FAB.OF PLATE FORMED REDUCERS (Concentric/Ecentric) ABOVE 50 KG AND UP TO 250 KG - AS / CS - NIBR	NO
95	PPF-NIBR	P19095	Non IBR -FAB.OF PLATE FORMED REDUCERS (Concentric/Ecentric) ABOVE 250 KG - AS / CS - NIBR	MT
96	PPF-NIBR	P19096	Non IBR -PLATE FORMED REDUCER WITH BOTH SIDE PIPE ATTACHMENT (FUNNEL) - AS / CS	MT
97	PPF-NIBR	P19097	Non IBR -PLATE FORMED REDUCER WITH BOTH SIDE PLATE FORMED PIPE ATTACHMENT (FUNNEL) - AS / CS	MT
<b>[5.6] MITRE BENDS FROM PLATE / WELDED TEE (MAIN PIPE-SIZE) FROM PLATE / Y-PIECE FROM PLATE (WITHOUT AND WITH ATTACHMENT LIKE BOTTOM SUPPORT , FLANGE(FREE SUPPLY) AND STUB , ETC..)</b>				
98	PPF-NIBR	P19098	Non IBR -FAB OF MITRE BEND / WELDED TEE / Y-PIECE FROM PLATE - OD UPTO OD 610 MM - NIBR	MT
99	PPF-NIBR	P19099	Non IBR -FAB OF MITRE BEND / WELDED TEE / Y-PIECE FROM PLATE - ABOVE OD 610 MM -UPTO OD 1016 MM NIBR	MT
100	PPF-NIBR	P19100	Non IBR -FAB OF MITRE BEND / WELDED TEE / Y-PIECE FROM PLATE - ABOVE OD 1016 MM -UPTO OD 2540 MM NIBR	MT
101	PPF-NIBR	P19101	Non IBR -FAB OF MITRE BEND / WELDED TEE / Y-PIECE FROM PLATE - ABOVE OD 2540 MM -UPTO OD 4100 MM NIBR	MT
<b>[5.7]MITRE BENDS FROM PIPE/PLATE - SS (WITH AND WITHOUT ATTACHMENT , INCLUSIVE OF PLASMA CUTTING AND PASSIVATION)</b>				
102	PPF	P19102	Non IBR -FAB OF MITRE BEND FROM PIPE UPTO OD 410 MM (PER TON RATE) (WITH AND WITHOUT ATTACHMENT) SS INCLUSIVE OF PLASMA CUTTING	MT
103	PPF	P19103	Non IBR -FAB OF MITRE BEND FROM PIPE ABOVE OD 410 MM UP TO 1016 MM(PER TON RATE) (WITH AND WITHOUT ATTACHMENT) SS INCLUSIVE OF PLASMA CUTTING	MT
104	PPF	P19104	Non IBR -FAB OF MITRE BEND FROM PLATE UPTO OD 915 MM FROM SS INCLUSIVE OF PLASMA CUTTING AND PASSIVATION	MT
105	PPF	P19105	Non IBR -FAB OF MITRE BEND FROM PLATE ABOVE OD 915 MM - OD 2020 MM FROM SS INCLUSIVE OF PLASMA CUTTING AND PASSIVATION	MT
<b>SCHEDULE-6 -TANKS &amp; VESSELS -NIBR</b>				
<b>[6.1] TANKS, VESSELS &amp; DISHED ENDS</b>				
106	TANKS-NIBR	P19106	FAB. OF TANKS & VESSELS (INCL. FAB.OF INTERNALS ) INCLUDING ACCESSORIES AND FEED WATER STORAGE TANK -NIBR	MT
107	TANKS-NIBR	P19107	FABRICATION OF DEAERATOR WITH SS TRAYS AND SEAL POT ASSEMBLY AND NAOH BREATHER ASSEMBLY - NIBR	MT
108	TANKS-NIBR-DISHED END	P19108	DISHED ENDS MADE OUT OF PLATE INCLUSIVE OF WELDING, HEAT TREATMENT AS PER DRAWING, QP - UP TO OD 2240 MM - NIBR	MT
109	TANKS-NIBR-DISHED END	P19109	DISHED ENDS MADE OUT OF PLATE INCLUSIVE OF WELDING, HEAT TREATMENT AS PER DRAWING, QP - ABOVE OD 2240 MM- NIBR	MT
<b>SCHEDULE-7- CLAMPS</b>				
<b>[7.1] CLAMPS (AS / CS) MADE OUT OF PLATE / ROD TYPE CLAMP</b>				
110	CLAMPS	P19110	Non IBR -AS / CS CLAMP ASSY WT UPTO 10 KG	NO
111	CLAMPS	P19111	Non IBR -AS / CS CLAMP ASSY WT GREATER THAN 10KG & UPTO 25 KG	NO
112	CLAMPS	P19112	Non IBR -AS / CS CLAMP ASSY WT GREATER THAN 25 & UPTO 50KG	NO
113	CLAMPS	P19113	Non IBR -AS / CS CLAMP ASSY WT GREATER THAN 50 & UPTO 100KG	NO

114	CLAMPS	P19114	Non IBR -CS CLAMP ASSY WELDTYPE WT ABOVE 100 KG	MT
115	CLAMPS	P19115	Non IBR -TRUNNION CLAMP	MT
116	CLAMPS	P19116	Non IBR -AS CLAMP ASSY WELDTYPE WT ABOVE 100 KG	MT
117	CLAMPS	P19117	Non IBR -ROD TYPE CLAMP MADE OUT ROD DIA UP TO 50MM	NO
118	CLAMPS	P19118	Non IBR -ROD TYPE CLAMP MADE OUT ROD DIA ABOVE 50MM AND UPTO 80 MM	NO
119	CLAMPS	P19119	Non IBR -PIPE CLAMP MADE OUT OF SINGLE PLATE (FORMING AND DRILLING ONLY AS PER THE DRG.) / PAD PLATE UNIT WT MORE THAN 100 KG	NO
<b>SECTION- II - IBR CODES</b>				
<b>SCHEDULE-8- IBR PIPING - EDGE PREPARATION, ATTACHMENT AND MACHINING</b>				
<b>[8.1] END CHAMFERING / SQUARECUT/ BOTH END OF - CS /AS / SS - PIPES / FITTINGS / STUBS, MATCHING PIECE MACHINED OUT OF PIPE (OTHER THAN P91 &amp; P92 SPECIFICATION) - IBR</b>				
120	EP-IBR	P19120	END CHAMF OF UP TO OD 460 MM AND UP TO THK 20 MM	MT
121	EP-IBR	P19121	END CHAMF OF UP TO OD 460 MM AND ABOVE THK 20 MM	MT
122	EP-IBR	P19122	END CHAMF OF ABOVE OD 460 MM & UP TO OD 765 MM AND THK UP TO 20 MM	MT
123	EP-IBR	P19123	END CHAMF OF ABOVE OD 460 MM & UP TO OD 765 MM AND THK ABOVE 20 MM	MT
124	EP-IBR	P19124	END CHAMF OF ABOVE OD 765 MM & UP TO OD 1220 MM AND THK UP TO 20 MM	MT
125	EP-IBR	P19125	END CHAMF OF ABOVE OD 765 MM & UP TO OD 1220 MM AND THK ABOVE 20 MM	MT
<b>[8.2] FABRICATION OF PIPE WITH ATTACHMENTS (FOR UNIT WEIGHT UP TO 50 KG ) - AS/CS - IBR</b>				
126	ATT-IBR	P19126	FAB OF PIPE WITH ATTACHMENT AS/ CS & WT UPTO 50 KG / ATTACHEMENT LIKE FLANGE,STUB ETC / WELDED TEE FROM PIPE UPTO OD 220(MAIN PIPE) / FABRICATION OF SPECTACLE FLANGE - IBR - NOTE : ATT- FLANGES/STUBS WILL BE SUPPLIED IN FINISHED CONDITION.	KG
<b>ATTACHMENTS -SS- IBR</b>				
127	ATT-IBR	P19127	FAB OF SS PIPE OD UP TO 610 MM WITH ATTACHMENT . NOTE : ATT- FLANGES/STUBS WILL BE SUPPLIED IN FINISHED CONDITION.	MT
<b>[8.3] FABRICATION OF PIPE WITH ATTACHMENTS (FOR UNIT WEIGHT MORE THAN 50 KG )- CS - IBR</b>				
128	ATT-IBR	P19128	FAB OF PIPE WITH ATTACHMENT : CS & IBR : UP TO 5 ATTACHMENTS LIKE STUBS,CARRIER PLATE,FLANGE,BOTTOM SUPPORT (SUB ASSEMBLY),ETC.	MT
129	ATT-IBR	P19129	FAB OF PIPE WITH ATTACHMENT : CS & IBR : MORE THAN 5 AND UP TO 15 ATTACHMENTS LIKE STUBS,CARRIER PLATE,FLANGE,BOTTOM SUPPORT ( SUB ASSEMBLY),ETC.	MT
<b>[8.4] FABRICATION OF PIPE WITH ATTACHMENTS (FOR UNIT WEIGHT MORE THAN 50 KG ) - AS - IBR</b>				
130	ATT-IBR	P19130	FAB OF PIPE WITH ATTACHMENT : AS & IBR : UP TO 5 ATTACHMENTS LIKE STUBS,CARRIER PLATE,FLANGE,BOTTOM SUPPORT ( SUB ASSEMBLY),ETC.	MT
131	ATT-IBR	P19131	FAB OF PIPE WITH ATTACHMENT : AS & IBR : MORE THAN 5 AND UP TO 15 ATTACHMENTS LIKE STUBS,CARRIER PLATE,FLANGE,BOTTOM SUPPORT ( SUB ASSEMBLY),ETC.	MT
<b>[8.5] WELDED TEES/ HEADERS FROM PIPE - IBR - CS &amp; AS WITH OR WITHOUT ATTACHMENTS</b>				
132	ATT-IBR	P19132	FAB OF WELDED TEE FROM PIPE - CS & IBR - MAIN PIPE SIZE ABOVE OD 220 MM AND UPTO OD 410 MM	NO
133	ATT-IBR	P19133	FAB OF WELDED TEE FROM PIPE - CS & IBR - MAIN PIPE SIZE ABOVE OD 410 MM & UPTO OD 1012 MM	NO
134	ATT-IBR	P19134	FAB OF WELDED TEE FROM PIPE - AS & IBR - MAIN PIPE SIZE ABOVE OD 220 MM AND UPTO OD 410 MM	NO
135	ATT-IBR	P19135	FAB OF WELDED TEE FROM PIPE - AS & IBR - MAIN PIPE SIZE ABOVE OD 410 MM & UPTO OD 1016 MM	NO
<b>[8.6] PAINTING, BUNDLING &amp; STENCILING OF BOILERS COMPONENTS</b>				
136	PTG-IBR	P19136	PAINTING, BUNDLING ,CLEANING (POWER TOOL) & WO STENCILING-GI OF PIPES/PLATES (ATTESTED ONLY)	MT
<b>[8.7] MACHINING ITEMS / PART PROCESSING FOR SHOP ASSEMBLIES - IBR</b>				
137	MACHNG-IBR	P19137	ADOPTER WITH STUB / TEMP.STUB WITH REDUCER ON BOTH ENDS.(AS/CS)	NO
138	MACHNG-IBR	P19138	MACHINING OF MATCHING PIECE FROM ROD DIA UP TO 40 MM/ MACHINING OF FLANGES / FLAT END CLOSURE UPTO NB 65 , COUPLINGS / ADAPTERS / REDUCERS FROM ROUND UPTO 80MM / NIPPLES / TAIL PIPE / END CAP MACHINED FROM SS/AS/CS ROD UP TO DIA 80 MM	NO
139	MACHNG-IBR	P19139	MACHINING OF FLANGES ABOVE NB 65 UP TO NB 200 / FLAT END CLOSURE ABOVE NB 65 UP TO NB 200 WITH ATTACHMENTS LIKE STUBS/HANDLE ETC. - IBR (AS/CS)	NO
140	MACHNG-IBR	P19140	MACHINING OF FLANGES ABOVE NB 200 UP TO NB 400 / FLAT END CLOSURE ABOVE NB 200 UP TO NB 400 WITH ATTACHMENTS LIKE STUBS/HANDLE ETC / IBR ORIFICE PLATE MADE OUT OF PLATE INCLUSIVE OF WELDING IF APPLICABLE - IBR (AS/CS)	NO
141	MACHNG-IBR	P19141	MACHINING OF FLANGES ABOVE NB 400 UP TO NB 800 / FLAT END CLOSURE ABOVE NB 400 UP TO NB 800 WITH ATTACHMENTS LIKE STUBS/HANDLE ETC - IBR (AS/CS)	NO
142	MACHNG-IBR	P19142	MACHINING OF FLANGES ABOVE NB 800 AND UP TO NB 1000 / FLAT END CLOSURE ABOVE NB 800 AND UP TO NB 1000 WITH ATTACHMENTS LIKE STUBS/HANDLE ETC - IBR (AS/CS)	NO
143	MACHNG-IBR	P19143	STUB MADEOUT OF ROD DIA UPTO 80 MM (CS/AS/SS) LENGTH LESS THAN 240 MM /ORIFICE (AS/CS) MADE OUT OF ROD DIA UPTO 80 MM (NO WELDING INVOLVED) - IBR	NO

144	MACHNG-IBR	P19144	MATCHING PIECE FROM ROD ABOVE OD 40 MM UPTO OD 140 MM / STUB / REDUCER MADEOUT OF ROD DIA ABOVE 80 MM UPTO 140 MM (CS/AS) LENGTH LESS THAN 240 MM-IBR/END CAP MACHINED FROM SS/AS/CS ROD ABOVE DIA 80 MM / ORIFICE (AS/CS) MADE OUT OF ROD DIA ABOVE OD 80 MM UPTO 220 MM (NO WELDING INVOLVED) - IBR	NO
145	MACHNG-IBR	P19145	MATCHING PIECE FROM ROD ABOVE OD 140 MM UPTO OD 220 MM/ STUB /REDUCER MADEOUT OF ROD DIA ABOVE 140 MM UPTO 220 MM (CS/AS/SS) LENGTH LESS THAN 240 MM-IBR	NO
146	MACHNG-IBR	P19146	MATCHING PIECE/REDUCER FROM FORGINGS ABOVE DIA 220 MM- AS / CS/SS - IBR	NO
147	MACHNG-IBR	P19147	METAL TEMPERATURE STUB(CS/AS/SS) MADE OUT OF ROD/PIPE UPTO DIA 80 MM, LENGTH = MORE THAN 240 MM - IBR	NO
148	MACHNG-IBR	P19148	METAL TEMPERATURE STUB(CS/AS/SS) MADE OUT OF ROD /PIPE MORE THAN DIA 80 MM , LENGTH = MORE THAN 240 MM - IBR	NO
149	MACHNG-IBR	P19149	STUB / METAL TEMP STUB MADEOUT OF ROD DIA ABOVE 220 MM (CS/AS/SS) LENGTH LESS THAN 240 MM-IBR	NO
150	MACHNG-IBR	P19150	PIPE (MACHINED OUT OF ROD UP TO DIA 100 MM) WITH STUB / TEMP STUB (MACHINED OUT OF ROD UP TO DIA 100 MM) (AS/CS)	NO
<b>SCHEDULE-9- SPECIAL MACHINING / MACHNG &amp; ATT -IBR</b>				
<b>[9.1] ORIFICE PLATE/ORIFICE PLATE ASSY-ATTACHMENT - SS / CS / AS - IBR</b>				
151	ATT-IBR	P19151	ORIFICE PLATE (SS) MADE OUT OF PLATE AND PLASMA CUTTING INCLUSIVE - IBR	NO
152	ATT-IBR	P19152	ORIFICE PLATE ASSEMBLY (SS) MADE OUT OF ROD /PIPE AND PLASMA CUTTING ,MACHINING & WELDING INCLUSIVE - IBR	NO
153	ATT-IBR	P19153	ORIFICE PLATE (AS,CS) / ORIFICE PLATE ASSEMBLY - 'D' STYLE/'P' STYLE EP UPTO OD 115 MM MACHINING AND WELDING INCLUSIVE - IBR	NO
154	ATT-IBR	P19154	ORIFICE PLATE (AS,CS) / ORIFICE PLATE ASSEMBLY - 'D' STYLE / 'P' STYLE EP ABOVE 115 MM UPTO OD 170 MM MACHINING AND WELDING INCLUSIVE - IBR	NO
155	ATT-IBR	P19155	ORIFICE PLATE (AS,CS) / ORIFICE PLATE ASSEMBLY - 'D' STYLE / 'P' STYLE EP ABOVE OD 170 MM TO OD 457.2 MM MACHINING AND WELDING INCLUSIVE - IBR	NO
<b>SCHEDULE-10 - PLATE FORMED PRODUCT - IBR</b>				
<b>[10.1] PLATE FORMED ITEMS - WITH &amp; WITHOUT ATTACHMENT (INVOLVES ROLLING OF PLATES,LS WELDING &amp; SQUARE CUT/EP ) - CS - IBR</b>				
156	PPF-IBR	P19156	IBR - FAB OF PLATE FORMED PIPES UP TO OD 610 MM WITH & WITHOUT ATTACHMENT -CS-IBR	MT
157	PPF-IBR	P19157	IBR - FAB OF PLATE FORMED PIPES ABOVE OD 610 MM & UP TO OD 1220 MM WITH & WITHOUT ATTACHMENT -CS-IBR	MT
<b>[10.2] PLATE FORMED ITEMS - WITH &amp; WITHOUT ATTACHMENT (INVOLVES ROLLING OF PLATES,LS WELDING &amp; SQUARE CUT/EP ) - AS - IBR</b>				
158	PPF-IBR	P19158	IBR - FAB OF PLATE FORMED PIPES UP TO OD 610 MM WITH & WITHOUT ATTACHMENT -AS-IBR	MT
159	PPF-IBR	P19159	IBR - FAB OF PLATE FORMED PIPES ABOVE OD 610 MM & UP TO OD 1220 MM WITH & WITHOUT ATTACHMENT -AS-IBR	MT
<b>SCHEDULE-11 -TANKS &amp; VESSELS -IBR</b>				
<b>[11.1] TANKS, VESSELS &amp; DISHED ENDS</b>				
160	TANKS-IBR	P19160	IBR - FAB. OF TANKS & VESSELS (INCL.FAB. OF INTERNALS) INCLUDING ACCESSORIES / FEED WATER STORAGE TANK - IBR	MT
161	TANKS-IBR	P19161	IBR - FABRICATION OF DEAERATOR WITH SS TRAYS - IBR / SEAL POT ASSEMBLY / NAOH BREATHER ASSEMBLY	MT
162	TANKS-IBR- DISHED ENDS	P19162	IBR - DISHED ENDS MADE OUT OF PLATE INCLUSIVE OF WELDING, HEAT TREATMENT AS PER DRAWING, QP - UP TO OD 2240 MM - IBR	MT
163	TANKS-IBR- DISHED ENDS	P19163	IBR - DISHED ENDS MADE OUT OF PLATE INCLUSIVE OF WELDING, HEAT TREATMENT AS PER DRAWING, QP - ABOVE OD 2240 MM - IBR	MT
<b>SECTION-III - SEMI-FINISHED(SF) / MACHINING ITEMS</b>				
<b>SCHEDULE-12 MACHINING ITEMS - NON-IBR</b>				
164	MACHNG-NIBR	P19164	Non IBR -MACHINING OF CARRIER PLATE /ORIFICE PLATE FROM SS/CS/AS PLATE - AS PER DRAWING	NO
165	MACHNG-NIBR	P19165	Non IBR -SCREW PLUG/ PLUG R / RG PLUG- AS/CS FOR NON-IBR APPLICATION FROM ROD DIA UP TO 65 MM.	NO
166	MACHNG-NIBR	P19166	Non IBR -SCREW PLUG/ PLUG R/ RG PLUG-- AS/CS FOR NON-IBR APPLICATION FROM ROD DIA. ABOVE 65 MM AND UP TO DIA 115 MM.	NO
<b>SCHEDULE-13 MACHINING ITEMS - IBR</b>				
167	MACHNG-IBR	P19167	IBR - SCREW PLUG/ PLUG R / RG PLUG-- AS/CS FOR IBR APPLICATION FROM ROD DIA UP TO 65 MM.	NO
168	MACHNG-IBR	P19168	IBR - SCREW PLUG/ PLUG R/ RG PLUG-- AS/CS FOR IBR APPLICATION FROM ROD DIA. ABOVE 65 MM AND UP TO DIA 115 MM.	NO
<b>SCHEDULE-14- P91/ P92 PIPE EP &amp; MACHINING OF P91/P92 COMPONENTS</b>				

<b>[14.1] END CHAMFERING / SQUARECUT/ BOTH END OF - P91, P92- PIPES / FITTINGS / STUBS, MATCHING PIECE</b>				
169	EP-P91	P19169	EP/MACHINING/P91/92 -END CHAMF OF P91 PIPES UP TO OD 460 MM AND UP TO THK 20 MM- ( P91 / P92)	MT
170	EP-P91	P19170	EP/MACHINING/P91/92 -END CHAMF OF P91 PIPES UP TO OD 460 MM AND ABOVE THK 20 MM - ( P91 / P92)	MT
171	EP-P91	P19171	EP/MACHINING/P91/92 -END CHAMF OF P91 PIPES ABOVE OD 460 MM & UP TO OD 765 MM - THK UP TO 20 MM - ( P91 / P92)	MT
172	EP-P91	P19172	EP/MACHINING/P91/92 -END CHAMF OF P91 PIPES ABOVE OD 460 MM & UP TO OD 765 MM AND ABOVE THK 20 MM ( P91 / P92)	MT
173	EP-P91	P19173	EP/MACHINING/P91/92 -END CHAMF OF P91 PIPES ABOVE OD 765 MM & UP TO OD 1220 MM AND THK UP TO 20 MM ( P91 / P92)	MT
174	EP-P91	P19174	EP/MACHINING/P91/92 -END CHAMF OF P91 PIPES ABOVE OD 765 MM & UP TO OD 1220 MM AND THK ABOVE 20 MM ( P91 / P92)	MT
<b>[14.2] MACHINING OF P91/P92 COMPONENTS</b>				
175	MACHNG-P91/P92	P19175	EP/MACHINING/P91/92 -SCREW PLUG/ PLUG R / RG PLUG - F91 FROM ROD DIA UP TO 80 MM.	NO
176	MACHNG-P91/P92	P19176	EP/MACHINING/P91/92 -TRUNNION UP TO OD 355.6 MM AND THK UP TO 28 MM (P91/P92)	NO
177	MACHNG-P91/P92	P19177	EP/MACHINING/P91/92 -TRUNNION UP TO OD 355.6 MM AND THK ABOVE 28 MM UP TO 42 MM (P91/P92)	NO
178	MACHNG-P91/P92	P19178	EP/MACHINING/P91/92 -TRUNNION UP TO OD 355.6 MM AND THK ABOVE 42 MM UP TO 63 MM (P91/P92)	NO
179	MACHNG-P91/P92	P19179	EP/MACHINING/P91/92 -MATCHING PIECE UP TO DIA 80 MM /STUB OR METAL TEMP STUB/REDUCER / ORIFICE MADEOUT OF ROD DIA UPTO 80 MM (P91 / P92)	NO
180	MACHNG-P91/P92	P19180	EP/MACHINING/P91/92 -MATCHING PIECE DIA ABOVE 80 MM UP TO 140 MM /STUB OR METAL TEMP STUB/REDUCER/ORIFICE MADEOUT OF ROD DIA ABOVE 80 MM UPTO 140 MM (P91 / P92)	NO
181	MACHNG-P91/P92	P19181	EP/MACHINING/P91/92 -MATCHING PIECE ABOVE DIA 140 MM UP TO 220 MM /STUB OR METAL TEMP STUB/REDUCER /ORIFICE MADEOUT OF ROD DIA ABOVE 140 MM UPTO 220 MM (P91 / P92)	NO
182	MACHNG-P91/P92	P19182	EP/MACHINING/P91/92 -STUB/METAL TEMP STUB MADEOUT OF ROD DIA ABOVE 220 MM (P91 / P92)	NO
183	MACHNG-P91/P92	P19183	EP/MACHINING/P91/92 -MATCHING PIECE/REDUCER FROM FORGINGS/ROD ABOVE DIA 220 MM - (F91)	NO
184	MACHNG-P91/P92	P19184	EP/MACHINING/P91/92 -CARRIER PLATE UPTO THK 40 MM (FINISHED ) - MACHINED OUT OF PIPE UP TO THK 40 MM (CUTTING BY BANDSAW ONLY) - P91 / P92.	NO
185	MACHNG-P91/P92	P19185	EP/MACHINING/P91/92 -CARRIER PLATE UPTO THK 40 MM - MACHINED OUT OF PIPE THK ABOVE 40 MM UP TO 60 MM (CUTTING BY BANDSAW ONLY) - P91 / P92.	NO
186	MACHNG-P91/P92	P19186	EP/MACHINING/P91/92 -CARRIER PLATE ABOVE THK 40 MM UP TO 65 MM - MACHINED OUT OF PIPE THK UP TO 65 MM (CUTTING BY BANDSAW ONLY) - P91 / P92.	NO
187	MACHNG-P91/P92	P19187	EP/MACHINING/P91/92 -CARRIER PLATE ABOVE THK 40 MM UP TO 65 MM - MACHINED OUT OF PIPE THK ABOVE 65 MM (CUTTING BY BANDSAW ONLY) - P91 / P92.	NO
188	MACHNG-P91/P92	P19188	EP/MACHINING/P91/92 -CARRIER PLATE - MACHINED OUT OF PLATE THK UP TO 40 MM (CUTTING BY BANDSAW ONLY) - P91 / P92.	NO
189	MACHNG-P91/P92	P19189	EP/MACHINING/P91/92 -CARRIER PLATE - MACHINED OUT OF PLATE THK ABOVE 40 MM (CUTTING BY BANDSAW ONLY) - P91 / P92.	NO
<b>SCHEDULE-15- P91/P92/AS/CS UT REFERENCE BLOCK / HARDNESS BLOCK</b>				
190	MACHNG-P91	P19190	UT REFERENCE BLOCK TO BE MADE OUT OF SA335 P91 / P92 PIPE UP TO DIA 168.3 MM UP TO THK 45 MM ( AXIAL)	NO
191	MACHNG-P91	P19191	UT REFERENCE BLOCK TO BE MADE OUT OF SA335 P91 / P92 PIPE DIA 219.1 MM AND UP TO DIA 558.9 MM UP TO THK 125 MM ( AXIAL)	NO
192	MACHNG-P91	P19192	UT REFERENCE BLOCK TO BE MADE OUT OF SA335 P91 / P92 PIPE ABOVE DIA 558.9 MM AND UP TO DIA 1220 MM UP TO THK 125 MM ( AXIAL)	NO
193	MACHNG-P91	P19193	UT REFERENCE BLOCK TO BE MADE OUT OF SA335 P91 / P92 PIPE UP TO DIA 168.3 MM UP TO THK 45 MM (CIRCUMFERENTIAL)	NO
194	MACHNG-P91	P19194	UT REFERENCE BLOCK TO BE MADE OUT OF SA335 P91 / P92 PIPE DIA 219.1 MM AND UP TO DIA 558.9 MM UP TO THK 125 MM ( CIRCUMFERENTIAL)	NO
195	MACHNG-P91	P19195	UT REFERENCE BLOCK TO BE MADE OUT OF SA335 P91 / P92 PIPE ABOVE DIA 558.9 MM AND UP TO DIA 1220 MM UP TO THK 125 MM ( CIRCUMFERENTIAL)	NO
196	MACHNG-P91	P19196	HARDNESS BLOCK TO BE MADE OUT OF SA335 P91 / P92 : SIZE : 25X50X150	NO
197	MACHNG-AS/CS	P19197	UT REFERENCE BLOCK TO BE MADE OUT OF AS/CS PIPE UP TO DIA 558.9 MM UP TO THK 125 MM ( AXIAL)	NO
198	MACHNG-AS/CS	P19198	UT REFERENCE BLOCK TO BE MADE OUT OF AS/CS PIPE ABOVE DIA 558.9 MM AND UP TO DIA 1220 MM UP TO THK 125 MM ( AXIAL)	NO
199	MACHNG-AS/CS	P19199	UT REFERENCE BLOCK TO BE MADE OUT OF AS/ CS PIPE UP TO DIA 558.9 MM UP TO THK 125 MM ( CIRCUMFERENTIAL)	NO
200	MACHNG-AS/CS	P19200	UT REFERENCE BLOCK TO BE MADE OUT OF AS/CS PIPE ABOVE DIA 558.9 MM AND UP TO DIA 1220 MM UP TO THK 125 MM ( CIRCUMFERENTIAL)	NO
201	MACHNG-AS/CS	P19201	HARDNESS BLOCK TO BE MADE OUT OF AS/CS : SIZE : 25X50X150	NO
<b>SCHEDULE-16- MACHINING OF WELDED TEES (BASE PIPE /BRANCH PIPE)/ SUPPORT PIPE -</b>				

<b>[16.1] WELDED TEES BASE PIPE ( SPEC-F11,F22,SA105,SA106GRB &amp; SA106GRC)</b>				
202	MCHNG-WT-BSP	P19202	WELDED TEES BASE PIPE ( SPEC-F11,F22,SA105,SA106GRB & SA106GRC) - MACHINING OF WELDED TEE BASE PIPE EITHER FROM FORGING/PIPE UP TO NB 300	NO
203	MCHNG-WT-BSP	P19203	WELDED TEES BASE PIPE ( SPEC-F11,F22,SA105,SA106GRB & SA106GRC) -MACHINING OF WELDED TEE BASE PIPE EITHER FROM FORGING/PIPE ABOVE NB 300 UP TO NB 650	NO
204	MCHNG-WT-BSP	P19204	WELDED TEES BASE PIPE ( SPEC-F11,F22,SA105,SA106GRB & SA106GRC) -MACHINING OF WELDED TEE BASE PIPE EITHER FROM FORGING/PIPE ABOVE NB 650	NO
<b>[16.2] WELDED TEES BASE PIPE ( SPEC-F91 &amp; P91/P92)</b>				
205	MCHNG-WT-BSP	P19205	WELDED TEES BASE PIPE ( SPEC-F91 & P91/P92) -MACHINING OF WELDED TEE BASE PIPE EITHER FROM FORGING/PIPE UP TO NB 350	NO
206	MCHNG-WT-BSP	P19206	WELDED TEES BASE PIPE ( SPEC-F91 & P91/P92) -MACHINING OF WELDED TEE BASE PIPE EITHER FROM FORGING/PIPE ABOVE NB 350 UP TO NB 600	NO
207	MCHNG-WT-BSP	P19207	WELDED TEES BASE PIPE ( SPEC-F91 & P91/P92) -MACHINING OF WELDED TEE BASE PIPE EITHER FROM FORGING/PIPE ABOVE NB 600 UP TO NB 1000	NO
208	MCHNG-WT-BSP	P19208	WELDED TEES BASE PIPE ( SPEC-F91 & P91/P92) -MACHINING OF WELDED TEE BASE PIPE EITHER FROM FORGING/PIPE ABOVE NB 1000	NO
<b>[16.3] WELDED TEES BRANCH PIPE ( SPEC-F11,F22,SA105,SA106GRB &amp; SA106GRC)</b>				
209	MCHNG-WT-BRP	P19209	WELDED TEES BRANCH PIPE ( SPEC-F11,F22,SA105,SA106GRB & SA106GRC) -MACHINING OF WELDED TEE BRANCH PIPE EITHER FROM FORGING/PIPE UP TO NB 150	NO
210	MCHNG-WT-BRP	P19210	WELDED TEES BRANCH PIPE ( SPEC-F11,F22,SA105,SA106GRB & SA106GRC) -MACHINING OF WELDED TEE BRANCH PIPE EITHER FROM FORGING/PIPE ABOVE NB 150 UP TO NB 650	NO
211	MCHNG-WT-BRP	P19211	WELDED TEES BRANCH PIPE ( SPEC-F11,F22,SA105,SA106GRB & SA106GRC) -MACHINING OF WELDED TEE BRANCH PIPE EITHER FROM FORGING/PIPE ABOVE NB 650 UP TO NB 1000	NO
212	MCHNG-WT-BRP	P19212	WELDED TEES BRANCH PIPE ( SPEC-F11,F22,SA105,SA106GRB & SA106GRC) -MACHINING OF WELDED TEE BRANCH PIPE EITHER FROM FORGING/PIPE ABOVE NB 1000	NO
<b>[16.4] WELDED TEES BRANCH PIPE ( SPEC-F91 &amp; P91/P92)</b>				
213	MCHNG-WT-BRP	P19213	WELDED TEES BRANCH PIPE ( SPEC-F91 & P91/P92) -MACHINING OF WELDED TEE BRANCH PIPE EITHER FROM FORGING/PIPE UP TO NB 350	NO
214	MCHNG-WT-BRP	P19214	WELDED TEES BRANCH PIPE ( SPEC-F91 & P91/P92) -MACHINING OF WELDED TEE BRANCH PIPE EITHER FROM FORGING/PIPE ABOVE NB 350 UP TO NB 600	NO
215	MCHNG-WT-BRP	P19215	WELDED TEES BRANCH PIPE ( SPEC-F91 & P91/P92) -MACHINING OF WELDED TEE BRANCH PIPE EITHER FROM FORGING/PIPE ABOVE NB 600 UP TO NB 1000	NO
216	MCHNG-WT-BRP	P19216	WELDED TEES BRANCH PIPE ( SPEC-F91 & P91/P92) -MACHINING OF WELDED TEE BRANCH PIPE EITHER FROM FORGING/PIPE ABOVE NB 1000	NO
<b>[16.5] MACHINING OF SUPPORT PIPE ( SPEC- AS/CS)</b>				
217	MCHNG-SP-AS/CS	P19217	MACHINING OF SUPPORT PIPE ( SPEC- AS/CS) -MACHINING OF SUPPORT PIPE UPTO OD 323.9 MM	NO
218	MCHNG-SP-AS/CS	P19218	MACHINING OF SUPPORT PIPE ( SPEC- AS/CS) -MACHINING OF SUPPORT PIPE ABOVE OD 323.9 MM AND UPTO OD 610 MM AND THK UP TO 20 MM	NO
219	MCHNG-SP-AS/CS	P19219	MACHINING OF SUPPORT PIPE ( SPEC- AS/CS) -MACHINING OF SUPPORT PIPE ABOVE OD 323.9 MM AND UPTO OD 610 MM AND THK ABOVE 20 MM	NO
220	MCHNG-SP-AS/CS	P19220	MACHINING OF SUPPORT PIPE ( SPEC- AS/CS) -MACHINING OF SUPPORT PIPE ABOVE OD 610 MM AND THK UP TO 20 MM	NO
221	MCHNG-SP-AS/CS	P19221	MACHINING OF SUPPORT PIPE ( SPEC- AS/CS) -MACHINING OF SUPPORT PIPE ABOVE OD 610 MM AND THK ABOVE 20 MM	NO
<b>[16.6] MACHINING OF SUPPORT PIPE ( SPEC- P91/P92)</b>				
222	MCHNG-SP-P91/P92	P19222	MACHINING OF SUPPORT PIPE ( SPEC- P91/P92) -MACHINING OF SUPPORT PIPE UPTO OD 323.9 MM AND THK UP TO 25 MM	NO
223	MCHNG-SP-P91/P92	P19223	MACHINING OF SUPPORT PIPE ( SPEC- P91/P92) -MACHINING OF SUPPORT PIPE ABOVE OD 323.9 MM AND UPTO OD 610 MM AND THK UP TO 20 MM	NO
224	MCHNG-SP-P91/P92	P19224	MACHINING OF SUPPORT PIPE ( SPEC- P91/P92) -MACHINING OF SUPPORT PIPE ABOVE OD 610 MM AND THK UP TO 20 MM	NO
225	MCHNG-SP-P91/P92	P19225	MACHINING OF SUPPORT PIPE ( SPEC- P91/P92) -MACHINING OF SUPPORT PIPE UP TO OD 323.9 MM AND THK ABOVE 20 MM	NO
226	MCHNG-SP-P91/P92	P19226	MACHINING OF SUPPORT PIPE ( SPEC- P91/P92) -MACHINING OF SUPPORT PIPE ABOVE OD 323.9 MM AND UPTO OD 610 MM AND THK ABOVE 20 MM	NO
227	MCHNG-SP-P91/P92	P19227	MACHINING OF SUPPORT PIPE ( SPEC- P91/P92) -MACHINING OF SUPPORT PIPE ABOVE OD 610 MM AND THK ABOVE 20 MM	NO
<b>SCHEDULE-17 - METALLIC END COVER</b>				
228	MEC	P19228	FABRICATION OF METALLIC END COVER FOR PIPE OTHER THAN P91 DIA UP TO 410 MM	NO
229	MEC	P19229	FABRICATION OF METALLIC END COVER FOR PIPE OTHER THAN P91 DIA ABOVE 410 MM AND UP TO 866 MM	NO
230	MEC	P19230	FABRICATION OF METALLIC END COVER FOR PIPE OTHER THAN P91 DIA ABOVE 866 MM AND UP TO 1220 MM	NO
231	MEC	P19231	FABRICATION OF METALLIC END COVER FOR P91 PIPE DIA UP TO 400 MM	NO
232	MEC	P19232	FABRICATION OF METALLIC END COVER FOR P91 PIPE DIA ABOVE 400 MM AND UP TO 800 MM	NO

233	MEC	P19233	FABRICATION OF METALLIC END COVER FOR P91 PIPE DIA ABOVE 800 MM AND UP TO 1220 MM	NO
<b>SCHEDULE-18 - BENDING OF PIPE</b>				
234	BEND	P19234	Non IBR -BENDING OF PIPE(CS, AS) INCL OF EP -OD UPTO 76.1 MM & UP TO 12.5THK	NO

<b>SECTION V</b>	
<b>LIST OF RATE SCHEDULES AND QUANTUM AGAINST ENQ 4602000001/24.01.2020</b>	
<b>SCHEDULE</b>	<b>TENTATIVE QUANTUM WT IN MT</b>
SCHEDULE 1 -NIBR EP & ATTACHMENT OF PIPE OTHER THAN P91/P92	275
SCHEDULE 1A -PAINTING (BUNDLING & STENCILING OF BOILERS COMPONENTS)	1600
SCHEDULE 2 - SPECIAL MACHINING / MACHNG & ATT - NIBR OTHER THAN P91/P92	35
SCHEDULE 3 - SPECIAL MACHINING COMPONENTS	80
SCHEDULE 4 - WELDED BEAM & WELDED BOX	875
SCHEDULE 5 - PLATE FORMED PRODUCT - NIBR	1715
SCHEDULE 6 -TANKS & VESSELS -NIBR	10
SCHEDULE 7 - CLAMPS	260
SCHEDULE 8 - IBR PIPING - EDGE PREPARATION, ATTACHMENT AND MACHINING	220
SCHEDULE 9 - SPECIAL MACHINING / MACHNG & ATT -IBR	10
SCHEDULE 10 - PLATE FORMED PRODUCT - IBR	10
SCHEDULE 11 -TANKS & VESSELS -IBR	10
SCHEDULE 12 MACHINING ITEMS - NON-IBR	10
SCHEDULE 13 MACHINING ITEMS - IBR	10
SCHEDULE 14 - P91/ P92 PIPE EP & MACHINING OF P91/P92 COMPONENTS	20
SCHEDULE 15 - P91/P92/AS/CS UT REFERENCE BLOCK / HARDNESS BLOCK	10
SCHEDULE 16 - MACHINING OF WELDED TEES (BASE PIPE /BRANCH PIPE)/ SUPPORT PIPE -(IBR/NIBR)	10
SCHEDULE 17 - METALLIC END COVER	35
SCHEDULE 18 - BENDING OF PIPE	5
SCHEDULE 19 -SUPPLEMENTARY RATE SCHEDULES	-
<b>TOTAL ESTIMATED QUANTUM</b>	<b>5200</b>

**SECTION X**

(For details of work kindly refer scope of work)

**SCHEDULE-19 AGAINST ENQ 460200001/24.01.2020**

**SUPPLEMENTARY PREFIXED EXTRA RATE CODES**

SI No	CATEGORY	SCHEDULE	RATE CODE	DESCRIPTION	UOM	RATE IN RS
235	HNDLG	[19.1] HANDLING OF HIGH THK PIPE	P19235	Extra Rate Codes - HANDLING CHARGES FOR PIPE	NO	1643.00
236	ATT-NIBR	[19.2] SS MATERIAL COST	P19236	Extra Rate Codes - SS MATERIAL COST (ROUND,PLATE & PIPE)	KG	485.00
237	PLASMA	[19.3] PLASMA CUTTING	P19237	Extra Rate Codes - PLASMA CUTTING OF SS PLATE (RATE/MTR) THK UP TO 16 MM	M	975.00
238	PLASMA		P19238	Extra Rate Codes - PLASMA CUTTING OF SS PLATE (RATE/MTR) THK ABOVE 16 MM	M	1590.00
239	PLASMA		P19239	Extra Rate Codes - PLASMA CUTTING OF P91/P92 PLATE (RATE/MTR) THK UP TO 25 MM	M	1696.00
240	PLASMA		P19240	Extra Rate Codes - PLASMA CUTTING OF P91/P92 PLATE (RATE/MTR) THK ABOVE 25 MM	M	2321.00
241	BUTT JOINT	[19.4] ADDITIONAL BUTT JOINTS (AS / CS / SS) PLATES / PIPE	P19241	Extra Rate Codes - ADDITIONAL BUTT JOINT FOR PLATE/PIPE THK UP TO 8 MM - CS	M	636.00
242	BUTT JOINT		P19242	Extra Rate Codes - ADDITIONAL BUTT JOINT FOR PLATE/PIPE THK ABOVE 8 MM & UP TO 16 MM - CS	M	1272.00
243	BUTT JOINT		P19243	Extra Rate Codes - ADDITIONAL BUTT JOINT FOR PLATE/PIPE THK ABOVE 16 MM & UP TO 22 MM - CS	M	1712.00
244	BUTT JOINT		P19244	Extra Rate Codes - ADDITIONAL BUTT JOINT FOR PLATE/PIPE THK ABOVE 22 MM & UP TO 32 MM - CS	M	2490.00
245	BUTT JOINT		P19245	Extra Rate Codes - ADDITIONAL BUTT JOINT FOR PLATE/PIPE THK ABOVE 32 MM - CS	M	5722.00
246	BUTT JOINT		P19246	Extra Rate Codes - ADDITIONAL BUTT JOINT FOR PLATE/PIPE THK UP TO 16 MM - AS	M	1245.00
247	BUTT JOINT		P19247	Extra Rate Codes - ADDITIONAL BUTT JOINT FOR PLATE/PIPE THK ABOVE 16 MM & UP TO 25 MM - AS	M	1946.00
248	BUTT JOINT		P19248	Extra Rate Codes - ADDITIONAL BUTT JOINT FOR PLATE/PIPE THK ABOVE 25 MM - AS	M	5722.00
249	BUTT JOINT		P19249	Extra Rate Codes - ADDITIONAL BUTT JOINT FOR PLATE/PIPE THK UP TO 16 MM - SS	M	2596.00
250	BUTT JOINT		P19250	Extra Rate Codes - ADDITIONAL BUTT JOINT FOR PLATE/PIPE THK ABOVE 16 MM & UP TO 25 MM - SS	M	4057.00
251	BUTT JOINT		P19251	Extra Rate Codes - ADDITIONAL BUTT JOINT FOR PLATE/PIPE THK ABOVE 25 MM - SS	M	5193.00
252	HT	[19.5] HEAT TREATMENT	P19252	Extra Rate Codes - CHARGES FOR HEAT TREATMENT	MT	8266.00
253	GAL	[19.6] GALVANISING,	P19253	Extra Rate Codes - THREADING & GALVANISING OF PIPE & FITTING ITEMS	MT	49276.00
254	GAL		P19254	Extra Rate Codes - GALVANISING ONLY - ELECTRO / HOT DIP	MT	20134.00
255	GAL		P19255	Extra Rate Codes - YELLOW CHROMOTISING ONLY	MT	3020.00
256	PTG		P19256	Extra Rate Codes - BLAST CLEANING SA 2 1/2	SQM	72.00
257	PTG		P19257	Extra Rate Codes - REDOXIDE ZINC PHOSPHATE PRIMER(ALKYD BASE) TO IS 12744 BY /BRUSH / SPRAY - 30 MIC	SQM	26.00
258	PTG		P19258	Extra Rate Codes - SYNTHETIC ENAMEL LONG OIL ALKYD TO IS 2932 (LATEST) BY BRUSH / SPRAY - 20 MIC	SQM	32.00
259	PTG		P19259	Extra Rate Codes - HEAT RESISTANCE ALUMINIUM PAINT TO IS 13183 GR I / GR II - 20 MIC	SQM	68.00
260	PTG		P19260	Extra Rate Codes - ALIPHATIC ACRYLIC POLYURETHANE PAINT TO IS 13213 (LATEST) - 30 MIC	SQM	64.00
261	PTG		P19261	Extra Rate Codes - EPOXY POLYAMIDE CURED FINISH PAINT TO IS 14209 - 50 MIC	SQM	49.00

262	PTG	<b>[19.7] PAINTING CATEGORY</b>	P19262	Extra Rate Codes - EPOXY BASED RED OXIDE ZINC PHOSPHATE PRIMER - 50 MIC / EPOXY POLYAMIDE RESIN BASED ZINC PHOSPHATE PRIMER-50 MIC	SQM	59.00
263	PTG		P19263	Extra Rate Codes - INORGANIC ETHYL ZINC SILICATE PRIMER TO IS 14946 - 50 MIC / Epoxy Based Zinc Rich Primer- 50 MIC / Epoxy Based Zinc Rich Primer To IS 14589 Grade II - 50 Mic / Two Component Polymaide-Cured Zinc Rich Epoxy Primer(Zinc Content 80% W/W) - 50 Mic	SQM	79.00
264	PTG		P19264	Extra Rate Codes - HB EPOXY BASED MIO INTERMEDIATE PAINT TO IS14209 - 50 MIC / Epoxy Based Tio2 Pigmented Intermediate Coat Per Coat - 50 Mic / Two Component High Build Epoxy Polyimide Mio Coating 50 Mic	SQM	62.00
265	PTG		P19265	Extra Rate Codes - High Build Chlorinated Rubber Based Zinc Phosphate Primer - 50 Mic	SQM	35.00
266	PTG		P19266	Extra Rate Codes - CHLORINATED RUBBER BASED FINISH PAINT TO SMOKE GREY - 30MIC	SQM	64.00
267	PTG		P19267	Extra Rate Codes - COAL TAR EPOXY COATING FINISH - 100 MIC	SQM	134.00
268	PTG		P19268	Extra Rate Codes - COAL TAR EPOXY PRIMER - 50 MIC	SQM	65.00
269	PTG		P19269	Extra Rate Codes - HEAT RESISTANCE SILICON COATING 20 MIC	SQM	155.00
270			P19270	Extra Rate Codes - Two part polyamide cured solvent less epoxy 300-350 microns	SQM	284.00
271	PTG-PU		<b>[19.8] PU COATING OF PIPE - EXTRA</b>	P19271	PU COATING OF PIPE UP TO ID 1000 MM ( INCLUSIVE OF BLAST CLEANING) - STD DFT ---- 2000 microns	SQM
272	PTG-PU		P19272	Extra Rate Codes - PU COATING OF PIPE ABOVE ID 1000 MM ( INCLUSIVE OF BLAST CLEANING) - STD DFT ---- 2000 microns	SQM	3428.00
273	PTG-GF	<b>[19.9] GF COATING OF PIPE - EXTRA</b>	P19273	Extra Rate Codes - GF COATING OF PIPE UP TO ID 1000 MM ( INCLUSIVE OF BLAST CLEANING) - STD DFT ---- 1000 microns	SQM	1558.00
274	PTG-GF		P19274	Extra Rate Codes - GF COATING OF PIPE ABOVE ID 1000 MM ( INCLUSIVE OF BLAST CLEANING) - STD DFT ---- 1000 microns	SQM	1428.00

**SECTION XI****INDICATIVE LIST OF SCRAP RATES WHICH WILL VARY QUARTERLY AGAINST ENQ  
4602000001/24.01.2020**

<b>SI No</b>	<b>Short Des</b>	<b>Unit</b>	<b>RATE</b>	<b>Valid from</b>	<b>Valid to</b>
1	Non - Ferrous scrap	MT	4,00,100.00	01-10-2019	31-12-2019
2	Non - Ferrous - turnings & Borings scr	MT	3,10,000.00	01-10-2019	31-12-2019
3	Ferrous Tubes and Pipe Scrap	MT	42,500.00	01-10-2019	31-12-2019
4	SS scrap (magnetic)	MT	56,001.00	01-10-2019	31-12-2019
5	SS scrap (non-mgnt) other than 310/310S	MT	98,001.00	01-10-2019	31-12-2019
6	SS scrap (non-mgnt) 310/310S	MT	1,43,000.00	01-10-2019	31-12-2019
7	Big size scrap (AS/CS)	MT	29,802.00	01-10-2019	31-12-2019
8	Turnings & borings scrap (CS/AS)	MT	24,100.00	01-10-2019	31-12-2019
9	Turnings & borings scrap (SS Mgnt)	MT	25,000.00	01-10-2019	31-12-2019
10	Turnings & borings scrap (SS Non-mgnt)	MT	40,000.00	01-10-2019	31-12-2019

## **Cancellation / Termination of contract, Default / Breach of contract and Risk Purchase**

In case of abnormal delays (beyond the maximum late delivery period as per Penalty clause) in supplies / defective supplies or non-fulfilment of any other terms and conditions given in Purchase Order as enumerated subsequently in this clause, Purchaser shall be entitled to cancel the Order / Contract either in whole or portion thereof without compensation to Seller / Contractor and if the Purchaser so desires, may procure upon such terms and in such manner as deemed appropriate, stores not so delivered or others of similar description where stores exactly complying with particulars are not, in the opinion of the Purchaser, which shall be final, readily procurable, at the risk and cost of the Seller / Contractor and the Seller / Contractor shall be liable to the Purchaser for any excess costs provided that the Seller / Contractor shall continue the performance of the Order / Contract to the extent not cancelled under the provisions of this clause. The Seller / Contractor shall on no account be entitled to any gain on such repurchases. If bidder does not agree to the above Risk Purchase Clause, BHEL reserves the right to reject the offer.

Risk & Cost Clause, in line with Conditions of Contract may be invoked in any of the following cases:

- i. Contractor / supplier's poor progress of the work vis-à-vis execution timeline as stipulated in the Contract, backlog attributable to contractor/ supplier including unexecuted portion of work / supply does not appear to be executable within balance available period (#) considering its performance of execution.
- ii. Withdrawal from or abandonment of the work by contractor before completion of the work as per contract.
- iii. Non completion of work / Non-supply by the Contractor / supplier within scheduled completion / delivery period as per Contract or as extended from time to time, for the reasons attributable to the contractor / supplier.
- iv. Termination of Contract on account of any other reason (s) attributable to Contractor / Supplier.
- v. Assignment, transfer, subletting of Contract without BHEL's written permission resulting in termination of Contract or part thereof by BHEL.
- vi. Non-compliance to any contractual condition or any other default attributable to Contractor / Supplier.

### **Risk and Cost amount against Balance Work:**

$$\text{Risk \& Cost Amount} = [(A-B) + (A \times H/100)]$$

Where,

**A**= Value of Balance scope of Work / Supply (\*) as per rates of new contract

**B**= Value of Balance scope of Work / Supply (\*) as per rates of old contract being paid to the contractor / supplier at the time of termination of contract i.e. inclusive of PVC & ORC, if any.

**H**= Overhead Factor to be taken as 5

In case (A-B) is less than 0 (zero), value of (A-B) shall be taken as 0 (zero).

### **\*(Balance scope of work / supply)**

Difference of Contract Quantities and Executed Quantities as on the date of issue of Letter for 'Termination of Contract', shall be taken as balance scope of Work / Supply for calculating risk & cost amount.

Contract quantities are the quantities as per original contract. If, Contract has been amended, quantities as per amended Contract shall be considered as Contract Quantities.

Items for which total quantities to be executed have exceeded the Contract Quantities based on drawings issued to contractor from time to time till issue of Termination letter, then for these items total Quantities as per issued drawings would be deemed to be contract quantities.

Substitute / extra items whose rates have already been approved would form part of contract quantities for this purpose. Substitute / extra items which have been executed but rates have not been approved, would also form part of contract quantities for this purpose and rates of such items shall be determined in line with contractual provisions.

## **Cancellation / Termination of contract, Default / Breach of contract and Risk Purchase**

However, increase in quantities on account of additional scope in new tender shall not be considered for this purpose.

Note: In case portion of work is being withdrawn, contract quantities pertaining to portion of work withdrawn shall be considered as 'Balance scope of work / supply' for calculating Risk & Cost amount.

### **LD against delay in executed work / supply in case of Termination of Contract in case of Risk and Cost Option**

LD against delay in executed work / supply shall be calculated in line with LD clause of the contract for the delay attributable to contractor / supplier. For limiting maximum LD value, contract value shall be taken as Executed Value of work / supply.

Method for calculation of "LD against delay in executed work / supply" is given below.

- i. Let the time period from scheduled date of start of work till termination of contract excluding the period of Hold (if any) not attributable to contractor / supplier= T1
- ii. Let the value of executed work / supply till the time of termination of contract= X
- iii. Let the Total Executable Value of work / supply for which inputs / fronts were made available to contractor / supplier and were planned for execution till termination of contract= Y
- iv. Delay in executed work / supply attributable to contractor/supplier i.e.  $T2 = (1 - X/Y) * T1$
- v. LD shall be calculated in line with LD clause of the Contract for the delay attributable to contractor / supplier taking "X" as Contract Value and "T2" as delay attributable to contractor / supplier.

Note: In case portion of work / supply is withdrawn, no LD shall be applicable for portion of work / supply withdrawn.

### **Recovery from Supplier**

Recoveries from contractor / supplier on whom risk & cost has been invoked shall be made from the following:

- i. Dues available in the form of Bills payable to contractor / supplier, SD, BG's against the same contract.
  - ii. Dues payable to contractor / supplier against other contracts in the same Region / Unit / Division of BHEL.
  - iii. Dues payable to contractor / supplier against other contracts in the different Region / Unit / division of BHEL.
- Legal Options for recovery of dues payable by the supplier / contractor.

## INFORMATION ON REVERSE AUCTION

### **REVERSE AUCTION (AA: SSP: RA: 03) Issued on 26.09.2016**

BHEL reserves the right to go for reverse auction (RA) (guidelines as Available on [www.BHEL.com](http://www.BHEL.com)) instead of opening the sealed envelope price Bid, submitted by the bidder. This will be decided after Techno-commercial evaluation. Bidders to give their acceptance with the Offer for participation in RA. Non-acceptance to participate in RA may Result in non-consideration of their bids, in case BHEL decides to go For RA.

Those bidders who have given their acceptance to participate in Reverse Auction will have to necessarily submit 'process compliance form' (to The designated service provider) as well as 'online sealed bid' in the Reverse auction. Non-submission of 'process compliance form' or 'online Sealed bid' by the agreed bidder(s) will be considered as tampering of The tender process and will invite action by BHEL as per extant Guidelines for suspension of business dealings with suppliers/ Contractors (as available on [www.BHEL.com](http://www.BHEL.com)).

The bidders have to necessarily submit online sealed bid less than or equal to their envelope sealed price bid already submitted to BHEL along With the offer. The envelope sealed price bid of successful L1 bidder in RA, if conducted, shall also be opened after RA and the order will be Placed on lower of the two bids (RA closing price & envelope sealed Price) thus obtained. The bidder having submitted this offer specifically agrees to this condition and undertakes to execute the Contract on thus awarded rates.

If it is found that L1 bidder has quoted higher in online sealed bid in Comparison to envelope sealed bid for any item(s), the bidder will be issued a warning letter to this effect. However, if the same bidder again defaults on this count in any subsequent tender in the unit, it Will be considered as fraud and will invite action by BHEL as per extant Guidelines for suspension of business dealings with suppliers/ Contractors (as available on [www.BHEL.com](http://www.BHEL.com))

<b>Bharat Heavy Electricals Ltd.,</b> Piping Centre, Chennai – 600 017		
<b>Packaging Instructions for Piping Components</b>	Doc. No PC: PKG:01	
	Rev No: 00 Date : 28 /05/ 2014	No of Sheets : 24

## PACKAGING INSTRUCTIONS FOR PIPING COMPONENTS

### PC: PKG: 01

#### Revision summary

Rev No	Revision Details	Issued on
00	Fresh issue	28-05-2014

Prepared by	Reviewed & Approved by
	
S.ARUN KUMAR	K.VEDAPRASAD



**Packaging Instructions for Piping  
Components**

Doc. No  
PC: PKG:01  
Rev No: 00  
Date : 28 /05/ 2014

No of Sheets : 24

## Contents

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1. Scope
2. Packaging
3. Criteria for Selection of Packaging
4. Types of packaging
5. Sling protections
6. Marking and Labelling
7. Packing list
8. General Instructions for packaging
9. Reference drawings
10. Cautionary symbols
11. Packing reference table
12. Check list

<b>Bharat Heavy Electricals Ltd.,</b> Piping Centre, Chennai – 600 017		
<b>Packaging Instructions for Piping Components</b>	Doc. No PC: PKG:01	
	Rev No: 00 Date : 28 /05/ 2014	No of Sheets : 24

## 1. SCOPE

This procedure elicits the general requirements to be complied with for packaging of piping components. The packaging is intended to preserve and protect the contents.

The handling, storage, cleaning, packaging, and preservation of items shall be controlled to prevent damage or loss and to minimize deterioration.

## 2. PACKAGING

This procedure contains requirements for packaging of items for protection against corrosion, contamination, physical damage, or any effect that would lower the quality or cause the components to deteriorate during the time they are shipped and stored at sites.

Items shall be inspected for cleanliness immediately before packaging. Dirt, oil, residue, metal chips or other forms of contamination shall be removed.

Adequate protection shall be provided against mechanical damage and atmospheric corrosion in transit and, for equipment suitable for outside storage, for prolonged storage at the site prior to installation.

Water proof barrier material – high density polythene shall be used as a resistant to grease and water; it shall protect items from airborne and windblown soils.

Desiccants like silica gel to be used inside pipe components. Silica gel shall conform to IS 3401. The gel is to be packed in sachets placed at different positions inside the components for absorbing moisture. The quantity of silica gel shall be adequate for storage period of one year.

Components to be placed in such a way that metal to metal contact is avoided.

For mechanical components, (1) all openings shall be covered or plugged with substantial (1/2 inch minimum thick) one piece plywood or metal closures, securely fastened and suitable for prolonged exposure prior to final installation; (2) all tapped openings in equipment shall be plugged with plastic plugs to protect internal threads; and (3) all welding end connections shall be provided with adequate weld bevel protectors to protect from corrosion and physical damage.



**Packaging Instructions for Piping Components**

Doc. No  
PC: PKG:01  
Rev No: 00  
Date : 28 /05/ 2014

No of Sheets : 24

Austenitic stainless steel and nickel-based alloy materials shall be handled in such a manner that they are not in direct contact with carbon steel materials or with materials containing halogen, sulphur, zinc and lead.

Each components/item of stainless steel materials should be wrapped with high density polythene.

All equipment shall be packed, securely anchored (skid mounted when required) and weather protected for the shipment method adopted.

Temporary bracing or supports, marked and tagged for removal after equipment installation, shall be provided to prevent damage during shipment and shall be painted bright, fluorescent yellow.

**3. Criteria for Selection of Packaging:**

Packages are to be made according to categories listed in Table-6 (see page – 24), depending on the type of materials and size.

**4. TYPES OF PACKAGING:**

**4.1 CRATES**

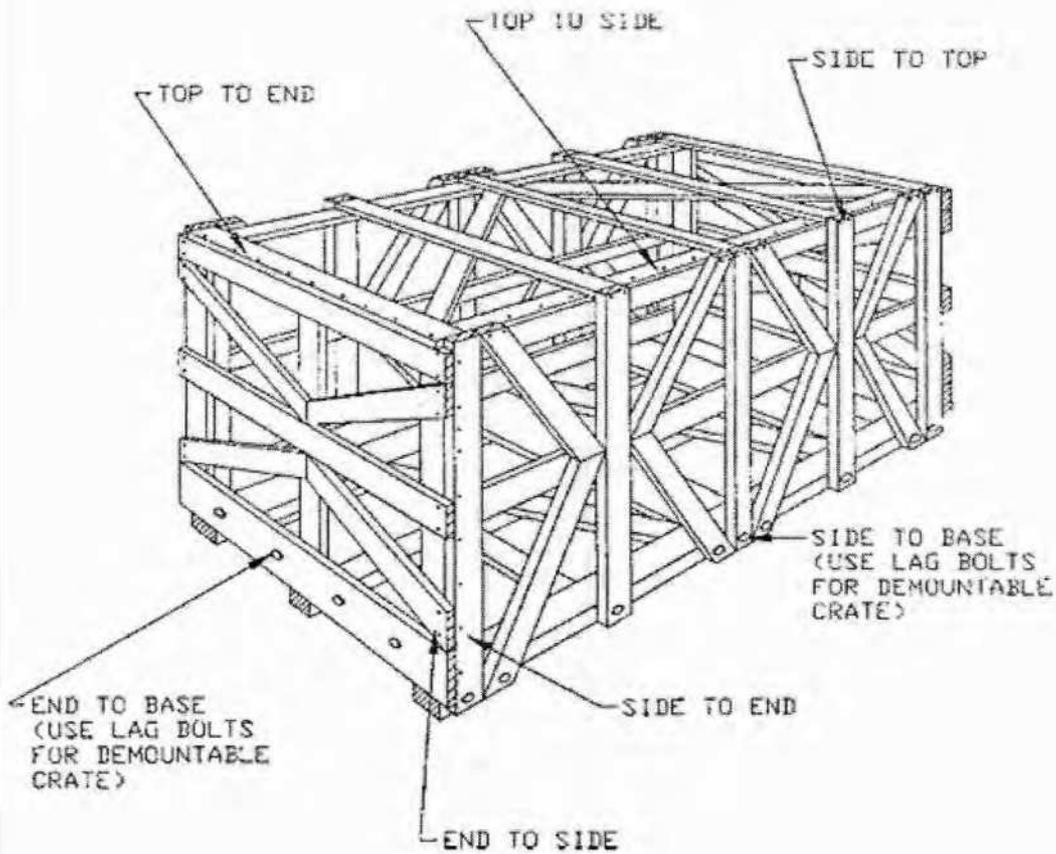
- These are to be made of seasoned wood and are intended for packaging heavy materials Viz., straight pipes and pipes with attachments.
- The crates are to be lined with hi-density polythene, to prevent entry of moisture.
- The dimensions of the crates are to be restricted to 20 x5x5 feet.
- Pipes up to OD 350mm are to be crated.
- Pipes are to be stacked inside the crate so that the weight of the pipe does not rest on branch stubs or carrier plates.
- Contents of the crate should not come in contact with each other or with the crating, and should be adequately cushioned to preserve the painting.
- The gross weight of the crate should not exceed 2 Tons.
- For further instructions refer ASTM D6039 Standard Specification for Open and Covered wood Crates.

**Packaging Instructions for Piping Components**

Doc. No  
PC: PKG:01  
Rev No: 00  
Date : 28 /05/ 2014

No of Sheets : 24

## WOODEN CRATE



Max Net Load (KGS)	Length (mm)	Width (mm)	Height (mm)
2000	6096	1524	1524

All the dimensions shown in the above table are maximum inside dimensions.

<b>Bharat Heavy Electricals Ltd.,</b> Piping Centre, Chennai – 600 017		
<b>Packaging Instructions for Piping Components</b>	Doc. No PC: PKG:01	
	Rev No: 00 Date : 28 /05/ 2014	No of Sheets : 24

#### 4.3 SADDLES

- Saddles are defined as profiled supports made of wood, and are used to cradle and support Tanks, pipe bends and pressure vessels.
- Ensure that the end chamfering of the bends are duly protected for the transit.
- Tanks are to be completely drained and dried.
- Adequate amount of the specified desiccant is to be placed inside the tank/ vessel.
- Ensure that all openings are covered and /or plugged.

#### 4.4 CASES

- Other components such as fittings and Mitres are to be packed inside wooden cases.
- The insides of the cases are to be lined with hi-density polythene.
- Air vents to be provided in the cases for ventilation.
- Components to be placed in such a way that metal to metal contact is avoided.
- Small components like Fasteners, gaskets are to be packed in high density polythene covers and placed inside the wooden cases.
- Holes to be provided in the case floor to act as drains.

#### 4.5 BUNDLES

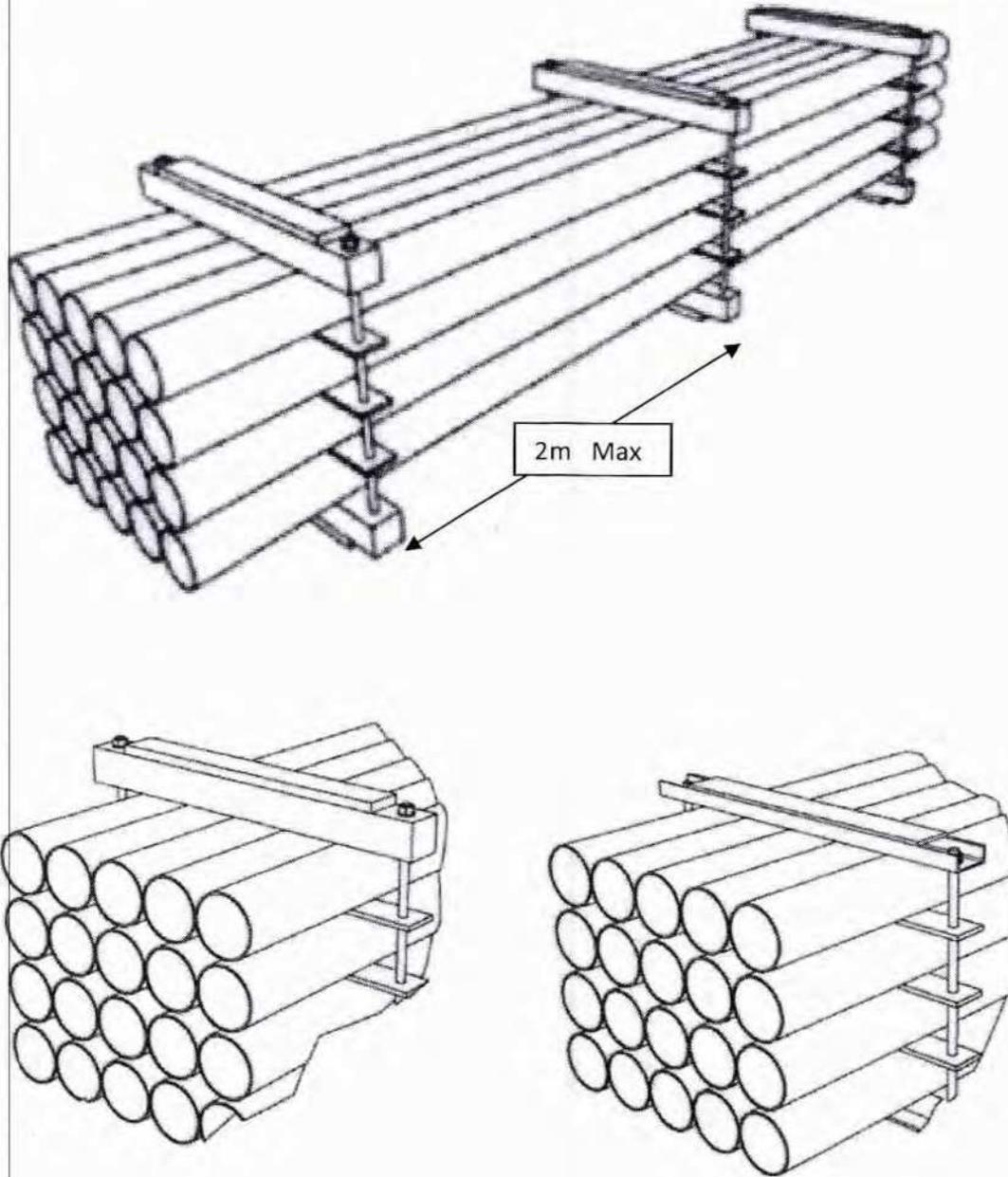
- Bundles are transportable units where a large number of straight pipes of the same diameter and even lengths are arranged securely and are fit to be lifted by cranes and also stacked.
- Pipe ends should be covered fully with plastic end caps.
- Pipes can be bundled only when they can bear the stack compression load without additional support.
- Clamps made of wood or steel clamps with wooden inserts are to be used.
- Clamps must be locked firmly so that the pipes cannot slide out of bundle.
- Bundle must be held together by at least three sets of clamps as indicated in the diagram.



**Packaging Instructions for Piping  
Components**

Doc. No  
PC: PKG:01  
Rev No: 00  
Date : 28 /05/ 2014

No of Sheets : 24



<b>Bharat Heavy Electricals Ltd.,</b> Piping Centre, Chennai – 600 017		
<b>Packaging Instructions for Piping Components</b>	Doc. No PC: PKG:01	
	Rev No: 00 Date : 28 /05/ 2014	No of Sheets : 24

### 5. SLING PROTECTIONS

The lifting points of the case or crate or bundle must be equipped with sling protections suitable to the respective package gross weight.

### 6. MARKING AND LABELLING

Components and their containers shall be identified by marking. Shipping marks shall be on all sides of package. The shipping marks shall be at least 3 inches high where space permits. Markings are to be in black paint or ink depending on shade of the package surface.

Cautionary symbols to be stencilled in red waterproof paint or ink.

### 7. PACKING LIST

One complete packing list inside a watertight envelope must be affixed outside of each package and be covered by sheet metal. One more copy of the packing slip wrapped in polyethylene bag is to be kept inside the box at the pertinent place.

<b>Bharat Heavy Electricals Ltd.,</b> Piping Centre, Chennai – 600 017		
<b>Packaging Instructions for Piping Components</b>	Doc. No PC: PKG:01	
	Rev No: 00 Date : 28 /05/ 2014	No of Sheets : 24

## 8. General Instructions for packaging

- The quantity of Slides / Runners is selected depending upon the weight and over-all dimension of the Load, to be carried. Table-1 and 2 details out the number of Slides, length and cross sections of the Slides to be provided with their carrying capacity.
- The construction of bottom frame is as shown in the Figure-2.
- The construction of the top frame is, as shown in the figure -3.
- Thickness of the boards, used for sheathing for the top, sides and end panels, shall be 25 mm.
- The top of the Box consist of Beam supported on top traverse bar and sheathing, as shown in the figure- 3.
- The dimension of items 1, 2 f figure -3 shall be as table -3.
- Diagonal braces shall be used in packing cases with height, exceeding 600 mm as shown in the figure- 4.
- The angle between the lower (or) upper horizontal supports and diagonal braces, shall be in the range of 20° to 60° and if possible, this angle preferably be kept at 45°.
- If the height of the box exceeds more than 1400 mm the diagonal braces, shall cross each other and when this dimension exceeds 1800mm additional horizontal supports shall be provided as shown in figure-5 and figure- 6.
- Size of upper and lower horizontal supports and vertical supports, shall be as per Table 4 refer figure 7, 8, 9 & 10 for the arrangement.
- The cross section of end traverses bar (item -1) and thickness of bottom boards (item-2), shall be used as per table - 5.
- All boxes measuring more than 600 mm height shall be constructed by assembling end, side and top shook's on a bottom, forming a complete enclosed Box (refer figure-11).
- Angle iron cleats shall be used for strengthening the joints, as indicated in figure -12.
- Boxes will be strengthened by steel bands to withstand transit damages.

**Packaging Instructions for Piping Components**

Doc. No  
PC: PKG:01  
Rev No: 00  
Date : 28 /05/ 2014

No of Sheets : 24

**9. Reference drawings**

1. SLIDE
2. LONGITUDINAL UNDER SLIDE BOARD.
3. BOTTOM BOARD
4. CARRIER TRAVERSE BAR
5. INTERMEDIATE VERTICAL SUPPO
6. HORIZONTAL BRACING
7. DRAINAGE HOLES
8. BATTEN
9. SLING PLATE
10. NUT BOLT WASHER
11. END TRAVERSE BAR
12. WATER PROOF LINING OF BITUMANISED PAPER
13. VERTICAL SUPPORTS
14. END SHETING BOARD
15. SIDE SHEATING BOARD
16. TOP SHEATING BOARD
17. LONGITUDINAL SUPPORT
18. TOP HORIZONTAL BEAM
19. TOP SHEATING BOARD
20. TOP CORNER STRIPS (FOR STRENGTHENING)
21. OUT SIDE DOCUMENTS CONTAINER.

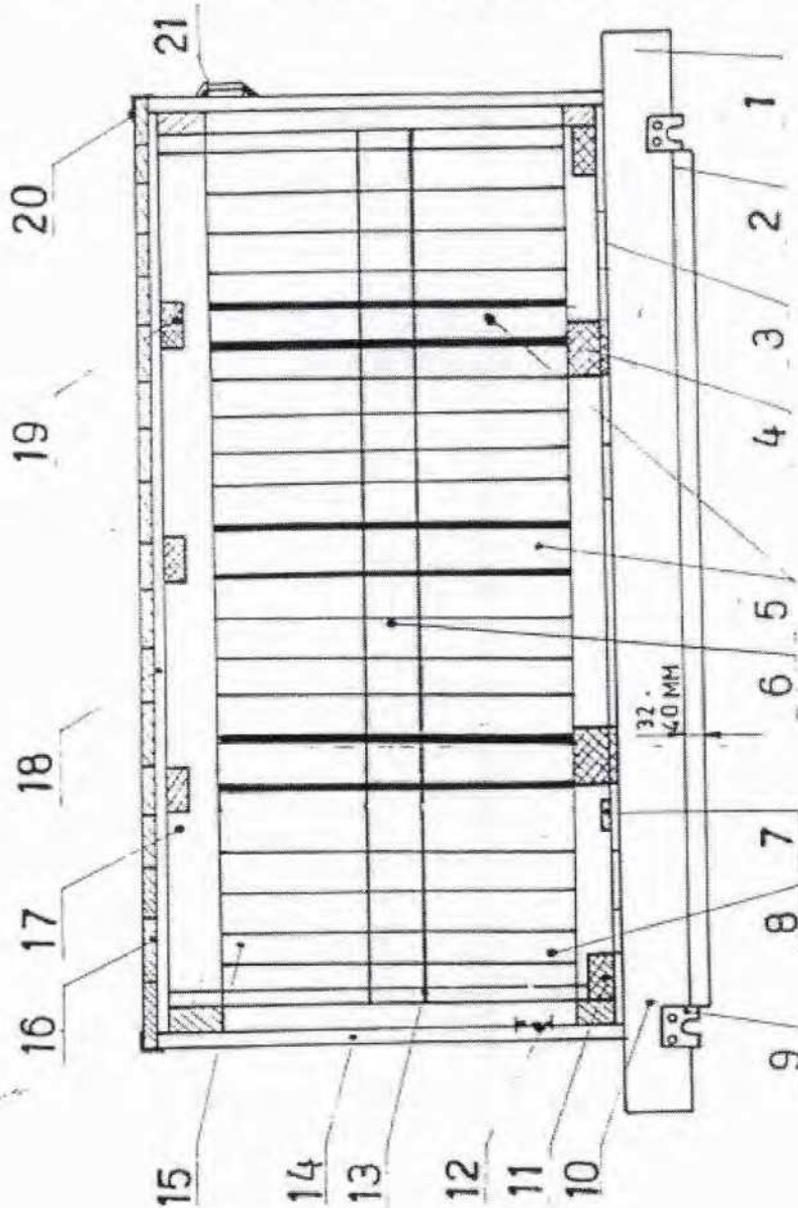


FIG. 1

NOMENCLATURE OF PARTS OF PACKING

**Packaging Instructions for Piping  
Components**

Doc. No  
PC: PKG:01  
Rev No: 00  
Date : 28 /05/ 2014

No of Sheets : 24

BOTTOM FRAME ARRANGEMENTS FOR TYPES  
633, 654, 966, 1296, 1122, 1144, 1399, 1577

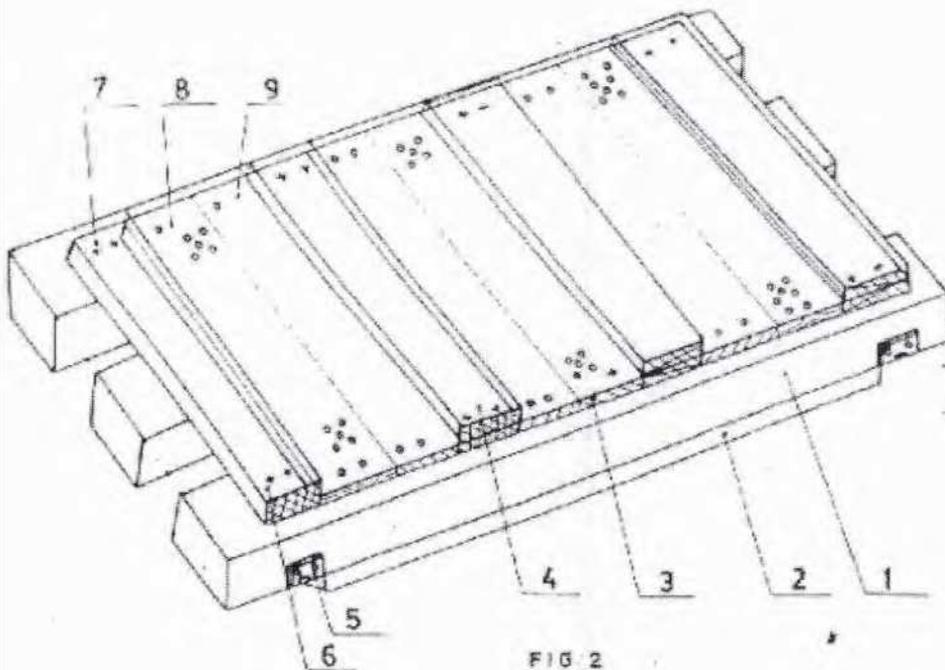


FIG 2

1. SLIDE
2. UNDER SLIDE BOARD
3. BOTTOM BOARD
4. CARRIER TRAVERSE BAR
5. SLING PLATE
6. TRAVERSE BAR
7. BOLT, NUT & WASHER
8. DRAINAGE HOLES
9. NAILS

**Packaging Instructions for Piping  
Components**

Doc. No  
PC: PKG:01  
Rev No: 00  
Date : 28 /05/ 2014

No of Sheets : 24

TOP FRAME ARRANGEMENT FOR TYPES  
633, 654, 966, 1296, 1122, 1144, 1399 & 1577

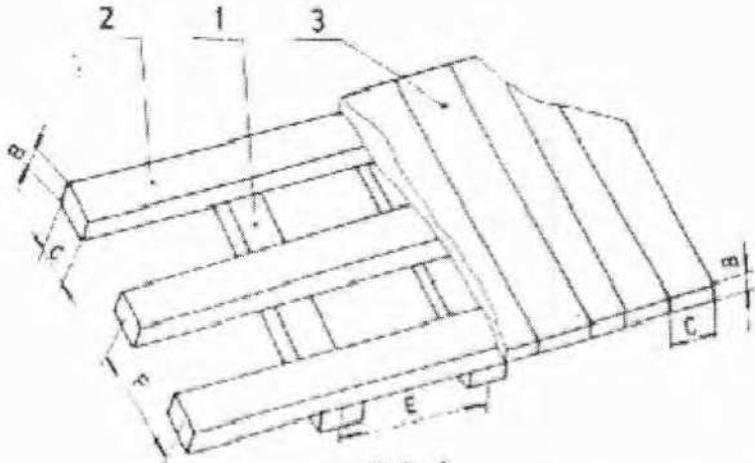


FIG-3

- 1 - Traverse Bars
- 2 - Horizontal Scans
- 3 - Top Board

PROVISION OF DIAGONAL BRACING ARRANGEMENT

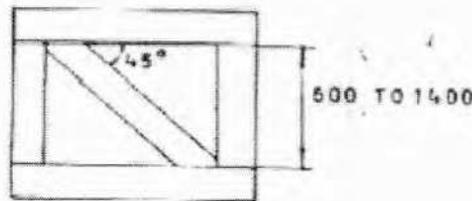


FIG-4



**Packaging Instructions for Piping Components**

Doc. No  
PC: PKG:01  
Rev No: 00  
Date : 28 /05/ 2014

No of Sheets : 24

ARRANGEMENT OF DIAGONAL BRACING & HORIZONTAL SUPPORT

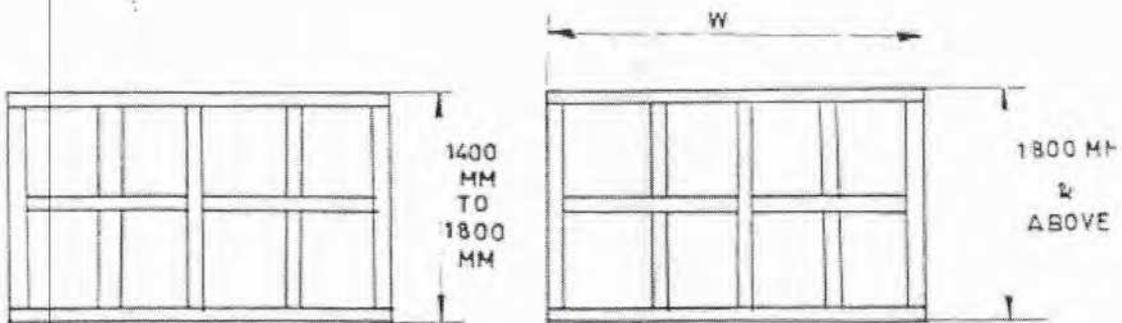


FIG. 5

FIG. 6

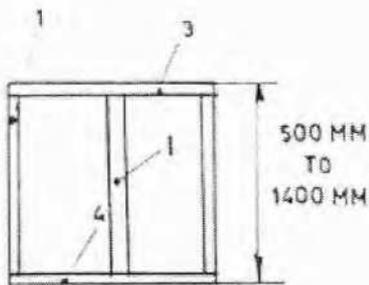


FIG : 7

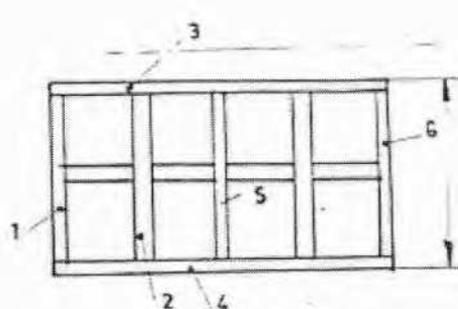


FIG: 8

1. VERTICAL SUPPORT

1,2,5,6 - VERTICAL SUPPORT

3. UPPER HORIZONTAL SUPPORT

3 - UPPER HORIZONTAL SUPPORT

4. LOWER HORIZONTAL SUPPORT

4 - LOWER HORIZONTAL SUPPORT

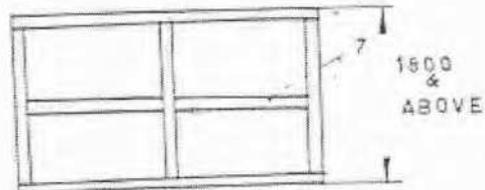
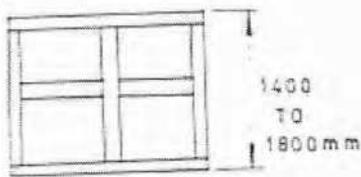


**Packaging Instructions for Piping  
Components**

Doc. No  
PC: PKG:01  
Rev No: 00  
Date : 28 /05/ 2014

No of Sheets : 24

ARRANGEMENT OF DIAGONAL BRACING AND  
HORIZONTAL SUPPORT



7-MIDDLE HORIZONTAL SUPPORT

**Packaging Instructions for Piping  
Components**

Doc. No  
PC: PKG:01  
Rev No: 00  
Date : 28 /05/ 2014

No of Sheets : 24

ARRANGEMENT OF PACKING CASE

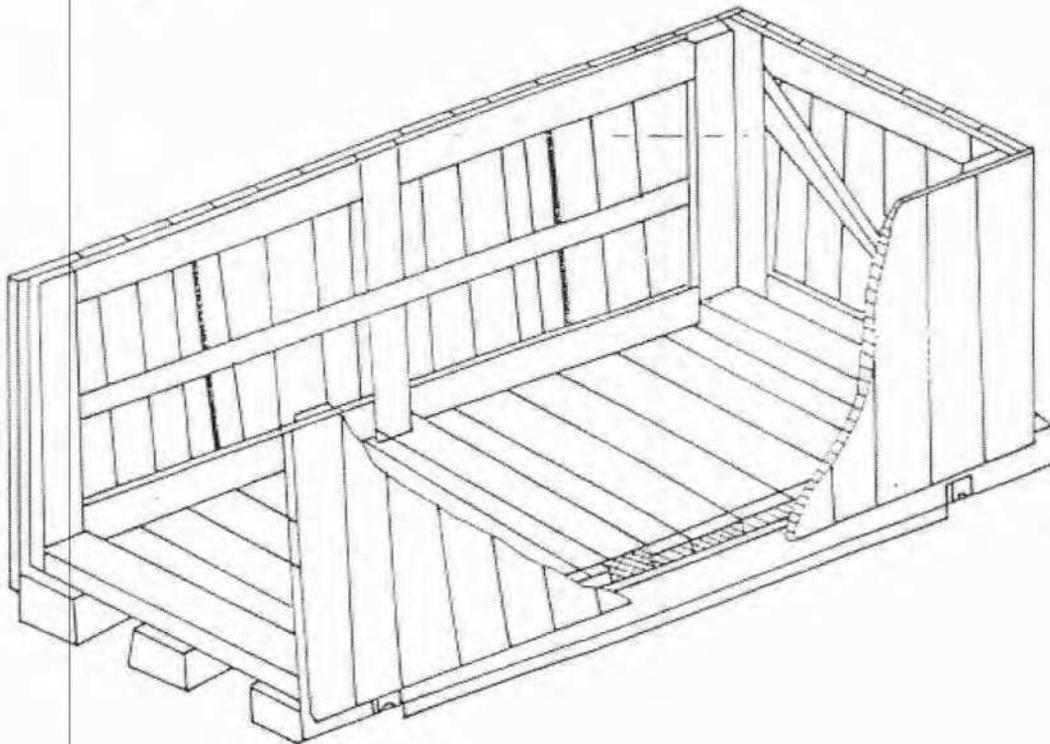


FIG : 11

**Packaging Instructions for Piping  
Components**

Doc. No  
PC: PKG:01  
Rev No: 00  
Date : 28 /05/ 2014

No of Sheets : 24

ARRANGEMENT OF ANGLE IRON CLEATS

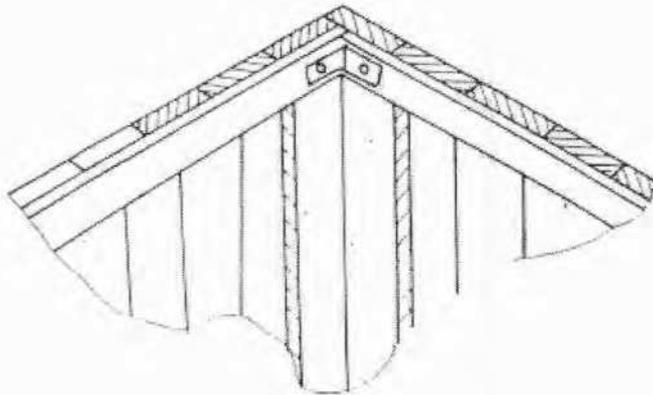


FIG:12

ARRANGEMENT OF C-CLAMPS AROUND CASES

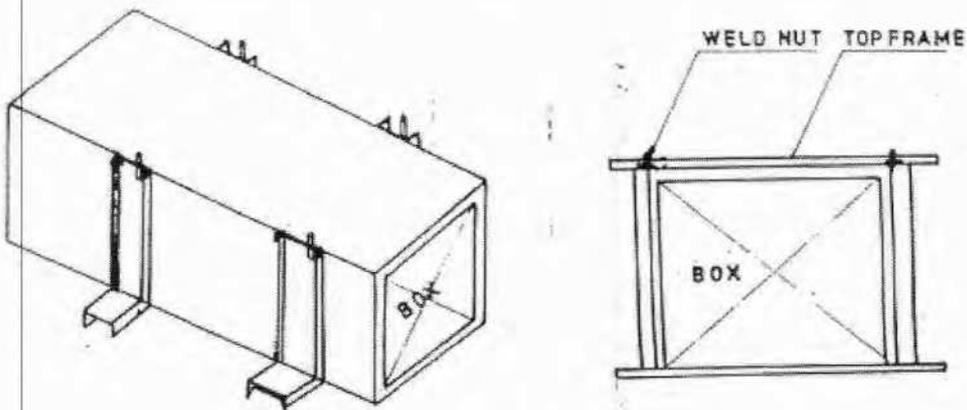


FIG:13

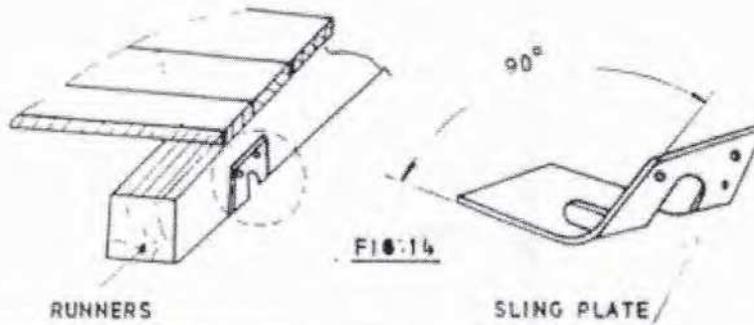


**Packaging Instructions for Piping Components**

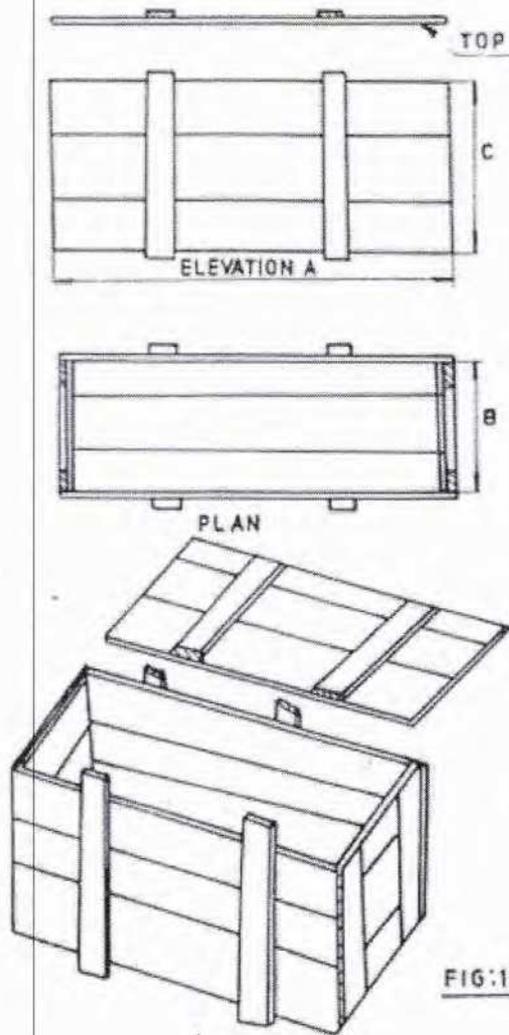
Doc. No  
PC: PKG:01  
Rev No: 00  
Date : 28 /05/ 2014

No of Sheets : 24

ARRANGEMENT OF SLING - PLATE ON CASES



ARRANGEMENT OF SMALL CASES



TYPE 654, 633

DMS TYP	A	B	C
654	600	500	400
633	600	300	300

IN MM ONLY

1. BOTTOM BOARD  
2. CROSS TRAVERS BOARD  
A. UNIFORMLY DISTRIBUTED  
B. CONCENTRATED LOAD



**Packaging Instructions for Piping Components**

Doc. No  
PC: PKG:01  
Rev No: 00  
Date : 28 /05/ 2014

No of Sheets : 24

The sizes of boxes given below are indicative. Actual sizes may vary according to size and positioning of component inside.

ANNEXURE – A

**WOODEN BOXES**

TYPE	L X B X H (MM)	CARRYING CAPACITY IN KGS
633	600x300x300	200
654	600x500x400	500
966	900x600x600	1000
1296	1200x900x600	2000
1122	100x200x200	300
1144	110x400x400	300
1399	1300x900x900	2500
1577	<b>1500 X 700 X 700</b>	1500

TABLE - 1

No. of slides	Length of slides	Weight in (kgs)	Types of loading
2	600 – 1800 mm	0 – 1000	Two slides for central loading near the ends or uniformly distributes load.
3	1801 – 2500 mm	1001 – 5000	Three slides with load concentrates near the end or uniformly distributed load.



**Packaging Instructions for Piping Components**

Doc. No  
PC: PKG:01  
Rev No: 00  
Date : 28 /05/ 2014

No of Sheets : 24

TABLE - 2

LOAD	Length of slides						
	600	800	1000	1200	1300	1500	2000
	CROSS SECTION						
	B x C		c				
			b				
500	30 x 100	30 x 100	30 x 100	30 x 100	30 x 100	30 x 100	30 x 100
800	30 x 100	30 x 100	100 x 100	100 x 100	100 x 100	100 x 100	100 x 100
1000	30 x 100	100 x 100	100 x 100	100 x 100	100 x 100	100 x 100	100 x 100
1500	100 x 100	100 x 100	100 x 100	100 x 100	100 x 100	100 x 100	100 x 100
2000	100 x 100	100 x 100	100 x 100	100 x 100	100 x 100	100 x 100	100 x 100
2500	100 x 100	100 x 100	100 x 100	100 x 100	100 x 100	120 x 150	120 x 150
3000	100 x 100	120 x 150	120 x 150	120 x 150	120 x 150		

TABLE - 3

Distance between top horizontal scans dim 'f'	Distance between the axis of the traverse bar dimension 'E' in fig -3				
	500	600	700	800	900
	Size b x c				
700 – 1000 mm	30 x 100	30 x 100	30 x 100	30 x 100	30 x 100



**Packaging Instructions for Piping Components**

Doc. No  
PC: PKG:01  
Rev No: 00  
Date : 28 /05/ 2014

No of Sheets : 24

TABLE-4

End and side panels	Width of the panels	Distance Between Longitudinal Support DIM 'D'						
		600	800	1000	1200	1400	1600	1800
		Cross section ( b x c) Item 1 to 7						
Fig - 7	600 to 1200	30 x 100	30 x 100	30 x 100	30 x 130	30 x 130	30 x 130	30 x 130
Fig - 8	1201 to 1600	30 x 130	30 x 130	30 x 130	30 x 130	30 x 130	30 x 130	30 x 130
Fig - 9	1601 to 2000	30 x 130	30 x 130	30 x 130	30 x 130	30 x 130	30 x 130	30 x 130
Fig - 10	2001 to 3000	30 x 130	30 x 130	30 x 130	30 x 130	30 x 130	30 x 130	40 x 150
	3001 to 4000	30 x 130	30 x 130	40 x 150				

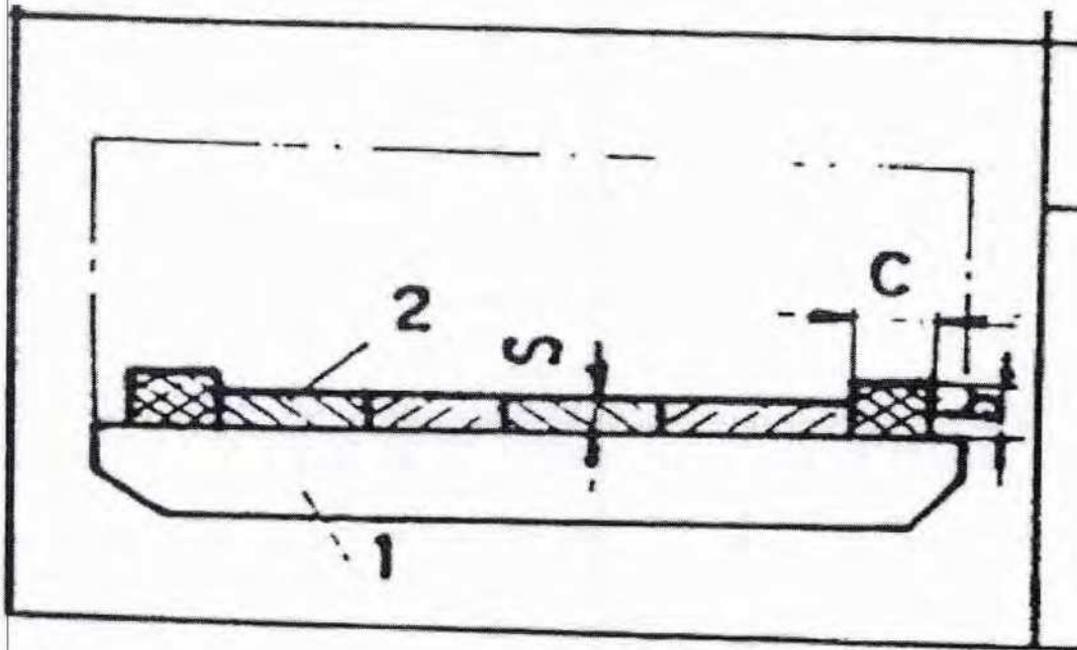
**Packaging Instructions for Piping  
Components**

Doc. No  
PC: PKG:01  
Rev No: 00  
Date : 28 /05/ 2014

No of Sheets : 24

**TABLE-5**

**BOTTOM TRAVERSE:**



Cross section of end traverse bar item 1 fig. X and thickness of bottom board (item - 2)

Load in kg	Width of the box	Cross section	S
Up to 3000	Above 1000 mm	100 x 100	25



**Packaging Instructions for Piping Components**

Doc. No  
PC: PKG:01  
Rev No: 00  
Date : 28 /05/ 2014

No of Sheets : 24

**10. Cautionary symbols**



**FRAGILE, HANDLE WITH CARE**



**PROTECT FROM HEAT AND RADIOACTIVE SOURCES**



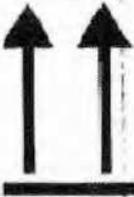
**USE NO HOOKS**

NOTE: The design of heavy goods packages cannot always resist top lifting by grabhooks.



**KEEP DRY**

NOTE: Not all cases have waterproof internal liners; plywood used in the construction may not have a waterproof gluing.



**THIS WAY UP**

NOTE: Certain designs of small cases make it difficult to distinguish top from bottom.



**CENTRE OF GRAVITY**

NOTE: This should be stencilled as a minimum on the two longest case sides (this information will normally be supplied by the manufacturer of the item(s) packed).



**KEEP AWAY FROM HEAT**

... kg max.



**STACKING LIMITATION**

NOTE: The maximum load in kilograms should be marked above the arrow.



International 'sling here' symbol



**Packaging Instructions for Piping Components**

Doc. No  
PC: PKG:01  
Rev No: 00  
Date : 28 /05/ 2014

No of Sheets : 24

**11. Packing Reference Table**

TABLE-6

No	Description	Packing Method ->						Remarks
		Wooden Crates	Bundles	Saddle supports	HD Polythene Sheet Wrapping	Wooden boxes (Cases)	Spider	
1	Straight Pipes	✓	✓					Crates for random length
2	Pipes with attachments	✓						
3	Pipes with Fittings	✓						
4	Tanks			✓				
5	Mitre bends			✓		✓		Saddle or cases to be used
6	Fasteners					✓		
7	Hanger components					✓		
8	Clamps					✓		
9	Fittings >nb200/ Flanges					✓		Fittings <200 shall be packed in boxes
10	Plates(Cut to size)					✓		
11	SS Pipes		✓		✓			Wrap SS pipes before bundling
12	SS fittings / Flanges	✓				✓		Fittings <200 shall be packed in boxes
15	SS Fasteners					✓		
16	CW piping(>900mm)						✓	To maintain circularity of pipes
17	CW fittings(>900mm)						✓	
18	CW fittings(<900mm)							
19	Structurals(<200mm)		✓					

<b>Bharat Heavy Electricals Ltd.,</b> Piping Centre, Chennai – 600 017		
<b>Packaging Instructions for Piping Components</b>	Doc. No PC: PKG:01	
	Rev No: 00 Date : 28 /05/ 2014	No of Sheets : 24

## 12. CHECK LIST

S No	VENDOR TO PROVIDE DETAILS	
1	<p>On despatch of components/items , vendor has to provide the following information for each package of despatched items:</p> <ol style="list-style-type: none"> <li>1. Contents of package (Packing list)</li> <li>2. Corrosion Prevention: Rust-preventive coating /protective painting/Silica gel/ other corrosion inhibitors ( please mention)</li> <li>3. Lifting Instructions: Crane using slings/Fork lift/any other means (please mention)</li> <li>4. Dimensions ( LxBxH) mm:</li> <li>5. Gross Weight (Kgs):</li> <li>6. Net Weight (kgs):</li> </ol>	
S No	VENDOR TO CONFIRM	
1	Where ever items are despatched as a bundle, they should be clamped together with bolted timber block clamps or bolted steel section clamps with timber block inserts. Adequate number of clamps should be provided along the length of the bundle with sufficient projection of the clamps beyond the width and height of the bundle.	
2	Only such materials which can withstand corrosion and environmental conditions are allowed to be packed in wooden crates or bundles.	
3	In case of wooden packing, planks of 20-25 mm thick and 100-150mm wide needs to be suitably placed at close intervals for giving rigidity to packing appropriately.	
4	Wood used for packing should be seasoned & shall be free of termites.	
5	Damages, if any, resulting due to improper/inadequate packing will be to vendors account. It will be the responsibility of the vendor to identify suitable and adequate packing for his supplies to protect it from damage and/or deterioration during storage, stacking, transport and handling.	
6	All packing should be suitable for loading/unloading by cranes/forklifts & suitable for transport by road. Suitable marking should be made on the packing indicating the lifting positions.	