



THE DEPUTY GENERAL MANAGER (PPX-BOI)  
BHARAT HEAVY ELECTRICALS LIMITED,  
Heavy Electrical Equipment Plant,  
Ranipur, Haridwar – 249403,  
(Uttarakhand), India

**Tender Enquiry No. B/4066/2022/0711V1 for the requirements of TIP (In Loose Condition-Pipes) for Maitree project.**

All tender documents uploaded along with this Open Tender are as mentioned below. In case of non-receipt or non-clarity of any of these documents, you may contact undersigned. No Financial Implication on account of non-availability of documents would be entertained after opening of Techno-Commercial Offers (i.e. Part -I).

**LIST OF ENCLOSURES**

<b>A. Commercial Documents</b>		
	<b><u>Document No.</u></b>	<b><u>Number of pages</u></b>
1.	ENQ. NUMBER B/4066/2022/0711V1	02
2.	INSTRUCTION TO BIDDERS	02
3.	PRE-QUALIFICATION REQUIREMENTS/ Annexure –A1	01
4.	SPECIAL INSTRUCTIONS / Annexure B	01
5.	TERMS AND CONDITIONS OF TENDER ENQUIRY (Indian supplier)	05
6.	GISTC Rev. 06 (Indian Bidders)	13
7.	MSE SUPPLIER CERTIFICATE/ Annexure-2	01
8.	MAKE IN INDIA CERTIFICATE FORMAT	01
9.	QUALITY PLAN QA/BE/QP/922 Rev-00	11
	<b>TOTAL PAGES (A)</b>	<b>37</b>
<b>B. Technical Documents</b>		
10.	<b>BHEL DOCUMENT NO. 413106V7998</b>	<b>01</b>
11.	<b>Specification No. TG60561 Rev. 01</b>	<b>15</b>
12.	<b>Sea worthy packing Instruction</b>	<b>06</b>
	<b>TOTAL PAGES (B)</b>	<b>22</b>
	<b>Total Pages (A+B)</b>	<b>59</b>

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**BHARAT HEAVY ELECTRICALS LIMITED**  
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Ref: BOI/NIC-OT/21-22/TIP/01

Date: 18.07.2022.

**OPEN TENDER**

1. Sealed Bids are invited from the bidders for the supply of the following items as per requirement mentioned below:

S. N.	Tender No.	Item Description	Total Requirements	Project Name	Last date to get from BHEL	Opening date
<b>A. Requirement for Maitree project:-</b>						
1.	B/4066/2022/07 11V1	<b>W99313106094</b> Turbine Integral Piping (in loose condition pipes) as per Doc. No. 413106V7998 & Spec No. ST34001 Rev: 08	1 ST	Maitree	1 day before opening date	<b>08.08.2022</b>

1. Tenders will be received up to 13:45 Hrs. (IST) on opening date and opened on the same day at 14:00 Hrs. (IST).
2. Kindly arrange to submit your offer within due date and time. BHEL will not be responsible for any type of delay / incomplete information from vendor.
3. Please ensure that documents submitted with the offer/bid shall be signed and stamped in each page by authorized representative of the bidder.
4. Other terms and conditions will be as per tender documents.
5. The offer of the vendors who are banned/ De-Listed/ Under Hold by BHEL, shall not be considered till the period of their Ban/ De-list/ Hold.
6. Please note that "Traders and agents should not be allowed to avail the MSE benefits. Benefits of MSE (EMD waiver, Tender Cost Exemption, splitting of tender Qty., Payment Preference, etc.) will only be given to Original Manufacturers of Offered items against the NIT. No MSE benefits shall be provided to Agents / Stockiest / Dealer / Trader".
7. "For this procurement, the local content to categorize a supplier as a Class-I supplier / class-II local supplier / Non local supplier and purchase preference to class –I local supplier, is as defined in public procurement (preference to make in India), Order 2017 dated 04.06.2020 issued by DPIIT. In case of subsequent orders issued by the nodal ministry, changing the definition of local content for the items of the NIT, the same shall be applicable even if issued after issue of this NIT, but before opening of Part-II bids against this NIT"

The local supplier at the time of tender, bidding or solicitation shall be required to provide self-certification (Format enclosed) that the item offered meets the minimum local content and shall give details of the location (s) at which the local value addition is made.

**Ashish Gupta**  
**SDGM (PPX-BOI)**



BHEL Enquiry No.: BOI/NIC-OT/21-22/TIP/01

Date of issue :18.07.2022

Due Date/ opening date: 08.08.2022

M/s.....

Sub: Tender Enquiry No. B/4066/2022/0711V1

Dear Sir,

BHEL is pleased to invite your offer in **TWO PARTS** strictly as per enclosed terms and conditions and instruction to bidders, for the under mentioned materials. Offers are to be submitted through **BHEL's e-procurement portal developed by NIC (<https://eprocurebhel.co.in/>)**. Please note that **PAPER BID or BID THROUGH e-MAIL SHALL NOT BE ENTERTAINED FOR THIS TENDER**

S. N.	Material Codes	Item Description	Total Requirements	Delivery Required	EMD (Earnest Money Deposit)	
<b>C. Requirement for Maitree project:-</b>						
1.	<b>W99313106094</b>	Turbine Integral Piping (in loose condition pipes) as per <b>Doc. No. 413106V7998 &amp; Spec No. ST34001 Rev: 08</b>	04 Nos	Maitree	30.08.2022	<b>EMD: NIL</b>

Please submit your lowest quotation / offer for the above requirement subject to our terms and conditions. Your offer should be reached to us on or before the due date by 13:45 Hrs. (IST).

**NOTE: The vendor should submit their best prices at this stage itself and they will not be allowed to revise their prices. Any revision / discount given by vendor subsequently will be ignored.**

"Any clarification on technical specifications/tender documents can be obtained from BHEL before tender opening. Suppliers are welcome to have pre-bid meeting with BHEL for better understanding of requirements".

**Part-I** i.e. PQR and technical offer shall be opened at 14:00 Hrs. (IST) on the due date.

**"Evaluation of tender would be done on total landed cost to BHEL up to Kolkata port basis".**

**Please also refer clause no. 9 "Evaluation Criterion" of Annexure-C, for terms and conditions regarding evaluation of Order Quantity.**

**The Offers of those vendors, which would not meet our PQR requirements, would be rejected by BHEL.**

KINDLY READ "INSTRUCTIONS TO BIDDERS" **THOROUGHLY**. QUOTATION NOT IN ACCORDANCE WITH THE ABOVE INSTRUCTIONS ARE LIABLE TO BE DISQUALIFIED AND IGNORED.

1. Tender specific additional terms & Conditions and GISTC Rev. 06 is attached herewith. Please confirm each clause and submit duly ink signed and stamped additional terms & conditions and GISTC Rev. 06 along with your valuable offer.
2. Commercial Terms & Conditions
3. Any Deviation with reference to NIT to be laid down on separate sheet.
4. Un-Priced replicas of Price Bid without prices

For & ON BEHALF OF BHEL, HARDWAR

**Ashish Gupta**  
Sr. DGM (PPX-BOI)



### **INSTRUCTION TO BIDDERS**

#### **Clause 1.0:**

The tenders shall be submitted in two parts (**Part I** consisting of Techno-Commercial Bid, quality plan, replica of price bid & pre-qualification requirements and **Part II** Original Price Bid) as described below on or before the due date.

- **The Quotation should be from the Principal / Original Manufacturer, even if it is submitted through their authorized agents, failing which the quotation is likely to be ignored.**
- **Any corrections / amendments shall be properly & fully authenticated with signature.**

BHEL will deal directly with the manufacturer and no correspondence with the agents will be entertained. The agents will not be permitted to visit / interact with BHEL on behalf of their principals. Subsequently also, no correspondence of any type will be made with any agents (all individuals / companies – representative / adviser / retainer ship basis or claimed to be part time employees for many OEMs / claiming to be channel or business partner for BHEL work / stockiest not registered specifically etc. are agents). Communications with only those agents who have submitted agency agreement with their respective principal may be done.

#### **1. PRE-QUALIFICATION REQUIREMENT (PQR)**

The Pre-Qualification Requirements have been compiled enclosed with the tender documents. All the bidders should ensure submission of complete details and documents as called for in these requirements. The Offers submitted by the bidders would be scrutinized with respect to Pre-Qualification Requirements first. Techno- Commercial offer of only those bidders shall be evaluated who meet the Pre-Qualification Requirements.

#### **2. SUBMISSION OF OFFER**

**Please note that this tender enquiry has been issued through BHEL's e-procurement portal developed by NIC (<https://eprocurebhel.co.in/>), hence PAPER BID or BID THROUGH e-MAIL SHALL NOT BE ENTERTAINED FOR THIS TENDER. Please upload your bid in BHEL's e-procurement portal developed by NIC (<https://eprocurebhel.co.in/>).**

Please registered your firm on <https://eprocurebhel.co.in/> to participate in tenders floated by BHEL. In case of any difficulty faced while registering on BHEL's e-Procurement portal developed by NIC, queries may be addressed to 0120-4001002, 0120-4001005 and 0120-6277787; email: [support-eproc@nic.in](mailto:support-eproc@nic.in). These details are also available on 'Contact Us' page of the portal.

- 2.1** Only English version or bilingual with one language as English, of all documents would be valid & binding.
- 2.2** Bidders are advised to read all the tender documents carefully. Any submission of tender by the bidder shall be deemed to have been done after careful study and examination of the tender documents and with full understanding of the implications thereof. The specifications/ Technical Requirements and terms & conditions shall be deemed to have been accepted unless otherwise specifically commented upon in 'Deviation' sheets by the bidder in his offer. Non-compliance with any of the requirements and instructions in the Tender Enquiry may result in rejection of the offer.
- 2.3** **Name of vendor's dealing person with Contact No(s), Email ID and Address of correspondence shall be provided in the bid.**
- 2.4** Tenders are to be uploaded on BHEL e-procurement portal developed by NIC ([https://eprocurebhel.co.in](https://eprocurebhel.co.in/)) in Two Parts and Part-I (Techno-Commercial Bid along with PQR, as detailed below) will be opened first. The offers are to be uploaded on or before the last date of submission of offer, as detailed on BHEL e-procurement portal for the tender:

#### **3. PART-I BID: PRE-QUALIFICATION REQUIREMENT (PQR) & TECHNO-COMMERCIAL BID**

**Following documents are an integral part of this tender enquiry and endorsed copies of these documents (duly signed and stamped on each page, as a token of acceptance) and reply for each clause of Annexure-A are to be necessarily submitted along with the 'Techno-Commercial Bid' (Part-I bid).**

**All these following documents shall be uploaded in the "Techno-commercial bid level" on BHEL e-procurement portal developed by NIC (<https://eprocurebhel.co.in/>). PAPER BID or BID THROUGH e-Mail shall not be entertained for this tender enquiry.**



**Clause 3.1:**

**PART-I (TECHNO-COMMERCIAL BID) shall comprise of following documents:**

- a) Pre-Qualification Requirements (as defined in Annexure-A)
- b) Complete Technical offer with relevant drawings/ datasheets/other documents /QAP etc. (as Per Special Instructions mentioned in Annexure-B).
- c) Catalogue of the Equipment (If applicable)
- d) Duly Filled in "Additional Terms & Conditions and GISTC Rev. 06 of the Two Parts Tender" (as per Annexure-C).
- e) Deviation if any with reference to specification to be laid down on separate sheet. Cost of deviation is to be submitted along with the price bid essentially, in case vendor withdraws the deviation clauses then same will be considered for final evaluation.
- f) Replica of Price Bid/ Price sheet (without Prices).
- g) The rating of the company quoting for this tender from a third party (independent agency) preferably by DUN & BRADSTREET should be submitted (D&B NUMBER). **Compliance of this clause is mandatory in case of foreign supplier, Indigenous suppliers to submit the copy of balance sheets for last three years** in absence of D&B / third agency report.
- h) **Supplier Registration Form:** The Supplier Registration Form (SRF) duly filled will be assessed for manufacturing capability, quality systems being followed, organizational soundness and financial worthiness. This form is to be filled online at [www.hwr.bhel.com](http://www.hwr.bhel.com) or [www.bhel.com](http://www.bhel.com).

**Note:**

1. **Suppliers who are already registered at HEEP, BHEL, Haridwar in the PMD (Product Material Directory) for this item are exempted for submission of online Supplier registration form.**
2. **Please note that all details required in supplier registration form to be filled and submitted through online supplier registration portal on [supplier.bhel.in](http://supplier.bhel.in) along with complete documents.**
3. **Please ensure that documents submitted with the offer/bid shall be signed and stamped in each page by authorized representative of the bidder.**

**Clause 3.2:**

**[B] PART-II BID (PRICE-BID): BOQ**

Prescribed BOQ shall be downloaded from online tender documents and after filling the relevant columns the same shall be uploaded by bidders. Please note that file name shall not be changed.

- a). e- price bid shall be opened as per schedule given after technical evaluation.
- b). Online Part-I bid (Techno-Commercial bid along with PQR) will be opened on Due Date and time specified in the online tender enquiry, or extension thereof. Incomplete offers are liable to be rejected.
- c). **Techno-Commercial offer of only those bidders shall be evaluated who meet the Pre-Qualification Requirements mentioned in our Enquiry.**
- d). After opening of the online techno-commercial offer, the offers would be evaluated by BHEL and acceptance shall be subject to End Customer approval. Online E-Price Bid shall be opened only of those vendors who were qualified on techno-commercial grounds & approved by customer (if applicable).

Thanking You,  
Yours faithfully,

For & on behalf of BHEL, Hardwar.

**Ashish Gupta**  
**SR. DGM (PPX-BOI)**



**PRE-QUALIFICATION REQUIREMENTS FOR LOOSE PIPES (Grade P91)**

1. Vendor to submit experience-list<sup>5</sup> for supply of pipes in thermal power plants/process industries as per details outlined below:

§ where experience list means fulfillment of below parameters: -

- a) Supply of at least 1 (One) Ton of seamless pipes in P91 material grade (ASTM A 335 Gr P91 or equivalent) or higher grades, as per existing national/international pipe standards & as per ASME B36.10 or equivalent, in last 8 (Eight) years as on the date of issue of our enquiry.
- b) Further details of experience-list to be furnished in the following tabular format:-

Sl No.	Project/Customer Name & Location	Purchase Order Reference No.	Date of referred Purchase Order	Weight of Grade P91 Piping supplied	Composition with total weight of each grade piping spools	Contact Details of End-Customer (Name, Full Address, Phone, Email etc.)

2. Vendor to submit unpriced copy of Purchase Orders in support of clause 1 (a) above.
3. Mill Test Certificates, Mechanical & Chemical Analysis/PMI reports, Dimensional Reports etc. to be submitted for above mentioned PO references.
4. To carry out acid pickling & passivation process, vendor must have in-house facility requiring at least 5 (Five) tanks of minimum size 6.5mX1.5mX1m. Photographs of above facility (tanks) as evidence to be submitted along with techno-commercial offer.

**Ashish Gupta**  
**SR. DGM (PPX-BOI)**



BHARAT HEAVY ELECTRICALS LIMITED  
HEEP, HARIDWAR-249403 (Uttarakhand)  
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Annexure-B

**SPECIAL INSTRUCTIONS**

**A) GENERAL REQUIREMENTS**

**a) For Maitree project:**

1. The material is to be delivered to **Kolkata port for Maitree project** site directly from supplier works. Quotation shall be submitted accordingly.
2. The offer shall be submitted in-line with tender documents, **Doc. No. 413106V7998 & Spec No. ST34001 Rev: 08**
3. Duly filled and ink signed, stamped "**Additional Terms and Conditions & GISTC Rev. 06 of the Two Parts Tender**" are to be necessarily submitted along with the offer.
4. **Please note that all details required in supplier registration form to be filled and submitted through online supplier registration portal on [www.bhel.com](http://www.bhel.com) along with complete documents.**

**B) QUALITY REQUIREMENTS: -**

**1). For Maitree project: -**

- a). Material is to be procured from NTPC approved vendors only. Please submit complete credentials (i.e. Organization structure, unpriced PO copies, Supply details, Experience details, supply completion certificates from end user, successfully commissioning certificates from end user, any other documents...etc.) in order to take up with customer for approval.
- b). Kindly confirm to follow BIFPCL approved QP No. QA/BI/QP/305/Maitree Rev 02 (copy enclosed).
- b). Kindly confirm that Inspection of material would be done by BHEL nominated inspection agency "TUV & BIFPCL" as per BIFPCL approved QP.
- c). Submit the endorsed BHEL quality plan no. QA/BI/QP/305/Maitree Rev 02 (enclosed).
- d). Please note that only NTPC approved vendors would be considered in tender for final evaluation purposes. This is for your kind information please.
- e). Material is to be procured from NTPC approved sources for pipe & fitting (NTPC approved sources list is enclosed).  
Material is to be procured from NTPC approved sources for pipe & fitting (NTPC approved sources list is enclosed).

**Kindly ensure the timely submission of your offer (by 13:45 Hrs IST on the due date) and note that Late Offers shall not be entertained under any circumstances.**

**Ashish Gupta  
Sr. DGM (PPX-BOI)**

**PRE-QUALIFICATION REQUIREMENTS FOR LOOSE PIPES (Grade P91)**

1. Vendor to submit experience-list<sup>s</sup> for supply of pipes in thermal power plants/process industries as per details outlined below:

\$ where experience list means fulfillment of below parameters:-

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- b) Further details of experience-list to be furnished in the following tabular format:-

Sl No.	Project/Customer Name & Location	Purchase Order Reference No.	Date of referred Purchase Order	Weight of Grade P91 Piping supplied	Composition with total weight of each grade piping spools	Contact Details of End-Customer (Name, Full Address, Phone, Email etc.)

2. Vendor to submit unpriced copy of Purchase Orders in support of clause 1 (a) above.
3. Mill Test Certificates, Mechanical & Chemical Analysis/PMI reports, Dimensional Reports etc. to be submitted for above mentioned PO references.
4. To carry out acid pickling & passivation process, vendor must have in-house facility requiring at least 5 (Five) tanks of minimum size 6.5mX1.5mX1m. Photographs of above facility (tanks) as evidence to be submitted along with techno-commercial offer.

*Sankar*  
05/07/2022

S K SONKAR  
SM/TL

*Navneet*  
05.07.2022

NAVNEET CHAKRAPANI  
DM/TL

**Additional Terms and conditions of tender enquiry (In addition to General instructions and standard terms & conditions as enclosed)**

**These terms and conditions supersede the same or similar terms and conditions if they are appearing elsewhere in the Enquiry.**

Sl. No	Terms	Description	Your confirmation
1.	<b>Confirmation to General Instructions and standard terms &amp; conditions:</b>	<p>Please confirm each clause of following documents: -                      General Instructions and standard terms &amp; conditions for bidding against tender enquiry <b>(GISTC Rev-06)</b>.                      Additional terms &amp; conditions of tender enquiry.                      Deviation to conditions mentioned in above documents, if any, shall be submitted along with offer in separate documents.  <b>Please note that in case, no- deviation sheet is received along with the offer, it will be considered that all terms and conditions mentioned in above documents are acceptable to the bidder and your offer will be processed accordingly.</b></p>	
2.	<b>Special Instruction:</b>	<p>Please note that as per BHEL's Policy, we cannot allow Price impact for the requirement / scope of supply, which is a part of specifications of our tender enquiry. Hence please read all specification / documents thoroughly and submit your offer as per specifications of tender enquiry.</p>	
3.	<b>Packing &amp; Shipping Instructions:</b>	<p>Seaworthy packing to be done by vendor as per attached packing instruction TGE-3646 Rev. 01. <b>Kindly read the documents carefully &amp; quote your offer accordingly.</b></p> <p>Material shall be shipped as per <b>Shipping Instructions (Annexure-2)</b>. <b>Kindly read the Shipping Instructions (Annexure-2) carefully &amp; quote your offer accordingly.</b></p> <p>Maximum 300 no. of boxes are allowed to dispatch the complete qty.</p> <p>Each Packing Box shall have the following mentioned in indelible ink contract no. BIFPCL/EPC-MAIN PLANT/2016/01 Purchaser: M/s BIFPCL, Bangladesh</p> <p>The serial number of packing boxes (Shipping marks number) for main supply shall be indicated by suppliers as follows:                      BHEL/MTR/BD/HWR/BOI/12391 to 12690. clearly on all packing boxes. Vendor to also refer TGE-3646 Rev. 01 in this regards. Also, vendor to comply with all technical requirements as per TGE-3646 Rev. 01.</p>	
4.	<b>Basis of Quotation:</b>	<p>The item is required for <b>Maitree</b> project. Prices are to be quoted on <b>FOR Kolkata port</b> basis. Kindly confirm that price has been quoted on <b>FOR Kolkatta Port</b> basis i.e. including all taxes, duties, local levis, freight, packing &amp; forwarding charges etc.</p> <p>The goods can be dispatched through any Bank approved transporters having their branch at Hardwar. The names and addresses of transporters approved by IBA as well as BHEL are posted at our website <a href="http://www.hwr.bhel.com">www.hwr.bhel.com</a></p> <p><b>Pls. note that, if you dispatch the material by any BHEL un-approved transporter then you will be required to furnish the MRC (Material Receipt Certificate) from Project Site for processing of your invoice. No demurrage charges would be payable by BHEL. Kindly confirm.</b></p>	
5.	<b>Bank Charges:</b>	Kindly Confirm that Bank Charges shall be either side.	
6.	<b>Transit Insurance:</b>	Transit insurance would be arranged by BHEL. Please send your offer keeping this in view.	
7.	<b>Technical Requirement:</b>	<p>Please quote your valuable offer as per <b>BHEL specification No. ST34001 Rev. 08 &amp; Doc. No. 413106V7998</b> (copy enclosed).</p> <p><b>Please ensure that documents submitted with the offer/bid shall be signed and stamped in each page by authorized representative of the bidder.</b></p>	
8.	<b>Validity:</b>	<p>Confirm that your offer shall be valid for 120 days from the date of tender opening.  <b>BHEL will reserve the right to reject any or all quotations, quoting validity less than 120 days.</b></p>	

9.	<b>Evaluation criteria:</b>	Evaluation of tender would be done on total landed cost to BHEL up to Kolkata port basis. <b>Please quote accordingly.</b>	
10.	<b>Engineering Documents Approval:</b>	Drawings/Data sheets/documents/QAP as called in the specifications shall be submitted for approval to BHEL for BHEL/customer approval within 30 days of purchase order. BHEL will arrange the approval of these drawings/data sheets/documents/QAP within 30 days of their receipt provided those are complete in all respect. <b>Any delay in delivery on account of late submission of drawings/other documents/QAP shall be to vendor's account. Kindly confirm.</b>	
11.	<b>Quality Requirements:</b>	<p><b>For Maitree Project: -</b></p> <p>a). Material is to be procured from NTPC approved vendors only. Please submit complete credentials (i.e. Organization structure, unpriced PO copies, Supply details, Experience details, supply completion certificates from end user, successfully commissioning certificates from end user, any other documents...etc.) in order to take up with customer for approval.</p> <p>b). Kindly confirm to follow BIFPCL approved QP No. <b>QA/BI/QP/305/Maitree Rev 02</b> (copy enclosed).</p> <p>b). Kindly confirm that Inspection of material would be done by BHEL nominated inspection agency <b>"TUV &amp; BIFPCL" as per BIFPCL approved QP.</b></p> <p>c). Submit the endorsed BHEL quality plan no. <b>QA/BI/QP/305/Maitree Rev 02</b> (enclosed).</p> <p>d). Please note that only NTPC approved vendors would be considered in tender for final evaluation purposes. This is for your kind information please.</p> <p>e). Material is to be procured from NTPC approved sources for pipe &amp; fitting (NTPC approved sources list is enclosed).</p> <p><b>At least 15 days' advance time should be given to inspection agency for carrying out inspection of material at your works w.r.t. PO delivery date. Any delay in delivery due to this reasons would be to supplier account.</b></p>	
12.	<b>Verification of items at site:</b>	Please ensure to take receipt from site for boxes for every dispatch against GR. Opening of packed Boxes and Verification of items sent inside Box will be in presence of supplier's representative at site. Supplier is required to depute their representative to site (one visit per set) <b>within 10 days' notice</b> from BHEL for verification of items sent inside Box and ensure receipt of all items. Any shortage found during verification is to be replenished free of charge by supplier on FOR site basis.	
13.	<b>Rates on Per Kg basis</b>	<p>Rates are to be quoted on per kg basis. Weight shall be taken as weight given in BHEL Bill of Material.</p> <p>The weight in Final BOM / revised BOM at a later stage may vary in the range of plus 3% of weight of initial BOM. There will not be any financial implication within this range. However, for any change over the range of +3%, payment shall be made on the increased value of weight over +3% according to per KG rates.</p> <p>If the weight in final BOM decreases w.r.t weight in initial BOM then payment shall be made according to decreased weight according to per KG rates.</p> <p><b>For Example, if weight exceeds 2% or 3%, no extra payment for this excess weight will be made. If, weight will exceed 5 % than extra payment only for 2% will be made according to per KG rate. If weight will decrease, then deduction of payment will be done for total decreased weight.</b></p> <p><b>Please confirm your acceptance for the same.</b></p>	
14.	<b>Payment Terms:</b>	<p>100% payment is to be made against receipt of material at Kolkata port. Kindly confirm.</p> <p><b>Please note that in case of any deviation in the payment terms, BHEL shall evaluate your offer after loading on account of deviation in payment terms as per BHEL practice/policy as per clause no. 10(i) of GISTC Rev-06.</b></p>	

**Tender Enquiry No. B/4066/2022/0711V1 for the requirement of TIP of Maitree project**

15.	<b>Delivery Terms:</b>	<p>Please confirm for the deliveries as mentioned on the enquiry.</p> <p>In case, it is not possible to meet the deliveries as mentioned on the enquiry please quote your best possible deliveries in no. of months from the date of PO placement and final BOM in the format given under for each set separately: -</p> <p>Starting delivery time: _____</p> <p>Completion time: _____</p>	
16.	<b>Completion of Delivery:</b>	<p>It is mandatory to complete one set of TIP within 3 months i.e. gap between their starting delivery time and completion time shall be maximum 3 months. Please note that any deviation in above delivery terms is not acceptable, offers of the bidders which do not confirm above delivery terms shall not be considered. <b>Please confirm.</b></p>	
17.	<b>Right of Acceptance:</b>	<p>BHEL reserves the right to reject any or all the quotations without assigning any reasons thereof. <b>BHEL also reserves the right to Increase or decrease the tendered quantities.</b> Vendors should be prepared to accept order for reduced Quantity without any extra charges. Vendor should also be prepared for giving discount in case of Increase in Quantity.</p>	
18.	<b>Guarantee/ Warranty Clause:</b>	<p>Kindly confirm that Guarantee/ Warranty shall be offered for a period of 18 months from the date of shipment/supply or 12 months from the date of commissioning of equipment, <b>whichever is earlier.</b></p> <p><b>In case of any failure or trouble reported from site, the supplier shall depute their representative immediately to attend the problem and replace the defective component/ parts if required. Supplier shall be responsible for free replacement of defective equipment/ material at BHEL site without any additional cost to BHEL.</b></p>	
19.	<b>Deviation: (if any)</b>	<p>Kindly Confirm that there is no deviation with respect to BHEL Specifications. However, deviations, if any, are to be listed as a separate attachment. The additional price, if any, for withdrawal of these deviations must be provided. The offers that do not meet the substantial requirements of our enquiry are liable to be ignored. The bidders shall be deemed to comply with all the requirements of bidding documents except for listed deviations without any extra cost irrespective of any mention to the contrary anywhere else in the bid.</p>	
20.	<b>Origin of quotation:</b>	<p><b>a)</b> The quotation should preferably be from the principal bidder. However tender specific authorized registered dealer / agent can also submit the bid on their behalf, failing which the quotation is liable to be ignored. BHEL prefers to deal directly with the principal manufacturers.</p> <p><b>b)</b> An agent cannot quote on behalf of more than one principal in the same tender enquiry.</p> <p><b>Please refer clause no. 2 of GISTC Rev. 06 and quote offer accordingly.</b></p>	
21.	<b>Taxes &amp; duties:</b>	<p>Details of applicable taxes &amp; duties are to be mentioned as per clause 11 of General Instructions and Standards Terms &amp; Conditions for bidding against tender enquiry <b>(GISTC, Rev. 06.)</b></p> <p>In this regard, following is to be specifically mentioned in the offer:</p> <ol style="list-style-type: none"> <li>GST Registration Number</li> <li>Address of Principal place of Business</li> <li>Type of Business</li> <li>HSN Code, its description &amp; rate of applicable GST for the offered material</li> <li>Whether registered under Composite scheme of GST (Y/N).</li> </ol> <p>It should be noted that the evaluation of the offers shall be done considering the taxation/benefits as applicable under GST.</p> <p><b>Please submit your GST registration certificate.</b></p>	
22.	<b>Delivery :</b>	<p>Kindly confirm that the delivery period in no. of weeks/months from the date of issue of purchase order.</p>	

23.	<b>Business Dealing:</b>	<p>Please note that BHEL will deal directly with manufacturer and no correspondence with the agent will be entertained. The ink signed offer / bid in original has to be submitted by the registered manufacturer / OEMs directly to BHEL. Subsequently also, no correspondence of any type shall be entered into with the agents.</p> <p><b>Bids submitted by agents may not be considered for evaluation and shall be returned to them only, without assigning any reason. Please note the same.</b></p> <p><b>Also the name of principal supplier should be indicated on envelope in addition to Enquiry no and due date.</b></p>	
24.	<b>Penalty Clause:</b>	<p>Kindly confirm that penalty for late delivery w.r.t to contractual delivery shall be applicable at the rate of 0.5% of the total order value per week of delay or part thereof subject to a maximum of 10% of the total order value lot wise.</p> <p><b>Date of GR/LR shall be treated as actual delivery date for all purposes.</b></p>	
		<p><b>Loading for deviation in penalty for LD clause:</b> Please note that, in case of deviation in penalty clause, BHEL will evaluate your offer after loading on account of deviation in penalty. Loading will be done to the extent by which penalty clause is not agreed.</p>	
25.	<b>MDCC (Material dispatch clearance certificate) Clause:</b>	<p>Please note that material shall be dispatched only after issue of Material dispatch clearance certificate (MDCC) by BHEL. For issue of MDCC, you are required to submit all test certificates (TCs as per QAP) &amp; IRs to BHEL. BHEL will issue MDCC within 7 days of receipt TCs &amp; IRs, if complete &amp; clear in all respects.</p> <p><b>Any delay in submission of complete reports (i.e. TCs as per QAP &amp; IR) will be to your account. Material shall be dispatched within 7 days of issuing dispatch clearance by BHEL.</b></p>	
26.	<b>Risk Purchase:</b>	<p><b>Risk Purchase:</b> In case of abnormal delays (beyond the maximum late delivery period as per Penalty clause) in supplies / defective supplies or non-fulfillment of any other terms and conditions given in Purchase Order, BHEL may cancel the Purchase Order in full or part thereof, and may also make the purchase of such material from elsewhere / alternative source at the risk and cost of the supplier. BHEL will take all reasonable steps to get the material from alternate source at optimum cost. If bidder does not agree to the above Risk Purchase Clause, BHEL reserves the right to reject the offer. In case for compelling reasons BHEL accepts the offer without acceptance of this clause by the bidder and in the eventuality of Risk Purchase, appropriate action will be taken as per BHEL extant rules. This will be without prejudice to any other right of BHEL under the contract.</p> <p><b>Please note that deviation in Risk purchase clause shall not acceptable.</b></p>	
27.	<b>Arbitration Clause :</b>	<p>In all cases of dispute, the matter shall be referred for Arbitration to any arbitrator to be appointed by the Executive Director or any officer who is the administrative head of Bharat Heavy Electricals Limited at Hardwar. The award of the Arbitrator shall be final and binding on both parties. The Arbitrator shall have the power to extend, from time to time, the time for making his award with the consent of the parties.</p> <p><b>JURISDICTION:</b> The courts of Haridwar, India, shall have exclusive jurisdiction.</p>	
28.	<b>Packing and Marking:</b>	<p>Packing and Marking of items will be done as per clause no 10 of specification ST34001 rev.08.</p> <p>Packing shall be Secure and Sturdy.</p> <p>All the open ends of pipe/pipe assemblies should be closed with both inner &amp; outer end caps with adhesive taping. <b>Please confirm</b></p>	

**Tender Enquiry No. B/4066/2022/0711V1 for the requirement of TIP of Maitree project**

29.	<b>Packing list &amp; GR:</b>	Please confirm that in case of order, One soft copy of packing list in editable format (preferably excel sheet) and scanned copy of GR are to be provided to AGM (PPX-BOI) at mail id <a href="mailto:vibhutis@bhel.in">vibhutis@bhel.in</a> Immediately after dispatch of each lot. In case soft copy of GR and packing list are not received before arrival of lorry at site, Un-loading of material at site may not proceed.	
30.	<b>Dispatch of TIP:</b>	<p><b>All material should be packed in Boxes sealed in a tamper proof manner. No loose items (except pipe/assembly above 500 NB) are acceptable at site.</b></p> <p>Items of two different systems of one unit should not be mixed in one box i.e. One system of TIP should be supplied in one packing Box. Partition inside one box for segregation of items of different systems is not acceptable.</p> <p>Please note that every GR should be accompanied with a separate Packing list that is to be sent to site along with the dispatches.</p> <p><b>Please confirm for all above mentioned condition regarding dispatch of TIP.</b></p>	
31.	<b>General Terms:</b>	<p>Ink signed order acceptance shall be furnished within 15 days of order placement. In case, order acceptance do not received within 15 days of order placement, PO deemed to be accepted by you.</p> <p>Confirm that Approx. Weight &amp; Volume of the packages has been mentioned in techno-Commercial Offer (Part-1).</p> <p>Confirm that prices will remain firm and fixed during the entire validity and execution of the project.</p> <p>Kindly confirm no technical deviation taken in submitted offer with respect to requirements mentioned in <b>BHEL specification No. ST34001 Rev. 08 &amp; Doc. No. 413106V7998</b> (copy enclosed).</p> <p>Please note no revision in the prices or submission of supplementary price bid will be allowed during the validity of the offer. However, if there is any change by BHEL w.r.t. original specification/requirement/scope/terms and conditions, the bidders may be asked by BHEL to submit only the price impact bid for such changes only.</p>	
32.	<b>Documents submission:</b>	Kindly confirm that quoted offer have been complied all technical requirements as given in tender documents and submit all documents to BHEL as per tender specifications and drawings without any deviations.	
33.	<b>Manufacturing Clearance:</b>	In case of ordering, vendor has to take manufacturing clearance from BHEL before starting manufacturing of material. No manufacturing is to be started without getting clearance from BHEL. Kindly confirm.	
34.	<b>Submission of offer:</b>	Kindly submit your offer on NIC portal <b>“Un-Priced Bid Cum Techno-Commercial Bid + PQR documents (Part-1) &amp; “Priced Bid (BOQ)” (Part-2).</b>	
35.	<b>Special Instruction:</b>	Kindly submit packing list (Box wise) for BHEL review before dispatch	
<b>Note:</b>		Please note that Prices are to be quoted in BOQ (Price Schedule format) provided in the portal. Prices are to quoted on FOR destination basis. Kindly confirm that price has been quoted on FOR destination basis. Basic price quoted in BOQ shall be inclusive of Packing, Forwarding & Freight charges.	

**Signature of supplier with Seal**



## BHARAT HEAVY ELECTRICALS LIMITED

HEEP-HARIDWAR, UTTARAKHAND (249403)

General Instructions and Standard Terms & Conditions for bidding against Tender Enquiry (GISTC)

For Indian Bidders (Version June-2021, Rev: 06)

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### 1. GENERAL.

These general terms & conditions shall apply to all the Tender Enquiries, notice inviting tenders, request for quotations concerning the supply of goods and / or rendering of services to Bharat Heavy Electricals Ltd., HEEP, Haridwar (hereinafter referred to as BHEL or the Purchaser). In case of placement of order these conditions will become part of Purchase Order (P.O) until unless the deviations are specifically agreed by BHEL.

### 2. ORIGIN OF QUOTATION.

- a) The quotation should preferably be from the principal bidder. However tender specific authorized registered dealer/agent can also submit the bid on their behalf, failing which the quotation is liable to be ignored. BHEL prefers to deal directly with the principal manufacturers.
- b) An agent cannot quote on behalf of more than one principal in the same Tender Enquiry.

### 3. SUBMISSION OF TENDER.

- a) Bid / Quotation must be enclosed in sealed cover on which tender enquiry number and the due date MUST BE written and be invariably sent under REGISTERED POST / SPEED POST / COURIER / Dropped in the Tender Box: addressed as follows:

Quotation against Enquiry No. \_\_\_\_\_

Dated: \_\_\_\_\_

Due on: \_\_\_\_\_

To,

**THE HEAD OF MATERIALS MANAGEMENT,  
Heavy Electrical Equipment Plant,  
Bharat Heavy Electricals Limited,  
HARIDWAR-249403 (Uttarakhand), INDIA.**

- b) TENDER ROOM is located at: Room No. - 415, 4<sup>th</sup> Floor, Main Admin. Building, BHEL-HEEP, Haridwar.

**## Quotations / Bids not in accordance with General Instructions and Standard Terms & Conditions are likely to be ignored.**



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- c) In case of Three / Two Part Bid, technical bid containing technical offer, duly signed and un-priced copy of the Price Bid should be kept in one envelope. Price Bid containing only the price should be kept in a separate envelope. All envelopes indicating Part-1 or Part-2 or Part-3 as the case may be to be put in a bigger envelope. Please note that un-priced bid should be the exact replica of price bid but without prices.
- d) The bid / quotation must be posted before due date, keeping allowance for postal transit time. Quotations sent by any mode but not received in time will be ignored. Tender received through authorized E-mail is also acceptable. However, in time submission of tender in tender box shall be the responsibility of the bidder, sent through any mode. Documents submitted with the offer / bid shall be signed and stamped in each page by authorized representative of the bidder.
- e) Any additional documents submitted by supplier / bidder, during processing of registration application / tender or after placement of order shall not be accepted unless it is submitted with forwarding letter and duly signed and stamped.
- f) The bids of the bidders who are on the banned list and also the bids of the bidders, who engage the services of the banned firms, shall be rejected. The cutting / overwriting in the bid / offer must be duly attested by the signatories to the bid. The list of firms banned by BHEL is available on BHEL web site [www.bhel.com](http://www.bhel.com).
- g) Being PMD vendor, if you are not quoting against this tender enquiry, please send your regret letter positively for our reference with valid reasons for not participating in the tender enquiry. Repeated lack of response on the part of bidder may lead to deletion such PMD vendor from BHEL's approved vendor list.
- h) The bidders will submit Integrity Pact, duly signed by its authorized signatory, along with their bids wherever estimated tender value is Rs. 2 Crore or more.
- i) In case of open tender, technically qualified unregistered bidders may apply online for registration through <http://www.bhel.com/index.php/vender>.
- j) BHEL reserves the right to award tendered quantities among more than one bidder (after acceptance of L1 price by the other bidders). BHEL can also consider awarding of part of the tendered quantity to other than L-1 bidder at L1 counter offered rates, if the quantity offered by the L-1 bidder is less than the quantity tendered for.
- k) In case of e-Tendering (Online bidding through e-portal), offline bid submitted in hard copy or in any other form by the vendor / supplier will not be accepted and will be rejected out rightly. Only e-portal bid will be accepted.

#### 4. TENDER OPENING.

Tender opening is scheduled to start in the Tender Room at 2:00 PM, on the due date. Therefore, bid / quotations must reach this office / tender Box latest by 1:45 PM on due date. Only participating bidders are allowed to attend tender opening. **TENDERS RECEIVED AFTER THE SPECIFIED TIME OF THEIR 'SUBMISSION' WILL BE TREATED AS LATE TENDERS AND SHALL NOT BE CONSIDERED UNDER ANY CIRCUMSTANCES.** The bidders or their authorized representatives may be allowed to attend tender opening if duly authorized by their principals, through a tender specific letter on that particular day. General authorization letter is not acceptable.

***Note: - Foreign bidders willing to attend the bid opening has to provide the requisite documents to the concerned Purchase executives for arranging gate pass for them.***

#### 5. SPECIFICATION, DRAWINGS & STANDARD.

- a) Bidders must give their detailed specification in the quotation along with relevant technical literature / catalogue etc. against the tender enquiry.
- b) The Bid should be accompanied with relevant copies of catalogues, drawings or specification as per tender enquiry.

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If these documents are not furnished, the offer is liable to be rejected.

- c) Wherever national / international (N/IN) standards are referred, the latest N/IN standards are to be followed. Mention year & date of standard revision that shall be followed for the supply.
- d) All Drawings and Standards are proprietary of BHEL. It must not be used in anyway detrimental to the interest of BHEL or without permission of BHEL.

### 6. PRICE SCHEDULE.

- a) Kindly quote your prices in figures and words both. In case of any discrepancy in value, the prices quoted in words shall be considered for evaluation and establishing L1 status.
- b) Prices quoted should not be more than the prices quoted to any other BHEL units / offices / divisions. Vendor to submit copy of latest Purchase Order placed by any unit of BHEL for similar items in the technical bid. In case no order has been placed on such items, specific confirmation that no order has been placed on such items should be provided.
- c) Prices should be quoted on F.O.R. Destination basis. Transit insurance shall be arranged by BHEL and not to be included in the prices. The offers quoted on other than F.O.R destination basis may result in non-consideration of such bids.
- d) In case BHEL accepts the EX-Works prices, such offers will be loaded by 1.5% of EX-Works value towards freight or with actual freight charges as per BHEL freight rate contract whichever is higher.
- e) In case of Indigenous items covered by DGS & D Rate Contract, the bidders should submit latest valid copy of the rate contract along with bid / quotation
- f) Applicable **IGST / CGST / SGST** and any other statutory levy should be indicated separately and clearly in the bid / quotation.

- g) Bidders can dispatch goods through any Indian Bank Association approved transporters having their branch at HARIDWAR / destination. If material is dispatched through other than Indian Bank Association approved transporter, material to be delivered on door delivery BHEL Stores basis.
- h) In case of dispatch of material through any other unapproved transporter, payment shall be made only after receipt of material and any additional charges payable to the transporter shall be to the bidder's account.
- i) Any demurrage / godown rent payable to the transporter / or to godown's owner due to any delay attributed by the supplier shall be recovered from supplier's account.
- j) Currency of Evaluation shall be INR.

**NB: Financial evaluation of L1, L2 .....Status will be on the basis of Landed Cost to BHEL.**

### 7. REVERSE AUCTION.

**Wherever RA is declared in the special terms and conditions of tender enquiry, following shall be applicable and Bidders to confirm the same:**

"BHEL shall be resorting to Reverse Auction (RA) (Guidelines as available on www.bhel.com) for this tender. RA shall be conducted among all the techno-commercially qualified bidders.

Price bids of all techno-commercially qualified bidders shall be opened and same shall be considered as initial bids of bidders in RA. In case any bidder(s) do(es) not participate in online Reverse Auction, their sealed envelope price bid along with applicable loading, if any, shall be considered for ranking."

### 8. DELIVERY TERMS.

- a) Goods shall be delivered on 'FOR Destination' basis to the named destination unless otherwise called for in the tender enquiry.
- b) Loading on account of 3rd party inspection charges in case of Indian bidders shall be 0.20%.

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### 9. LIQUIDATED DAMAGES (LD) FOR LATE DELIVERY.

#### a) Where items of Purchase Order are independently usable.

Liquidated Damages (LD) for Late Deliveries shall be applicable @0.5% per week or part thereof on the value of respective delayed supplies subject to a maximum of 10% of the value of respective delayed supplies. Value of delayed supplies will mean the Gross Value payable to the vendor (Before LD) against such supplies excluding taxes and duties.

#### b) Where the total items are required for a main equipment and items are interdependent.

Liquidated Damages (LD) for Late Deliveries shall be applicable @0.5% per week or part thereof on total value of Purchase Order subject to maximum of 10% of the total value of Purchase Order. Purchase Order value for this purpose shall be the Total Gross Value payable to the vendor (Before LD) excluding taxes and duties.

c) Bidders are requested to quote the best delivery meeting the delivery requirements. BHEL reserves the right to reject the offers not meeting BHEL's delivery requirement.

d) Commencement of delivery period shall be reckoned from the date of PO / LOI or any other agreed milestone.

e) Bidder shall deliver the goods in the manner and schedule agreed under the terms and conditions of Purchase order.

f) **DELIVERY IN CASE OF REJECTION:** In case the material is rejected, then date of replacement will be considered as the actual date of delivery.

g) **DELIVERY AGAINST BANK DOCUMENTS:** In case payment terms quoted by bidder are documents through bank, and the delivery terms being "FOR Haridwar / FOR Transporter Go-down" then date of delivery will be date of intimation by transporter / bidder of delivery of material at Haridwar for the LD purpose.

h) Where the payments are through bank, the documents may be presented for negotiation to BHEL authorized / nominated bank.

i) Payment of Liquidated Damages (LD) shall not in any way relieve the vendor from any of its obligations & liabilities under the contract.

### 10. PAYMENT TERMS.

a) BHEL's standard payment term is Payment after receipt and acceptance of materials / items at HEEP, BHEL-Store or at desired destination unless otherwise specified in Special Terms attached to the tender enquiry.

b) BHEL reserves the right to accept or reject the offer of the bidder who quotes the payment term other than BHEL's standard payment term.

c) Loading on account of deviation in payment terms shall be done as per extant rules of BHEL-Haridwar.

d) 100% payment along with taxes, freight & insurance will be made after receipt and acceptance of material and within 75 days from the date of invoice subject to submission of non-discrepant documents within 15 days of supply as per terms and conditions of Purchase Order. In case any discrepancy found in the documents, BHEL will notify the same to vendor within 7 days of receipt. Vendor has to clear all the discrepancies in one go within 7 days thereafter else the payment of vendor may get delayed.

e) For MSEs (covered under MSME Act) which are registered and periodically renewed with BHEL, the payment will be made within 45 days or as prescribed in the relevant act.

f) Adherence to the above time schedule of payment is contingent upon Vendor complying with GST Rules w.r.t availment of Input Tax Credit by BHEL.

g) In case GST credit is delayed / denied to BHEL, due to non / delayed receipt of goods and / or tax invoice or expiry of the timeline prescribed in GST Law for availing such ITC, or any other reason not attributable to BHEL, GST amount shall be recoverable from Vendor along with interest levied / leviable on BHEL.

h) The taxes and duties that are reimbursed would be the ones applicable as on the contractual Purchase order delivery date or the amount actually paid whichever is less.

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i) **The loading criteria for the different payment terms shall be as under;**

Payment Terms	Days of Loading
After Receipt & Acceptance of material within 75 days of supply.	<b>No Loading</b>
Against Delivery at BHEL-Stores Haridwar.	<b>45</b>
Against documents through bank (CAD):	<b>45</b>
Letter of Credit (LC)	<b>120</b>
Usance LC	No Loading if usance period is > 120 Days.
	Loading of days' difference i.e. difference between 120 days and usance period if the usance period is < 75 days.
Advance	Delivery Period + 120 Days - Advance Payment Days.

### 11. TAXES & DUTIES.

- a) The bidder to specify in their offer (part 1 bid) the category of their registration under GST like Registered, Unregistered and composite dealer.
- b) The provisional GST registration number of Bharat Heavy Electrical Ltd, Heavy Electricals Equipment Plant, Ranipur, Haridwar is "05AAACB4146P1ZL" with state Code as "05" and State Name as "Uttarakhand".
- c) Please quote our provisional GST registration number in all invoices raised for supply of goods and services under GST regime and also ensure filing of timely return and payment of tax and compliance of other applicable provisions on supplier under GST regime.
- d) No GST will be reimbursed to unregistered or composite dealer. In the event, any GST is quoted by composite dealer, the same shall be added to the cost of supply in evaluating the bid.
- e) Since, input credit of GST will be available to BHEL-Haridwar only after correct filing of return and payment of applicable GST by supplier, reimbursement of GST shall be made by

BHEL-Haridwar on matching of vendor inputs at GST portal, ensuring availability of input credit to BHEL Haridwar. Payment of GST will be made to vendor after matching of input credit and vendor to ensure submission of their invoices along with consent to accept payment of tax after such matching in all cases where bills are submitted directly to BHEL-Haridwar or through bank or under LC or through any other mode.

- f) In the event of any disallowance of input credit or applicability of interest or any other financial liability arises on BHEL-Haridwar due to any default of supplier under GST, such implication shall be to supplier's account.
- g) In the event of any change in the status of the vendor after the submission of the bid but before the supply, GST applicable at the time of supply or in the bid, based on the registration status of the vendor, whichever is lower shall be payable.
- h) Where ever applicable If PAN (Permanent Account Number) of the recipient is not available, income tax is deductible either at the normal rate or at the rate of 20 percent, whichever is higher as per Section 206AA of Indian Income Tax Act 1961.
- i) The bidder shall clearly indicate HSN (*Harmonised System Nomenclature*) / SAC (*Service Accounting Code*), its description and applicable rate of GST for each item in his techno-commercial bid.
- j) Statutory Variation in Taxes & duties as applicable at the time of supply shall be payable. However, in the event of no change in law but bidder quoting certain tax structure in bid document which is lower than the applicable one, such amount shall be the maximum amount of tax that can be claimed by bidder.
- k) **IMPORTED GOODS OFFERED BY INDIAN BIDDERS AGAINST DEALER INVOICE:** Wherever the material being offered is imported, the bidder must quote the prices inclusive of IGST. The rate and value of IGST as included in the price must be indicated separately. In case quantum of IGST is not mentioned by the bidder the same will not be considered for



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evaluation. However, bidder will have to pass on the benefit of IGST to BHEL at the time supply.

- l) In case of directly dispatchable items to Customer's Site, BHEL-Haridwar will inform the GST registration number of the respective customer which must be mentioned on the vendor's invoice. Vendor to ensure availability of such information from BHEL-Haridwar before dispatch of any material. However, while filing GSTN-1, BHEL Haridwar GSTN number to be quoted.

Note: - Vendors must ensure compliance of all the applicable rules and procedure as envisaged in the GST Regime. Any loss to BHEL-Haridwar due to fault / non-compliance by the vendor will be to the vendor's account.

### 12. BANK GUARANTEE.

In case the bank guarantees are required to be deposited towards security deposit/performance guarantee or for any other purpose as per the terms of this tender enquiry, such bank guarantees of the requisite value in the denominated currency of the purchase order should be from one of the Indian branch of BHEL consortium banks and the bank guarantee should be in the proforma as prescribed by BHEL. The proforma of bank guarantee and the list of consortium banks are displayed at BHEL website [www.bhelhwr.co.in](http://www.bhelhwr.co.in). However, in case the bank guarantee is not from BHEL consortium banks, then the bidder has to get the bank guarantee confirmed from one of the Indian branch of BHEL consortium banks and the bank charges for such confirmation will be borne by the bidder.

### 13. GUARANTEE / WARRANTY AND CORRESPONDING REPAIRS / REPLACEMENT OF GOODS.

Goods shall comply with the specifications for material, workmanship and performance. Unless otherwise specified, the warranty shall be for a period of 18 months from the date of receipt. If the delivery is found non-compliant during the warranty period, leading to rejection, the Seller shall arrange free replacement / repair of goods, within one month from the date of intimation or any mutually agreed period. The rejected goods shall be taken away by the Seller at his cost and

replaced on Delivered Duty Paid (DDP) (FOR - BHEL Stores / designated destination basis) within such period. In the event of the Seller's failure to comply, Purchaser may take action as appropriate, including Repair / Replenish rejected goods & disposal of rejections, at the risk & cost of the Seller. In case the defects attributable to Seller are detected during processing of the goods at BHEL or at our subcontractor's works, the Seller shall be responsible for free replacement / repair of the goods as required by BHEL.

- b) **RETURN OF REJECTED MATERIAL FOR REPLACEMENT:** The bidder shall have to pay 5% incidental charges while taking back supplied material if it is found rejected on receipt. The rejected material shall be sent back only after receipt of replacement / submission of BG / refund of amount paid.

### 14. QUALITY REQUIREMENT.

Your bid / quotation should have specific confirmation regarding meeting all our quality requirements such as. (i) Test Certificate (TC), (ii) Guarantee Certificate (GC) / Warranty Certificate (WC), (iii) Quality Plan (QP) (if applicable); and (iv) Pre-Dispatch Inspection at your works (if applicable).

### 15. VALIDITY.

The quotation should be valid for a minimum period of 90 days effective from the date of opening of tender, unless otherwise specified in the tender enquiry.

### 16. RIGHT OF ACCEPTANCE.

- a) **BHARAT HEAVY ELECTRICALS LIMITED HARIDWAR** reserves the right to reject any or all the bids / quotations without assigning any reason thereof. BHEL also reserves the right to increase or decrease the tendered quantities. Bidders should be prepared to accept order for reduced quantity without any extra charges.
- b) Any discount / revised offer / bids submitted by a bidder on its own shall be considered, provided it is received on or before the due date and time of offer / bid submission (Part-1). Conditional discounts shall not be considered for evaluation of tenders.



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- c) Unsolicited discounts / revised offers / bids given after Part-1 bid opening shall not be accepted. No change in price will be permitted within the validity period asked for in the tender enquiry.
- d) In case of changes in scope and / or technical specification and / or commercial terms & conditions having price implication, techno-commercially acceptable bidders shall be asked by BHEL to submit the impact of such changes on their price bids. In case a bidder opts to submit revised price bid instead of impact called for then the latest price bid shall prevail. However, in both situations, original price bid will be necessarily opened.
- e) The bidder whose bid is technically not accepted will be informed & EMD wherever submitted shall be returned after finalization of contract. EMD shall be forfeited in the event of bidder opting out after tender opening.
- f) BHEL reserves the right to short close the existing Purchase Order / Rate Contract / Work Order or any extension thereof at any stage.

### 17. TRANSIT INSURANCE.

- a) Transit Insurance will be covered by BHEL under its open Insurance Policy. Seller shall inform dispatch particulars (Purchase Order, RR /GR, Invoice value etc.) to "Finance department (Store bill Section), BHEL Ranipur, Haridwar (Uttarakhand-India) with value of consignment to the Purchaser within 07 days of dispatch for BHEL to arrange insurance coverage in its policy. Failure on the part of seller to inform dispatch particulars will make him liable to pay for any transit damages / losses suffered by the Purchaser.
- b) If Quoted Prices are inclusive of transit insurance, no weightage shall be given while evaluating the bids for Cost of Insurance, being in BHEL Scope.

### 18. RISK PURCHASE.

In case of abnormal delays (beyond the maximum late delivery period as per LD clause) in supplies / defective supplies or non-fulfillment of any other terms and conditions given in Purchase Order, BHEL may cancel the Purchase Order in full or part thereof, and may also make the purchase of such material from elsewhere / alternative source at the risk and cost of the supplier. BHEL will take all reasonable steps to get the material from alternate source at optimum cost. If bidder does not agree to the above Risk Purchase Clause, BHEL reserves the right to reject the offer. In case for compelling reasons BHEL accepts the offer without acceptance of this clause by the bidder and in the eventuality of Risk Purchase, appropriate action will be taken as per BHEL extant rules. This will be without prejudice to any other right of BHEL under the contract or under General Law.

### 19. FORCE MAJEURE CLAUSE.

Notwithstanding any other thing contained anywhere else in the contract or PO (Purchase Order), In case the discharge of obligation under the contract by either party is impeded or made unreasonably onerous, neither party shall be considered in breach of the contract to the extent that performance of their respective obligation is prevented by an event of Force Majeure that arises after the effective date (PO date).

In the above clause, Force Majeure means an event beyond the control of the parties to the contract which prevents a party from complying with any obligation of the contract including but not limited to:

- Act of God (Such as but not limited to earthquake, drought, tidal waves, floods etc.).
- War (whether war be declared or not), Hostilities Invasion, Act of foreign enemy etc.
- Rebellion, revolution, insurrection, civil war etc.
- Contamination of Radio Activity from any nuclear fuel or from any other nuclear waste or any other hazardous materials.
- Riots, commotions, strike unless restricted to the employees of supplier.
- Acts of terrorism.



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- g) Other unforeseeable circumstances beyond the control of the parties and which the affected party cannot avoid even by using its best efforts.
- h) Cancellation of contract by customer.
- i) Change in law / government. Regulation making the performance impossible.
- j) Pandemic or Epidemic.

The party claiming to be affected by force majeure shall notify the other party in writing immediately without delay on the intervention and on the cessation of such circumstances.

Irrespective of any extension of time, if an event of force majeure occurs and its effect continues for more than 180 days the affected party shall have right to cancel the contract.

As soon as reasonably practicable following the date of commencement of a Force Majeure Event, and within a reasonable time following the date of termination of a Force Majeure Event, either Party invoking it shall submit to the other Party reasonable proof of the nature of the Force Majeure Event and of its effect upon the performance of the Party's obligations under this Agreement.

The party shall, and shall ensure that its Subcontractors shall, at all times take all reasonable steps within their respective powers and consistent with Good Operating Practices (but without incurring unreasonable additional costs) to:

- a) Prevent Force Majeure Events affecting the performance of the party's obligations under this Agreement.
- b) mitigate the effect of any Force Majeure Event and
- c) Comply with its obligations under this Agreement.

If the war like situation has developed in a country where a seller's works is located in this P.O. or there is political instability and Indian Embassy located in that country forbids or advises for not having any business dealing with the sellers located in such zone / region/ country, then BHEL reserves the right to cancel the order.

### **20. NON-DISCLOSURE AGREEMENT.**

All Drawing and Technical Documents relating to the product or it's manufacture submitted by one party to the other, prior or

subsequent to the formation of contract, shall remain property of the submitting party. Drawing, technical documents or other technical information received by one party, shall not without the consent of the other party, be used for any other purpose than that, for which they were provided. Such technical information shall not without the consent of the submitting party, otherwise be used or copied, reproduced, transmitted or communicated to a third party. Patterns supplied by BHEL will remain BHEL's property which shall be returned by the bidder on demand to BHEL. Bidder shall in no way share or use such intellectual property of BHEL to promote his own business with others or to gain a commercial advantage. BHEL reserves the right to claim damages from the bidder, or take appropriate action as deemed fit against the bidder, for any infringement of the provisions contained herein as available under law or equity.

### **21. SETTLEMENT OF DISPUTES / ARBITRATION.**

In case of any dispute arising out of as in connection with this contract, the same shall be referred to arbitration under Arbitration & Conciliation Act 1996 of a sole arbitrator who shall be appointed by mutual consent of the parties. The seat & venue of arbitration shall be Haridwar.

The proceedings shall be conducted in English. The Governing law of contract shall be the substantive law of India.

### **22. WHARFAGE / DEMURRAGE RESPONSIBILITY.**

In the event of delay in receipt of documents by Manager (Stores-Shipping) BHEL-Haridwar and in case where dispatches are made through Unapproved Transporter the sole responsibility for wharfage / demurrage for such delay shall be that of supplier.

### **23. CONDITIONS FOR AVAILING MICRO & SMALL ENTERPRISES (MSE'S) BENEFITS.**

- a) "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



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(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) or vendor has to give Udyog Adhar Memorandum (UAM). 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 found or the requisite documents are not submitted before price bid opening. If the tender is to be submitted through e-procurement portal, then the above require document are to be uploaded on the portal. Documents should be notarized or attested by a Gazetted officer. **UAM need not required to be notarized or attested.**

**b)** Any new supplier will be eligible for registration with BHEL as MSE supplier provided at least any one of the following documents are submitted along with application for registration: -

1. Udyog Adhar Memorandum (UAM).
2. Valid National Small Industries Commission (NSIC) Certificate.
3. Entrepreneurs Memorandum part II (EM II) certificate (valid based on deemed validity of 5 years) or
4. EM II certificate along with attested copy of CA Certificate (as per prescribed format at annexure-A) applicable for the relevant financial year (latest audited), where the deemed validity of EM II is over.
5. However, credentials of all MSE suppliers will be verified before advancing the intended benefits.
6. MSE bidders claiming SC/ST status will have to submit SC/ST certificate of the Proprietor from competent authority. Attested (notarized or attested by Gazetted officer) copy to be submitted along with the offer.
7. In case techno-commercial accepted bidders include MSE source and their prices (based on landed cost – considering quoted prices) are within the price band of 15% w.r.t. L-1 bidder, then BHEL can offer **25%** of quantity of respective item (rounded off to nearest number) to MSE bidders at L-1 price and in case, more than one MSE bidder is in 15 % band and the same is accepted by more than one MSE bidders then **25%** quantities of respective items will be considered for ordering on proportionate basis amongst MSE bidders.

8. There will be minimum of **3%** reservation for women owned MSEs within the above mentioned 25% reservation.
9. The reservation for MSEs owned by SC/ST will be **6.25%** { 25% out of target of 25% - refer para 4 of Public Procurement Policy for the Micro and Small Enterprises(MSEs)}.
10. The definition of MSEs owned by Women Entrepreneurs is clarified as under:
  - a) In case of proprietary MSE, proprietor shall be Woman.
  - b) In case of partnership MSE, the Woman partners shall be holding at least 51% of share in the unit.
  - c) In case of Private Limited companies, at least 51% share shall be held by Women promoters.
11. The definition of MSEs owned by SC/ST is clarified as under:
  - a) In case of proprietary MSE, proprietor(s) shall be SC/ST.
  - b) In case of partnership MSE, the SC/ST partners shall be holding at least 51% of shares in the unit.
  - c) In case of Private Limited companies, at least 51% share shall be held by SC/ST promoters.
12. While distributing the **25%** quantity amongst MSE bidders the decimal points in quantity shall be ignored for all the bidders except the L-1 amongst MSE bidders. Balance quantity after allocating the quantity to other MSE bidders ignoring the quantities in decimal, shall be given to L-1 (amongst MSE) bidder. However, if there are more than one MSE bidder at the same price level than preference for additional quantities due to ignoring off the decimal (as mentioned above) shall be given to the bidder offering favorable terms to BHEL and if the conditions offered are also same then preference will be given to the bidder having high SPR rating.
13. In case there are more than one MSE bidders (with different landed cost to BHEL) within 15% price band of lowest bidder and quantity to be offered is 1 no. only, then preference shall be given to the MSE bidder with lowest landed cost.
14. In case there are more than one MSE bidders (with same landed cost to BHEL) within 15% price band of lowest bidder and quantity to be offered is 1 no. only, then preference shall be given first, based on the favorable terms in the bid and in case terms are also same, the bidder with high SPR rating shall be given preference.
15. If L1 bidder is MSE bidder, entire quantity will be given to such MSE bidder only.

**## Quotations / Bids not in accordance with General Instructions and Standard Terms & Conditions are likely to be ignored.**



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16. Note: It may however be noted that MSE guidelines as on date (Date of Technical Bid Opening Part-1) shall prevail.

17. "As per the OM No. F.No. 1(2)(1)/2016-MA dtd. 09.02.2017 issued from the Office of Development Commissioner (Micro, Small & Medium Enterprises), "Traders and agents should not be allowed to avail the benefits extended under the PP Policy."

In view of this, it is clarified that benefits of MSE (such as EMD Waiver, Tender fee exemption, Price preference, Payment preference etc.) will be given only to those MSE Vendors who are manufacturers of offered items against the NIT. No MSE benefits shall be provided to Agents / Stockists / Dealers / Traders etc. for the items offered but not manufactured by themselves."

#### 24. INFORMATION TO THE BIDDERS.

a) Purchase related information is available at our Business-to-Business (B2B) Portal available on our website <https://hwr.bhel.com>. The user ID & password can be obtained by sending a request to concerned purchase executives.

b) Intimate your change in mail address or communication address or changes, if any, by email to AGM (SDX/MM) giving your bidder Code.

c) Please resolve your rejections and unexecuted overdue purchase order immediately which are posted at our B2B Portal, which can be visited through our site <https://hwr.bhel.com>

d) Copy of this Tender Enquiry is being sent through the post.

e) The Bidder declares that they will not enter into any illegal or undisclosed agreement or understanding, whether formal or informal with other bidder(s). This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.

In case, the bidder is found having indulged in above activities, suitable action shall be taken by BHEL as per extant policies/guidelines.

f) Supplier must upload digitally signed e-Invoice on B2B portal for processing of Bills.

In other cases, inked signed hard copy of Invoice to be submitted for processing of Bills.

#### 25. MAKE IN INDIA (GOVT-NOTIFICATION).

A. This tender enquiry shall be governed by notification no. P-45021/2/2017-PP (BE-II) dated 04.06.2020 of government of INDIA and subsequent circulars issued afterwards. Accordingly, the minimum local content, the margin of purchase preference and the procedure for preference to make in INDIA shall be adhered.

B. The margin of purchase preference shall be 20%.

- 'Class-I local Supplier' means a supplier or service provider, whose goods, services or works offered for procurement, has local content equal to or more than 50%, as defined under this order.
- 'Class-II local Supplier' means a supplier or service provider, whose goods, services or works offered for procurement, has local content more than 20% but less than 50%, as defined under this order.
- 'Non- local Supplier' means a supplier or service provider, whose goods, services or works offered for procurement, has local content less than or equal to 20%, as defined under this order.

C. Vendor to specifically confirm if they are Class-I or Class-II local supplier or not as per above mentioned notification. Accordingly, the 'Class-I local supplier' / 'Class-II local Supplier' at the time of tender, bidding or solicitation shall be required to indicate percentage of local content and provide self-certification that the item offered meets the local content requirement for 'Class-I local supplier' / 'Class-II local Supplier', as the case may be. They shall also give details of the location(s) at which the local value addition is made.

D. In cases of Procurement for a Value in Excess of Rs. 10 Crores, the 'Class-I local supplier' / 'Class-II local Supplier' shall be required to provide a Certificate from the Statutory Auditor or Cost Auditor of the Company (in the case of companies) or from a practicing Cost Accountant or practicing Chartered Accountant (in respect of suppliers other than companies) giving the percentage of Local Content.



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### E. Requirement of Purchase Preference:

Purchase preference shall be given to 'Class-I local supplier' in procurements undertaken by procuring entities in the manner specified hereunder -

a. In the procurements of goods or works, which are covered by para 3(b) of mentioned Govt. circular and which are divisible in nature, the 'class-I local supplier' shall get purchase preference over 'Class-II supplier' as well as 'Non-local supplier', as per following procedure:

- i. Among All qualified bids, the lowest bid will be termed as L1. If L1 is 'Class-I local supplier', the contract for full quantity will be awarded to L1.
- ii. If L1 bid is not a 'Class-I local supplier', 50% of the order quantity shall be awarded to L1. Thereafter, the lowest bidder among the 'Class-I local supplier' will be invited to match the L1 price for the remaining 50% quantity subject to the class-I local supplier's quoted price falling within the margin of purchase preference, and contract for that quantity shall be awarded to such 'Class-I local supplier' subject to matching the L1 price. In case such lowest eligible 'Class-I local supplier' fails to match the L1 price or accepts less than the offered quantity, the next higher 'Class-I local supplier' within the margin of purchase preference shall be invited to match the L1 price for remaining quantity and so on, and contract shall be awarded accordingly. In case some quantity is still left uncovered on Class-I local supplier, then such balance quantity may also be ordered on the L1 bidder".

b. In the procurements of goods or works, which are covered by para 3(b) of mentioned Govt. circular and which are not divisible in nature, and in procurement of services where the bid is evaluated on price alone, the 'class-I local supplier' shall get purchase preference over 'Class-II supplier' as well as 'Non-local supplier', as per following procedure:

- i. Among all qualified bids, the lowest bid will be termed as L1. If L1 is 'Class-I local supplier', the contract will be awarded to L1.
- ii. If L1 is not 'Class-I local supplier', the lowest bidder among the 'Class-I local supplier', will be invited to match the L1 price subject to Class-I local supplier's quoted price falling

within the margin of purchase preference, and the contract shall be awarded to such 'Class-I local supplier' subject to matching the L1 price.

- iii. In case such lowest eligible 'Class-I local supplier', fails to match the L1 price, the 'Class-I local supplier' with the next higher bid within the margin of purchase preference shall be invited to match the L1 price and so on and contract shall be awarded accordingly. In case none of the 'Class-I local supplier' within the margin of purchase preference matches the L1 prices, the contract may be awarded to the L1 bidder.

c. 'Class-II local supplier' will not get purchase preference in any procurement, undertaken by procuring entities.

F. For this procurement, the local content to categorize a supplier as a Class-I local supplier/ Class-II local supplier/ Non-local supplier and purchase preference to Class-I local supplier, is as defined in Public Procurement (Preference to Make in India), Order 2017 dated 04.06.2020 issued by DPIIT. In case of subsequent orders issued by nodal ministry, changing the definition of local content for the items of the NIT, the same shall be applicable even if issued after issue of this NIT, but before opening of Part-II bids against this NIT.

G. Procurements where estimated value to be procured is less than Rs. 5 lakhs shall be exempted from GOI order No. P-45021/2/2017-PP (BE-II) dated 04.06.2020.

H. For procurement of Goods & Services which are divisible in nature, following shall be operated for **MSE bidders** under Public procurement Policy for the Micro and Small Enterprises (MSEs) Amendment Order, 2019, Ref. No. AA:SSP: MSE: Amndt, dtd. 30.11.2018, Circular No. 44 of 2018-19;-

a. If L1 bid is not from "Class-I local Supplier" and price quoted by MSE bidder falls within the margin of Purchase preference (L1+15% for MSEs), then 25 % of total order quantity of respective item (rounded off to nearest number) shall be awarded to MSE bidder, subject to MSE bidder matching the L1 Price. Out of Remaining 75% quantity, distribution shall be operated as per below sub-clause (2) –

b. If "Class- I Local Supplier" (Next to L1, other than MSE) quoted price falling within the Margin of Purchase Preference, and "Class-I local supplier" matches the L1 price,



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then 50% of remaining Quantity (after allocation of 25% to MSE) i.e. 37.5% shall be awarded to local supplier and 37.5% shall be awarded to foreign bidder.

*Note: L1 Price refers to lowest evaluated / landed cost to Company.*

For Further details, please refer GOI order no. P-45021 / 2 / 2017 - PP (BE-II) dated 04.06.2020.

### 26. RESTRICTIONS UNDER RULE 144(XI) OF THE GENERAL FINANCIAL RULES (GFRs), 2017

All provisions of Order No. F.No.6/18/2019-PPD of Department of Expenditure (DoE) shall be applicable for this tender enquiry (Order copy is available at <https://doe.gov.in/procurement-policy-divisions>). Accordingly, any bidder from a country which shares a land border with India (except the countries to which the Govt. of India has extended lines of credit or in which the Govt. of India is engaged in development projects for which list is available at <https://www.mea.gov.in/>) will be eligible to bid in this tender only if the bidder is registered with the Competent Authority as specified in Annex I of the said Order of DoE.

Updated list of the countries to which lines of credit have been extended or in which development projects are undertaken are available on the Ministry of External affairs website (<https://www.mea.gov.in/>)

For the purpose of this order, definition of Bidder from a country which shares a land border with India shall be same as defined in the Annex III of the said order.

Registration with the competent authority as stipulated in the said order is responsibility of bidder. Bidder has to submit a certificate certifying following along with offer:

"I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India; I certify that bidder (.... Name of Bidder) is not from such a country or, if from such a country, has been registered with the Competent Authority. I hereby certify that bidder (.....Name of bidder) fulfils all requirements in this regard and is eligible to be considered"

If the bidder is from such country which shares a land border with India evidence of valid registration by the Competent Authority shall also be attached along with offer."

### 27. NOTE.

- a) Special conditions of enquiry, if enclosed by BHEL, will supersede the respective standard / general terms of enquiry.
- b) Any other Standard terms and Conditions of the bidder attached / referred against the tender enquiry will be treated as null and void ab initio.
- c) In order to protect the commercial interests of BHEL, it becomes necessary to take action against suppliers / contractors 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, indulged in malpractices, cheating, bribery, fraud or any other misconducts or formation of cartel so as to influence the bidding process or influence the price etc. Guide- lines for Suspension of Business Dealings with Suppliers / Contractors shall prevail over which is available at BHEL website <http://www.bhel.com>
- d) 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.
- e) "BHEL shall recover the amount of compensation paid to victim(s) by BHEL towards loss of life / permanent disability due to an accident which is attributable to the negligence of contractor, agency or firm or any of its employees as detailed below;
  1. **Victim:** Any person who suffers permanent disablement or dies in an accident as defined below.
  2. **Accident:** Any death or permanent disability resulting solely and directly from any unintended and unforeseen injurious

## Quotations / Bids not in accordance with General Instructions and Standard Terms & Conditions are likely to be ignored.



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occurrence caused during the manufacturing / operation and works incidental thereto at BHEL factories/ **offices and precincts** thereof , project execution , erection and commissioning, services, repairs and maintenance, trouble shooting, serving , overhaul, renovation and retrofitting , trial operation, performance guarantee testing undertaken by the company or during any works / during working at BHEL Units/ Offices/ townships and premises/ project sites.

### 3. Compensation in respect of each of the victims:

- (i) In the event of death or **permanent disability** resulting from **Loss of both limbs**: Rs. 10,00,000/- (Rs. Ten Lakh).
- (ii) In the event of **other permanent disability**: Rs. 7,00,000/- (Rs. Seven Lakh).

4. Permanent Disablement: A disablement that is classified as a permanent total disablement under the proviso to Section 2(l) of the Employees Compensation Act, 1923.”

f) The bidder shall be in compliance with applicable laws, rules and regulations throughout the terms of the contract for conducting its business generally and to perform its obligations under this contract.

**Format for Self Certification under preference to Make in India order**

**Certificate**



In line with Government Public Procurement Order No. P-45021/2/2017-PP (BE-II) dated 04.06.2020, we hereby certify that we M/s \_\_\_\_\_ (supplier name) are local supplier. The percentage of local content in the items \_\_\_\_\_ offered by us against Enquiry No. \_\_\_\_\_ is \_\_\_\_\_% (percentage).

Details of location at which local value addition will be made is as follows:


\_\_\_\_\_  
\_\_\_\_\_

We also understand, false declarations will be in breach of the Code of Integrity under Rule 175(1)(i)(h) of the General Financial Rules for which a bidder or its successors can be debarred for up to two years as per Rule 151 (iii) of the General Financial Rules along with such other actions as may be permissible under law.

Seal and Signature of Supplier

PROJECT	2x660MW MAITREE SUPER THERMAL POWER PROJECT, Rampal, District- Bagerhat, Bangladesh	
	OWNER	BANGLADESH-INDIA FRIENDSHIP POWER COMPANY (Pvt.) LIMITED (A joint venture of Bangladesh power development board(BPDB), Bangladesh and NTPC Ltd., India) DHAKA, BANGLADESH
<b>FICHTNER</b>	OWNER'S CONSULTANT:-	FICHTNER GMBH & CO. KG SARWEYSTRASSE 3, 70191 STUTTGART GERMANY
	EPC CONTRACTOR :-	BHARAT HEAVY ELECTRICALS LTD. NEW DELHI
DOCUMENT TITLE :- MQP-TURBINE INTEGRAL PIPING		
DOCUMENT NO.	MAITREE-00-MA-QA-147611-HWR	

ITEM: TURBINE INTEGRAL PIPING  
QP INSPECTION CATEGORY- I

SL. NO	COMPONENT & OPERATIONS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK		REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD		AGENCY			REMARKS
					M	C/B				D*	M	C	B	
1.	2.	3.	4.	5.	6.		7.	8.	9.	D*	** 10.			11.
1.0	MATERIAL													
1.10	Seamless C.S. pipes as per A106 Gr. B	Co-relation & verification of Mill TCs for	Major	Verify	100%	100%	Applicable ASME/ASTM code	Applicable ASME/ASTM Code	Mill TCs	√	P	V	V	From attached NTPC approved sources
1.11	AS & SS pipes SA 335 P11/P22/SA-312 TP321, P91	Chem. Composition	-DO-	Chem. Test	1/Heat	1/Heat	Applicable ASME/ASTM code	Applicable ASME/ASTM Code	-DO-	√	P	V	V	
1.12		Mech. Properties	-DO-	Mech. Test	1/Lot	1/Lot	Applicable ASME/ASTM code	Applicable ASME/ASTM Code	-DO-	√	P	V	V	
1.13		Flattening or bending test (as applicable as per ASTM)	-DO-	Mech. Test	1/Lot	1/Lot	Applicable ASME/ASTM code	Applicable ASME/ASTM Code	-DO-	√	P	V	V	
1.14		Hydraulic test (For pipes with operating pressure ≤ 70 bar)	-DO-	Pressure Test	100%	100%	Applicable ASME/ASTM code	Applicable ASME/ASTM Code	-DO-	√	P	V	V	
		Hydraulic test at more than 1.5 times operating pressure Or Ultrasonic test	-DO-	Pressure Test Or UT	100%	100%	Applicable ASME/ASTM code And ST34001	Applicable ASME/ASTM code And ST34001	-DO-	√	P	V	V	Applicable for pipes with operating pressure > 70 bar
1.15		Heat Treatment (As applicable)	-DO-	Time/Tem p.	100%	100%	Applicable ASME/ASTM code	Applicable ASME/ASTM Code	-DO-	√	P	V	V	
1.16	Surface finish	Minor	Visual	100%	100%	Applicable ASME/ASTM code	Applicable ASME/ASTM Code	-DO-	√	P	V	V		
Digitally signed by Sanjeev Kumar Bhardwaj Date: 2019.04.05 11:44:51 +05'30' 		<b>LEGEND:</b> * RECORDS, IDENTIFIED WITH "TICK" (√) SHALL BE ESSENTIALLY INCLUDED BY SUPPLIER IN QA DOCUMENTATION. ** M: MANUFACTURER/SUB-SUPPLIER C: MAIN SUPPLIER, B: BIFPCL P: PERFORM W: WITNESS AND V: VERIFICATION. AS APPROPRIATE, CHP: BIFPCL SHALL IDENTIFY IN COLUMN "B" AS 'W'						DOC. NO.:MAITREE-00-MA-QA-147611-HWR REV 02 CAT- I		FOR BIFPCL USE				
MANUFACTURER/ SUB-SUPPLIER		MAIN-SUPPLIER								REVIEWED BY		APPROVED BY		APPROVAL SEAL
SIGNATURE														



ITEM: TURBINE INTEGRAL PIPING  
QP INSPECTION CATEGORY- I


SL. NO	COMPONENT & OPERATIONS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK		REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD		AGENCY			REMARKS
					M	C/B			D*	**	M	C	B	
1.	2.	3.	4.	5.	6.		7.	8.	9.	D*	**	10.	11.	
1.17		Dimensions(OD.ID & wall Thickness)	Major	Measurement	100%	100%	Applicable ASME/ASTM code	Applicable ASME/ASTM Code	-DO-	√	P	V	V	
1.20	Rolled & welded pipes (SA 691/672)	Mech. Properties	-DO-	Mech. test	1/Heat	1/Heat	Applicable ASME/ASTM code	Applicable ASME/ASTM Code	-DO-	√	P	V	V	From attached NTPC approved sources
1.21		Chem. Properties.	Major	Chem. test	1/Heat	1/Heat	Applicable ASME/ASTM code	Applicable ASME/ASTM Code	-DO-	√	P	V	V	
1.22		Dimension & Surface finish	-DO-	Measurement & Visual	100%	100%	Applicable ASME/ASTM code	Applicable ASME/ASTM Code	-DO-	√	P	V	V	
1.23		Weld quality (Longitudinal & circumferential seams)	Critical	UT/R.T.	As per Table AA & BB of ST 3400 1	As per Table AA & BB of ST 34001	ASME Sec. VIII Div.I /UW51 & 53	ASME Sec. VIII Div.I /UW51 & 53	Test Report	√	P	V	V	100% UT & 10% MPI/100% RT or else 10% UT/RT with 100% MPI in case of i)design temp > 400°C and/or pressure greater than 70 bar ii)pipe NB ≥ 65 in excess of 175°C

MANUFACTURER/ SUB-SUPPLIER	MAIN-SUPPLIER	<p><b>LEGEND:</b> * RECORDS, IDENTIFIED WITH "TICK" (√) SHALL BE ESSENTIALLY INCLUDED BY SUPPLIER IN QA DOCUMENTATION. ** M: MANUFACTURER/SUB-SUPPLIER C: MAIN SUPPLIER, B: BIFPCL P: PERFORM W: WITNESS AND V: VERIFICATION. AS APPROPRIATE, CHP: BIFPCL SHALL IDENTIFY IN COLUMN "B" AS "W"</p>	DOC. NO.:MAITREE-00-MA-QA-147611-HWR REV 02 CAT- I		
			FOR BIFPCL USE	REVIEWED BY	APPROVED BY



ITEM: TURBINE INTEGRAL PIPING  
QP INSPECTION CATEGORY- I


SL. NO	COMPONENT & OPERATIONS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK		REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD		AGENCY			REMARKS	
					M	C/B				D*	M	C	B		
1.	2.	3.	4.	5.	6.		7.	8.	9.		**	10.	11.		
1.30	Pipe fitting (Elbows Tees, Reducers, Caps & stubs etc.)	Co-relation & verification of Mill TCs for mother pipes for fittings for SA-234 WPB/WP11, WP22, SA403 WP321, SA-182F11, F22 & F321& SA105, WP91	Major	Verify	100%	100%	Applicable ASME/ASTM code	Applicable ASME/ASTM code	MILL TCs	√	P	V	V	Review as per clauses 1.10 to 1.17	
		UT for mother pipes for design temperature > 400°C and design pressure > 70 bar	Major		100%	100%	Applicable ASME/ASTM code	Applicable ASME/ASTM code	TC		P	V	V	From attached NTPC approved sources	
		Co-relation & verification of Fitting TCs for													
		Chem. Composition	Major	Chem. Test	1/Heat	1/Heat	Applicable ASME/ASTM code	Applicable ASME/ASTM code	TCs	√	P	V	V		
1.32		Mech. Properties	Major	Mech. Test	1/Heat batch	1/Heat batch	-DO-	-DO-	-DO-	√	P	V	V		
1.33		Dimensions , Finish	Major	Measurement & Visual	100%	100%	-DO-	-DO-	-DO-	√	P	V	V	Min thickness to be checked by ultrasonic thickness gauge All bends shall be visually examined for wrinkles as per ST34001	

MANUFACTURER/ SUB-SUPPLIER	 Digitally signed by Sanjeev Kumar Bhardwaj Date: 2019.04.05 11:45:20 +05'30'	<b>LEGEND:</b> * RECORDS, IDENTIFIED WITH "TICK" (√) SHALL BE ESSENTIALLY INCLUDED BY SUPPLIER IN QA DOCUMENTATION. ** M: MANUFACTURER/SUB-SUPPLIER C: MAIN SUPPLIER, B: BIFPCL P: PERFORM W: WITNESS AND V: VERIFICATION. AS APPROPRIATE, CHP: BIFPCL SHALL IDENTIFY IN COLUMN "B" AS 'W'	DOC. NO.: MAITREE-00-MA-QA-147611-HWR REV 02 CAT- I		
			FOR BIFPCL USE	REVIEWED BY	APPROVED BY



ITEM: TURBINE INTEGRAL PIPING  
QP INSPECTION CATEGORY- I


SL. NO	COMPONENT & OPERATIONS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK		REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD		AGENCY			REMARKS
					M	C/B				D*	M	C	B	
1.	2.	3.	4.	5.	6.		7.	8.	9.		10.			11.
1.34	Rods, rounds & flanges(SA-105, SA182 F11, F22 & F321)	H.T. if applicable	Major	Time/Temp.	100%	100%	Applicable ASME/ASTM Code	Applicable ASME/ASTM Code	TC	√	P	V	V	
1.35		Surface defects	Major	DPT/MPI	10%	10%	-DO-	-DO-	-DO-	√	P	V	V	In case of bends, outer surface MPI is must
1.36		Weld quality (in case of welded fittings if any)	Critical	UT/RT	100%	100%	-DO-	ASME sec. VIII Div.-I Appl.12/UW51	-DO-	√	P	V	V	Weld fittings are allowed as per clause 5 of ASTM A 234.  100% RT on all fittings for use above 70 bar design condition
1.40		Co-relation & verification of Mill TCs for	Major	verify	100%	100%	Applicable ASME/ASTM Code	Applicable ASME/ASTM Code	TC	√	P	V	V	
1.41		Chem. Composition	-DO-	Chem. test	1/Heat at	1/Heat	-DO-	-DO-	TC	√	P	V	V	
1.42	Mech. Properties	-DO-	Mech. test	1/Heat at	1/Heat	-DO-	-DO-	-DO-	√	P	V	V		
1.43	Dimensions, Finish	Major	Measurement & Visual	100%	100%	-DO-	-DO-	-DO-	√	P	V	V		
1.44	H.T. if applicable	-DO-	Time/Temp.	100%	100%	-DO-	-DO-	-DO-	√	P	V	V		

MANUFACTURER/ SUB-SUPPLIER	 Digitally signed by Sanjeev Kumar Bhardwaj Date: 2019.04.05 11:45:35 +05'30'	<b>LEGEND:</b> * RECORDS, IDENTIFIED WITH "TICK" (√) SHALL BE ESSENTIALLY INCLUDED BY SUPPLIER IN QA DOCUMENTATION. ** M: MANUFACTURER/SUB-SUPPLIER C: MAIN SUPPLIER, B: BIFPCL P: PERFORM W: WITNESS AND V: VERIFICATION. AS APPROPRIATE, CHP: BIFPCL SHALL IDENTIFY IN COLUMN "B" AS 'W'	DOC. NO.:MAITREE-00-MA-QA-147611-HWR REV 02 CAT- I		
			FOR BIFPCL USE	REVIEWED BY	APPROVED BY



ITEM: TURBINE INTEGRAL PIPING  
QP INSPECTION CATEGORY- I

SL. NO	COMPONENT & OPERATIONS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK		REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD		AGENCY			REMARKS
					M	C/B			D*	M	C	B		
1.	2.	3.	4.	5.	6.		7.	8.	9.	10.	11.			
1.45		Surface defects	Minor	DPT	100 %	100%	-DO-	-DO-	-DO-	√	P	V	V	
1.50	Fasteners	Verification of trade mark & prop. class	Major	verify	100 %	100%	Applicable ASME/ASTM Code	Applicable ASME/ASTM Code	TC	√	P	V	-	
1.51		Dimension	-DO-	-DO-	10%	10%	-DO-	- DO-	TC	√	P	V	-	
1.52		Hardness	-DO-	-DO-	Random 10%	Random 10%	-DO-	-DO-	TC	√	P	V	-	
2.00	INSPECTION PROCESS													
2.10		Marking & identification Check	Major	Visual	100%	100%	Mill TCs	Mill TCs	-		P	-	-	
2.20		Cutting & Edge preparation	-DO-	Visual	100%	100%	As per Drawing	As per Drawing	-		P	-	-	
2.30		Dimensions	-DO-	Measurement	100%	100%	As per Drawing	As per Drawing	-		P	-	-	
2.40		Surface defects on edge preparation on Alloy steel pipes	-DO-	DPT	100%	100%	ASME Sec. V Art-6	ASME Sec.-VIII Div-I Appendix 8	-		P	-	-	
2.50	Bending	Dimensions	-DO-	Measurement	100%	100%	As per Drawing	As per Drawing	-		P	W	W	10 % random witness by BIFPCL
2.51		Ovality	-DO-	-DO-	100%	100%	As per Drawing	Max. 10%	-		P	W	W	10 % random witness by BIFPCL

MANUFACTURER/ SUB-SUPPLIER	 Digitally signed by Sanjeev Kumar Bhardwaj Date: 2019.04.05 11:45:50 +05'30'	<b>LEGEND:</b> * RECORDS, IDENTIFIED WITH "TICK" (√) SHALL BE ESSENTIALLY INCLUDED BY SUPPLIER IN QA DOCUMENTATION. ** M: MANUFACTURER/SUB-SUPPLIER C: MAIN SUPPLIER, B: BIFPCL P: PERFORM W: WITNESS AND V: VERIFICATION. AS APPROPRIATE, CHP: BIFPCL SHALL IDENTIFY IN COLUMN "B" AS 'W'	DOC. NO.: MAITREE-00-MA-QA-147611-HWR REV 02 CAT- I		
			FOR BIFPCL USE	REVIEWED BY	APPROVED BY
SIGNATURE					



ITEM: TURBINE INTEGRAL PIPING  
QP INSPECTION CATEGORY- I

SL. NO	COMPONENT & OPERATIONS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK		REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD		AGENCY			REMARKS
					M	C/B				D*	M	C	B	
1.	2.	3.	4.	5.	6.		7.	8.	9.		10.			11.
2.52		Wrinkles	-DO-	-DO-	100%	100%	ST-34001 Rev.8	ST-34001	-		P	W	W	
2.53		Thinning	-DO-	Measurement	100%	100%	By UT thickness meter	Max. 12.5%	-		P	W	W	10 % random witness by BIFPCL
2.54		Surface defects (On bend portion only)	-DO-	DPT	100%	100%	ASME Sec. V Art.-6	ASME Sec. VIII Div-I Appendix 8	-		P	W	W	10 % random witness by BIFPCL
2.55		Bend radius / angle of bend	-DO-	Measurement	100%	100%	Drawing	ANSI-B 31.1	-		P	-	-	
2.56		Out of Square ness	-DO-	-DO-	100%	100%	drawing	ANSI-B 31.1	-		P	-	-	
2.60		WPS & PQR	Record for each weld combination & welder	-DO-	Verify	100%	100%	ASME Sec. IX	ASME Sec. IX	Report	√	P	V	V
2.70	Welding	Fit-up	-D0-	Visual	100%	100%	ST34001	ST34001	-		P	-	-	
2.71		Pre-heating	-D0-	TEMP.	As applicable	As applicable	Relevant WPS	Relevant WPS	-		P	-	-	
2.72		Root run	Major	Visual & DPT	10%	10%	ST34001	ST34001	-		P	V	V	
2.73		Inter pass cleaning	MINOR	Visual	100%	100%		WPS	-		P	-	-	
2.74		P.W.H.T. (If Applicable)	Major	TIME/TEMP.	As applicable	As applicable	ANSI B 31.1	ANSI B 31.1	Report	√	P	V	V	
2.75		Dimensions & Visual examination of welds	-DO-	Measurement & Visual	10%	10%	ST34001	ST34001	-		P	-	-	

MANUFACTURER/ SUB-SUPPLIER	MAIN-SUPPLIER	Digitally signed by Sanjeev Kumar Bhardwaj Date: 2019.04.05 11:46:04 +05'30' <b>LEGEND:</b> * RECORDS, IDENTIFIED WITH "TICK" (√) SHALL BE ESSENTIALLY INCLUDED BY SUPPLIER IN QA DOCUMENTATION. ** M: MANUFACTURER/SUB-SUPPLIER C: MAIN SUPPLIER, B: BIFPCL P: PERFORM W: WITNESS AND V: VERIFICATION. AS APPROPRIATE, CHP: BIFPCL SHALL IDENTIFY IN COLUMN "B" AS 'W'	FOR BIFPCL USE	DOC. NO.:MAITREE-00-MA-QA-147611-HWR REV 02 CAT-I		
				REVIEWED BY	APPROVED BY	APPROVAL SEAL



ITEM: TURBINE INTEGRAL PIPING  
QP INSPECTION CATEGORY- I

SL. NO	COMPONENT & OPERATIONS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK		REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD		AGENCY			REMARKS
					M	C/B			D*	M	C	B		
1.	2.	3.	4.	5.	6.		7.	8.	9.	D*	**	10.	11.	
2.76		Surface defects for fillet welds)	Major	DPT	100 %	100%	ST34001	ST34001	-		P	V	V	
2.77		Internal Defects (for butt welds only)	Critical	RT /UT	As per ST34001 Table-AA & BB		ST34001	ST34001	I.R.	√	P	V	V	
2.78		Hardness Survey On Weld & HAZ for AS & SS	Major	Hardness	10%	10%	Applicable ASME/ASTM Code	Variation within 30% wrt. parent metal	Report	√	P	W *	W *	*RANDOM WITNESS BY BHEL & BIFPCL
3.00	FINAL INSPECTION													
3.10	Complete Fabricated Piping	Visual examination	Major	Visual	100 %	100%	As Per Drawing	As Per Drawing	-		P	W	W	10 % random witness by BIFPCL
3.11		Positive material identification check for alloy steel	-DO-	visual	100 %	100%	Applicable ASME/ASTM Code	Applicable ASME/ASTM Code	-		P	W	W	10 % random witness by BIFPCL
3.12		Dimensions	-DO-	Measurement	100 %	100%	-DO-	As per Drawing	-		P	W	W	10 % random witness by BIFPCL
3.13		Marking	-DO-	Visual	100 %	100%	-DO-	-DO-	-		P	W	W	10 % random witness by BIFPCL
3.14		Cleaning (lub oil, control oil small bore pipes up to 3" NB by acid pickling)	-DO-	-DO-	100 %	100%	ST34001 clause-8	ST34001 clause-8	-		P	W *	V	
3.15		Preservation & Painting	-DO-	-DO-	100 %	100%	Approved Painting Schedule		-		P	W	V	

MANUFACTURER/ SUB-SUPPLIER	MAIN-SUPPLIER	Digitally signed by Sanjeev Kumar Bhardwaj Date: 2019.04.05 11:46:18 +0530 <b>LEGEND:</b> * RECORDS, IDENTIFIED WITH "TICK" (√) SHALL BE ESSENTIALLY INCLUDED BY SUPPLIER IN QA DOCUMENTATION. ** M: MANUFACTURER/SUB-SUPPLIER C: MAIN SUPPLIER, B: BIFPCL P: PERFORM W: WITNESS AND V: VERIFICATION. AS APPROPRIATE, CHP: BIFPCL SHALL IDENTIFY IN COLUMN "B" AS 'W'	FOR BIFPCL USE	DOC. NO.:MAITREE-00-MA-QA-147611-HWR REV 02 CAT- I		
				REVIEWED BY	APPROVED BY	APPROVAL SEAL




ITEM: TURBINE INTEGRAL PIPING  
QP INSPECTION CATEGORY- I

MFGR.'s LOGO		BIFPCL APPROVED VENDOR		MANUFACTURING QUALITY PLAN				PROJECT : MAITREE (2 * 660 MW)						
		ITEM : TURBINE INTEGRAL PIPING		SUB-SYSTEM:		QP NO.: QA/BI/QP/305/ Maitree REV. NO.: 02 DATE: 05.04.2019 PAGE 8 OF 9		PACKAGE : TG		CONTRACT NO. : BIFPCL/EPC-MAIN PLANT/2017/06 DATED-24.04.2017 MAIN-SUPPLIER: BHEL, HARIDWAR				
SL. NO	COMPONENT & OPERATIONS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK		REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD		AGENCY			REMARKS
					M	C/B			M	C	B			
1.	2.	3.	4.	5.	6.		7.	8.	9.	D*	** 10.			11.
3.16		End protection & packing	-DO-	-DO-	100 %	100%	ST34001	ST34001	-		P	W	V	

\* BHEL representative will witness within 48 hours (2 working days) of inspection call for sl. no. 3.14 & 3.16.

NOTES:-

- A.**
- All edge preparation shall be done by machining only.
  - Quantum of NDT on welds shall be minimum as per category of service requirement (CSR) given in the table AA & BB of ST-34001 Rev-08
  - For small bore piping where the individual stamping & stenciling may not be possible metal tags or plastic tags may be used for identification.
    - Each item either individually or jointly will be segregated system wise for despatch.
    - Small items like small reducers, elbows, tees, stubs, flanges etc. and other machines components duly preserved shall be packed in wooden boxes.
  - Inside protection by VPI tablets/powder shall be ensured before end capping.
  - Check testing shall be carried out in case no co-relation is observed.
  - Colour coding shall be done on the end of each pipe as per BHEL specification no.- ST34001. Color coding to be done by way of color band / strip all along the length of loose and spare pipes.
- B.**
- Latest revision of Standards & Specification shall apply. Only International Standards are applicable. Indian & Chinese Standards are not applicable.
  - Materials shall be procured in compliance to Functional Technical Specification.
  - Inspection shall be in compliance with Approved Quality Control Procedure for the Product.

 Digitally signed by Sanjeev Kumar Bhardwaj Date: 2019.04.05 11:46:33 +05'30'		<b>LEGEND:</b> * RECORDS, IDENTIFIED WITH "TICK" (✓) SHALL BE ESSENTIALLY INCLUDED BY SUPPLIER IN QA DOCUMENTATION. ** M: MANUFACTURER/SUB-SUPPLIER C: MAIN SUPPLIER, B: BIFPCL P: PERFORM W: WITNESS AND V: VERIFICATION. AS APPROPRIATE, CHP: BIFPCL SHALL IDENTIFY IN COLUMN "B" AS 'W'	DOC. NO.:MAITREE-00-MA-QA-147611-HWR REV 02 CAT- I		
MANUFACTURER/ SUB-SUPPLIER	MAIN-SUPPLIER		FOR BIFPCL USE	REVIEWED BY	APPROVED BY
SIGNATURE					



ITEM: TURBINE INTEGRAL PIPING  
QP INSPECTION CATEGORY- I

MFGR.'s LOGO	BIFPCL APPROVED VENDOR		MANUFACTURING QUALITY PLAN				PROJECT : MAITREE (2 * 660 MW)					
	ITEM : TURBINE INTEGRAL PIPING		QP NO.: QA/BI/QP/305/ Maitree REV. NO.: 02 DATE: 05.04.2019 PAGE: 9 OF 9				PACKAGE : TG CONTRACT NO. : BIFPCL/EPC-MAIN PLANT/2017/06 DATED-24.04.2017 MAIN-SUPPLIER: BHEL, HARIDWAR					
SL. NO	COMPONENT & OPERATIONS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK		REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD		AGENCY	REMARKS
					M	C/B			M	C		
1.	2.	3.	4.	5.	6.		7.	8.	9.	D*	** 10.	11.

4. Welding shall be carried out by Qualified Welders, with traceable WPQ, in line with Approved WPS and Qualified PQR, as per ASME Section IX.
5. Only approved welding consumables shall be used, as per Approved Welding Consumable list.
6. NDT shall be carried out by Qualified Personnel with compliance to Approved NDT Procedures and Acceptance Norms, as per ASME Section V.
7. Gauges and measuring Instruments, with valid calibration only shall be used.
8. Cleaning and Painting of products shall be carried out as per Approved Painting Schedule.
9. Finished Products shall be packed to comply with Approved Packing Schedule.
10. Material of construction shall as per the approved pressure part schedule.
11. Raw material like pipes, plates shall be from approved sources.
12. Design, Manufacturing, Testing shall be as per ASME & project Technical specification requirement.
13. ASME authorized TP agency accepted by BIFPCL shall be deployed for inspection & issuance of necessary certification.

MANUFACTURER/ SUB-SUPPLIER	MAIN-SUPPLIER	Digitally signed by Sanjeev Kumar Bhardwaj Date: 2019.04.05 11:46:48 +05'30'  <b>LEGEND:</b> * RECORDS, IDENTIFIED WITH "TICK" (✓) SHALL BE ESSENTIALLY INCLUDED BY SUPPLIER IN QA DOCUMENTATION. ** M: MANUFACTURER/SUB-SUPPLIER C: MAIN SUPPLIER, B: BIFPCL P: PERFORM W: WITNESS AND V: VERIFICATION. AS APPROPRIATE, CHP: BIFPCL SHALL IDENTIFY IN COLUMN "B" AS 'W'	FOR BIFPCL USE	DOC. NO.:MAITREE-00-MA-QA-147611-HWR REV 02 CAT- I		
				REVIEWED BY	APPROVED BY	APPROVAL SEAL



1) Following BHEL approved vendors for piping are Noted for TG integral piping.

SL NO.	VENDOR	CS	AS	SS	WELDED
1.	SUMITOMO METAL, JAPAN	✓	✓	✓	
2.	JFE, JAPAN	✓	✓	✓	
3.	NIPPON STEEL, JAPAN	✓	✓	✓	
4.	DALMINE, ITALY	✓	✓		
5.	VALLOUREC & MANNESMANN, GERMANY/FRANCE	✓	✓		
6.	REMI EDELSTAHL TUBULARS LTD			✓	✓
7.	MAHARASHTRA SEAMLESS LTD. INDIA	✓	✓		
8.	ISMT LTD., INDIA	✓	✓		
9.	ARCELORMITTAL TUBULAR PRODUCTS, ROMANIA	✓	✓		
10.	TPS TECNITUBE	✓	✓	✓	✓
11.	JINDAL PIPES LTD., GHAZIABAD	✓	✓		
12.	RATNAMANI METALS & TUBES LTD.,			✓	✓
13.	TENARIS- ITALY	✓	✓		
14.	JINDAL SAW LTD	✓	✓		
15.	T.T.I. - TUBACEX TUBOS, SPAIN			✓	✓
16.	V & M, GERMANY	✓	✓	✓	
17.	SANYO SPECIAL, JAPAN			✓	
18.	KOBE SPECIAL, JAPAN			✓	
19.	HEAVY METALS & TUBES LIMITED, AHMEDABAD	✓		✓	
20.	RATNADEEP METAL & TUBES LTD., AHMEDABAD			✓	✓
21.	T P S TECHNITUBE, GERMANY	✓	✓	✓	✓
22.	TUBACEX TUBOS, SPAIN			✓	✓

2) Following BHEL approved vendors for fittings are Noted for TG integral piping.

SL NO.	VENDOR
1.	S & G ENGINEERS
2.	SKYFORGE, INDIA
3.	PK TUBES & FITTINGS, INDIA
4.	TRUE FORGE PVT. LTD.
5.	UNITECH MACHINES, SAHARANPUR
6.	SUPER FORGE, MUMBAI
7.	M S FITTINGS MANUFACTURING CO., KOLKATA
8.	TRUE FORGE PVT. LTD., FARIDABAD
9.	DEE DEVELOPMENT ENGINEERS LTD, FARIDABAD
10.	S&G ENGINEERS PRIVATE LIMITED, FARIDABAD
11.	FLASH FORGE PVT. LTD., VISHAKAPATTNAM
12.	TRUE FAB ENGINEERS (P) LTD, FARIDABAD
13.	U I PIPE AND FITTING PVT. LTD. HYDERABAD
14.	KS PIPE FITTING, PALWAL
15.	TUBE PRODUCTS, VARODARA

The above BHEL proposed vendors for pipes and fittings are noted for integral piping for TA package.

*[Signature]*  
4/7/14





TURBINE LAYOUT GROUP

BHEL HARIDWAR

BHEL DOCUMENT NO. –

413106V7998

REV - 0

DATE: 05.07.2022

MATERIAL CODE : W99313106094

**For Issue of**  
**Bill of Materials for Turbine Integral Piping (Additional Loose Items)**


1 SET requirement vide material code W99313106094 comprises of the following items, in loose conditions:

SL. NO.	DESCRIPTION	DIMENSIONS (mm)	QTY	UOM	MATERIAL	WEIGHT (Kg)
1	GRADE P91 SMLS PIPE FOR SEAL STEAM PIPING SYSTEM	OD 48.3X SCH STD; ASME B36.10	6	Meter	ASTM A335 Gr P91	24.3
2	GRADE P91 SMLS PIPE FOR SEAL STEAM PIPING SYSTEM	OD 42.2X SCH STD; ASME B36.10	6	No.	ASTM A335 Gr P91	20.34
TOTAL WEIGHT (Kg) PER SET						44.64

**NOTES:**

1. Pipes are required in loose and unfabricated condition.
2. All terms & conditions of ST34001 Rev-08 shall be valid for loose supply.
3. The requirement is of pipes is in seamless construction.
4. Edge Preparation not required.

Prepared By:

  
नवनीत चक्रपाणि/Navneet Chakrapani  
उप प्रबंधक/Deputy Manager  
टरबाइन लेआउट ग्रुप/Turbine Layout Group  
बी.एच.ई.एल, हीप, हरिद्वार/B.H.E.L., HEEP, Haridwar

SUPERSEDES INVENTORY NO.  
 मशीन की शरत में परिवर्तन न करें

## SPECIFICATION FOR FABRICATION AND SUPPLY OF TURBINE INTEGRAL PIPING FOR POWER STATIONS

### 1. PROJECT INFORMATION

The piping covered under this specification are to be used in Steam Turbine Generator Plant and are to be suitable for carrying steam, condensate, oil and vapour upto design conditions specified in the relevant drawings.

### 2. SCOPE OF WORK

The scope of work for the piping vendor shall be to completely supply (which includes materials, fabrication, testing, cleaning, painting, packing and despatch ) the turbine integral piping systems directly to power stations.

2.1 Unless otherwise specified in the drawings, all the free ends of the pipes are to be supplied with square ends.

2.2 Alloy steel TIG wire for site erection shall be supplied in a separate bag/box as per the quantity mentioned in the drawing / bill of materials.

#### 2.3 Hydraulic Testing

2.3.1 Piping (with working/operating pressure less than or equal to 70 bar)  
 Hydraulic test certificate of mother pipe shall be supplied by fabricator. In the event of mill test certificate not being available, the pipeline shall be hydraulically tested in the shop as per ANSI B31.1 before fabrication. In case of standard fittings like elbows, tees, reducers etc, hydraulic test certificate of mother pipe shall be furnished.

2.3.2 Piping (with working/operating pressure more than 70 bar)  
 Mother pipes shall be hydraulically tested at 1.5 times the working/operating pressure alternatively ultrasonically tested. In case of standard fittings like elbows, tees, reducers etc, hydraulic test/ultrasonic test certificate of mother pipe shall be furnished.

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स्वत्वाधिकार एवं गोपनीयता  
 इस दस्तावेज में दी गई सूचना भारत भारती इंजीनियरिंग की संपत्ति है, जसका प्रयोग केवल भारत भारती के (या) के द्वारा करने को ही, भारत भारती के हित में प्रतिकूल नहीं होना चाहिए।



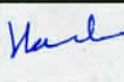
SIGN & DATE  


INVENTORY NO.  
 P-5038

		नाम NAME	दिनांक एवं हस्ताक्षर SIGNATURE & DATE
QAX	S.K.BHARDWAJ	अनुवादक TRANSLATED BY	
TSX	R.VERMA	निर्माकता WORKED BY	SUMIT TRIPATHI 26.12.15
सम्मत विभाग AGREED DEPTT.	नाम NAME	जांचकर्ता CHECKED BY	SUMIT TRIPATHI 26.12.15
	दिनांक एवं हस्ताक्षर DATE & SIGNATURE	पर्यवेक्षणकर्ता SUPERVISED BY	S.K.GUPTA 26/12/15
WORKED BY NAVNEET	01.04.2022	स्वीकृति APPROVED :	S.K.BAVEJA (AGM / HXE & PED) 4.1.16
CHECKED BY S.K.SONKAR	6/14/22		Gr. NO. 8.20
REV.NO. 08		निर्माण PREPARED :	PED
DI. 10.12.15		जारी ISSUED :	TSX
CHANGE ADVICE NO. STE (PED) - 15 - 15		दिनांक DATE :	27-08-80

REAFFIRMED YEAR 2022  
 (JA TSXLPED) - 22-128



SIGN & DATE SIGNATURE DATE		उत्पाद मानक <b>PRODUCT STANDARD</b> <b>STEAM TURBINE ENGINEERING</b>	<b>ST34001</b>		
SUPERSEDES INVENTORY	भारतीय प्रती संख्या को अधिदेशित करना है		पृष्ठ 15 का 3 Page 3 of 15		
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<b>स्वत्वसिद्धि एवं गोपनीय</b> इस दस्तावेज में दी गई सूचना भारत भारी विद्युत निगम की संपत्ति है, जिसका उपयोग केवल उद्देश्य के लिए ही किया जा सकता है। इस दस्तावेज को बिना अनुमति के किसी भी प्रकार से प्रसारित करने से मना है।					
भारतीय प्रती संख्या INVENTORY NO. P-5038	REV. NO. 08		निर्माणकर्ता WORKED BY SUMIT TRIPATHI		26.12.15
			जांचकर्ता CHECKED BY S.K.GUPTA		26.12.15

3. **BILL OF MATERIALS**

The drawings listed in the annexure shall be considered as an integral part of the specification and all work shall be performed as shown there in.

4. **MATERIAL SPECIFICATION**

4.1 The material to be used for fabrication of pipings are specified in the BOMs/isometrics.

4.2 The vendors shall furnish the correlated mill test certificate for the material used.

4.3 Plates to be used for flanges > 25 mm shall be checked for laminations by UT as per ASTM 435.

5. **WELDING REQUIREMENTS**

5.1 Testing of weld shall be according to TABLE "AA" or TABLE "BB" of this purchase specification as mentioned in the pipe assembly drawings / isometrics.

5.2 Welding of pipes according to BHEL standard No. HW0620599.

5.3 Access holes for shop radiography shall be provided only if the area to be radiographed is not possible through the ends of the pipe. Access holes for radiography shall be 100% radiographed after plugging.




5.4 No welding or welded parts shall be painted, plated, galvanized or heat treated until inspected by the purchaser's representative.




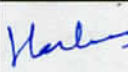
5.5 All edge preparation shall be done by machining. Manual flame cutting shall not be acceptable. Machine flame cutting for edge preparation shall be done where machining for edge preparation is not possible.

5.6 Arcs shall be struck only on joints to be welded, damage caused by striking arcs elsewhere on the work piece shall be replaced or repaired to the full satisfaction of the purchaser.

5.7 Except where necessary to grind flush for radiographic purposes, the centre of re-inforcement for butt welds shall not be less than 1/16" nor more than 1/8" above the normal surface of the joined members. The reinforcement shall be crowned at the center and tapered on each side to the surface of the joined members. The exposed surfaces of the weld shall be chipped or ground wherever required to present a workman like appearance & shall be free from depressions below the surfaces of the joined members.

5.8 Fillet welds shall have a leg dimension at least equal to 1.25 times nominal wall thickness specified for the pipe.

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SUPERSEDES INVENTORY	5.9 All weld seams in alloy steel piping and components shall be preheated for welding and stress relieved after welding as per ANSI B31.1. 5.10 Non perpendicularity of welding ends of pipe line parts and fittings shall not be more than 0.5 mm for pipes NB125, 1mm for pipes NB150 and 200, 2 mm for pipes NB250 and above.			
मशीनरी नमूने की सूची/सूची नमूने की	<b>6.0 FABRICATION</b>			
<b>COPYRIGHT AND CONFIDENTIAL.</b> The information on this documents is the property of Bharat Heavy Electrical Limited. It must not be used directly or indirectly in any way detrimental to the interest of this company.	6.1 Hot working : Upsetting and forging operations shall be performed at temperature above 850°C. After work is completed, the pipe shall be allowed to cool in still air.			
	6.1.1 All bends shall be visually examined for wrinkles. Permissible wrinkles are as follows : a) The maximum vertical height of any wave measured from the average height of two adjoining crests to the valley should not exceed 3% of the nominal pipe size. b) The minimum ratio of the distance between crests as compared to the height between crests and the included valley shall be 12 to 1.			
स्वत्वाधिकार एवं गोपनीय यह नमूने में की गई जानकारी भारत भारती लिमिटेड की संपत्ति है। इसमें किसी भी प्रकार का प्रकाशन, प्रतिलिपि, या अन्य किसी भी प्रकार का उपयोग बिना भारत भारती लिमिटेड की लिखित अनुमति के बिना न किया जाये।	6.2 All elbows shall be of long radius type with $R = 1.5 NB$ or as specified in the BOMs / Isometrics.			
	6.3 Vendors shall clearly specify in his offer the specifications of the pipes and fitting to be used in the piping system.			
6.4 All piping, bends, welds joints, flanges, fitting bolting material and gaskets shall be in accordance with the respective drawings and BOMs / isometrics.	6.5 Flanges or welded nozzles, branch connections, welding outlets, adapters, taps shall be true and faced at right angle to the axis of pipe as per ANSI B31.1.			
	6.6 All pipe bends shall be made to radii as specified on purchaser's drawings and they shall be true to angle and radii and maintain a true circular cross section of pipe without deformity or undue stretching or thinning of pipe walls. The allowable deviation from circularity at any cross section of a bend shall be as per regulation no. 361 (b) of IBR. Pipe bends shall be ultrasonically checked for their wall thickness. Tolerance for reduction in thickness shall not be more than 12.5%.			
SIGNATURE SIGN & DATE	6.7 All pipe flanges and contact surface shall be concentric with axis of piping. All flanges & fittings shall be accurately machined & drilled true to template.			
6.8 All flanges and machined parts bolted together shall be spot faced on the back to ensure that nuts and bolts heads bed down properly.				
INVENTORY NO. <b>P-5038</b>	REV. NO. 08	निर्माणकर्ता WORKED BY <b>SUMIT TRIPATHI</b>		<b>26.12.15</b>
		जांचकर्ता CHECKED BY <b>S.K.GUPTA</b>		<b>26.12.15</b>

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SUPERSEDES INVENTORY	आरक्षित नमूने की संख्या/दिनांक		पृष्ठ 15 का 5 Page 5 of 15		
<b>COPYRIGHT AND CONFIDENTIAL</b> The information on this document is the property of Bharat Heavy Electricals Limited. It must not be used directly or indirectly in any way detrimental to the interest of the company.		<p>6.9 Vendors shall completely machine all welding ends of piping, bends and fittings, wherever applicable to make all welds complete, both in the shop and in the field including those of valves, fittings for equipment. Weld rods shall deposit metal having essentially the same composition as the parts being formed.</p> <p>6.10 Vendors shall employ qualified welders to the satisfaction of the purchaser. All welding procedures &amp; welders/ welding operators are to be qualified as per ASME sec – IX.</p> <p>7. <b><u>INDIAN BOILER REGULATIONS</u></b></p> <p>Where ever applicable the vendor is fully responsible for obtaining the approval from any of the inspecting authorities approval by IBR. The following are the documents which are to be submitted to the chief inspector of boilers as specified in IBR.</p> <p>a Certificate for manufacture and test of steam pipes – from IIIA of IBR.</p> <p>b Certificate for manufacture and test of tubes – from IIIB of IBR.</p> <p>c Arrangement and fabrication detailed drawings of all piping coming under the purview of IBR.</p> <p>The documents shall be submitted sufficiently in advance to suit material delivery.</p> <p>8. <b><u>CLEANING &amp; PAINTING</u></b></p> <p>8.1 All hot bent, forged, fabricated and straight sections of piping except the piping mentioned below for pickling with acid shall be thoroughly cleaned, wire brushed and purged with an air blast to remove all sand and scale for inner surfaces. The outside surfaces of all pipes shall also be free of sand, loosely adhering scale, dirt and other foreign matter. The method of cleaning shall not leave any material on the inner or outer surface that will affect the serviceability of the pipe.</p> <p>Following pipes shall be treated by pickling with acid and neutralized before dispatch: -</p> <p>(a) All small bore pipes NB 50 and below except stainless steel material.</p> <p>(b) All lub oil pipes ( PGMA 13111 ) except stainless steel material.</p> <p>(c) All control oil/ fluid pipes ( PGMA 13112, 13155 and 13157 ) except stainless steel material.</p>			
सहायक एवं गोपनीय एक नमूने की नई प्रतियां बनाए जा सकेंगी, जो कि कंपनी के लिए नुकसानकारी न होंगी। एक नमूने की नई प्रतियां बनाए जा सकेंगी, जो कि कंपनी के लिए नुकसानकारी न होंगी।					
SIGNATURE SIGN & DATE					
INVENTORY NO. P-5030	REV. NO. 08		निर्माणकर्ता WORKED BY SUMIT TRIPATHI		26.12.15
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Pickling is overall an effective method of removing scale, dust etc from pipes.

All pipes which are cleaned by acid pickling shall be passivated & conserved in accordance with the produce detailed below. Any alternative method used by the supplier shall have to be get approved from BHEL for which the supplier shall furnish all the details along with the acceptance norms etc. with this offer.

PICKLING AND PASSIVATION PROCEDURE :

- Step. 1** Degreasing

Sodium hydroxide	Solution	Temperature	Duration
	~ >10%	60 – 70°C	2 hours
- Step. 2** Rinsing  
By tap water
- Step. 3** Descoloring

Hydrochloric acid with inhibitor	Solution	Temperature	Duration
	10- 15%	Room temp.	50 -60 minutes
- Step. 4** Rinsing  
By tap water
- Step. 5** Phosphate treatment

Phosphate With inhibitor	Solution	Temperature	Duration
	8%	50 -60°C	50 minutes
- Step. 6** Rinsing  
By hot tap water above 50°C
- Step. 7** All pipes should be dried with the help of hot air.
- Step. 8** Antirust treatment.

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REV. NO. 08

निर्माणकर्ता WORKED BY SUMIT TRIPATHI

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STEAM TURBINE ENGINEERING

Vapour phase inhibitor shall be used for protecting the inner surface of all the pipes after cleaning by picking or otherwise as the case may be. The recommended quantity is 60 gm/m2 (minimum). The vapour phase inhibitor used by the supplier shall be such that it is affective for the purpose for which it is used and does not leave any residue after vapourisation. This VPI should in no way corrode or influence the inner surface which is considered harmful for the pipe material for which these pipe lines are to be used.

8.2 After cleaning, the pipes shall be painted as per detailed given below:

Painting will be done for Turbine integral piping as per table given below (applicable for carbon and alloy steel piping) and primer paint shall be applied on seal steam, turbine drainage & overload piping system where temp is more than 60°C

Paint (Coat)	Paint type	No. of coat	DFT
Primer paint	Epoxy base zinc phosphate	1 coat	35
Intermediate paint	Epoxy TiO2 pigmented coat paint	1 coat	70
Finish (Final) paint	Epoxy based finish coat	2 coat	75
Total DFT	Dry film thickness (Final) in microns		180
Shade	As per RAL grey 9002		

8.2.1 There shall be no painting on stainless steel pipes spools/assemblies.

8.3 The inner surface of the pipe shall be protected with the help of vapour phase inhibitors (VPI) put inside the pipe with both inner & outer end sealed caps with suitable adhesive taping.

9. GENERAL INSPECTION

All items covered by this specification shall be subjected to inspection by the purchaser or by our customer and vendor shall render all possible help in this regard to the purchaser promptly when item are ready for inspection.

9.1 Vender shall agree to permit purchaser and our customer to maintain one or more of his representatives in his shop for the purpose of inspection at various stages in shop fabrication of the material specified herein. Purchaser's representatives shall at all time have free access to vendor's shops. They shall also have access to vendors ultrasonic or radiographic inspection records, reports of repairs etc.

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INVENTORY

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इस दस्तावेज में दी गई जानकारी भारत भारती उपकरणों की संपत्ति है, इसका प्रयोग अन्य उद्देश्यों के लिए बिना भारत भारती उपकरणों की लिमिटेड की अनुमति के नहीं किया जा सकता।

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WORKED BY

SUMIT TRIPATHI

26.12.15




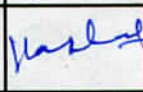
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दिनांक एवं प्रमाण SIGN & DATE		उत्पाद मानक <b>PRODUCT STANDARD</b> <b>STEAM TURBINE ENGINEERING</b>	<b>ST34001</b>			
SUPERSEDES INVENTORY	सामग्री सूची नम्बर को अधिकारित करता है		पृष्ठ 15 का 9	Page 9 of 15		
<b>COPYRIGHT AND CONFIDENTIAL</b> The information on this document is the property of Bharat Heavy Electrical Limited. It must not be used directly or indirectly in any way detrimental to the interest of the company.		<p>10.5 Small bore items are to be bundled or bagged and fitted with wired metal tags marked with Table as mentioned in serial no. 10.1.</p> <p>10.6 Water proof paper and felt lining of the packages shall overlap at seams at least 15mm and the seams shall be sealed.</p> <p>10.7 All material should be packed in box. No loose (except pipe/assembly above 500NB) items are acceptable at site.</p> <p>10.8 Items of two systems should not be mixed in one box i.e. one system of TIP should be supplied in one packing box.</p> <p>10.9 Items of two project units should not be mixed in one packing box as well as one truck/trailer i.e. separate shall be required for separate project unit.</p> <p>10.10 Please ensure to take receipt from site for boxes for every dispatch against GR. Verification of items sent inside box should be in presence of supplier's representative at site. Supplier is required to depute their representative to site (one visit per set) on demand from site for verification of items sent inside box and ensure receipt of all items. Any shortage found during verification is to be replenished free of charge by supplier on for site basis. However payment will be released against dispatch documents as per present practice.</p> <p>10.11 Each straight pipe, pipe assembly/spool and pipe fitting shall be color coded by way of followings :-</p> <p>a) Color band/strip all along the length of straight/loose pipes.</p> <p>b) On pipe assembly/ spool and pipe fittings by marking one band on each free end of the component &amp; color coding should be at least 200mm away from each free end.</p> <p>Different color for color band/strip used by supplier against different pipes shall be as per table mentioned below for identification of material:-</p>				
<b>स्वाम्यधिकार एवं गोपनीय</b> यह दस्तावेज या इसमें प्रकृत सूची, नक्शे/चित्र आदि की संपत्ति है, इनका प्रयोग या प्रसारण के बिना या बिना अनुमति के कदा भी नहीं किया जा सकता है। बिना अनुमति के किसी भी माध्यम से प्रसारण करने से निषेधित है।						
दिनांक एवं प्रमाण SIGN & DATE						
सामग्री सूची नम्बर INVENTORY NO.	85038	REV. NO. 08	निर्माणकर्ता WORKED BY	SUMIT TRIPATHI		26.12.15
			जांचकर्ता CHECKED BY	S.K.GUPTA		26.12.15



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STEAM TURBINE ENGINEERING

S.No.	DESCRIPTION	MAT. SPECIFICATION	COLOUR CODE
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- |    |  |  |   |
|----|--|--|---|
| 1. | Pipe<br>Pipe<br>Pipe<br>Pipe<br>Pipe<br>Pipe<br>Pipe<br>Pipe | ASTM A106 Gr.B<br>ASTM A335 Gr.P11<br>ASTM A335 Gr.P22<br>ASTM A335 Gr.P91<br>ASTM A335 Gr.P92<br>ASTM A335 TP321<br>SA672 C70<br>SA691 1 ¼ Cr | Red<br>Yellow<br>Green<br>Blue<br>Purple<br>Pink<br>Red<br>Yellow |
| 2. | Fittings (Tee, Reducer, Elbow, Closing disc & cap)           | ASTM A234 WPB<br>ASTM A234 WP11<br>ASTM A234 WP22<br>ASTM A234 WP91<br>ASTM A234 WP92<br>ASTM A403 WP321                                       | According to corresponding pipe material                          |
| 3. | Flange, Stub, Adapter, Connecting piece                      | ASTM A105<br>SA182 F11<br>SA182 F22<br>SA182 F91<br>SA182 F92<br>ASTM A182 F321  | According to corresponding pipe material                          |
| 4. | Orifice Plate, Orifice Plate                                 | SA516 GR.70<br>ASTM A387 GR.11<br>AISI321<br>ASTM A240 TY321   | According to corresponding pipe material                          |

10.12 Punching to be done at least 200mm away from end for loose and fabricated pipe assemblies/spools.

11. **GUARANTEE**

Vendor shall guarantee all material, fabrication and workmanship of all piping furnished by him for period of 24 months from the actual delivery or 18 months from the date of commissioning of the piping system, whichever is earlier.

निर्माणांक  
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INVENTORY NO.

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जांचकर्ता  
CHECKED BY

S.K.GUPTA

26.12.15

सामग्री सूची संख्या को  
अधिकारित करना है

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स्वत्वाधिकार एवं गोपनीय  
इस दस्तावेज में दी गई सूचना भारत भारती लिमिटेड/भारत भारती की संपत्ति है। इसका प्रयोग या प्रकाशक रूप में किसी भी तरह करना, जो कि कंपनी के हित में हितकारक हो न हो, नुकसान पहुंचा सकता है।

1-5038





उत्पाद मानक

ST34001

पृष्ठ 15 का 12

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PRODUCT STANDARD

STEAM TURBINE ENGINEERING

14. NOTES

1. All pipes NB50 & below shall be supplied in approximately 6.0 meter length until and unless specified in BOM. If specified in BOM, fabrication & bending of pipes shall be carried out as per respective drawings.
2. Despatchable length of running pipes shall be 6 meter approx.
3. Vendor to supply SS piping & fittings in seamless construction for size 8 inch (200 NB) & below unless noted otherwise.
4. Vendor to supply Carbon steel & alloy steel piping in seamless construction for size 20 inch (500 NB) & below unless noted otherwise.

15. CROSS REFERRED STANDARDS:-

ANSI B31.1	ASTM A403
ASTM 435	ASTM A105
HW0620599	ASTM A285
ASTM A106	ASTM A 182
SA691	ASTM A335
ASTM A312	ASTM A234
SA672	HW0850199

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संस्थाधिकार एवं गोपनीय

यह दस्तावेज या इसमें प्रकाशित सूचनाएँ भारत भारी विद्युत उपकरण लिमिटेड की संपत्ति हैं। इन सूचनाओं का उपयोग अन्य किसी भी उद्देश्य के लिए बिना लिखित अनुमति के नहीं किया जानना चाहिए।

SIGN & DATE

*[Handwritten Signature]*  
26/12/15

INVENTORY NO. P-5038

REV. NO. 08

निर्माणकर्ता  
WORKED BY SUMIT TRIPATHI

*[Signature]* 26.12.15

जांचकर्ता  
CHECKED BY S.K.GUPTA

*[Signature]* 26.12.15



उत्पाद मानक

ST34001

पृष्ठ 15 का 13

PRODUCT STANDARD

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STEAM TURBINE ENGINEERING

TABLE - AA

For oil and Control Fluid Services

SL. No.	Type of Weld	Operating Pressure (bar)	DIA	RT	UT	SCE	Hardness
1.	Circumferential and longitudinal welds	≤ 2.5	All	--	-	Random (5%)	-
2.	-do-	> 2.5 upto ≤ 16	DN ≤ 20	-	-	25%	(A)
3.	-do-	-do-	DN > 20	10%	-	10%	(A)
4.	-do-	> 16	DN ≤ 20	-	-	100%	(B)
5.	-do-	> 16	DN > 20	100%	-	100%	(B)
6.	Nipples and Nozzles	≤ 2.5	All	-	(C)	10%	Random (5%)
7.	-do-	> 2.5 upto ≤ 16	All	-	(C)	10%	(A)
8.	-do-	> 16	All	-	(C)	100%	(B)
9.	Weld on parts (Fillet Welds)	≤ 2.5	Without load transfer	-	(C)	Random (5%)	-
10.	-do-	-do-	With load transfer	-	(C)	10%	-
11.	-do-	< 2.5 upto ≤ 16	Without load transfer	-	(C)	Random (5%)	(A)
12.	-do-	-do-	With load transfer	-	(C)	50%	(A)
13.	-do-	> 16	With load transfer	-	(C)	10%	(B)
14.	-do-	-do-	With load transfer	-	(C)	100%	(B)

(A) Means 10% hardness tests on grades such as 13CrMo44 and 10CrMo910 or other equivalent grades.

(B) Means 25% hardness tests on grades like 13CrMo44 or equivalent grades. 50% hardness tests on grades like 10CrMo910 or equivalent grades.

(C) For Nipples & nozzles and weld on parts with wall thickness >15 mm, in addition to SCE, RT or UT with same scope as SCE to be carried out.

दिनांक एवं हस्ताक्षर  
SIGN & DATE

SUPERSEDES  
INVENTORY

समसूची नम्बर और  
अभिलेख नम्बर है

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स्वत्वाधिकार पूर्व गोपनीय

यह प्रयोग में की गई सूचना भारत भारी विद्युत् उपकरणों की संपत्ति है। इसका प्रयोग इस सूचना के बिना किसी भी रूप में प्रयोग नहीं किया जा सकता है। इस सूचना के प्रयोग से किसी भी रूप में प्रत्यक्ष या अप्रत्यक्ष रूप से उत्पन्न होने वाले नुकसान के लिए हमें ज़िम्मेदार नहीं माना जाएगा।

दिनांक एवं हस्ताक्षर  
SIGN & DATE

समसूची नम्बर  
INVENTORY NO.

REV. NO. 08

निर्माणकर्ता  
WORKED BY

SUMIT TRIPATHI

26.12.15

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S.K.GUPTA

26.12.15



उत्पाद मानक

ST34001

पृष्ठ 15 का 14

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PRODUCT STANDARD

STEAM TURBINE ENGINEERING

TABLE-BB

For water, steam and condensate Services

SL. No.	Type of Weld	Operating Pressure (bar)	Dia	Material	Remarks	RT	UT	SCE	Hardness
1.	Longitudinal welds	≤ 2.5	All	All	Not full Stressed welds	Random (5%)	Random (5%)	Random (5%)	-
2.	-do-	-do-	All	All	full Stressed welds	10%	10%	10%	-
3.	-do-	> 2.5	All	All	-	100%	100%	100%	-
4.	Circumferential	≤ 2.5	All	All	-	Random (5%)	Random (5%)	Random (5%)	-
5.	-do-	> 2.5 - ≤ 16	DN ≤ 100	A	-	5%	5%	10%	-
6.	-do-	-do-	-do-	B	-	10%	10%	10%	(A&B)
7.	-do-	-do-	-do-	G	-	100%	100%	100%	100%
8.	-do-	-do-	DN > 100	C	-	10%	10%	10%	-
9.	-do-	-do-	-do-	B	-	5%	25%	100%	(A&B)
10.	-do-	-do-	-do-	G	-	100%	100%	100%	100%
11.	-do-	> 16	DN ≤ 100	A	-	25%	25%	10%	-
12.	-do-	-do-	-do-	D	-	50%	50%	50%	(A&B)
13.	-do-	-do-	-do-	E	-	100%	100%	100%	(C)
14.	-do-	-do-	-do-	G	-	100%	100%	100%	100%
15.	-do-	-do-	DN > 100	A	-	50%	50%	10%	-
16.	-do-	-do-	-do-	F	-	100%	100%	100%	(C)
17.	-do-	-do-	-do-	G	-	100%	100%	100%	100%
18.	Nipples and Nozzles	≤ 2.5	All	All	-	-	-	Random (5%)	-
19.	-do-	> 2.5	DN ≤ 100	II	-	-	-	100%	-
20.	-do-	-do-	DN > 100	T ≤ 15mm	-	-	-	10 %	-
21.	-do-	-do-	-do-	T > 15mm	-	100%	100%	100%	100%
22.	Welds on parts fillet	≤ 2.5	All	-	-	-	-	25%	-
23.	-do-	> 2.5	DN ≤ 100	All	Load Bearing welds	-	-	100%	-
24.	-do-	-do-	DN > 100	T ≤ 15mm	do-	-	-	100%	-
25.	-do-	-do-	-do-	T > 15mm	do-	100%	100%	100%	-

- (A) Means 20% hardness test for grades such as 13CrMo44 and  $t \geq 15\text{mm}$  or equivalent grades.
- (B) Means 30% hardness test for grades such as 10CrMo910 and  $t \geq 15\text{mm}$  or equivalent grades.
- (C) 100% Hardness test with  $t \geq 5\text{ mm}$  except Austenitic material.

Note:- 1. Wherever test scope is less than 100%, a butting ends between circumferential weld and longitudinal weld shall be examined by SCE.  
 2. Non- destructive testing of welds shall be carried out after post weld heat treatment, if any.  
 3. Either RT or UT of weld joint to be carried out.

दिनांक व हस्ताक्षर  
SIGN & DATE

SUPERSEDES  
INVENTORY

मासकी सूची संख्या को  
संशोधित करना है

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**स्वत्वधिकार एवं गोपनीय**  
यह दस्तावेज भारतीय भारत भारती लिमिटेड का संपत्ति है। इसका प्रयोग अन्य किसी भी प्रकार से बिना अनुमति के नहीं किया जा सकता है। इस दस्तावेज का उपयोग किसी भी प्रकार से बिना अनुमति के नहीं किया जा सकता है।

दिनांक व हस्ताक्षर  
SIGN & DATE





मासकी सूची संख्या  
INVENTORY NO.  
P-5038

REV. NO. 08

निर्माणकर्ता  
WORKED BY  
SUMIT TRIPATHI

जांचकर्ता  
CHECKED BY  
S.K.GUPTA

26.12.15  
26.12.15

Review of drawing SIGN & DATE		उत्पाद मानक <b>PRODUCT STANDARD</b> <b>STEAM TURBINE ENGINEERING</b>		<b>ST34001</b>		
				पृष्ठ 15 का 15 Page 15 of 15		
SUPERSEDES INVENTORY	<b><u>MATERIAL GROUPS</u></b>					
भारतीय मूल संख्या भारतीय संख्या है	Group A Materials : Material grades such as C22.3, C22.8, GSC25, H11, RST37-2, ST-35, ST35.4, ST35-8, ST37.0, 15Mo3 or equivalent grades.					
Group B Materials : Material grades like to 10CrMo910, 13CrMo44, 16CrMo44 or equivalent grades.						
Group C Materials : All group (A) materials if used in sizes beyond DN $\geq 100$ mm.						
Group D Materials : GS22Mo44 and group B materials if used in services beyond 16 bar pressure.						
Group E Materials : CrMoV steels such as G17CrMoV510, G17CrMo55, G18CrMo910, X22 CrMoV121 Stainless steels such as X10CrNiNb189, X10CrNiTi189 or equivalent grade.						
Group F Materials : Group (D) and (E) materials if used in services beyond 16 bar and size more than 100 mm.						
Group G Materials : Material grades ASTM A335 P91, ASTM A234 WP91, ASTM A182 F91, ASTM A335 P92, ASTM A234 WP92 & ASTM A182 F92.						
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<b>स्वाधिकार एवं गोपनीय</b> इस दस्तावेज़ में दी गई सूचना भारत भारी विद्युत निगम की संपत्ति है। इस दस्तावेज़ को बिना अनुमति के किसी भी रूप में प्रयोग या प्रसारण नहीं किया जा सकता है।						
Review of drawing SIGN & DATE						
भारतीय मूल संख्या INVENTORY NO.	REV. NO. 08		निर्माणकर्ता WORKED BY	SUMIT TRIPATHI		26.12.15
भारतीय मूल संख्या INVENTORY NO.			जांचकर्ता CHECKED BY	S.K.GUPTA		26.12.15

**INSTRUCTIONS FOR SEA-WORTHY PACKING FOR BOIs**

**FOR**

**2X660 MW MAITREE SUPER THERMAL POWER PROJECT,  
BANGLADESH**

**BHEL DOCUMENT NO. : TGE-3646**

**REV-01 DATE : 29.03.2018**



**BHARAT HEAVY ELECTRICALS LTD  
UNIT : HEEP, RANIPUR, HARIDWAR**

**ELECTRICAL MACHINES ENGINEERING  
BHEL HARDWAR**

**PREPARED BY**  
GOPAL CHAUHAN  
Sr. ENGR./EME

**CHECKED BY**  
MANJU AZAD  
MGR./EME

**APPROVED BY**  
R.L.VYAS  
AGM/EME

**INSTRUCTIONS FOR SEA-WORTHY PACKING FOR BOIs**  
**FOR 2x660MW MAITREE PROJECT**

**1. GENERAL**

The standard covers guide lines for making Sea- worthy standard packing boxes to be used for transportation for export orders. Vendors shall be responsible for packing and shall meet the minimum requirements specified herein.

**2. SCOPE**

The procedure specifies minimum guidelines to be complied with for packing of Components /Assemblies/Equipments. This specification shall be suitable for different handling operations and the adverse conditions during transportation and during indoor/outdoor storage for period of minimum two years.

**3. WOOD SPECIFICATION FOR PACKING**

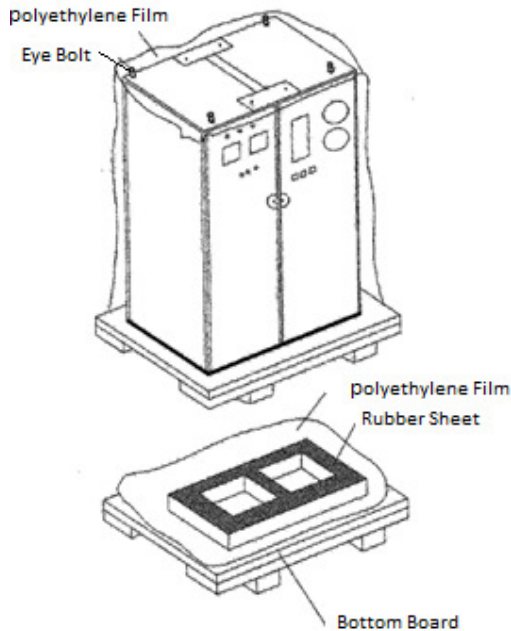
The wood used for packing shall conform to specification ISPM NO. 15. (International Standards for Phytosanitary Measures)

**4. REQUIREMENTS FOR PACKING CASE**

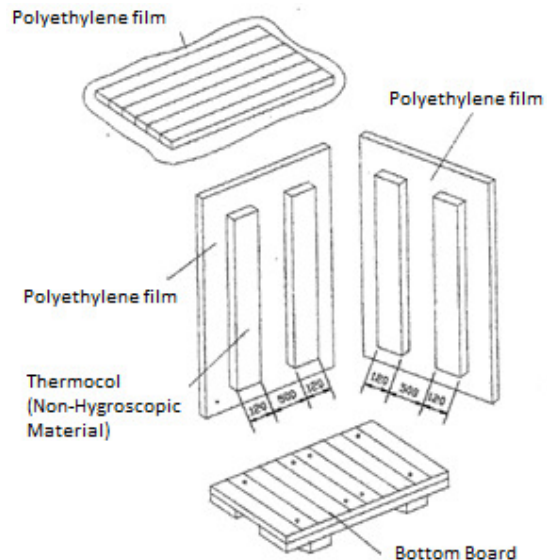
- 4.1. All equipment and materials shall be suitably coated wrapped, or covered and boxed or crated for export shipment so as to prevent damage during handling and storage at the Site. Cardboard containers (if any) shall be enclosed in a solid wooden container to avoid damage during transit.
- 4.2. Equipment and process materials shall be packed and semi knocked down, to the extent possible, to facilitate handling and storage and to protect bearings and other machine surfaces from oxidation. Each container box, crate or bundle shall be reinforced with steel strapping, in such a manner that breaking of one strap will not cause complete failure of the packaging. The packing shall be of best standard to withstand rough handling and to provide suitable protection from tropical weather while in transit and while awaiting erection at the site.
- 4.3. Waterproof paper and felt linings shall overlap at seams at least 15mm and the seams shall be secured together.
- 4.4. Equipment and materials in wooden cases or crates shall be properly cushioned to withstand the abuse of handling, transportation and storage. Packing shall include preservatives suitable for tropical conditions. All machine surfaces and bearings shall be coated with oxidation preventative compounds. All parts subject to damage when in contact with water shall be coated with suitable grease and wrapped in heavy asphalt or tar impregnated paper.
- 4.5. Fumigation of boxes including plywood/spacers shall be carried out as per ISPM 15 to make it pest free. All wood packing in each consignment shall be free from bark and all visible signs and fungal attack at the time of shipment.
- 4.6. Components sub-assemblies and assemblies sensitive to climatic conditions shall be packed seal tight. All the openings of the sensitive components, sub-assemblies and assemblies shall be blanketed to prevent the ingress of dust and moisture. The components sub-assemblies and

assemblies shall be completely covered with 2 layers of polyethylene sheet. Polyethylene sheet to be used shall be UV stabilized. All sharp corners and edges are to be protected by rubber mats to prevent damage the polyethylene sheet. Top surface of the case shall be free from dents to prevent rain water pockets.

- 4.7. All delicate electrical/ instrument components, assembled or loose, likely to be damaged e.g. Gauges, Instruments etc. are to be wrapped in waxed paper or polyethylene air bubble film along with silica gel pack/VCI powder or tablet.
- 4.8. All delicate electrical/ instrument components if sent loose shall be placed in carton, filled with small chips of Expanded Polystyrene (Thermocol), Wood Wool etc.
- 4.9. For equipment like control panels etc. suitable cushioning material like rubber sheet shall be provided on their bottom support (ref fig 1). The gap between the panel and the packing box shall be filled with Thermocol, (Non - hygroscopic material). Distance between adjacent packing of thermocol shall not be more than 500 mm (ref fig 2).



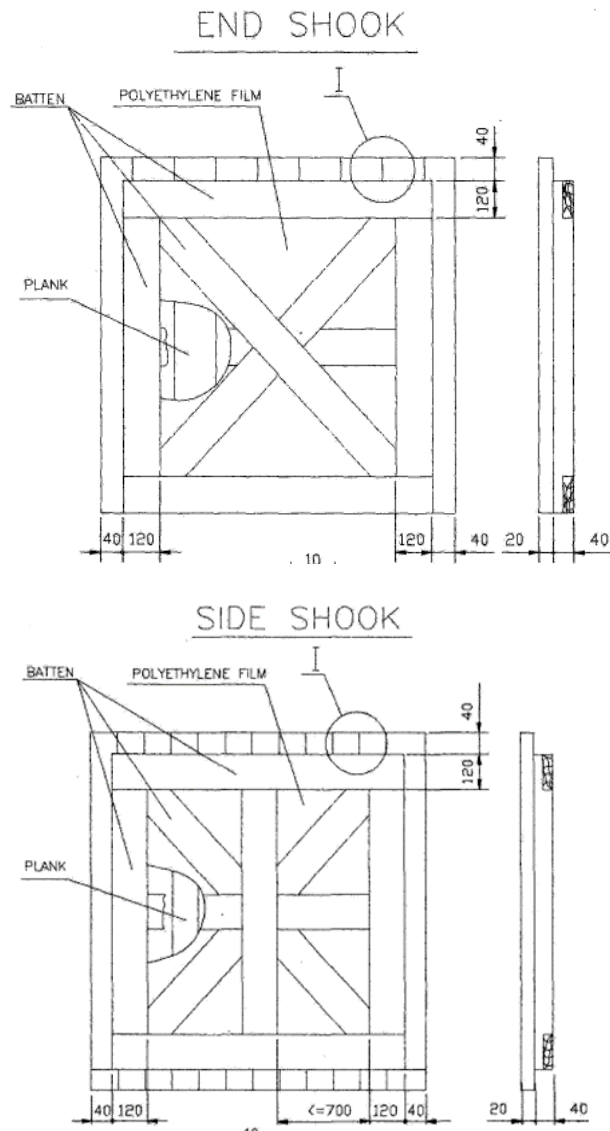
**Fig-1**



**Fig-2**

- 4.10. The four sides, shall be lined, from inside with multi-layered polyethylene sheet of at least 120 GSM and tacked at suitable places.

Whenever specified in addition to the polyethylene sheet the top cover will have a layer of bitumen felt over the cover. This should project about 100 - 250 mm on all sides. shall be provided between frame and planks of the end and side shook as shown in Fig. (For reference only.)



\* DIMENSIONS SHOWN IN ABOVE FIGGURE ARE INDICATIVE ONLY.

It is preferable to have a single piece of the above multi-layered polyethylene sheet fixed on the four sides. In case jointing is unavoidable, it should be done by overlapping of approximately 100 mm.

Place the Components/cartons with corrosion inhibitors duly applied wherever necessary for place suitably, thin muslin cloths bags containing minimum 100 grams (approx.) of activated Blue Silica Gel as per BS 3482-1991 or equivalent with standard particle size of 3 to 6 mesh (5.6 to 2.8mm), wherever necessary. Alternatively, Tablet/ VCI Powder as per IEC 68-2-30-1980 or equivalent may be used. Approximately 7 m<sup>3</sup> VCI paper is necessary for 1 m<sup>3</sup> of packed item. VCI Paper shall not be used for components made of aluminum, aluminum alloys, Zinc, Copper, Brass, cadmium & silver. VCI powder is sprinkled inside the piping components ends and shall be protected with end cover.

All packages shall be covered on all sides, with suitable GI sheets preferably single length & width.

- 4.11.** Cover the whole equipment with polyethylene sheet of at least 120 GSM, on all sides preferably by a single piece.
- 4.12.** Silica gel is used for this purpose to protect the contents over sufficiently long time from corrosion. At the time of use, silica gel should be so dried that its colour becomes dark blue. These shall be filled in small cotton bags. Before sealing the equipment, the silica gel bags should be kept inside the polyethylene film cover at different locations. The quantity of silica gel should not be less than 2.0 Kg per m<sup>3</sup> volume of the packing box.
- 4.13.** Each case shall contain a packing list showing the detailed contents of the package. When any technical documents are supplied along with the shipment of materials no single package shall contain more than one set of such documents. Shipping papers shall clearly indicate in which packages the technical documents are contained.
- 4.14.** The case number shall be written in the form of a fraction, the numerator of which is the serial number of the case and the denominator the total number of case in which a complete unit of equipment is packed.
- 4.15.** Wherever necessary besides usual Inscriptions the cases shall bear special indication such as "Top", "Do not turn over", "Care", "Keep dry", etc., as well as indication of the center of gravity (with red vertical lines) and places for attaching slings (with chain marks). For all fragile equipment, unit should take special care to pack and label with additional markings such as "FRAGILE, HANDLE WITH CARE", "LIFTING POINTS", "THIS WAY UP", "DO NOT STACK" etc. to protect them from damage in transit.

**4.16. Completeness of Contents of each packing case:**

Concerned CQA/Unit QC/Third Party Inspection Agency shall verify the completeness of contents of each package w.r.t. packing list both in terms of quality and quantity before authorising dispatch of the consignment.

Packing commensurate with international standards and accepted norms will be ensured by CQA/ Unit QC/Third Party Inspection Agency. Packing has to be sea-worthy and secure. As far as possible, the packing has to be rectangular in shape for optimum space utilization in the ship and economize on shipping costs. Projections on packages are prohibited.

The packing list has to be checked and certified by the Inspection agency with due signatures. All packages shall be covered on all sides, with suitable GI sheets preferably single length & width.

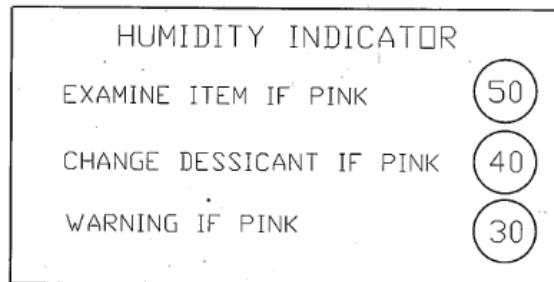
No loose items Gunny bag packing are allowed for shipment. Proper pallets and crates are to be used for packing of Oil drums and Structures.

**4.17. Provision of Inspection Windows on Packages:**

Vendors should provide inspection window of size 6" x 4" (glass perplez) for customs examination for all packages (above 1.5 x 1.5 x 1.5 cum) involving panels of any kind. Care would be taken to ensure that all packages are properly sealed to avoid ingress of moisture, rodents etc. Packing slip folders shall be attached in each box.

**4.18. Provision of Humidity Indicator:**

- i. Humidity indicator must be provided in each packing boxes. Humidity indicator shall be placed behind inspection window or as far as practicable from the nearest unit of desiccant.
- ii. Use a three-spot paper card type 1x4 inches in size to show humidity with instruction as indicated in figure below. The spots indicate relative humidity of 50 percent, 40 percent and 30 percent, top to bottom, by changing color from blue to pink.



**4.19. Marking for Safe Handling:**

To ensure safe handling, packing case shall be marked to show the following:

- i. Upright position.
- ii. Sling position and Centre of Gravity position.
- iii. Storage category.
- iv. Fragile components (to be marked properly with a clear warning for safe handling).

**4.20. Other Marking on Packing Case**

- a) Address of Consignee
- b) Purchase order No.
- c) Description of item or Title of Packing list
- d) Package number strictly as given in the Indent
- e) Net Weight
- f) Gross Weight
- g) Dimensions of the Box

**4.21. Shipping Documentation including those covered by customs requirements:**

- i. Packing List (O&M manual to be listed in packing list, if sent along with consignment).
- ii. Fumigation certificate for wooden boxes