



SPECIAL TERMS AND CONDITIONS FOR
(Tender Enquiry No. 1617-118E Dated 22.03.2017 Due date 15.04.2017)
ITEM: Round Dia Barstock
Tender Processed through e-procurement mode only

Tender Enquiry No	1617-118E
Enquiry date	22.03.2017
Last time and date of tender submission	15:00 Hrs 15.04.2017
Tender opening time and date	15:30 Hrs 15.04.2017
Quotation Parts	<u>Two-part Bid</u>
Item Description	<u>Round Dia Barstock</u>
Material Standard	<u>SA182 F6acl3,</u> <u>IS157013NI3CR80 and</u> <u>SA193B7</u>
Delivery schedule (In days)	<u>120</u>
Validity of offer (In days)	<u>60</u>
Documents required along with supply of material	Applicable
1. Test Certificate	<u>Required</u>
2. Compliance Certificate	<u>Required</u>
3. Quantity Variation	<u>+/- 10 %</u>

THIS TENDER IS THROUGH E-PROCUREMENT MODE. Online bids in two parts are invited for the supply of "Round Dia Barstock". The relevant documents can be downloaded from <https://bheleps.buyjunction.in> [Go for 'Advanced Search' >> Organization: Trichy, BHEL >> Enquiry No. 1617-118E]



SPECIAL TERMS AND CONDITIONS FOR
(Tender Enquiry No. 1617-118E Dated 22.03.2017 Due date 15.04.2017)
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PRE-QUALIFICATION TERMS

P1. Technical

- a) Bidders should primarily be engaged in manufacturing and supply of material grade as required by BHEL for **Round Dia Barstock**. Vendor has to give undertaking that he is manufacturing this material grade.
- b) Suppliers not engaged in manufacturing of **Round Dia Barstock** will not be considered. Vendor has to give any one proof that he is manufacturer e.g copy of ECC (Excise control Code) Number/MSME certificate/VAT Registration number (If applicable), List of machinery etc.

BHEL reserves the right to accept/reject any offer based on evaluation of bidder's capability. For verification of data presented for pre-qualification bid, BHEL may decide to visit the bidder(s) works.

P2. Financial

- a) Bidder should have average minimum annual turnover of Rs. 1.2 Crore of the last 3 (three) years, ending on 31-03-2016. Audited balance sheet and profit & loss account of the company need to be submitted for last 3 (three) financial years, ending on 31-03-2016 in support of this requirement.

In case required audited financial statements have not been submitted for all the three years as indicated above, then the audited statements submitted by the bidders against above 3 (three) years, will be averaged for 3 (three) years.

- b) Bidder should submit valid permanent account number (PAN).

P3. Earnest Money Deposit (EMD)

The bidder shall be required to deposit earnest money of Rs. 50,000/- (Rupees Fifty Thousand only) in Demand Draft/Pay Order only payable at Punjab National Bank/State Bank of India/ HDFC Bank/Union Bank of India/Allahabad Bank/Punjab & Sind Bank at Goindwal Sahib, Distt. Tarn Taran or through Demand Draft of any other bank Payable at Amritsar or through Electronic Fund Transfer credited in BHEL account (before tender opening).

Details of Bank are as under :- PUNJAB NATIONAL BANK, GOINDWAL

ACCOUNT NUMBER - 1932009300002270

IFSC CODE - PUNB0193200

An envelope containing EMD shall be submitted clearly marked "EMD" and reference to Enquiry no. Part I bids of those bidders only shall be considered who have submitted EMD envelope.

Following shall be exempted from submitting EMD:-

1. PSUs of Central Government/State Governments (proper evidence had to be submitted).
2. Micro and Small Enterprises (documents required as per as per tender terms G.12 of General Contract Conditions).

EMD given by all unsuccessful bidders shall be refunded normally within 15 days of placing PO/Contract to successful bidder. EMD by the Bidder will be forfeited as per Tender Documents if, the successful bidder/vendor refuses to accept or acknowledge the Order after award of the same on him and/or withdraws his bid and /or unilaterally changes the

offer and/or any of its terms & conditions within the validity period. EMD shall not carry any interest.

The EMD of successful bidder shall be returned after submission of Contract Execution Bank Guarantee (CEBG).

Contract Execution Bank Guarantee

In order to start the supply of material at the earliest, it is proposed to keep CEBG of the nominal value for 2% of the total purchase order value. The vendor has to submit the CEBG within 15 days from the date of placement of Purchase Order. CEBG shall be kept valid until 30 days after the completion of order by the vendor. If the supplier fails to submit the CEBG within stipulated time, BHEL reserves the right to cancel PO & forfeit the EMD given by the supplier.

S1. Loading Criteria cum Counter Offer

CASE-A

- BHEL will give counter-offer to vendors other than L1 as per provisions of CASE-A, in order to have broader vendors base for ensuring timely delivery for the items where the quantity is more than 5000KGs. Following directions shall be followed when allotting the tender quantities

1. Tender quantity shall be divided in the proportion 60:20:20 (60% for L1, 20% for L2 and 20% for MSE's) in case the L1 vendor is not a MSE subject to following conditions:

I. L2 acceptance of L1 rates.

II. In tender, participating Micro and Small Enterprises quoting price within price band of L1+15 per cent shall also be offered 20% quantity of tender quantity at L1 price in a situation where L1 price is from someone other than a Micro and Small Enterprise. In case of more than one such Micro and Small Enterprise, the supply shall be shared equally. If there are more than one MSE in the price band of L1+ 15% to whom the offer has been sent and some of them reject the offer then the remaining quantity shall be distributed equally to the MSEs accepting L1 prices.

III. 20% from the 20% quantity (i.e. 4% of the tender quantity) offered to the MSE's shall be reserved for MSE's owned by SC/STs. In event of failure of such Micro and Small Enterprises to participate in tender process or meet tender requirements and L1 price, 4 per cent quantity for Micro and Small Enterprises owned by SC/ST entrepreneurs shall be met from other Micro and Small Enterprises.

IV. In case any MSE vendor does not accept the counter offer, the above mentioned 20% quantity shall be offered to L2.

V. If there is no MSE in the Price band of L1+15% then the 20% quantity shall be offered to L2 vendor.

VI. If other suppliers (other than L1) are not under MSE then 60% qty shall be given to L1 and 40% qty shall be offered to L2 supplier.

2. In case if the L1 vendor is MSE then quantity shall be provided as 60 % for L1, 36% for L2 and 4% tender quantity shall be offered to the MSEs owned by SC/ST's in the price band of L1+15%. In event of failure of such Micro and Small Enterprises to participate in tender



process or meet tender requirements and L1 price, 4 per cent sub-target for procurement earmarked for Micro and Small Enterprises owned by SC/ST entrepreneurs shall be met from L2 vendor.

3. In case the L1 vendor is a MSE owned by a SC/ST then the 60% qty shall be given to L1 and 40% qty shall be offered to L2 supplier.

All above offered qty are subject to acceptance of L1 rates.

In case of non- acceptance of counter offer by any vendor after above applicable provisions the whole quantity shall be given to L1 vendor.

This ratio can be altered in case of any failure on part of L1 regarding delivery commitment/quantity/quality of material.

All above mentioned preferences shall be given to MSEs and SC/STs only on the submission of documentary evidence.

BHEL will not give counter offer to highest bidder in any case.

If there are more than one L1 bidders, quality shall be equally divided, except MSE portion.

CASE B

- **BHEL will give counter-offer to vendors other than L1 as per provisions of CASE-B, in order to have broader vendors base for ensuring timely delivery for the items where the quantity is less than or equal to 5000KGs. Following directions shall be followed when allotting the tender quantities**

1. Tender quantity shall be divided in the proportion 80:20 (80% for L1 and 20% for MSE's) in case the L1 vendor is not a MSE subject to following conditions:

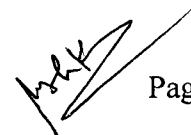
I. In tender, participating Micro and Small Enterprises quoting price within price band of L1+15 per cent shall also be offered 20% quantity of tender quantity at L1 price in a situation where L1 price is from someone other than a Micro and Small Enterprise. In case of more than one such Micro and Small Enterprise, the supply shall be shared equally. If there are more than one MSE in the price band of L1+ 15% to whom the offer has been sent and some of them reject the offer then the remaining quantity shall be distributed equally to the MSEs accepting L1 prices.

II. 20% from the 20% quantity (i.e. 4% of the tender quantity) offered to the MSE's shall be reserved for MSE's owned by SC/STs. In event of failure of such Micro and Small Enterprises to participate in tender process or meet tender requirements and L1 price, 4 per cent quantity for Micro and Small Enterprises owned by SC/ST entrepreneurs shall be met from other Micro and Small Enterprises.

III. In case any MSE vendor does not accept the counter offer, the above mentioned 20% quantity shall be given to L1.

IV. If there is no MSE in the Price band of L1+15% then the 20% quantity shall be given to L1 vendor.

V. If other suppliers (other than L1) are not under MSE then 100% qty shall be given to L1 supplier.



 BHEL GOINDWAL	SPECIAL TERMS AND CONDITIONS FOR (Tender Enquiry No. 1617-118E Dated 22.03.2017 Due date 15.04.2017) ITEM: <u>Round Dia Barstock</u> <u>Tender Processed through e-procurement mode only</u>
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2. In case if the L1 vendor is MSE then quantity shall be provided as 96 % for L1 and 4% tender quantity shall be offered to the MSEs owned by SC/ST's in the price band of L1+15%. In event of failure of such Micro and Small Enterprises to participate in tender process or meet tender requirements and L1 price, 4 per cent sub-target for procurement earmarked for Micro and Small Enterprises owned by SC/ST entrepreneurs shall be met from L1 vendor.

3. In case the L1 vendor is a MSE owned by a SC/ST then the 100 % quantity shall be loaded on L1 bidder.

In case of non- acceptance of counter offer by any vendor after above applicable provisions the whole quantity shall be given to L1 vendor.

This ratio can be altered in case of any failure on part of L1 regarding delivery commitment/quantity/quality of material.

All above mentioned preferences shall be given to MSEs and SC/STs only on the submission of documentary evidence.

BHEL will not give counter offer to highest bidder in any case.

If there are more than one L1 bidders, quality shall be equally divided, except MSE portion (if any).

S2. General Contract conditions (GCC)

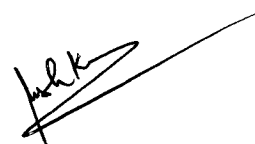
These special terms and Conditions and GCC collectively are the part of tender terms and conditions.

S3. Scope of Supply:- Bars shall be supplied in the length of 3 to 6 mts.



List of Items in NIT

Sl. No	Material Code	Description	Unit	Qty.
1	150242560000	DIA 28mm-SA182 F6acl3	KG	5000
2	150242570000	DIA 32mm-SA182 F6acl3	KG	5000
3	150242580000	DIA 36mm-SA182 F6acl3 (CERT)	KG	5000
4	150242590000	DIA 40mm-SA182 F6acl3 (CERT)	KG	10000
5	150242610000	DIA 56mm-SA182 F6acl3	KG	20000
6	150242620000	DIA 63mm-SA182 F6acl3	KG	20000
7	150242630000	DIA 80mm-SA182 F6acl3	KG	25000
8	150242640000	DIA 100mm-SA182 F6acl3	KG	20000
9	150243680000	DIA 45mm-SA182 F6acl3 (CERT)	KG	15000
10	150244660000	DIA 75 - SA182F6A CL3	KG	10000
11	153242600000	DIA 50-SA182F6A CL3	KG	25000
12	150244810000	DIA 150 - SA182F6A CL3-	KG	5000
13	150271420000	DIA 50 - IS157013NI3CR80	KG	3000
14	150391970000	DIA 50.0 MM - SA193B7	KG	5000
15	150390870000	DIA 32MM-SA193B7	KG	3000



Documents submitted with the offer shall be signed and stamped in each page by authorized representative of the bidder.

G1. INSTRUCTION TO BIDDER

Quotations shall be submitted before due date and time. Late offers are liable to be rejected, so please ensure to submit bid well within due date and time. Techno-commercial part will be opened on due date. **Based on evaluation of techno-commercial offers, Price bids of bidders who qualify from techno-commercial evaluation shall be opened. BHEL may decide to open the Price bid same day at 1700 hrs. If not opened on the same day, all qualifying bidders shall be notified for date of opening of Price bids by email/fax/post/courier/E-procurement system generated email.**

G1.1 INSTRUCTION TO BIDDER (In case of Non-E-Procurement/Paper/Manual/Hard Copy based tenders)

Sealed Tenders can be dropped in the tender box labeled as 'Tender box for MM contracts'. This tender box is located at the entrance of Admin block BHEL Goindwal. Fax (01859-222061) / E-Mail (tendermm@bhelivp.in) offers received in time shall be considered only when such offers are complete in all respects. In case of bulky tender please handover quotation to Sh Harpreet Rai/ DGM/Head-MM or Sh Tajinder Singh/AGM/HR,Civil,MM. [Contact : 01859 224 615/621].

G2.1. INSTRUCTION TO BIDDER (In case of E-Procurement)

Interested bidders/Suppliers shall submit their offer through e-Procurement mode at <https://bheleps.buyjunction.in>. **Offers in any other mode will not be accepted.**

For Enterprise Procurement System (EPS) Bidders/Suppliers are requested to follow these steps:

a. Requirements

1. A PC with Internet connectivity.
2. DSC (Digital Signature Certificate) (Class 3- SHA2- 2048 BIT- SIGNING & ENCRYPTION)
3. The site is best viewed in Internet Explorer 9.0. If you are using Internet Explorer 10 or above then enable compatibility view available under Tools menu.
4. Install Java 1.8 Update 67/72/79/77 (32 OR 64 Bit)

b. Mandatory Requirements:

Suppliers interested for registration for BHEL Open Tenders should have a valid DSC (Digital Signature Certificate) before Proceeding forward for Registration. Herein a Valid DSC refers to an Active and unexpired Signing and Encryption Certificate, with specification Class III SHA 2 2048 bit.

For Unregistered Suppliers in EPS:

Procedure for Online Registration in EPS for Open Tender Suppliers for BHEL. Please follow the below steps for registration: -

1. Click Register Button (Top of the Screen).
2. Please input your organization PAN No (in case of Indian supplier) or click "Foreign" in case you are an overseas Supplier.
3. Click on INTERESTED Button against the Organisation name 'Trichy, BHEL'.
4. Key in your desired login id (Login Code should be 8 - 24 characters in length and can only use numeric values) If you have registered by keying in PAN No. then your desired login id will be prefixed by "OTI", In case of overseas suppliers it will be prefixed with "OTF".
5. Fill in the other details.
6. Fill in the Captcha code and click next
7. Register your Signing certificate and click next
8. Select atleast one procurement category you may be dealing in.





General Contract Conditions (GCC) of MM Tenders

[Address: BHEL Industrial Valve Plant: 433, Industrial Complex, Goindwal Sahib,
Distt Tarn Taran, Punjab-143422]

Once the above steps are completed, your profile will be activated by mjunction within 2 business hours. After registering follow the steps provided in "For Registered Supplier" to view RFQ.

NB:-

1 BHEL Administrator or user will have no role for approving Registration and Open Tenders and DSC for Any supplier who has registered himself from the front END which is in case of OT.

For Registered Supplier in EPS:

1. Supplier visits EPS home page
2. Supplier signs in with their user id and password
3. Selects the RFQ Code and views it.
4. Attaches themselves to the RFQ by clicking the interested button
5. Supplier fills the bid template and makes necessary attachments
6. Supplier submits their bid by clicking CONFIRM.

In case of any assistance, please call the following Nos for support:

033-6601 1717(From 9:30am to 5:30pm)

9163348280/83/84/85/86, 8584008116, 8584008205, 8336925964 (From 5:30pm to 8:30pm)

G2.2. OTHER IMPORTANT INFORMATION RELATED TO E-PROCUREMENT TENDERS

1. The bidder has to keep track of any changes by viewing the addendum / Corrigendum's issued by the Purchaser on time-to- time basis in the E-Procurement platform. The Company calling for tenders shall not be responsible for any claims/problems arising out of this.
2. The user should complete all the processes and steps required for bid submission. The successful bid submission can be ascertained once acknowledgement is given by the system through bid submission number after completing all the processes and steps. BHEL and mjunction Services Ltd. will not be responsible for incomplete bid submission by users. Users may also note that the incomplete bids will not be saved by the system and are not available for the Purchaser for processing.
3. Before uploading scanned documents if any, the bidders shall sign on all the statements, documents, certificates uploaded by him, owning responsibility for their correctness / authenticity.
4. On the due date of tender opening, only technical bids will be opened. The opened technical bids will be evaluated by us and clarifications required, if any, will be called for from the bidders on technical and commercial points. If no reply is received from the vendor for the clarification raised by BHEL with in the final cut-off date, those vendors offer will be processed with the documents available / submitted against this tender. Offers not meeting the required specification and technical condition will be summarily rejected. The price bids of technically suitable bidders will be opened on a later date with prior intimation to techno-commercially suitable bidders.
5. Ranking L-1, L-2 etc. shall be done for individual item for the techno-commercially acceptable offers on landed cost to BHEL, IVP Goindwal basis and BHEL reserves the right to place order for individual items with different vendors. In the event of more than one vendor becoming L1 for the item, the enquiry quantity will be shared equally among all the L1 vendors.
6. BHEL reserves the right to negotiate with L1 vendor or re-float the tender for items where, L1 price is not the lowest acceptable price; BHEL reserves the right to increase or decrease the tender quantity.
7. If supplier is mentioning delivery destination within state/ out side state depending upon his location of factory, Free On Road etc these are assumed as on FOR Goindwal. If supplier is wishing to give delivery on Ex works basis then he has to clearly mention about it.

G3. PRICE BASIS

- a. CST, VAT & Excise duty + any cess on ED at the rates applicable shall be payable extra against ED Gate Pass valid for CENVAT benefit.



General Contract Conditions (GCC) of MM Tenders
[Address: BHEL Industrial Valve Plant: 433, Industrial Complex, Goindwal Sahib,
Distt Tarn Taran, Punjab-143422]

- b. Order of enquiry item sl. No. shall be maintained in the quotation.
- c. The rates quoted shall be firm and fixed. No price variation is proposed and allowed.
- d. Rates quoted should be F.O.R Goindwal basis. If bidder has quoted Ex Works, loading shall be done as per BHEL discretion for tender evaluation.

Variation in excise duty, sale tax/ vat or any other statutory levies during contractual delivery period shall be to BHEL's account

G4. VALIDITY OF OFFERS:

The offers shall be kept open for acceptance 'for number of days mentioned in special terms and conditions' from the date of opening of the tender. In case of extension of tender opening date, the validity shall be suitably revised.

G5. SCOPE OF SUPPLY

Material shall be supplied as per the applicable latest Technical Delivery Conditions (TDC)/ Material Standard requirements/BPS/Drawing and other requirement as given in the Tender Enquiry. National & International material Standards shall have to be arranged by vendors themselves.

G6. REPLACEMENT OF REJECTION:

If the material is rejected due to defective workmanship during inspection or at the time of actual use, within the guarantee period (i.e. as per clause 13), the rejected material shall be replaced by the supplier. Corresponding quantity shall be treated as unsupplied against respective purchase order till replacement is received at BHEL. If the material is found defective and rejected during use for which payment has already been released the rejected quantity shall be supplied free of cost by the vendor within a month of intimation of the rejection by BHEL.

Lifting of rejected material is under Supplier's scope. BHEL will inform related invoice, qty etc to supplier. Supplier is expected to give the plan to lift and advance intimation when visiting to lift the material. Material should be lifted within one month from date of intimation. After one month BHEL will not be responsible for rejected material. BHEL may decide to send the rejected material on To Pay basis to supplier. Any leniency/ unresponsiveness/delay on part of supplier may lead to appropriate action by BHEL. Any request to postpone in written may be considered but replacement should not be linked with lifting of material.

G7. SUPPLIED MATERIAL ADJUSTMENT:

Item/s pending in previous PO has to be billed in previous PO only. Otherwise BHEL will be free to adjust the supplies in previous PO. Any implication of Excise, VAT etc will be on supplier's account. For this it is desirable to reconcile the pending PO statement every month/frequently. BHEL will give pending PO statement every month. This can also be viewed at Portal (<http://vis.bheltry.co.in/mm/index.jsp>).

G8. DELIVERY SCHEDULE:

Supplies shall be affected and completed as per schedule mentioned in special terms and conditions. Further, BHEL may release delivery schedule from time to time based upon our requirement with mutual understanding. Vendor shall be required to complete the order as per the BHEL schedule requested.

G9. ACCESS TO MANUFACTURING PREMISES:

While Purchase Orders placed on the vendor are under execution, authorized representatives of BHEL shall be allowed free access to the manufacturing facilities for the purpose of inspection or monitoring the progress of purchase orders. This access will also be extended to representatives of BHEL's customers



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accompanying the authorized representative/s of BHEL (which shall be intimated in advance), if our contractual requirements with our customers call for the same.

G10. TERMS OF PAYMENT:

- a. Due payment against supplies received shall be due after 30 days of receipt and acceptance of material and shall be paid within next 15 days period. In case of any deviation from standard payment term mentioned, BHEL at it's discretion may load on the item price at "Base rate of SBI (as applicable on the date of bid opening; Techno-commercial bid opening) + 6% shall be considered for loading for the period of relaxation sought by bidders.
- b. Documents to be submitted (if applicable)
 - i. Commercial invoice (in duplicate)
 - ii. Excise invoice (in duplicate) valid for claiming CENVAT credit
 - iii. Original VAT invoice valid for claiming input tax credit,
 - iv. Transporter copy along with material/consignment.
 - v. Material Test Certificates (MTC) and
 - vi. Compliance Certificate.
- c. Above documents should include your Registration numbers such as ECC no, PAN no, CST no, TIN/ VAT nos. etc.
- d. If excise claim document is not received within time for claiming excise benefit as per restriction in availment of CENVAT Credit within 12 months of date of Invoice (Amendments in Union Budget 2015), the implication of this will be paid by supplier.
- e. It is mandatory to mention proper material codes in the invoices and separate invoices to be raised for different POs.
- f. ***BHEL releases payment through EFT mode ONLY. Necessary details may please be submitted by filling required format before release of payment.***

G11. INSPECTION:

- a. All required tests as called in referred material standard/BHEL/TDC/drawing etc shall be carried out by vendor at no extra cost. **BHEL may decide to inspect itself/arrange third party at vendors' works itself as and when necessary with prior intimation to the vendor.** No additional charges shall be claimed for such inspections.
- b. Third party inspection charges will be borne by BHEL. Moreover all required infrastructure (testing, tools etc) have to be arranged by supplier.
- c. **Vendor will give inspection call sufficiently in advance considering the delivery period stipulated in the purchase order.**
- d. Material Test Certificates (MTC), Inspection reports and Compliance/Guarantee Certificate are to be provided along with the supplies.
- e. Latest applicable revisions of standards/procedures to be referred. International/National standards are to be arranged by vendor.
- f. Any inspection carried out before supply by vendor/incoming stage at BHEL notwithstanding, if any defect/non-conformity is noted during processing, the same shall be attended/replaced by vendor at no extra cost.
- g. Necessary tooling including thread gauges etc have to be arranged by vendor. Only in exceptional cases, based on BHEL discretions item/nature, BHEL may consider request to provide gauges if available with BHEL. But in no case this shall be linked with delivery of material.

G12. PREFERENCES FOR MSE's:

Preferences as mentioned in "Public Procurement Policy for Micro and Small Enterprises (MSEs) Order, 2012" shall be given to Micro and Small enterprises.

Main points which are mentioned in the above order are as follows:

- 20% Procurement of the tender value shall be made from MSE (Micro, Small Enterprises) firms.
- 4% from the above mentioned 20% procurement quantity shall be procured from MSE's owned by SC /ST's. Failure to participate by any MSE owned by SC/ST's this 4% quantity shall be procured from other MSEs.
- EMD shall be exempted for MSE's. All these benefits are subject to production of all statutory documents
- In tender, participating Micro and Small Enterprises quoting price within price band of L1+15 per cent shall also be allowed to supply a portion of requirement by bringing down their price to L1 price in a situation where L1 price is from someone other than a Micro and Small Enterprise and such Micro and Small Enterprise shall be allowed to supply up to 20 per cent of total tendered value. In case of more than one such Micro and Small Enterprise, the supply shall be shared proportionately (to tendered quantity).

"MSE suppliers can avail the intended benefits only if they submit along with the offer, attested copies of either EM II certificate having deemed validity (five years from the date of issue of acknowledgement in EM II) or valid NSIC certificate or EM II certificate along with attested copy of a CA certificate (Format enclosed at Annexure -1 where deemed validity of EM II certificate 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 at par with other bidders. No benefit shall be applicable for this enquiry if any deficiency in the above required documents is 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 a Gazetted officer."

G13. GUARANTEE/WARRANTEE:

Vendor shall give a guarantee of 18 months from the date of dispatch or 12 months from date of receipt, against manufacturing defects, whichever is earlier. In case of non-acceptance of this term bid will be rejected.

G14. PENALTY FOR LATE DELIVERY:

'Time is the essence of the contract'. As such, delivery of goods specified in the Purchase Orders released under the scope of this contract shall be made within the time limit prescribed therein. Penalty for late delivery will be applicable @ 0.5% per week or part thereof subject to a maximum of 10.0 %.

If any vendor does not accept LD ½% of the supply for each week of delay subject to a maximum of 5%, their offer is likely to be rejected by BHEL and the price bid shall not be opened. Bidders accepting for 10% LD shall not be loaded on account of LD. However bidders who offer any other % LD [between 5% to 10%] shall be loaded @ % deviation from 10% and their accepted %.e.g. If a bidder accepts for a max of 7% LD only, their offer would be loaded @ 3% (10 – 7 = 3).

BHEL reserves the right to receive or not receive the material after the due date of PO.





General Contract Conditions (GCC) of MM Tenders
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G15. RISK PURCHASE:

BHEL shall be entitled to terminate the contract/pending POs at any stage and to purchase elsewhere at the risk and cost of the vendor, either the whole of the goods or any part thereof which the supplier has failed to deliver or dispatch within the time stipulated as aforesaid. Vendor shall be liable for the losses, which BHEL may sustain by way of such risk purchase.

G16. SUB-CONTRACT:

The purchase order or any part thereof shall not be sub-contracted, assigned or otherwise transferred without previously obtaining the BHEL's consent in writing.

G17. FORCE MAJEURE:

If at any time during the continuance of the contract, the performance in which or in any part by either party of any obligations under the contract are prevented or delayed by reason of any war, hostilities, acts of public enemy, civil commotion, sabotage, fires, explosions, epidemics, quarantine restrictions, or acts of God (hereinafter referred to "an events" then provided the notice of happening of any such event is given by either party to the other within 21 days of the occurrence thereof, neither party shall by reason of such event be entitled to terminate the contract nor shall either party have any claim for damages against the other in respect of such non-performance and delay in performance and delivery under the contract shall be resumed as soon as practicable after such event has come to an end or ceased to exist. If the performance in whole or part of any obligation under the contract is prevented or delayed by reason of any such event, claims of extension of time shall be granted for periods considered reasonable by BHEL subject to prior notification by the vendor to BHEL of the particulars of the event and supply to BHEL, if required, of any supporting evidence. Any waiver of time in respect of partial installment shall not be deemed a waiver of time in respect of remaining deliveries.

G18. DISPUTES:

In the event of any dispute and/or difference arising between the Vendor and BHEL as to interpretation and/or execution of the contract and/or the respective rights and liabilities of the parties, such disputes and/or differences shall be referred to the sole arbitrator nominated by BHEL. The provisions of the Indian Arbitration Act and the rules there under shall apply to such arbitration. The award passed by the arbitrator shall be final and conclusively binding on all the parties.

G19. JURISDICTION:

The court of the place from where the purchase order is issued during the contractual period shall alone have jurisdiction to decide any dispute arising out of or in connection with the purchase order.

G20. CLARIFICATIONS

The correspondence exchanged against the tender from both tenderer and BHEL through email/e-procurement are considered as valid document legally though it is not signed. It is treated as valid confirmations made on behalf of the respective company and very much comes under the legal ambit of the business transaction and hence it is binding on both the parties to the business. Any transaction pertaining to the tender from both the parties of business done round the clock irrespective of the office or business hours of the companies, are valid legally and binding on both the parties. This applies to the extent only in such cases where deadline time for transaction is not specifically declared by either or both the parties to the business.



General Contract Conditions (GCC) of MM Tenders
[Address: BHEL Industrial Valve Plant: 433, Industrial Complex, Goindwal Sahib,
Distt Tarn Taran, Punjab-143422]

G21. LOI (Letter of Intent)

BHEL may issue LOI prior to the PO for any reason whatsoever. The LOI in such cases is to be treated as PO for all practical purposes and all the Terms & Conditions of the tender shall be applicable from the date of issue of LOI.

G22. WORDS AND FIGURES

- a. If, in the price structure quoted for the required goods/ services/ works, there is discrepancy between the unit price and the total price (which is obtained by multiplying the unit price by the quantity), the unit price shall prevail and the total price corrected accordingly, unless in the opinion of the purchaser there is an obvious misplacement of the decimal point in the unit price, in which case the total price as quoted shall govern and the unit price corrected accordingly.
- b. If there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected; and
- c. If there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject of (a) and (b) above.
- d. If there is such discrepancy in an offer, the same shall be conveyed to the bidder with target date upto which the bidder has to send his acceptance on the above lines and if the bidder does not agree to the decision of the purchaser, the bid is liable to be ignored.

G23. GENERAL:

- a) BHEL will not be bound by any power of attorney granted by the vendors or by changes in the composition of the firm made subsequent to the execution of the contract. They may, however, recognize such power of attorney and changes after obtaining proper legal advice, the cost of which will be chargeable to the vendor concerned.
- b) BHEL reserves the right to extend the due date of opening, which shall be informed. Validity of offer shall be deemed to be revised accordingly.
- c) BHEL reserves the right to accept or reject any part or whole of the tender of a bidder by assigning a valid reason thereof. BHEL reserves the right to cancel the tender without assigning any reason thereof and without any obligation before any commitment.
- d) If possible, please submit soft copy of price quotation [copied on a blank CD of standard make] put in the sealed offer.
- e) Acceptance of all terms and conditions, in the form of signed copy of T&C or confirmation separately written, shall be submitted along with quotation. If nothing is mentioned, it shall be concluded that terms and conditions are acceptable.
- f) BHEL may increase/decrease item/s based on BHEL requirement before price bid opening. Suitable price implication may be asked from suppliers.
- g) BHEL may drop item/items from tender at any stage of tender before placing PO. BHEL may also delete PO with consent with supplier within delivery date of PO.
- h) After releasing PO, it is assumed that supplier has accepted PO if we do not receive acknowledgement from supplier within 5 days of date of PO.
- i) Any term is special tender terms and conditions will supersede the GCC.
- j) If advance tax is applicable at Punjab border. Supplier has to deposit this advance tax by himself which will be reimbursed on submission of documentary proofs (Copy of entry tax receipt/online transfer details duly verified).
- k) BHEL reserves the right to negotiate with L1 bidder/s.

G24. BANNED FIRMS:

The offers of the bidders who are on the banned list as also the offer of the bidders, who engage in the services of the banned firms, shall be rejected. The list of banned firms is available on BHEL website www.bhel.com.

G25. DISCLAIMER CLAUSE: (Only for E procurement)

Neither the Organization (Bharat Heavy Electricals Ltd.) nor the service provider (mjunction Services Ltd.) is responsible for any failure of submission of bids due to failure of internet or other connectivity problems or reasons thereof.

G26. FRAUD PREVENTION POLICY:

The Bidder along with its associate/collaborators/sub-contractors/sub-vendors/consultants/service providers shall strictly adhere to BHEL Fraud Prevention Policy displayed on BHEL website <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.

G27. REVERSE AUCTION:

BHEL reserves the right to go for Reverse Auction (RA) (Guidelines as available on 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).

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).

G28. SUSPENSION OF BUSINESS DEALINGS WITH DEFAULTERS

BHEL shall take action against suppliers by way of suspension of business dealings, who either fail to perform or are in default without any reasonable cause, cause loss of business/ money/ reputation, indulge in malpractices, cheating, bribery, fraud or any other misconduct or formation of cartels so as to influence the bidding process or influence the price etc. Such action under Suspension of Business Dealings could be in the form of "Hold" or "Banning" a supplier or a bidder or an applicant for registration as a registered supplier. The detailed guidelines are available at our www.bhel.com.

Revision Record: Rev:00:15.05.94: Fresh

Rev:01:Text re-written, Specifications altered to suit ASTM.,UT reqmt. altered.

Rev:02:Dt 07.07.03:Details of material AISI 410 added in CL 1.0, 2.0, 4.0, 5.0. Stamping requirements added in CL.9.0.

Rev 03: Double tempering for AISI 410 removed.For sizes > or =140 is coverage shifted to TDC 0: 404 as it is procured as forged components..

1.0 MATERIAL

Specification:ASME {Latest on date of Purchase Order (PO)}:

ASTM A182 F6a Cl. 3, A276 Type 410 & 420, A565 Grade 616 - condition HT

ASTM A582 Type 416, ASTM A 479 Type 410 - condition 2

AISI 410 for TOA Gland and bushings.

Additional Requirement: As listed below (supplementary to Specification)

Size and Qty.: As per Purchase order & Drawing.

2.0 CHEMICAL COMPOSITION & PROCESS

Process: Steel shall be of fully killed quality & Bars shall be hot finished.

Chemistry: Product analysis per heat.

A276 Type 420: C = 0.3 to 0.4%

AISI-410: C = 0.15% max, Mn = 1.00% max, Si = 1.0% max, P
= 0.040 max, S = 0.030 max, Cr - 11.5 to 13.5.**3.0 DIMENSIONS AND TOLERANCES**

Tolerances as per ASTM A484.

4.0 HEAT TREATMENT (HT)

A182 F6a Cl.3: supply: Normalised(N) & tempered(T) to produce hardness as per specification.

A276 Type 410: supply: Hardened(H) and tempered condition to produce a hardness of 24 - 30 HRC (247 - 286 BHN). Minimum tempering temperature: 565 deg.C.

1 test bar per size/melt/HT batch to be oil quenched(Q) at 980-1010 deg.C & tempered at 400-510 deg.C to produce a hardness of 37 HRC (344 BHN) minimum.

A second test bar per size/melt to be annealed(A) and used for mechanical testing.

A276 Type 420: supply: Annealed condition to produce a hardness as per specification.

1 test bar per size/melt/HT batch to be oil quenched at 1010 deg.C and tempered at 455 deg.C to produce a hardness of 50 - 53 HRC (482 - 525 BHN).

A565 Grade 616 condition HT: supply: Annealed condition to produce hardness as per specification.

1 test bar per size/melt/HT batch to be oil quenched and tempered as per specification. to produce hardness as per specification.

A582 Type 416: supply: Annealed condition to produce a hardness as per specification.

1 test bar per size/melt/HT batch to be oil quenched at 980-1010 deg.C and tempered to produce hardness as per specification (Condition T).

A479 Type 410 Condition 2: supply: Normalised & tempered or quenched & tempered as per specification to produce hardness as per specification. Tempering temperature: 600-760 deg.C.

AISI 410 - Supply in Quenched & Tempered condition as below to produce a hardness of 197 - 235 BHN.

Quenching at 955-1010 degC in air or water or oil or polymer/ soaking 30 mts/inch max thick

Tempering at 663 degC. min/ soak 60 mts/inch max. thick/ Air cool

5.0 MECHANICAL TESTS in HT conditions as above.

Extent of test: for each size/heat/HT batch from sample product or identical test coupon.

Mechanical test as per Specification in HT condition as above wherever indicated in specification.

Hardness test as per cl. 4.0.

Impact test : SA 370: for SA 182 F6a Cl.3 (N&T condn): 2mm. Charpy U-notch, at Room temperature:

Acceptance: Average: 4 Kg.M / sq.cm.

for A565 Gr. 616 condition HT(Q&T): Charpy V-notch, at Room temperature: Acceptance: Min: 11J

Mechanical properties for AISI 410 :

Y.S = 75 ksi min. T.S = 95 ksi min, % E (on 2" G.L) = 18 min, % R.A = 35 min

6.0 NON DESTRUCTIVE TEST

Extent of test: for each product. Stage of test: After heat treatment.

UT: Diameter $\geq$ 50mm: 100% : SA 388. Acceptance: AM 203.2, ASME Sec.VIII Div. 2.

7.0 WORKMANSHIP AND FINISH

As per ASTM A 484. Items to be free of scales & defects like laps, seams, folds, cracks etc.

8.0 REPAIR

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

9.0 MARKING AND PACKING

Details of stamping on each item with low stress stamps and border by paint: Heat number, Specification & grade, Maker's emblem/code & Inspection Authority's seal. Items to be Paint stenciled with above details and UT number where applicable.

The material specification and grade may be stamped/punched with the following abbreviated specification on bars/rounds.

A182 F6a CL3	-	F6aCL3
A276 Type 410	-	A410
A276 Type 420	-	A420
A565 Grade 616	-	A616
A582 Type 416	-	A416
A479 Type 410 condition 2	-	A410 CN2
AISI 410	-	410

Items to be bundled for safe transit using metal strap in weights < 2 tonnes. Metal / Plastic tag with above detail to be fixed to each bundle.

10.0 INSPECTION AND CERTIFICATION

For IBR items: inspection & tests to be witnessed by an IBR approved inspecting agency, in case the mill is not recognised as a "Well known Steel maker" under IBR.

Test certificate countersigned by applicable inspection agency for each product with following details shall accompany the product (in format approved by Boiler inspectorate for IBR items).

1. Purchase Order No.(BHEL),TDC No. & Test certificate number
2. Specification, Grade with applicable year of code, Heat Number, Drawing No.,Quantity & Size
3. Steel making & finishing process,Chemistry including incidental elements - Heat wise.
4. Heat treatment details of the material and test bars.

5. Mechanical test results, NDE test results with reference & acceptance standard.

11.0 END USE

High pressure Valves and Pressure parts in boilers working at high temperature & pressure meeting IBR, ASME Section I, ANSI B16.34 requirements.

K.Ganesan
Prepared

Amit Roy
Reviewed (QA)

P. .Loganathan
Reviewed (Engg)

K.Rengachari
Approved

	BHEL – Tiruchirappalli - 620014, India. Quality Assurance Department TECHNICAL DELIVERY CONDITIONS	Doc No: TDC:0:309 Rev No: 10 Effective Date: 06/02/2017 Page: 1 of 3
Product: Carbon, Alloy & Stainless Steel Rolled Bars (for Boilers & Valves)		

Revisions Record:

Rev: 01: Source of supply for AS included.

Rev: 02: Text re-written, Class Nos introduced for Alloy steel. High temperature test removed. TDC: 03: 306/00 merged into this.

Rev: 03: Cl. 4, 6, 9 modified.

Rev: 04: Cl 5 revised to include Impact test for bars used for valves purchase orders, clarity brought in Cl 4.

Rev: 05: Heading modified. Cl 1 size restriction for CS and AS SA182 rolled bars added as per ASME. SA182 Gr 91&Gr 92 added and subsequent clauses modified for chemistry, Heat treatment, mechanical properties, photomicrograph and NDE.

Cl 2 – Steel makers names removed and requirement for creep testing added as per IBR Reg 4. Cl 2, 6 & 10 modified for SS. Cl 4 – SA 182 F91, F92 & F23 Tempering temperature and soaking time modified. Cl 5 – Bend test Clarified, Cl 6 – MPI added. Cl 11 added. Cl 10 – IBR Forms indicated. CS: SA675 Gr 70 added and its requirements added in Cl 1, 2, 4 in line with collaborator practise.

Rev 06: Dt: 25/11/2014 Cl 2, 4, 5, 6, 10 modified

Rev 07: Dt: 06/10/2015: Cl 2.5, 4.3, 5.6, 10.9 added; Cl 1.0, Cl.2.3, 4.2, 5.2, 6.1, 9.0, 10, 12.0 modified.

Rev 08: Dt: 24/12/2015: Cl 1, 2, 3, 5, 6, 7, 10, 11 & 12 modified.

Rev: 09 Dt: 25/07/2016 – Cl 1 modified to add SA 182 F304L, Cl 5 modified to add impact requirement for SA 479 TP 410 Condition 2

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

1. MATERIAL SPECIFICATIONS:

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

Carbon Steels (CS)	:	SA 105, SA 675 Gr 70
Low Alloy Steels (AS)	:	SA 182 F11 Class 2, F12 Class 2 & F22 Class 3, SA182 F91 & SA182 F92 (Code case 2179); SA 193 B7 & B16
Stainless Steels (SS)	:	Austenitic: SA 182 F304, F304L, F316, SA 479 TP 304; Martensitic: SA 479 TP 410 Condition 2
Additional Requirements	:	As listed below (Supplementary to above material specifications)
Size and Quantity	:	As per Purchase Order & Drawing.

SA 105 and SA 182 rolled bars shall be restricted to dia $\leq$ 114.3mm.

2. CHEMICAL COMPOSITION & PROCESS

- Melting:** CS & AS: Fully killed. CS : SA 675 – Silicon and Aluminium killed. Product analysis per heat: CS: C $\leq$ 0.25%. SA182 F92: Si: 0.10-0.50%, Ni: 0.30 max & Cu: 0.25% max.
- CS, AS:** Rolled bars shall be processed by hot forging/rolling and subsequently finished by cold rolling (if required) to final size. **SS:** hot finished.
- Raw material Steel to be inspected at Mill & test certificate countersigned by IBR approved inspecting authority, if the mill is not approved under IBR as well known steel maker.
- SS:** All raw materials used in steel making including incoming scrap shall be checked by supplier to ensure freedom from radioactivity.
- Tolerance for chemistry shall be as per the applicable material specifications/standards *specified in Cl 1.*

3. DIMENSIONS AND TOLERANCES

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

4. HEAT TREATMENT(HT)

- CS: SA 105 Normalised at 880-920°C, SA 675 Normalised at 880-920°C and Tempered at 600-650°C
AS (SA 182): Normalised and tempered. **For F12: Tempering at 650°C (min).**
For SA 182 F91, F92 Normalising at 1040-1080°C & Tempering at 750-780°C.
SA 193: Quenched and tempered *as per material specification & grades.*
SS: As per material specification & grade.

- Photomicrograph test for F91 & F92 bars - one per heat treatment lot per size and reported in test certificate.



Product: Carbon, Alloy & Stainless Steel Rolled Bars (for Boilers & Valves)

Acceptance – The material shall be free from any micro fissures. Microstructure shall show lathe tempered martensite and also to be examined for grain growth. Photomicrograph with 400x (Min) magnification along with Photomicrograph report to be provided. The actual magnification and result of actual microstructure shall be certified/indicated.

5. MECHANICAL TESTS

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

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

3) Additional requirements for SA182 F91 & F92:

F91: Yield: (0.2% offset): Min 450 MPa; Tensile: Min 630 MPa, Max 850 MPa; Hardness (HBW): Min 195, Max 248.
F92: Tensile: Min 630 MPa, Max 850 MPa; Hardness (HBW): Min 191, Max **269**.

Hardness testing shall be as per ASTM E10 or E18.

4) Additional tests: **Bend test:**

CS: 1 Sample 19mm thick(t)x25.4mm width to be bent 180 deg around mandrel of radius 6.35mm.

AS (SA 182 only), SS: 1 Sample 19mm thick(t) x 25.4mm width to be bent 180 deg around mandrel of radius 1.5 x t.

- 5) Bars meant for Valves purchase orders of SA105 and SA182 F22 Cl3 materials shall be impact tested.
1/HT batch: ASTM A370, 2mm. Charpy-U Notch at room temperature.

Acceptance: Avg of 3 specimens: 36 Joules, Min. **single value:** 24 Joules.

- 6) **For PED 2014/68/EU (CE-marking) items:** Charpy- V impact test at 20°C as per ASTM A 370.

Acceptance: Avg of **3 specimens** : 40 Joules, Min. single value: 27 Joules.

6. NON DESTRUCTIVE TEST

- 1) **Extent of test:** for each product. Stage of test: After heat treatment.
a) **Volumetric NDT - UT:** 100% for dia ≥ 50 mm and for all bars of SA 182 F91& F92 as per ASTM A388.

Acceptance: ASME Sec.VIII Div. 2 Cl.3.3.4.

b) **Surface NDT –**

- i. **Relevant indication: Surface-rupture NDE indication with major dimensions > 1.6 mm (1/16 in).**
- ii. **Linear indication: Surface NDE indication whose length is $\geq$ three times its width.**
- iii. **Rounded indication: Surface NDE indication whose length is $<$ three times its width.**
- iv. **MPI for CS & AS (other than SA182 F91, F92):** As per ASTM A275. Dry MPI:100%;

For SA182 F91, F92: 100% Wet MPI.

Acceptance: ASME B16.34 Mandatory Appendix II. Linear indications (like cracks, **laps**, folds & other injurious defects) are unacceptable.

- v. **LPI for SS:** 100%: ASTM E165. **Acceptance:** No linear indications acceptable.

- 2) SS: Finished bars shall be checked for radioactive contamination and reported. Survey meter shall be used to measure at 5cm near the surface. Acceptance limits: Shall be less than 0.1 milli Rontgen (MR) per hr or 1 micro Sievert per hr.

7. WORKMANSHIP AND FINISH

Items to be proof machined as per drawing or shot blasted for CS/AS; Pickled & passivated as per ASTM A380 for SS & be free from scales & defects like laps, seams, folds, cracks, etc. Machined items (except SS) to be coated with a layer of transparent rust preventive before despatch.

8. REPAIR

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

	BHEL – Tiruchirappalli - 620014, India. Quality Assurance Department TECHNICAL DELIVERY CONDITIONS	Doc No: TDC:0:309 Rev No: 10 Effective Date: 06/02/2017 Page: 3 of 3
Product: Carbon, Alloy & Stainless Steel Rolled Bars (for Boilers & Valves)		

9. MARKING AND PACKING

- Details of stamping on each item **with** dia ≥ 25 mm: with low stress stamps and bordered by paint: Heat/**melt** number; **material** specification, grade & **class**; Size; Code case number (for Gr 92), Maker's emblem/code & Inspection Authority's seal.
- For items with** dia < 25 mm: All above details to be painted.
- Bars to be supplied in bundles < 1 ton, secured suitably for rough handling. Metal tags with details of specification, melt number and maker's emblem to be secured to the bundles.

10. INSPECTION AND CERTIFICATION

- For IBR Items:** Products shall be inspected at **supplier's** works/**mill** and the applicable IBR Form must be countersigned by the Inspecting Authority as indicated below in case the **supplier's** works/**mill** is not recognised as a "Well known Forger/Steel maker" under IBR:

- ☐ **Imported Items:** Inspecting Authority approved by IBR for the Country of origin.
- ☐ **Indigenously Supplied items:** Director of Boilers/Chief Inspector of Boilers/Inspecting Authority approved by IBR, for the respective state **in India**.

Certification in IBR Form IV for IBR items from "IBR-Well Known Forger/Steel Maker" or "Inspecting Authority", as applicable, to be submitted. IBR Form IV & **separate** Test certificate in English language with following details, shall accompany the product (including proof machined):

- Purchase Order No.(BHEL), TDC No & its revision no, Test certificate no & date.
 - Specification, Grade & **class** with applicable year of code, Code case number (for Gr 92), Heat Number, Drawing No, Quantity & Size.
 - Supplier of the steel used in making the finished product (well known and others in IBR Form IV).
 - Melting & rolling process, Chemistry including incidental elements - Heat wise, Product analysis, Carbon Equivalent (CE).
 - Heat treatment details of the material and test bars. For F91, F92 supplies – Photomicrograph at 400x resolution.
 - Mechanical test results- Tensile (UTS, YTS (**0.2 offset**), % elongation, % reduction in area), **Bend**, Impact, Hardness and NDE test results with reference & acceptance standards.
 - Repair details if any, Certified copy of TC for starting material.
 - For SS:** Measured Radioactivity levels shall be reported in the Mill Test Certificate (not to be recorded in IBR Form).
- For PED **2014/68/EU** (CE-marking) items, the test certificates with details specified **in Cl 10 (a)** shall be submitted as per BS EN 10204.
 - For pressure parts**, test certificates of type 3.1 or 3.2 **are** acceptable.
Type 3.1 – Suppliers shall have ISO 9001-2008/**2015** certification certified by Notified Body recognized by European Community and test certificate certified by supplier's authorized inspection representative.
Type 3.2 – Components inspected and test certificates certified by **both the supplier's authorized inspection representative and** Notified Body recognized by European Community.
 - For non-pressure parts**, test certificates of type 2.2 **are** acceptable.
Type 2.2 – suppliers test certificates signed by suppliers authorized inspection representative with test results as required by **this** TDC.

11. AUDIT CHECKS AT BHEL

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

12. END USE

SA 105, SA 182 & SA 479 are for Pressure part components in Boilers & Valves of high temperature service meeting IBR, ASME Section I **and** PED **2014/68/EU**. SA 193 is for high temperature bolting and for drive shafts.

R. Venkanna 06/02/2017	G. Panneer Selvam 06/02/17	S. Selvarajan 06/02/17	K. Rajasekaran 06/02/17	R. A. Krishnan 06/02/17	U. Revisankaran 06/02/17
Venkanna Rupani Sr.Engineer /QA	G. Panneer Selvam DGM/QA	S. Selvarajan SDGM/QA	K. Rajasekaran SM/Valves/Engg	R. A. Krishnan AGM/Valves/ Purchase	U. Revisankaran AGM/QA&BE
Prepared By	Reviewed By				Approved By