

Tender No.: F/T237/2017/3179/K/1



**BHARAT HEAVY ELECTRICALS LIMITED
HEEP HARIDWAR INDIA-PIN 249403
FAX NO: 0091 1334 226462/223948
PHONE NO: 0091 1334 281478**

Tender No.: F/T237/2017/3179/K/1

Due Date: 08.11.2017

**Sub: BHEL-HEEP/OPEN-TENDER (DRILLED CONDENSER TI-CLAD TUBE PLATE
& TITANIUM CLAD TEST PLATE)**

The Heavy Electricals Equipment Plant (HEEP) located in Haridwar, India is one of the major manufacturing plants of Bharat Heavy Electricals Ltd. The core business of HEEP includes design and manufacture of large steam and gas turbines, turbo generators and so on.

Sealed tenders with the Tender No. and opening date clearly super scribed on the cover are invited from the manufacturers (registered as well as unregistered) for the supply of the following items:-

Tender No	Item Description	Qty (Nos)
F/T237/2017/3179/K/1	W96711609212 DRG: 2160187005400 REV:00 DRILLED CONDENSER TI-CLAD TUBE PLATE AS PER TDC NO. TDCF-21601870054 VAR 00	16 Nos.
	W97716018116 TITANIUM CLAD TEST PLATE, 46MM TK (BASE PL:40MM-SA516 GR70 (SUPPLEMENTARY REQUIREMENT S1, S5 AND S8) CLAD PL:6MM-AS PER SPEC.) SPEC: AA14001 REV: 01 SIZE: 46X300X300	16 Nos.
	W97716018140 TITANIUM CLAD TEST PLATE 43 MM TK(BASE PL:40MM-SA516 GR 70(SUPPLEMENTARY REQUIREMENT S1,S5 AND S8),CLAD PL:3 MM AS PER SPEC) SPEC: AA14001 REV: 01 SIZE: 43X300X300	4 Nos.

The tender documents & Specification of item can be downloaded from our web site www.bhel.com or www.bhelhwr.co.in or www.tenders.gov.in submitted with requisite EMD.

Only those vendors who fulfill the Min imum Qualifying Requirements (as per Annexure-VI) will be considered for further technical evaluation.

This notification shall be published in national & global newspapers. **The last d ate for downloading tender documents shall be 07.11.2017 & opening of tender shall be 08.11.2017.** Tenders will be received up to 01.45 P.M. on **08.11.2017** and opened on the same day at 2.00 P.M. in the Tender Room. **Please note that tender received after due date & time (01.45 PM on 08.11.2017) will not be opened.** BHEL will not be responsible for any type of postal / courier delay.

Intending vendors must submit the requisite EMD Rs. 2,00,000/- (Rupees Two Lacs Only) for indigenous vendors (or equivalent amount in foreign currency for foreign vendors) in the form of pay order or bank draft while submitting the tender documents as detailed in “Instruction to Bidders”, after downloading from this web site.

EMD is waived off for-

- a) Central/ State – PSUs/ Government departments
- b) As per government guidelines, MSE suppliers are exempted for submission of EMD (Valid Documentary proof against MSE must be submitted along with offer to avail the benefits).

The total quantity may undergo change at the time of ordering.

The details of each item with required delivery are given in **Annexure-VII (Details of Items)**

Please submit your Techno-Commercial offer only for the above requirement subject to our terms and conditions.

To follow CVC guidelines, intending vendors has to comply all terms and conditions of integrity pact. Hence, submit two ink-signed copies of filled in integrity pact along with your offer in the enclosed format of integrity pact as per Annexure- XI.

IN ADDTION TO VENDORS MENTIONED ABOVE, OFFERS SHALL ALSO BE CONSIDERED ONLY THOSE VENDORS WHO WILL SUBMIT EMD. [PLEASE SUBMIT DRAFTS FOR EMD DRAWN IN FAVOUR OF BHARAT HEAVY ELECTRICALS LTD. HEEP, HARIDWAR IN ANOTHER ENVELOPE SUPERSCRIBED WITH BOLD LETTERS “EMD” at 2 PM on the due date in the presence of authorized representative of the bidders who may like to be present. The authorized representative should bring authority letter from their parent company (Manufacturer) for attending the bid opening.

KINDLY READ “INSTRUCTIONS TO BIDDERS.” QUOTATION NOT IN ACCORDANCE WITH THE INSTRUCTIONS ARE LIABLE TO BE DISQUALIFIED AND IGNORED.

INSTRUCTIONS TO BIDDERS FOR OPEN TENDER

DEFINITION

Registered Vendors - Are those who are registered with BHEL, Haridwar for procurement of DRILLED CONDENSER TI-CLAD TUBE PLATE.

Un-registered Vendors - Are those who are not registered with BHEL, Haridwar for procurement of DRILLED CONDENSER TI-CLAD TUBE PLATE.

MINIMUM QUALIFICATION REQUIREMENT

Following are the mandatory requirement. Offer of Vendors not meeting these requirements will not be considered.

➤ **Technical Requirements-**

Pre-Qualification requirements (PQR)

1) Bidder (principal manufacturer) should have manufactured and supplied at least 4 nos. Titanium Clad tube plates of condenser for power plant application by explosion bonding process in last 8 years from the date of BHEL enquiry as per following details. Each tube plate supplied should be:

- a) 18 m² in area or more (tube plate area)
- b) Total thickness of plate should be 37 mm or more. Titanium Clad thickness to be 3 mm or more.
- c) Width of Ti Clad tube plate should be more than 3.3 meter.

AND

1.1) Bidder or its sub-vendor(s) should have manufactured and supplied minimum two numbers Drilled Titanium Cladded Tube Plate in last 8 years from the date of BHEL enquiry, as per following details. Each tube plate supplied should be:

- a) 13 m² in area or more (tube plate area)
- b) Total thickness of plate should be 37 mm or more. Titanium Clad thickness to be 3 mm or more.
- c) Width of Ti Clad tube plate should be more than 3.3 meter.
- d) No. of tube holes drilled per plate should be 7000 or more.
- e) The Ti clad tube plate should have been drilled on CNC drilling machine.

2) Required documents to be furnished by bidder in support of PQR are mentioned in ANNEXURE-1. All PQR documents (including sub-vendor documents as applicable) are to be signed and stamped in original by bidder and sub-vendor documents to be signed and stamped in original by sub-vendor also.

3) Bid from representative of principal manufacturer is also acceptable, following documents/confirmation to be furnished in this case:

- i. BHEL enquiry specific agreement between principal manufacturer and its representative, duly signed and stamped by both parties, clearly indicating that

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both parties are jointly and individually responsible for all liability and execution, in case of award of order, without any limitation.

- ii. All PQR documents are to be signed and stamped in original by both principal manufacturer and its representative and in case, documents are in language other than English, the English translated copies of the documents, duly certified, should also be furnished.
- 4) In case, PQR documents are in language other than English, the English translated copies of documents, duly certified, should also be furnished.
- 5) If the bidder has submitted bid in its name then it shall not be a party of any JV/partnership bidding in this enquiry. Bids not satisfying above shall be disqualified.

ANNEXURE-I

Documents to be submitted for proven criteria mentioned in clause 1.0) of PQR:

Bidder to submit following documents:

- a. Certificate from condenser manufacturer (suggestive format as per Annexure-2) or from end user (suggestive format as per Annexure-3), duly confirming that the Ti Clad plate supplied was manufactured by explosion bonding process and was used for power plant condenser tube plate application. However, such certificate is not required from vendors on whom PO has been placed by BHEL Haridwar for Ti clad plates meeting requirements of clause (1.0).
- b. Copy of P.O. of supplied Ti Clad plate for which certificate is furnished as per clause (a.) above.

Documents to be submitted for proven criteria mentioned in clause 1.1) of PQR:

Bidder or its sub-vendor to submit following documents:

- c. Certificate from equipment manufacturer (suggestive format as per Annexure-4) or from end user (suggestive format as per Annexure-5) duly confirming that the supplied drilled Ti Clad plate was drilled on CNC drilling machine and is in use for equipment stated in certificate without any problem till date.
- d. Copy of P.O. of supplied drilled Ti Clad plate for which certificate is furnished as per clause (c.) above.

On Customer's letter head

ANNEXURE-II

Note: If Customer's letter head is in language other than English then translation in English shall be written below header.

Date :

TO WHOM SOEVER IT MAY CONCERN

This is to certify that M/s XXXXX have Manufactured and supplied us Ti Clad Plates using explosion bonding process under our Purchase Order No.XXXXXX dt XXX for tube plate of condenser.

The above supplied Ti Clad Plates have been used by us for condenser tube plate application for supply to XXXXX power plant on dt XXXX, commissioned on date XXXX. We have not faced debonding or any other quality issues while drilling of tube holes in tube plate.

Name of the Organization :

Signature :

Name of the Signatory :

Designation :

Phone number :

E-mail address :

Place :

Date of issue :

Seal & Stamp of the
Organisation :

On Customer's letter head

ANNEXURE-III

Note: If Customer's letter head is in language other than English then translation in English shall be written below header.

Date :

TO WHOM SOEVER IT MAY CONCERN

This is to certify that M/s XXXXX have Manufactured and supplied Ti Clad Plates using explosion bonding process, which have been used for condenser tube plate application for our XXXXX Power Plant through condenser manufacturer M/S XXXX, under Purchase Order No. XXXXXX dt XXX.

The condenser was supplied on dt XXXX (or from dt XXXX to dt XXXX in different packages) and commissioned in dt XXXX by condenser manufacturer M/S XXXX.

The power plant is in successful operation without any problem since commencement of operation.

Name of the Organization :

Signature :

Name of the Signatory :

Designation :

Phone number :

E-mail address :

Place :

Date of issue :

Seal & Stamp of the
Organisation :

On Customer's letter head

ANNEXURE-IV

Note: If Customer's letter head is in language other than English then translation in English shall be written below header.

Date :

TO WHOM SOEVER IT MAY CONCERN

This is to certify that M/s XXXXX have Manufactured and supplied us drilled Ti Clad Plates, drilled on CNC drilling machine under our Purchase Order No. XXXXXX dt XXX for XXXXX (equipment name to be furnished).

The above supplied drilled Ti Clad Plates have been used by us for XXXXX (equipment name to be furnished) application for supply to XXXXX plant on dt XXXX, commissioned on date XXXX. We have not received any complaint with regard to quality of above supplied drilled Ti clad plate from our customer till date.

Name of the Organization :

Signature :

Name of the Signatory :

Designation :

Phone number :

E-mail address :

Place :

Date of issue :

Seal & Stamp of the
Organisation :

On Customer's letter head

ANNEXURE-V

Note: If Customer's letter head is in language other than English then translation in English shall be written below header.

Date :

TO WHOM SOEVER IT MAY CONCERN

This is to certify that M/s XXXXX have Manufactured and supplied drilled Ti Clad Plates, drilled on CNC drilling machine, which have been used for XXXXX (equipment name to be furnished) for our XXXXX Plant through XXXXX (equipment name to be furnished) manufacturer M/S XXXX, under Purchase Order No. XXXXXX dt XXX.

The XXXXX (equipment name to be furnished) was supplied on dt XXXX (or from dt XXXX to dt XXXX in different packages) and commissioned in dt XXXX by XXXXX (equipment name to be furnished) M/S XXXX.

The plant is in successful operation without any problem since commencement of operation.

Name of the Organization :

Signature :

Name of the Signatory :

Designation :

Phone number :

E-mail address :

Place :

Date of issue :

Seal & Stamp of the
Organisation :

➤ **Quality Requirements-**

- All vendors to submit detailed quality plan as per enclosed format (Annexure IX) for BHEL review & approval.
- Inspection by third party (LRS/TUV/BV) for import and BHEL nominated agency 'TUV' for indigenous as per BHEL approved QP.

Note- Technical as well as quality requirements is applicable for both registered as well as un-registered vendors.

Vendors must fill up Annexure– VI in confirmation to above Minimum Qualifying Requirements and quality requirement.

ESSENTIAL INSTRUCTIONS

- 1. Only those bids will be opened which have been submitted with requisite EMD.**
- 2. All un-registered vendors shall be approved by BHEL, if found suitable, on the basis of data furnished by them in online Supplier Registration Form (SRF) Foreign Vendors or Indigenous Vendors. Vendor (s) shall not be considered for ordering if not approved by BHEL.**
- 3. BHEL team may visit the vendor (s) works for verification of capability and capacity claimed in tender documents/offer (s).**
- 4. The tender document must comprise of four envelopes:**
 - i. Envelope I : EMD or NSIC Certificate for exemption of EMD.**
 - ii. Envelope II : Pre- Qualifying Requirement & Supplier Registration Form.**
 - iii. Envelope III : Techno -Commercial Bid.**
 - iv. Envelope IV : Price Bid.**

It is essential that all the four envelopes comprising of the above information should be submitted on the due date otherwise the authenticity of tender date & time will be defeated. In view of the above, it is proposed that offer should comprise of the above four envelopes at the time of tender opening.

- 5. The tenders shall be submitted in three parts**
 - i. Part I - Techno -Commercial Bid,**
 - ii. Part II - Price Bid**
 - iii. Part III - Vendor Registration Form**

as described below on or before the due date. Vendor Registration Form shall be submitted by unregistered vendors only.
- 6. The Quotation should be from the Principal / Original Manufacturer, failing which the quotation is likely to be ignored. In Case the quotation is submitted through agent, the quotation must accompany original authorization letter.**
- 7. Documents submitted with the offer/bid by the bidder shall be signed and stamped in each page by authorized representative of the bidder. In case the bid is submitted by FAX, the bidder shall simultaneously ensure submission of signed and stamped (in each page) original bid to BHEL. If the documents are received in soft form, the same should be transmitted through vendor's authorized e-mail followed by the signed and stamped copy of the same documents. Documents not signed and stamped in each page by the authorized signatory of the bidder, shall not be accepted and considered for evaluation of the bid.**
- 8. Any corrections / amendments shall be properly & fully authenticated with signature. No overwriting is acceptable.**
- 9. In case of ordering, manufacturing plan should be submitted for BHEL approval.**
- 10. Part-I containing techno-Commercial bid and part-III containing Vendor Registration Form will be opened on the date and time specified in the tender notice in the presence of those tenders who wish to attend.**
- 11. Part-II (Price Bids) along with supplementary price bids, if necessary, will be opened at a later date of only those bidders whose techno-commercial bid has been found acceptable.**
- 12. Suitability of delivery shall be the important criteria for evaluation of techno commercial bid and the bids falling within the delivery period and meeting the last delivery requirement.**
- 13. Currency exchange rate will be applicable on the date of opening of Part-I (Techno-commercial Bid) for evaluation purpose.**
- 14. Evaluation of Bid: - The bid shall be evaluated**
 - a. Cost to BHEL basis. (Basic Cost + Insurance + Transportation + Duty)**

- b. The loading, if any, on account of LD penalty, payment terms or any other cost determined at later stage, which shall be communicated to the vendor.**
 - c. Evaluation of comparative statement will be done after combining all items together and order will be placed accordingly.**
- 15. Tenders when finalized shall be in the name of the bidder only and change of name during tender evaluation (without certificate from registrar of company) and after submission of the tender is liable to make the offer ineligible for participation.
- 16. All test certificates to be submitted in TRIPLICATE along with dispatch documents.
- 17. BHEL reserves the right to open the price bid (part-II) along with the opening of techno-commercial offer at its option and in that case vendor will be informed accordingly.
- 18. BHEL reserves the right to go for reverse auction. Vendors are requested to give their best price. In case of failure of reverse auction the paper bid shall be processed. 'Guidelines for Reverse Auction are available at following link- http://www.bhel.com/vender_registration/vender.php**
- 19. Total weight--/Gross/Net in Kg & also package size essentially should be indicated if not exact then approximate.
- 20. BHEL will evaluate the technical bids against essential criteria/requirements. BHEL may seek clarifications, if required, from the qualified bidders only. These clarifications will be communicated to the eligible vendors. **The offers of those bidders, who are unable to respond in specified time frame, are likely to be ignored.**

Note: Please visit our site www.bhelhwr.co.in for General Instructions and Standard Terms & Conditions (GISTC) for Tender Enquiries for Indian & Foreign Vendor (Annexure- XII & XIII). All the bidders/vendors must ensure compliance of these GISTC. GISTC can also be referred by login to B2B Portal for BHEL approved Vendors.

IN CASE YOU ARE NOT MAKING AN OFFER AGAINST THIS ENQUIRY, THEN PLEASE ARRANGE TO SEND A LETTER OF REGRET.

DETAILS OF COMPOSITION OF PART-I (TECHNO-COMMERCIAL BID), PART-II (PRICE BID) & PART-III (VENDOR REGISTRATION FORM)

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

- a. Confirmation to Minimum Qualification Requirement and Quality Requirement as per Annexure-VI.
- b. Complete technical offer as per specification, drawings, technical requirement along with un-priced bid.
- c. Delivery schedule.
- d. Inspection charges by LRS/TUV/BV separately for foreign vendors.
- e. Validity of offer to be indicated.
- f. **Annexure- VIII** - Compliance sheet for technical/commercial terms and conditions for two part tender.
- g. **Deviation with reference to specification/drawing, if any, should be clearly indicated on a separate sheet.**
- h. Details of activity outsourced.
- i. Quality Plan as per Annexure- IX.
- j. Integrity Pact in the enclosed format as per Annexure- XI.

PART –II (Price Bid)

- a. Price bid with prices to be submitted as part-II of the tender.
- b. Prices should remain firm till the execution of the order.
- c. **In case of foreign vendors, Please quote your rates with C&F Landing Port.**
- d. **In case of Indigenous vendor, prices may be quoted on FOR- Destination- Store-HEEP-BHEL basis.**
- e. LRS/TUV/BV inspection charges to be quoted separately in case of foreign vendors.
- f. **Prices are to be written in both Figures & Words. In case of any difference between the two, the figure written in words shall be considered for evaluation. No over writing in this is acceptable.**

Part-III - Vendor Registration Form (SRF)
(SRF-Foreign Suppliers or SRF-Indian Suppliers)

- a. **Supplier/Vendor Registration Form-** Go through online supplier registration portal <https://supplier.bhel.in/> after filling the online registration form send the copy of same along with your offer within due date.
- b. The SRF (as applicable) duly filled up will be assessed for manufacturing capability quality systems being followed, organizational soundness and financial worthiness. The same shall be submitted with Part-I (Techno-Commercial Bid) by un-registered vendor only with BHEL, HEEP, Haridwar.

MARKING OF ENVELOPE:

- Each envelop is to be super scribed as “TENDER FOR “**(DRILLED CONDENSER TI-CLAD TUBE PLATE & TITANIUM CLAD TEST PLATE)**” AGAINST TENDER NO. F/T237/2017/3179/K/1 DUE ON **08.11.2017**.
- Drafts for EMD to be kept in one envelop – Envelop –A. On the Top of the envelope, please write Draft No., Issuing Bank Details & Amount. Those vendors who are quoting for more than one tender must submit a statement in the envelopes of all those tenders giving details of all the tenders being quoted. However, the draft of each tender should be kept in individual tender envelop.
- **Techno-Commercial and duly filled signed & stamped Integrity Pact as per Annexure-XI** - Part-I to be kept in another envelop – Envelop-B & to be marked as Techno-Commercial Offer.
- Copy of vendor Registration Form - Part –III to be kept in another envelop – Envelop – C & to be marked as Vendor Registration Form.
- Price Bid – Part-II to be kept in another envelop – Envelop-D & to be marked as Price Bid.
- Envelop-A, Envelop-B, Envelop-C & Envelop-D are to be kept in one envelop super scribed as above

Envelopes not marked as above are liable to be ignored and will not be opened.

ANNEXURE-VI

Minimum Qualification Requirement

Following is the mandatory requirement. Offer of Vendors not meeting these requirements will not be considered.

➤ Technical Requirements-

Sl. No.	Technical Requirement	Vendor's confirmation (Y/N)
01	Bidder (principal manufacturer) should have manufactured and supplied at least 4 nos. Titanium Clad tube plates of condenser for power plant application by explosion bonding process in last 8 years from the date of BHEL enquiry as per following details. Each tube plate supplied should be: d) 18 m² in area or more (tube plate area) e) Total thickness of plate should be 37 mm or more. Titanium Clad thickness to be 3 mm or more. f) Width of Ti Clad tube plate should be more than 3.3 meter. AND 1.1) Bidder or its sub-vendor(s) should have manufactured and supplied minimum two numbers Drilled Titanium Cladded Tube Plate in last 8 years from the date of BHEL enquiry, as per following details. Each tube plate supplied should be: f) 13 m² in area or more (tube plate area) g) Total thickness of plate should be 37 mm or more. Titanium Clad thickness to be 3 mm or more. h) Width of Ti Clad tube plate should be more than 3.3 meter. i) No. of tube holes drilled per plate should be 7000 or more. j) The Ti clad tube plate should have been drilled on CNC drilling machine.	
02	Required documents to be furnished by bidder in support of PQR are mentioned in ANNEXURE-1. All PQR documents (including sub-vendor documents as applicable) are to be signed and stamped in original by bidder and sub-vendor documents to be signed and stamped in original by sub-vendor also.	

03	Bid from representative of principal manufacturer is also acceptable, following documents/confirmation to be furnished in this case: iii. BHEL enquiry specific agreement between principal manufacturer and its representative, duly signed and stamped by both parties, clearly indicating that both parties are jointly and individually responsible for all liability and execution, in case of award of order, without any limitation. iv. All PQR documents are to be signed and stamped in original by both principal manufacturer and its representative and in case, documents are in language other than English, the English translated copies of the documents, duly certified, should also be furnished.	
04	In case, PQR documents are in language other than English, the English translated copies of documents, duly certified, should also be furnished.	
05	If the bidder has submitted bid in its name then it shall not be a party of any JV/partnership bidding in this enquiry. Bids not satisfying above shall be disqualified.	
Note- This is applicable for both registered as well as un-registered vendors.		

➤ **Quality Requirements-**

Sl. No.	Quality Requirement	Vendor's confirmation (Y/N)
01	All vendors to submit detailed quality plan as per enclosed format (Annexure IX) for BHEL review & approval. Inspection by third party (LRS/TUV/BV) for import and BHEL nominated agency 'TUV' for indigenous as per BHEL approved QP.	
Note- This is applicable for both registered as well as un-registered vendors.		

Signature with stamp

Name:

Name of Firm:

Designation:

Date:

ANNEXURE-VII

(Item Details and Delivery Schedule)

Item No	Material Description	Qty.	Delivery
1	W96711609212 DRG: 2160187005400 REV:00 DRILLED CONDENSER TI-CLAD TUBE PLATE AS PER TDC NO. TDCF- 21601870054 VAR 00	16 Nos.	15.03.2018
2	W97716018116 TITANIUM CLAD TEST PLATE, 46MM TK (BASE PL:40MM-SA516 GR70 (SUPPLEMENTARY REQUIREMENT S1, S5 AND S8) CLAD PL:6MM-AS PER SPEC.) SPEC: AA14001 REV: 01 SIZE: 46X300X300 DIM.: THXWXL	16 Nos.	15.03.2018
3	W97716018140 TITANIUM CLAD TEST PLATE 43 MM TK(BASE PL:40MM-SA516 GR 70(SUPPLEMENTARY REQUIREMENT S1,S5 AND S8),CLAD PL:3 MM AS PER SPEC) SPEC: AA14001 REV: 01 SIZE: 43X300X300 DIM.: TK X W X L	4 Nos.	15.03.2018

NOTE:

1. The quantity indicated above can be increased/ decreased.
2. TITANIUM CLAD TEST PLATE (Item No-2 & 3) are to be procured from the supplier of DRILLED CONDENSER TI-CLAD TUBE PLATE (Item No-1).
3. Evaluation will be done after combining all the items (Item No-1, 2 & 3).

To follow CVC guidelines, intending vendors has to comply all terms and conditions of integrity pact. Hence, submit two ink-signed copies of filled in integrity pact along with your offer in the enclosed format of integrity pact as per Annexure- XI.

ANNEXURE-VIII

**COMPLIANCE SHEET FOR TECHNICAL/COMMERCIAL TERMS AND CONDITIONS
FOR TWO PART TENDER**

**PLEASE FILL THIS ANNEXURE & ATTACH WITH YOUR TECHNO-COMMERCIAL
BID.**

Offer must be sent in two separate sealed envelopes containing techno-commercial offer in one envelope marked “TECHNO-COMMERCIAL BID” and prices in second envelope marked “PRICE-BID”. Both the envelopes must be contained in the main envelope. Tender name and due date to be marked on all the envelopes.

You are requested to kindly confirm /clarify the following:-

S. No.	Description	Vendor's Confirmation
1	Vendor to confirm that they meet each & every clause of our specifications/Drawings.	YES / NO
2	If “No” to serial number 1, vendor to specify each deviated clause & submit in a separate sheet.	
3	Vendor to list out on a separate sheet any activity which is outsourced. Please furnish details of out sourced vendor.	
4	Validity: confirm that validity of the offer shall be 90 days from the date of tender opening.	YES / NO
5	Confirm that un-priced part of price bid is enclosed with technical commercial offer	YES / NO
6	Confirm delivery quoted as per enquiry	YES / NO
7	For foreign Vendors- Confirm that you have quoted your rates with C&F Landing Port with third party inspection charges separately. For Indigenous Vendors- Confirm that you have quoted your rates on FOR Destination basis.	YES / NO
8	Confirm that Loading Port has been mentioned.	YES / NO
9	Confirm that prices shall be firm and fixed throughout delivery period.	YES / NO
10	Confirm that payment term shall be “100% payment after receipt and acceptance of material at BHEL HECP- Store Haridwar”.	YES / NO
11	LD Penalty shall be applicable on total order value @0.5% per week or part thereof subject to maximum of 10% of unexecuted portion of the PO Value.	YES / NO
12	Confirm that all test certificates to be submitted as per BHEL specification. in TRIPLICATE along with despatch documents.	YES / NO
13	Right of acceptance – BHEL reserves the right to reject any or all quotations without assigning any reasons thereof. BHEL also reserves the right to increase or decrease the tendered quantities. Vendors should be prepared to accept order for reduced quantities without any extra charges. Vendor should also be prepared for giving discount in case of increase in quantity.	YES / NO
14	Confirm specifically that material shall be supplied as per tender documents.	YES / NO
15	Ink signed order acceptance shall be furnished within 15 days of order placement.	YES / NO
16	Confirm if there is Indian agency commission.	YES / NO
17	Please confirm to participate in Reverse Auction.	YES / NO
18	Confirm acceptance of Risk Purchase clause.	YES / NO
19	Confirm to send original ink signed copy of offer, if offer has been sent through email or FAX or photocopy has been submitted.	YES / NO
20	Confirm to send two ink-signed copies of filled in integrity pact along with your offer in the enclosed format of integrity pact as per Annexure- XI.	YES / NO

Special terms and conditions

- a. The Ti Clad Tube Plate shall be manufactured by explosion bonding process.
- b. In the Ti Clad Tube Plate, there shall not be more than two number joints in Titanium sheet before cladding and no joint in Carbon steel base plate. Radiography testing of all such joints shall be done by vendor.
- c. Location of detonator shall be in non-drilling zone of Ti clad plate.
- d. Vendor (principal manufacturer) to mark the detonation point (of explosion bonding process) on Ti Clad plate using non removable paint before dispatch of plate.
- e. Lifting capacity at vendor works should be 10 Tons and above.
- f. Vendor to furnish Manufacturing Plan (MP) indicating sequence of operation and stage inspection (like plate straightening, packet making, marking on CNC machine drilling etc.) and Quality Plan (QP) with the offer for BHEL approval.
- g. Vendor to furnish clause wise confirmation of technical delivery conditions (Doc. No. TDC-F-21601870054-00).
- h. Drilling of Ti clad tube plate shall be carried out on CNC drilling machine.
- i. Vendor shall ensure packing with proper supports and protection against external hazards during transportation of drilled Ti clad tube plate and shall submit Packing drawing of same for BHEL approval.

ANNEXURE- IX

(Quality Plan Format)

MANUFACTURER'S NAME AND ADDRESS			QUALITY PLAN						TO BE FILLED BY BHEL			TO BE FILLED BY BHEL										
BHEL	VENDOR'S NAME		ITEM	QP NO. REV		AS PER PO AS PER PO		DRG. NO. SPEC. REV		Page 1 of 1		REFERENCE DOCUMENT		ACCEPTANCE NORMS		FORMAT OF RECORDS		AGENCY M B N 10 D			REMARKS	
1	2	3	4	5	6	7	8	9	D	M	B	N	10	11								

[illegible]

			FOR CUSTOMER USE	
MANUFACTURER/SUBCONTRACTOR		LEGEND: ! RECORDS IDENTIFIED WITH 'TICK' SHALL BE ESSENTIALLY INCLUDED BY CONTRACTOR IN QA DOCUMENTATION. M: MANUFACTURER / SUBCONTRACTOR B: BHEL / NOM. INSPECTION AGENCY N: CUSTOMER INDICATE 'P' PERFORM 'W' WITNESS AND 'V' VERIFICATION ALL 'W' INDICATED IN COLUMN 'N' SHALL BE 'CHP' OF CUSTOMER	APPROVED BY	

ANNEXURE- X

Certificate by Chartered Accountant on letter head

This is to Certify that M/s
(hereinafter referred to as 'company') having its registered office atis
registered under MSMED Act 2006, (Entrepreneur Memorandum No (Part- II)
.....dtd:.....,
Category:.....(Micro/Small).(copy enclosed).

Further verified from the Books of Accounts that the investment of the company as
on dateas per MSMED Act 2006 is as follows:

1. **For Manufacturing Enterprises:** Investment in plant and machinery (i.e. original cost excluding land and building and the items specified by the Ministry of Small Scale Industries vide its notification No. S.O.1722(E) dated October 5, 2006:
Rs.....Lacs
2. **For Service Enterprises:** Investment in equipment (original cost excluding land and building and furniture, fittings and other items not directly related to the service rendered or as may be notified under the MSMED act, 2006:
Rs.....Lacs

(Strike off whichever is not applicable)

The above investment of RsLacs is within permissible limit of Rs..... Lacs for
.....micro / small (Strike off which is not applicable) Category under MSMED Act 2006.

Or

The company has been graduated from its original category (Micro / Small) **(Strike off whichever is not applicable)** and the date of graduation of such enterprises from its original category is
(dd/mm/yyyy) which is within the period of 3 years from the date of graduation of such enterprises from its original category as notified vide S.O. No. 3322(E) dated 01.11.2013 published in the gazette notification dated 04.11.2013 by Ministry of MSME.

Date:

(Signature)

Name-

Membership Number-

Seal of Chartered Accountant

ANNEXURE- XI

INTEGRITY PACT

Between

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

and

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

Preamble

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

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

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

Section 1 – Commitments of the Principal

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

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

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

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

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

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

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

Section 4 – Compensation for Damages

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

Section 5 – Previous Transgression

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

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

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

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

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

Section 8 –Independent External Monitor(s)

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

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

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

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

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

Section 9 – Pact Duration

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

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

Section 10 – Other Provisions

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

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

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

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

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

For & On behalf of the Principal

(Office Seal)

For & On behalf of the Bidder/ Contractor

(Office Seal)

Place-----

Date-----

Witness: _____

(Name & Address) _____

Witness: _____

(Name & Address) _____

ANNEXURE- XII

General Instructions and Standard Terms & Conditions (GISTC)

For Indian Bidders



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-2017,Rev: 01)

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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).

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) 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.
- c) The bid / quotation must be posted before due date, keeping allowance for postal transit time. Alternatively, the tenders duly sealed and super-scribed as above may be deposited in the Tender Box. 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.
- d) 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

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



BHARAT HEAVY ELECTRICALS LIMITED

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submitted with forwarding letter and duly signed and stamped as mentioned above in clause c.

- e) 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.
- f) 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.
- g) The bidders will submit Integrity Pact, duly signed by its authorized signatory, along with their bids wherever estimated tender value is Rs. 5 Crore or more.
- h) In case of open tender, the unregistered bidder shall submit inter alia duly filled-in Supplier Registration Form (SRF) along with the bid. Bidders can download the SRF from www.bhel.com
- i) 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.

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, for price bid opening on that particular day. General authorization letter is not acceptable.

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. 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 the company.

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.

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



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- 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) No demurrage / godown rent will be payable to the vendor / vendor's transporter for any delay in payments attributable to the vendor.

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

7. REVERSE AUCTION.

- a) BHEL reserves the right to go for Reverse Auction (RA) instead of opening the sealed envelope price bid, submitted by the bidder. This will be decided after Techno-Commercial Evaluation. All bidders to give their acceptance for participation in RA. Non-acceptance to participate in RA may result in non-consideration of their bids, in case BHEL decides for RA. Detailed guidelines available at our site www.bhel.com
- b) In case BHEL decides to go for Reverse Auction, only those bidders who have given their acceptance to participate in RA will be allowed to participate in the Reverse Auction. Those bidders who have given their acceptance to

participate in Reverse Auction will have to necessarily submit 'online sealed bid' in the Reverse Auction. Non-Submission of 'online sealed bid' by the bidder will be considered as tampering of the tender process and will invite action by BHEL as per extant guidelines in vogue.

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%.

9. PENALTY FOR LATE DELIVERY.

- a) Date of delivery will be considered as per the delivery terms mentioned in the Purchase Order. Penalty will be applicable on total order value @0.5% per week or part thereof subject to maximum of 10% of the PO value unless otherwise specified in Special Conditions of tender enquiry. Acceptance / Non Acceptance of this condition must be specifically mentioned in your quotation. Any deviation from this will be loaded accordingly i.e. BHEL shall load maximum penalty under penalty for late delivery Clause, to the extent the same is not agreed by the bidder, for the purpose of evaluation.
- b) 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.
- c) Commencement of delivery period shall be reckoned from the date of PO / LOI or any other agreed milestone.
- d) Bidder shall deliver the goods in the manner and schedule agreed under the terms and conditions of Purchase order.
- e) **DELIVERY IN CASE OF REJECTION:** In case the material is rejected, then date of replacement will be considered as the actual date of delivery.
- f) **DELIVERY AGAINST BANK DOCUMENTS:** In case payment terms quoted by bidder are documents through bank, and

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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 penalty purpose.

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

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.

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

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the price must be indicated separately. In case quantum of IGST is not mentioned by the bidder the same will not be considered for evaluation. However, bidder will have to pass on the benefit of IGST to BHEL at the time supply.

- i) 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. 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.

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



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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 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.

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:

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

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BHARAT HEAVY ELECTRICALS LIMITED

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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. BHEL reserves the right to claim damages from the bidder, or take appropriate penal action as deemed fit against the bidder, for any infringement of the provisions contained herein.

21. SETTLEMENT OF DISPUTES / ARBITRATION.

In all cases of dispute the matter shall be referred for ARBITRATION by sole arbitrator to be appointed by the Unit Head of Bharat Heavy Electricals Ltd., at HARIDWAR. The award of the Arbitrator shall be final and binding on both the parties. The place of Arbitration shall be Haridwar.

JURIDICTION: The courts of Haridwar, India, shall have exclusive jurisdiction.

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 (Format enclosed at annexure-1 where deemed validity of EM II certificate of five years has expired) applicable for the relevant financial year (latest audited). Date to be reckoned for determining the deemed validity will be the date of bid opening (Part 1 in case of two part bid). Non submission of such documents will lead to consideration of their bid at par with other bidders. No benefit shall be applicable for this enquiry if any deficiency in the above required documents is 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 required documents are to be

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uploaded on the portal. Documents should be notarized or attested by a Gazetted officer."

- 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) Valid NSIC Certificate or
- 2) Udyog Aadhaar Memorandum or
- 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) Any Start-Up Organization will be eligible to avail all the benefits as provided by Govt. guidelines after submitting the required documents.

However, credentials of all MSE suppliers will be verified before advancing the intended benefits.

- c) 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.
- d) 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 20% 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 20% quantities of respective items will be considered for ordering on proportionate basis amongst MSE bidders.
- e) While distributing the 20% 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.

- f) 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 .
- k) 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.
- l) If L1 bidder is MSE bidder, entire quantity will be given to such MSE bidder only.
- m) Note: It may however be noted that MSE guidelines as on date (Date of Technical Bid Opening Part-1) shall prevail

24. INFORMATION TO THE BIDDERS.

- a) Purchase related information is available at our Business-to-Business (B2B) Portal available on our website www.bhelhwr.co.in 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 ppx_idx@bhelhwr.co.in 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 www.bhelhwr.co.in

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

25. 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.

ANNEXURE-XIII

General Instructions and Standard Terms & Conditions (GISTC)

For Foreign Bidders



BHARAT HEAVY ELECTRICALS LIMITED

HEEP-HARIDWAR, UTTARAKHAND (249403)

General Instructions and Standard Terms & Conditions for bidding against Tender Enquiry (GISTC) For Foreign Bidders (Version June-2017, Rev: 01)

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23. NOTE.

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).

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) 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.
- c) The bid / quotation must be posted before due date, keeping allowance for postal transit time. Alternatively, the tenders duly sealed and super-scribed as above may be deposited in the Tender Box. Quotations sent by any mode but not received

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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.

- d) 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 as mentioned above in clause c.
- e) 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.
- f) 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 of such PMD vendor from BHEL's approved vendor list.
- g) The bidders will submit Integrity Pact, duly signed by its authorized signatory, along with their bids wherever estimated tender value is Rs. 5 Crore or more.
- h) In case of open tender, the unregistered bidder shall submit inter alia duly filled-in Supplier Registration Form (SRF) along with the bid. Bidders can download the SRF from www.bhel.com

- i) 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.
- j) BHEL may also reduce the Tender Quantity for offering it to Micro & Small Enterprise (MSE) Indian Vendors as per applicable Government of India rules whose prices are within 15% of L1 prices as per directives of Government of India.

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, for price bid opening on that particular day. General authorization letter is not acceptable.

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

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- 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 the company.

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) Bidders need to quote their prices on CFR any sea port in Mumbai or FCA basis to the named airport in Euro / USD / JPY / UK Pound / SF / Singapore Dollar or any other Internationally freely tradable currency only. The name of the currency should be clearly indicated in your bids.
- d) Offers received other than CFR basis may result in non-consideration of such bids.
- e) However if BHEL agrees to accept the FOB condition, to arrive at landed cost at our plant / site, the FOB prices shall be loaded for 3% (of FOB Value) towards marine insurance, port handling charges & inland freight or actual freight / port handling charges as per BHEL contract whichever is higher.

f) Basis of Evaluation for Bid / Quotation in foreign currency:

- I. Currency exchange rate (TT selling rates of SBI) for evaluation of the bid/quotation received in foreign currency will be as follows:
- II. Single part bid – Date of tender opening.
- III. Two / Three part bid – Date of part 1 opening.
- IV. Reverse auction – Date of part-1 opening.

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

g) Evaluation of Indian Agents Commission:

- I. BHEL prefers to deal directly with foreign bidder, wherever required, for procurement of Goods. However if the Foreign Principal desires to avail services of an Indian Agent then the Principal should ensure compliance to applicable guidelines.
- II. The FOB / CIF price quoted will be deemed to be inclusive of Indian Agency commission. Agency commission if payable shall be converted to Indian Rupees at TT buying rates of exchange ruling on tender opening date which shall not be subjected to any further exchange rate variation, as disclosed by the bidder in his quoted FOB / CIF price will be paid in Indian Rupees on receipt & acceptance of Materials or it's installation at destination, as the case may be. The lower of the TT buying rate prevailing on the date of technical bid opening shall be considered for computation of Agency commission.
- III. In a tender either the Indian Agent on behalf of Principal / OEM or the Principal / OEM itself can bid, but both cannot bid simultaneously for same item / product in the same Tender. If both OEM and its authorized agent submit their bids

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separately in that case only the offer of OEM can be considered as an exception.

h) While submitting your bids please clearly indicate:

- I. Expected weight of goods (lots wise).
- II. The size of packed goods.
- III. Whether the goods can be dispatched in containers?
- IV. Port of Loading.
- V. Port of Discharge.

7. REVERSE AUCTION.

- a) BHEL reserves the right to go for Reverse Auction (RA) instead of opening the sealed envelope price bid, submitted by the bidder. This will be decided after Techno-Commercial Evaluation. All bidders to give their acceptance for participation in RA. Non-acceptance to participate in RA may result in non-consideration of their bids, in case BHEL decides for RA. Detailed guidelines available at our site www.bhel.com
- b) In case BHEL decides to go for Reverse Auction, only those bidders who have given their acceptance to participate in RA will be allowed to participate in the Reverse Auction. Those bidders who have given their acceptance to participate in Reverse Auction will have to necessarily submit 'online sealed bid' in the Reverse Auction. Non-Submission of 'online sealed bid' by the bidder will be considered as tampering of the tender process and will invite action by BHEL as per extant guidelines in vogue.

8. DELIVERY TERMS.

- a) Goods shall be dispatched by sea, unless stated otherwise in the tender enquiry or purchase order.

- b) In the event of bidder offering CFR delivery terms for delivery in FCL (Full Container Load), the bidder shall provide 21 days' time free of detention for General Purchase Container / High Cube Container and 14 days for the other types from the date of delivery at delivery port. Wherever the detention free period offered is less than the above specified period, the consequential cost at port of clearance shall be to the account of the bidder. Number of detention free days must be mentioned on Bill of Lading (BL).
- c) In case of CFR delivery, Port congestion charges or any additional charges claimed by shipping line till delivery at destination port shall be to the bidder's account.
- d) Specifically confirm your agreement to change the mode by Air at BHEL's request as per mutually agreed terms even after placement of Purchase Orders.
- e) The Trans-shipment is not permissible in case of Break Bulk Cargo. In rest of the case Trans-shipment condition in BHEL purchase order / letter of credit will be as per Uniform Custom and Practice for documentary credits, UCP 600 of International Standard Bank proceed re-issued by International chamber of Commerce (ICC).
- f) No demurrage / godown rent will be payable to the vendor / vendor's transporter for any delay in payments attributable to the vendor.
- g) The shipping line should be ready to move the containers to consignees nominated CFS (Container Freight Station) yard and Indian agent of shipping line should issue Cargo Arrival Notice (CAN) 7 days in advance for filing the IGM (Import General Manifest) at discharge port.

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- h) In case of CFR contract, bidder to supply the material through a Certified Sea worthy vessel.
- i) A certificate of origin (COO) sanctioned in country of origin from chamber of commerce of the manufacturing country is mandatory to be provided. However a certificate of origin (COO) from the countries under the restricted list of Govt. of India will not be acceptable.
- j) For reasons of delay in receipt of documents from suppliers or due to the same being found to be incomplete, and / or faulty, the suppliers shall be responsible to reimburse in all demurrages / wharfages, if any paid by BHEL (for stated reasons).
- k) **The invoices being issued by shipping lines must be in the name of BHEL. Otherwise, BHEL will have to forego Input Credit on GST.**
- l) While booking the shipment, bidder to also finalize **destination charges** and the same should appear over BL or agreed tariff to be provided to BHEL before arrival of shipment.
- m) If cargo is stuffed in container then the same should be allowed to be moved to CFS of importers choice without any additional charges.
- n) Load port charges shall be settled by the supplier and not be passed on to BHEL in form of destination charges.
- o) NNDs (Non Negotiable Documents) (preferably with OBLs) should be sent at least 7 days in advance i.e. 7 days before the arrival of vessel so as to enable BHEL to move the containers to JWC CFS.
- p) **Information related to OBL / AWB Documents:**
- I. Consignee name and address should be same as mentioned in the Purchase order.
- II. Notify party: Name and address will be as follows :(For discharge port Mumbai or Nhava Sheva)
Bharat Heavy Electricals Limited
14th Floor World Trade Centre-1, Cuffe Parade, Colaba, Mumbai -400005
Email: msseahwr@bhel.in & ppximx@bhelhwr.co.in (in case of Sea Shipments)
Email: msair@bhel.in and ppximx@bhelhwr.co.in (in Case of Air shipments)
For latest updating please refer our web site: www.bhelhwr.co.in
- III. OBL should clearly mention the Indian agent address and contact details.
- IV. OBL should be issued as per UCP 600.
- V. In case of incoterms other than FOB, OBL should mention the container detention free period.
- VI. In case of placement of an Order, BHEL requests bidder to supply one Original Bill of Lading / AWB directly to their Mumbai office with other non-negotiable documents to ensure timely clearance of goods. The other Original Bill of Ladings may be routed through bank based on the other agreed terms and conditions of purchase order.

9. PENALTY FOR LATE DELIVERY.

- a) Date of delivery will be considered as per the delivery terms mentioned in the Purchase Order. Penalty will be applicable on total order value @0.5% per week or part thereof subject to maximum of 10% of the PO value unless otherwise specified in Special Conditions of tender enquiry. Acceptance / Non Acceptance of this CONDITION

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must be specifically mentioned in your quotation. Any deviation from this will be loaded accordingly i.e. BHEL shall load maximum penalty under penalty for late delivery Clause, to the extent the same is not agreed by the bidder, for the purpose of evaluation.

- b) 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.
- c) Commencement of delivery period shall be reckoned from the date of PO / LOI or any other agreed milestone.
- d) Bidder shall deliver the goods in the manner and schedule agreed under the terms and conditions of Purchase order.
- e) The delivery date for penalty purpose will be the Bill of Lading Date / Air way bill.

10. PAYMENT TERMS.

- a) BHEL's standard payment term is Payment after Receipt and Acceptance of Material / Item 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) Where the payments are through bank, the documents may be presented for negotiation through BHEL designated banks which will be

specified in Purchase order. Documents should be submitted within 5 days of vessel sailing and receipt of OBL from shipping line.

- e) In case BHEL agrees for payment through LC, the same shall be irrevocable, unconfirmed and will be opened 30 days prior to the scheduled delivery and will be valid for a period of 60 days.

11. 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. 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.

12. GUARANTEE / WARRANTY AND CORRESPONDING REPAIRS / REPLACEMENT OF GOODS.

- a) 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

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



BHARAT HEAVY ELECTRICALS LIMITED

HEEP-HARIDWAR, UTTARAKHAND (249403)

General Instructions and Standard Terms & Conditions for bidding against Tender Enquiry (GISTC) For Foreign Bidders (Version June-2017, Rev: 01)

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) In case the material is rejected, then date of replacement will be considered as the actual date of delivery.
- c) 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.

13) 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).

14. 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.

15. 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.
- 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 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.

16. TRANSIT INSURANCE.

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



BHARAT HEAVY ELECTRICALS LIMITED

HEEP-HARIDWAR, UTTARAKHAND (249403)

General Instructions and Standard Terms & Conditions for bidding against Tender Enquiry (GISTC) For Foreign Bidders (Version June-2017, Rev: 01)

- a) Transit Insurance will be covered by BHEL under its open Marine Insurance Policy. Seller shall inform dispatch particulars (Purchase Order, RR / GR / BL / AWB, 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.

17. PHYTOSANITARY CERTIFICATE:

- a) As per the Indian Law, all consignments being imported into India by air/sea require a phytosanitary certificate from the country of origin-if articles have been packed with wooden packaging materials. This is mandatory. Please confirm in your offer/dispatch documents that the required phytosanitary certificate will be submitted.
- b) Packaging material means any kind of material of plant origin used for packing which include hay, straw wood shavings, wood chips, saw dust, wood waste, wooden pallets, dunnage mats, wooden packages, coir pith, peat or sphagnum moss etc.

18. RISK PURCHASE.

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.

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:

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

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BHARAT HEAVY ELECTRICALS LIMITED

HEEP-HARIDWAR, UTTARAKHAND (249403)

General Instructions and Standard Terms & Conditions for bidding against Tender Enquiry (GISTC) For Foreign Bidders (Version June-2017, Rev: 01)

- 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.

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. BHEL reserves the right to claim damages from the bidder, or take appropriate penal action as deemed fit against the bidder, for any infringement of the provisions contained herein.

21. SETTLEMENT OF DISPUTES / ARBITRATION.

Any dispute / difference arising out of or in connection with this contract, including any question regarding its existence, validity or termination, shall be referred to and finally resolved by arbitration under the Arbitration and Conciliation Act, 1996 of India by a Sole Arbitrator to be appointed with mutual consent of the parties. Such Sole Arbitrator shall be either a retired judge of Supreme Court or High Court or District Court of India or some Advocate having practiced in Indian Courts. The seat or place of arbitration shall be New Delhi, India. The language to be used in the arbitration shall be English. The governing law of the contract shall be the substantive law of India. In case the parties fail

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



BHARAT HEAVY ELECTRICALS LIMITED

HEEP-HARIDWAR, UTTARAKHAND (249403)

General Instructions and Standard Terms & Conditions for bidding against Tender Enquiry (GISTC) For Foreign Bidders (Version June-2017, Rev: 01)

to agree on the appointment of arbitrator within 2 months of the notice invoking arbitration by one party, then the arbitrator shall be appointed in accordance with the Arbitration and Conciliation Act, 1996 of India.

JURIDICTION: The courts of New Delhi, India, shall have exclusive jurisdiction.

22. INFORMATION TO THE BIDDERS.

- a) Purchase related information is available at our Business-to-Business (B2B) Portal available on our website www.bhelhwr.co.in. 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 ppx_idx@bhelnwr.co.in 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 www.bhelhwr.co.in.
- d) Copy of this Tender Enquiry is being sent through the post/ Courier / E-mail or by any existing means.
- e) Invoice description and Unit of measurement should be strictly in accordance with Purchase order.
- f) Unit of measurement for dimension and weight should be in metric system only.

23. 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. Guidelines 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.

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

ANNEXURE-XIV

**Drawing No 2160187005400 for Machining & Hole Drilling Layout & Drawing and Main
Tube Plate.**

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IT MUST NOT BE USED DIRECTLY OR INDIRECTLY IN ANY WAY DETRIMENTAL TO THE INTEREST OF THE COMPANY

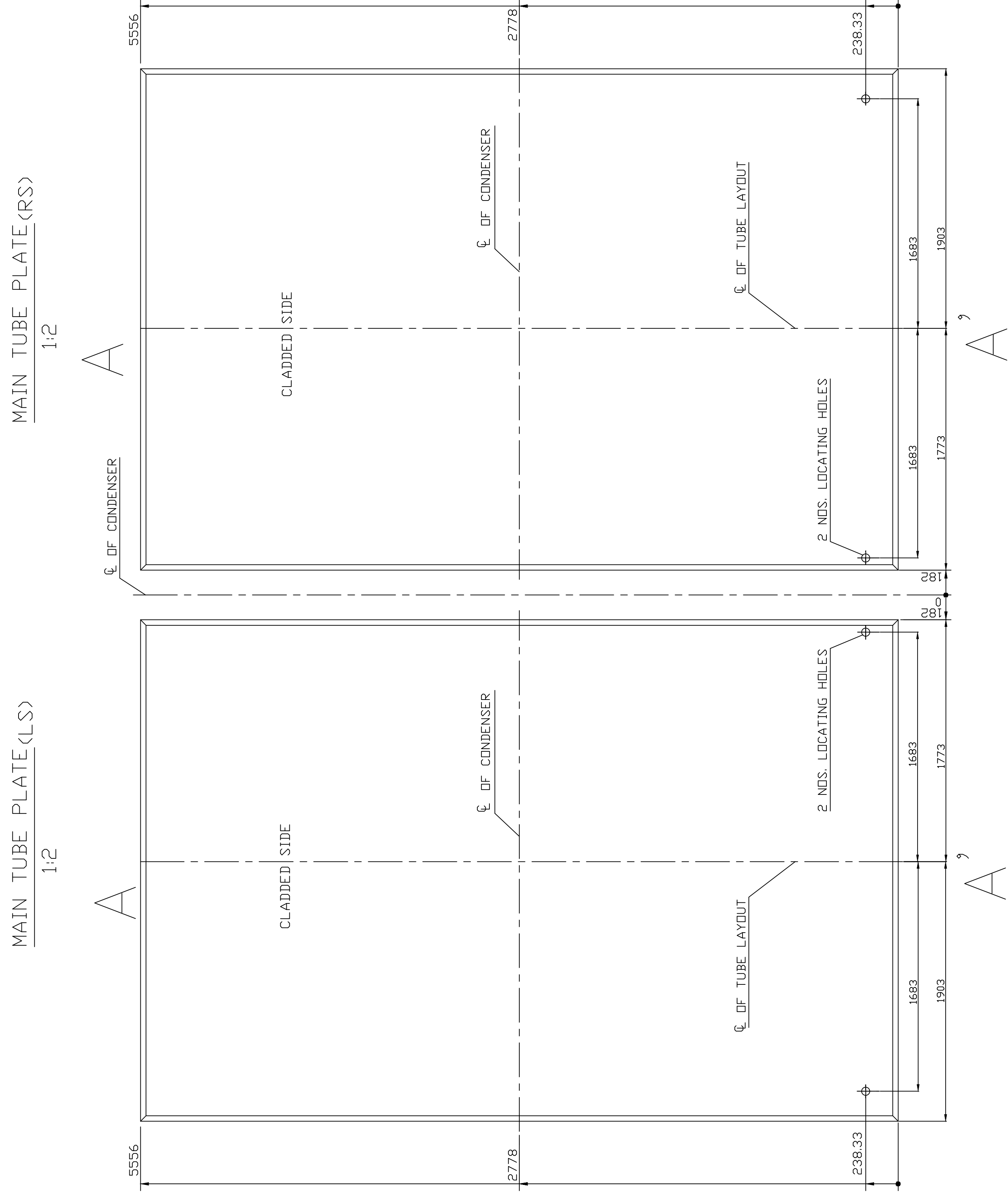
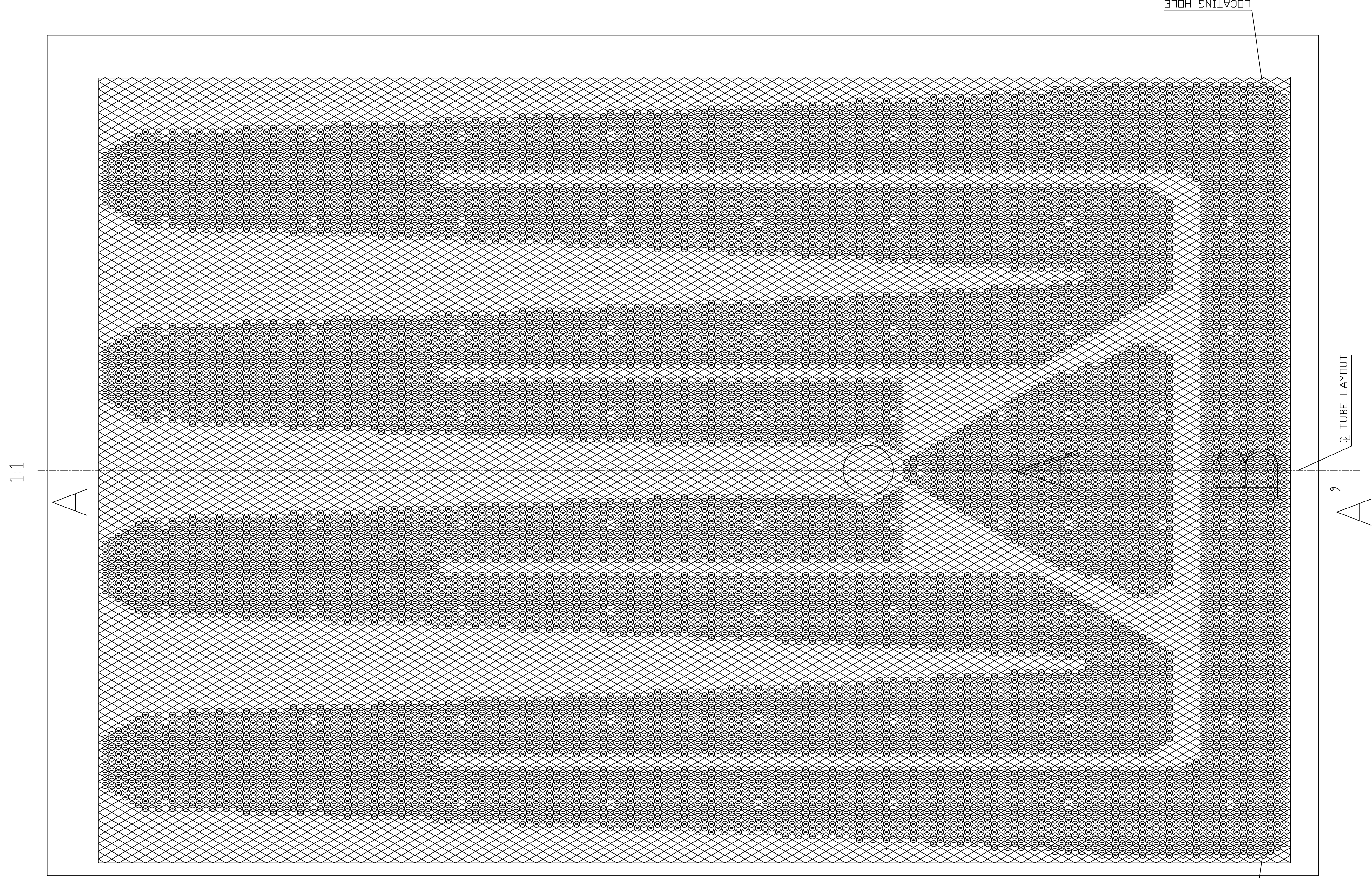
INVENTORY No.	SIGN & DATE	REF. DRAWING No.
---------------	-------------	------------------

SEGMENT	TOTAL HOLES IN MAIN TUBE PLATE
A	815
B	10911
TOTAL	11726

[illegible]

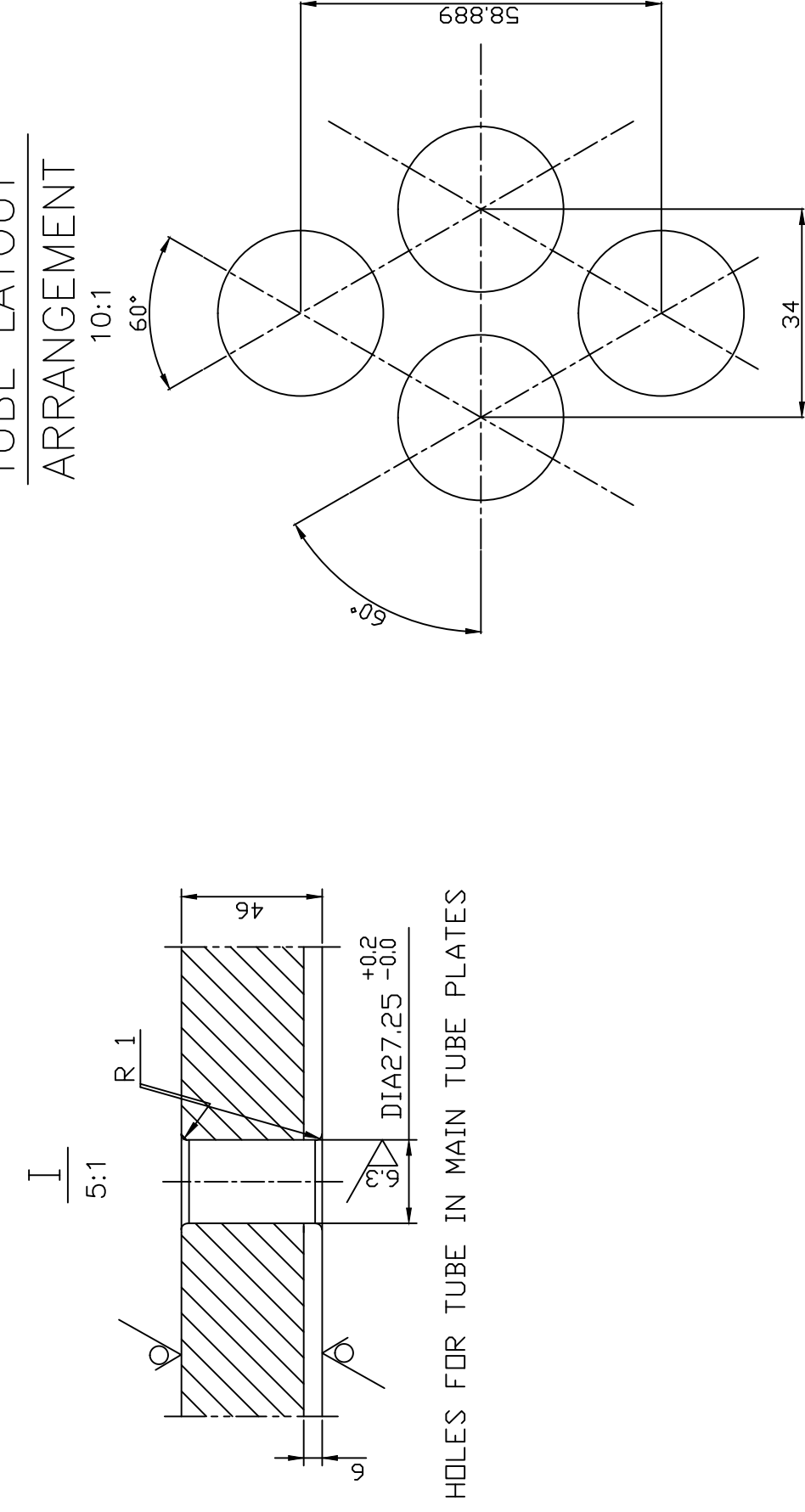
DRAWING NO.	REV.
2160187005400	00
7	22 23 24
SHEET No. 01	No. OF SHEETS 02

A0 SIZE



NOTES !

1. NO. OF TUBE HOLES IN EACH MAIN TUBE PLATE = 11726 NOS.
2. HOLE SIZES ARE AS SHOWN IN THE DETAIL 1.
3. PITCH 1- 34mm.
4. TOLERANCE ON PITCH ± 1 mm.
5. CUMULATIVE TOLERANCE ON PITCHES ± 2.0 mm
6. MINIMUM LIGAMENT BETWEEN HOLES SHOULD NOT BE LESS THAN 1 mm FROM NOMINAL.
7. NO SPIRAL OR AXIAL GROOVES IN HOLES ARE ACCEPTABLE.
8. RADIUS OF 1 MM ON BOTH SIDE OF HOLES IS FOR REMOVING BURRS FROM HOLES ONLY.
9. THE LAYOUT SHOWN IS FOR THE RIGHT HAND SIDE. LAYOUT FOR THE OTHER HALF IS THE MIRROR IMAGE OF THIS LAYOUT.
10. C/L OF TUBE LAYOUT A-A' TO BE MATCHED WITH THAT MARKED ON MAIN TUBE PLATES AS A-A'.
11. CLADDING TO BE REMOVED AND ECGE PREPARATION TO BE MADE AS PER DRAWING AT SHEET-2 OF THIS DRAWING.



HOLE DRILLING LAYOUT DRAWING

DETAIL OF TUBE HOLES:-

ANNEXURE-XV

TDC-F-21601870054-00 Rev No. 00

fnukad ,oa gLrk{kj SIGN & DATE	 HARDWAR	Technical Delivery Condition for procurement of fabricated / finish component / assembly		TDC-F-21601870054-00 Rev No. 00	
				Page	1 of 3
SUPERSEDES INVENTORY No	<u>Drilled Main Ti Cladded Tube Plate for Condenser</u> Condenser Main Tube Plate shall be manufactured with vendor material and supplied in finished condition including painting & other requirements as specified in Drawing mentioned in List of Drawings. Vendor to confirm and ensure compliance to following points during offer submission / execution of order: - Vendor shall submit Manufacturing Plan (MP) indicating sequence of operation and stage inspection (like plate straightening, packet making, marking on CNC machine drilling etc.) and Quality Plan (QP) with the offer. - Ti cladded plate shall be manufactured as per BHEL specification AA14001, Rev. 01. Vendor to confirm all clauses of referred specification. - Vendor to clearly specify details of works and facilities to be used for drilling and machining of Ti clad plate and take approval from BHEL for same. - One set of major drawings and standards are attached with the enquiry for preparation of offer by the vendor. - Test certificates of undrilled Ti cladded tube plate shall be reviewed and approved by BHEL prior to performing of drilling and machining operations on Ti clad tube plate. - Detonation point (of explosion bonding process) shall be marked on Ti Clad plate using non removable paint before dispatch of drilled Ti clad tube plate. Drawings and documents furnished to vendor are BHEL property. Strict confidentiality is to be maintained and under no circumstances these documents or copy of these should be transferred to third party without express permission of BHEL. - Checking of holes shall be done by Vendors at their works as follows: - Checking of hole size using Go-NoGo gauge. - Checking of ovality using Dial bore gauge. - Checking of ligament using Vernier calipers. - Checking of surface finish of holes. - Checking of pitch distance of two locating holes. - Checking of locating hole position from axis of tube layout along the Y-axis.				
LoRokf/kdkj ,oa xksuih; bi izysj{k esa nh xbZ lwpuK HkKjR gsoh bystDV^dYl dh lEifRr gS bldk izR;{k, oa vizR;{k :lk ls fdlh Hkh rjg iz;ksj lks fd daiuh ds fgr esa gktudkjfd					
		DEPTT. : HXE		fukad ,oa gLrk{kj SIGNATURE & DATE	
WT		fuekZ.kdrkZ WORKED BY		T.BANSAL	
QAX		tkapdrkZ CHECKED BY		R.BANSAL	
lger foHkKX AGREED DEPTT.		fukad ,oa gLrk{kj DATE & SIGNATURE		i;Zos{k.kdrkZ APPD. BY S.KANT	

fnukad ,oa gl.rk[kj SIGN & DATE	 HARDWAR	Technical Delivery Condition for procurement of fabricated / finish component / assembly		TDC-F-21601870054-00 Rev No. 00	
				Page	2 of 3
SUPERSEDES INVENTORY DATE lkexzh lwph la[k dk	g) Checking of locating hole position from vertical centerline of tube layout along the X-axis. h) Checking of no. of peripheral holes as per Drawing requirement. i) Visual checking of hole corner radius as per drawing requirements. j) Checking of no. of plugged holes and DPT of plug holes if any with BHEL permission. k) Checking of over size holes if any and recording dimensions of same. l) Marking of center line of main tube plate. m) Checking that holes marked for tie rods are not drilled. n) Identification marking of all the main tube plate contained in the packet before dispatch. o) Preservation of holes before dispatch as per drawing / Purchase order requirements. 8. Vendor to ensure following technological necessity / process control during manufacturing to control distortion and achieve dimensional accuracy: (a) Proper handling during turning, shifting and transportation. (b) Flatness as mentioned in drawing before and after drilling. (c) Use of technological supports / fixtures. (d) Main Tube Plates are not to be drilled in packets and each tube plate is to be drilled separately. No tool drift is permitted during drilling. 6. Vendor shall ensure packing with proper supports and protection against external hazards during transportation of drilled Ti clad tube plate. Packing drawing of same shall be submitted for approval by BHEL. 7. Marking of holes as per tube layout drg no.2160187005400 shall be done by CNC drilling machine. 8. Painting shall be done as specified in respective drawings. 9. Inspection of the job at supplier's works shall be carried out by BHEL / BHEL authorized agency for which adequate prior notice (minimum 4 weeks) shall be given by the vendor. 10. Vendor shall furnish following test certificates in a Data Folder prior to dispatch of material. 10.1 Inspection record of dimensions specified in drawing				
COPYRIGHT AND CONFIDENTIAL 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 the company		LoRokf/kdkj ,oa xksiu; bl izys[k esa nh xBZ lwpuK Hkkjr gsoh bysfDV^dyI dh lEiffr gS bldk izR;{k ,oa vizR;{k :lk ls fdln Hkh rfg iz;ksx tks fd daiuh ds fgr esa			
				fuekZ.kdrkZ WORKED BY	T.BANSAL
				TtkapdrkZ CHECKED BY	R.BANSAL

ANNEXURE-XVI

Specification AA14001 Rev 01, HE77001 AND AA57104.



CORPORATE PURCHASING SPECIFICATION

AA 14001

Rev. No. 01

PREFACE SHEET

TITANIUM CLADDED PLATES

FOR INTERNAL USE ONLY

REMOVE THIS PREFACE BEFORE ISSUE TO SUPPLIERS

Equivalent / Comparable Standards: Nil

User Plants & Replaced Plant Specifications/References:

1. BHOPAL : -
2. HEER, HARDWAR : HE 57036
3. HYDERABAD : -

Revisions:

Refer Clause No. 14.24 of MOM MRC(HE)

Approved:

INTERPLANT MATERIAL RATIONALISATION
COMMITTEE - MRC (HE)

Rev. No. 01

Amd. No. - 01

Reaffirmed -

Prepared
HEEP
HARDWAR

Issued
CORP. R&D

Date of 1st issue:

Dt. July '94

Dt. -01.11.2001

Year -

Jan.'92

C5-10/4



TITANIUM CLADDED PLATES

1. GENERAL:

This specification governs the quality of carbon steel base plate to which is integrally and continuously bonded on one side a sheet of Titanium Plate.

2. APPLICATION:

For use in condensers and heat exchangers as tube plates.

3. CONDITION OF DELIVERY:

Unless otherwise specified, the plates shall be supplied in heat-treated condition.

4. COMPLIANCE WITH NATIONAL STANDARDS:

There is no national standard covering this material.

5. DIMENSIONS AND TOLERANCES:

5.1 Sizes:

The plates shall be supplied to the dimensions specified on the order. Order shall clearly state the following:

Base metal thickness

Clad metal thickness

Length and width of the plate

5.2 TOLERANCES:

Tolerances shall be as per ASTM A264.

5.2.1 Tolerances on Cladded Plate Thickness:

Composite thickness shall not be less than 0.25mm on the specified thickness.

5.2.2 Tolerances on Clad Metal Thickness:

Thickness shall not be less than the specified thickness.

5.2.3 Tolerances on Flatness:

① Tolerance on flatness shall be 2.00mm/metre with a cumulative tolerance of 3.5mm for plate size 4 x 3 m. For bigger sizes the tolerance on flatness shall be 3 mm/m with cumulative flatness upto 5 mm.

5.2.4 Tolerances on Thickness of Base Metal:

Tolerance on thickness of base metal shall comply with IS:1852 "Rolling and cutting tolerances for Hot Rolled Steel products".

Revisions:

Refer Clause No. 14.24 of MOM MRC(HE)

Approved:

INTERPLANT MATERIAL RATIONALISATION
COMMITTEE - MRC (HE)

Rev. No. 01

Amd. No. - 01

Reaffirmed -

Prepared
IIEEP
HARDWAR

Issued

CORP. R&D

Date of 1st issue:

Dt. July '94

Dt. - 01.11.2001

Year -

Jan.'92

CS-11/4

**5.2.5 Tolerances on width :**

UPTO 1050mm (+) 1.6mm
(-) 0.0mm
1050mm and above (+) 3.2mm
(-) 0.0mm

5.2.6 Tolerances on length:

UPTO 3000mm (+) 1.6mm
(-) 0.0mm
3000mm and above (+) 3.2mm
(-) 0.0mm

6. MANUFACTURE:

The cladded plates shall be manufactured from the plates specified below:

Base metal: As per BHEL Corporate Standard AA 10119, unless otherwise specified.

Clad metal: As per ASTM B265, Gr:1

The cladding metal may be bonded to the base metal by any method that will produce a clad steel which will conform to the requirements of this specification. Details of the bonding process shall be furnished to BHEL along with the offer.

7. FREEDOM FROM DEFECTS:

The material shall be clean, smooth, sound and free from injurious defects.

8. TEST SAMPLES:

Test samples shall be selected and prepared as per ASTM A264. Number of tests and re-tests shall be carried out as per ASTM A264.

9. MECHANICAL PROPERTIES:**9.1 Tensile:**

The tensile test conducted on the test specimen including cladding metal shall show the following properties:

Tensile Strength : 410 N/mm² Min.
Yield Strength : 230 N/mm² Min.
(0.2% offset)

9.2 Ductility:

Two bend tests of the composite plate shall be made, one with the cladding metal in compression and the other with the cladding metal in tension. The bend test shall be carried out in accordance with AA 10119, specification for base metal and the norms of acceptance shall be as specified therein.

9.3 Shear Strength:

The shear strength test shall be carried out as indicated in Fig 1B of ASTM A264. When tested the shear strength of the cladded plate shall not be less than 140 N/mm². As an alternative to shear strength test, bend test can be performed.



CORPORATE PURCHASING SPECIFICATION

AA 14001

REV. No. 01

PAGE 3 OF 5

9.4 BEND TEST:

Three bend tests shall be made with the cladding metal in compression to determine the quality of the bond. Bend test shall be made in accordance with the specification of cladding material. At least two out of the three tests shall show not more than 50% separation on both the edges of the bent portion. Greater separation shall be cause for rejection.

10. ULTRASONIC TESTING:

- ① The cladded plate shall be examined ultrasonically as per ASTM A578, level I, with acceptance level C and supplementary requirement S1+S7. (100% search is mandatory)

11. REPAIR OF CLADDING:

Any repair work on the cladded plate shall be agreed upon between BHEL and the supplier.

12. QUALITY ASSURANCE REQUIREMENT:

The manufacturer shall conduct all the tests required to ensure that the tube plates offered conform to the requirement of the applicable codes and standards. Manufacturer shall submit a detailed quality plan along with his offer as per the standard format which should include all the tests/checks to be carried out at the various stage of manufacture. This quality plan shall be reviewed by BHEL and BHEL reserves the right to ask for any more checks, details if required at the time of quality plan finalisation. The manufacturer shall manufacture the cladded plate as per the quality plan duly approved by BHEL.

13. CHECK LIST:

The supplier shall fill the enclosed check list as per Annexure-A and submit the same alongwith each offer.

14. DOCUMENTS TO BE FURNISHED:

Following documents shall be furnished alongwith the offer:

- ①
1. A process chart clearly indicating the sequence of manufacture.
 2. Heat treatment details.
 3. Quality plan.
 4. Method of bonding.
 5. Ultrasonic Test.

15. INSPECTION AT SUPPLIER'S WORKS:

BHEL's representative shall have free access at all times until work on contract of BHEL is being performed, to all parts of the manufacturers works. The supplier shall offer BHEL's representative all reasonable facilities without charge to satisfy the latter that the material is being furnished in accordance with this specification.

16. TEST CERTIFICATES:

Four copies of test certificates shall be supplied unless otherwise stated in the order. The test certificate shall bear the following information:

CS-1014

**BHEL Reference:**

BHEL order No.

AA 14001 (Rev. No. XX) Titanium Cladded Plates.

Supplier's reference:

Supplier's name

Test certificate No.

Quantity and weight

Identification marks

Process of manufacture

Heat treatment and Batch No.

Ultrasonic Test.

17. PACKING AND MARKING:

The material shall be separated by size and prepared for shipment in such a manner as to ensure acceptance by common carrier transportation and to afford protection from the normal hazards of transportation.

Each package shall be suitably marked with the following details. A metal label shall be securely attached to each package and shall bear the following information:

AA 14001: Titanium Cladded Plate

BHEL Order No.

Consignment and Identification No.

Size, Number and Weight

Supplier's Name

18. REJECTION AND REPLACEMENT:

In the event of any tubeplate proving defective in the course of preparation, machining, testing, assembly or erection, such plates shall be rejected notwithstanding any previous certification of satisfactory testing and/ or inspection.

The supplier shall undertake to replace the rejected plates at his own cost and the rejected plates shall be sent back to the supplier after fulfilling the commercial terms and conditions.

19. REFERRED STANDARDS:

Standards referred in this specification:

- | | | | |
|----------------|------------|----------------|-------------------|
| 1) AA 10119 | 2) IS 1852 | 3) ASTM: A 264 | 4) ASTM: 265 Gr.1 |
| 5) ASTM: A 578 | | | |



ANNEXURE - A (Clause 13)

CHECK LIST FOR AA 14001

(To be filled by supplier)

- A. Name of Principal supplier :
- B. Name of Indian agent :
1. Grade of material as per specification : Yes/No
2. Tolerance on length/diameter/width/ thickness
flatness as per specification : Yes/No
3. Chemical composition as per specification : Yes/No
4. Mechanical properties as per specification : Yes/No
5. i) Tensile Strength : Yes/No
ii) Yield Strength : Yes/No
iii) Ductibility : Yes/No
iv) Shear Strength : Yes/No
v) Bend Test : Yes/No
6. NDT Tests Offered:
i) Ultrasonic Test : Yes/No
7. Quality Plan on BHEL format enclosed : Yes/No
8. Details of previous experience enclosed
(For new suppliers only) : Yes/No
- C. Deviation taken (please specify
clearly, if any) : Yes/No
- 1)
- 2)
- 3)

Date:

Place:

Signature & Seal of Supplier

CS-10/14

दिनांक एवं हस्ताक्षर SIGN & DATE		उत्पाद मानक PRODUCT STANDARD HEAT EXCHANGER ENGINEERING		HE 77001	
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सामग्री सूची संख्या को अधिकृत करता है । INVENTORY NO.		BASED ON BHEL EXPERIENCE			
COPYRIGHT AND CONFIDENTIAL 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.		INSTRUCTIONS FOR PAINTING AND PRESERVATION OF CONDENSERS (KWU DESIGN) AT HARDWAR			
हस्ताक्षर एवं दिनांक SIGN & DATE		अनुवादक TRANSLATED BY			
TSX		S. NATH		निर्माणकर्ता WORKED BY	
QAX		A.S.CHANDNA		परीक्षणकर्ता CHECKED BY	
सहमत विभाग AGREED DEPTT.		नाम NAME		पर्यवेक्षणकर्ता SUPERVISED BY	
दिनांक एवं हस्ताक्षर DATE & SIGNATURE		K.N.MEHTA		दिनांक एवं हस्ताक्षर SIGN. & DATE	
सामग्री सूची संख्या INVENTORY NO.		स्वीकृति : APPROVED : V.K.SAXENA / AGM (HXE)			
Rev No. 01		निर्माण : PREPARED HXE		जारी : ISSUED HXE, HARDWAR	
24-01-04		दिनांक : DATE 04-12-01		HE 6.20	

दिनांक एवं हस्ताक्षर SIGN & DATE		उत्पाद मानक PRODUCT STANDARD HEAT EXCHANGER ENGINEERING		HE 77001																															
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सामग्री सूची संख्या INVENTORY NO.		SUPERSEDES INVENTORY NO.		INSTRUCTIONS FOR PAINTING AND PRESERVATION OF CONDENSERS (KWU DESIGN) CONTENTS <table border="1"> <thead> <tr> <th>SL. NO.</th> <th>TOPIC</th> <th>SHEET NO.</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>GENERAL</td> <td>3</td> </tr> <tr> <td>2.</td> <td>PRESERVATION MATERIALS</td> <td>3</td> </tr> <tr> <td>3.</td> <td>TOOLS AND EQUIPMENTS</td> <td>4</td> </tr> <tr> <td>4.</td> <td>PAINTING AND PRESERVATION</td> <td>4</td> </tr> <tr> <td>5.</td> <td>SPECIAL INSTRUCTIONS</td> <td>5</td> </tr> <tr> <td>6.</td> <td>TECHNOLOGICAL PROCESS OF PAINTING</td> <td>6</td> </tr> <tr> <td>7.</td> <td>QUALITY CONTROL</td> <td>7</td> </tr> <tr> <td>8.</td> <td>LIST OF CROSS REFERRED SPEC./STDS.</td> <td>8</td> </tr> <tr> <td>TABLE-1</td> <td>ASSEMBLY/ SUB-ASSEMBLY WISE ADOPTION OF PAINTS</td> <td>9</td> </tr> </tbody> </table>		SL. NO.	TOPIC	SHEET NO.	1.	GENERAL	3	2.	PRESERVATION MATERIALS	3	3.	TOOLS AND EQUIPMENTS	4	4.	PAINTING AND PRESERVATION	4	5.	SPECIAL INSTRUCTIONS	5	6.	TECHNOLOGICAL PROCESS OF PAINTING	6	7.	QUALITY CONTROL	7	8.	LIST OF CROSS REFERRED SPEC./STDS.	8	TABLE-1	ASSEMBLY/ SUB-ASSEMBLY WISE ADOPTION OF PAINTS	9
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सामग्री सूची संख्या INVENTORY NO. P-5550	हस्ताक्षर एवं दिनांक SIGN & DATE 22/11/04	Rev No. 01																																	
		निर्माणकर्ता Worked by R.RAWAT	जांचकर्ता Checked by K.N.MEHTA		12/01/09																														
					14/01/09																														

दिनांक एवं हस्ताक्षर SIGN & DATE		उत्पाद मानक PRODUCT STANDARD HEAT EXCHANGER ENGINEERING	HE 77001	
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सामग्री सूची संख्या INVENTORY NO.	SUPERSEDES INVENTORY NO.	1.0 General : These instructions provide standard guidelines towards painting and preservation of all components / assemblies of KWU design condensers manufactured in the shops or by sub-contractors. The treatment prescribed shall be adopted as normal practice and in case where customers desire specific deviations, these shall be done as per the instructions of Engineering. 1.1 The final painting of the condenser and its assemblies is to be done after its complete erection at site. 2.0 Preservation materials: The list of preservatives and other materials to be used for condenser in HEEP are given as under: 2.1 Anti corrosive priming paint as per AA56101. Code no's : Primer - AA 5610001013 ; Thinner – AA 5670001001/AA 56701 2.2 Temporary rust preventive paint as per AA 55151 (Steam washable paint) (HE 1712) Code no's : HW 5510051000 2.3 Mobilux Grease – 2 from M/S IOC Code no. : HW 5740099005 2.4 Waxed paper as per AA 51407 Code no.: HW 5141507998 2.5 Mineral turpentine oil as per IS: 1745 Code no. : HW 5670095014 2.6 Water proof abrasive paper grit 220 2.7 Cellulose stopper as per AA 55306 Code no. : AA 5530006000 2.8 DTE Medium oil as per AA 5710004006/ AA 57104 2.9 Epoxy based Zinc rich primer paint as per AA 56114 Code no. : HW 5610014000 2.10 High Build Intermediate epoxy paint as per AA 56112 Code no. : HW 5610012996 2.11 Polyurethane finishing paint as per AA 56142 Code no. : HW 5610042992 2.12 High build black coal tar epoxy paint as per AA 5610035554 Code no. : Base - AA 5610035554 Accelerator - AA 5610035600 Thinner - AA 5670008006 / AA 56708		
सामग्री सूची संख्या INVENTORY NO.	दिनांक एवं हस्ताक्षर SIGN & DATE	Rev No. 01		
सामग्री सूची संख्या INVENTORY NO.	दिनांक एवं हस्ताक्षर SIGN & DATE	निर्माणकर्ता Worked by	R.RAWAT	12.01.09
सामग्री सूची संख्या INVENTORY NO.	दिनांक एवं हस्ताक्षर SIGN & DATE	जांचकर्ता Checked by	K.N.MEHTA	14.01.09

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सामग्री सूची संख्या INVENTORY NO.	SUPERSEDES INVENTORY NO.	3.0 Tools and equipments: For operations on these instructions the following tools and equipments are required:			
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		4.0 Painting and preservation:			
दिनांक SIGN & DATE	07/11/04	4.1 Proper painting and preservation of sub-assemblies and parts of condenser and heat exchangers is very much essential to protect the surfaces against corrosion. 4.2 Proper preparation of the surfaces before applying the coating is of vital importance in order to have effective protection of parts against corrosion. The surface of the part to be painted should be uniform, clean from corrosion, oil, and dirt. It should be dry and free from burns. Even the slight dirt left over the surface may later on cause destruction of the coating fills and subsequent corrosion of metals. 4.3 The surface of the parts prepared for painting should be prevented from the atmospheric action of moisture and dirt etc. and shall have metallic shine. 4.4 Painting or preservation of parts must be done not later than 8-10 hrs after cleaning and degreasing. 4.5 The parts to be painted should be at room temperature and painting should be done in well ventilated room.			
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			जांचकर्ता Checked by K.N.MEHTA		14.01.09

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सामग्री सूची संख्या INVENTORY NO. P-5550	SUPERSEDES INVENTORY NO. 	4.6 The paints and primer should be diluted to working viscosity with the thinner as given in the suppliers catalogues or as mentioned under clause 6.2. 4.7 Surfaces can be coated with paint/ varnish by spray gun, brush or by dipping. 4.8 Conservation grease can be put on the surface either in cold or hot condition by hair brush or spatula. 4.9 The parts conserved by grease should be additionally protected by waxed paper. 4.10 The protective surface coat must be applied very carefully so as to have a uniform layer thickness without any pores. Discontinuity or break in layer and air inclusions are not permitted. 4.11 Each individual coating will be well dried before applying the next coat. Before applying the second/ subsequent coat it should be ensured that the surface is free from paint cracks, molten pearls and other foreign impurities. 4.12 Quality of painted surfaces should be checked by visual inspection. Any observed defect should be immediately rectified. Special attention should be paid for painting of those parts which are inaccessible. 4.13 All anticorrosive materials (paints, varnishes, grease etc.) are inflammable and therefore it is necessary to store them in special places which are reliably fire-proof. 4.14 Freshly painted parts should not be stored immediately before drying. These should not press against the floor and in no case rain water is allowed to drop. 4.15 All the paints prepared should be consumed before the expiry of its pot life. Outaged paints should never be applied. The primer is to be utilised within the time specified in the container by the manufacturer of the primer. 4.16 All pipes which can not be painted from inside should be thoroughly cleaned and dried from inside and blanked by plastic or wooden plugs. 5.0 Special instructions: 5.1 Machined surfaces as well as threads are not to be painted. These are to be given a coat of Mobilux grease. 5.2 Edges requiring welding later are to be left unpainted upto 80 mm from the edges. 5.3 Surfaces damaged during the storage and handling in plant should be checked immediately and coated with the same paint after preparation of the damaged surface.			
हस्ताक्षर एवं दिनांक SIGN & DATE 12/11/04	COPYRIGHT AND CONFIDENTIAL 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.	स्वत्वधिकार एवं गोपनीय इस दस्तावेज में दी गई सूचना भारत भारती इलेक्ट्रिकल्स की संपत्ति है इसका प्रयोग एवं प्रसारण के बिना कम्पनी के हित में अधिकार के बिना नहीं किया जाये।	Rev No. 01	निर्माणकर्ता Worked by R.RAWAT	12/11/04
				जांचकर्ता Checked by K.N.MEHTA	14/11/04

दिनांक एवं हस्ताक्षर SIGN & DATE		उत्पाद मानक PRODUCT STANDARD HEAT EXCHANGER ENGINEERING		HE 77001	
सामग्री सूची संख्या INVENTORY NO.		5.4 Loose items of the assemblies/ sub-assemblies mentioned in table-1 are to be painted as per the instructions given on the respective drawings. 5.5 Both the primer and its thinner should be compatible to each other. 6.0 <u>Technological process of painting:</u> 6.1 Surface preparation: It is necessary that the surface to be painted is free from loose dust, mill scale, rust, grease, oil, old film etc. Surface cleaning and preparation is to be done as per CS AA 0674101. 6.2 Preparation of paint (AA 56101) : Before application, any skin formed on the paint in the tin shall be carefully removed and any settled pigment broken up and loosened. The paint shall be thoroughly stirred to ensure complete and uniform mixing of the constituents. Care shall be taken to avoid entraining air into the paint while stirring. The priming paint (AA 56101) shall be used at the consistency given below if not specified by the paint supplier. Process Flow time of the paints in Ford Cup no. 4 (IS: 101) Spraying 30 ± 2 sec. Brushing 60 – 70 sec These consistencies shall be adjusted using thinner and these flow times shall be maintained independently of temperature within normal shop variations. 6.3 Application of paints: 6.3.1 <u>Application of first coat AA 56101:</u> Over the cleaned surface one coat of Anticorrosive priming paint to AA 56101 at the appropriate consistency shall be applied by spraying or brushing as specified. 6.3.2 <u>Drying:</u> The painted surface shall be allowed to air dry for a minimum period of 12 hours. 6.3.3 <u>Repair of damage to the first coat:</u> Any local damage which has been caused to the first primer coat shall be repaired by cleaning with water proof abrasive paper and then by applying a coat of primer AA 56101 and allow it to dry for a minimum period of 12 hours.		पृष्ठ 13 का 06 Page 06 of 13	
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सामग्री सूची संख्या को अतिरिक्तित कलना है	SUPERSEDES INVENTORY NO.	6.3.4 <u>Application of cellulose stopper</u>: Cellulose stopper shall be applied if required, to fill up dents and scratches and allowed to air dry for a period of 4 to 5 hours. The cellulose surface shall then be rubbed down with water proof abrasive paper no. 220. Loose dust shall be washed with water where ever possible and the surfaces allowed to dry completely. Usually this takes about 2 to 3 hours. Where water washing is not possible the loose dust shall be wiped off by a blast of air or dry clean cloth. 6.3.5 <u>Application of second primer coat AA56101</u>: Immediately before the application of second coat, the surface shall be cleaned with mineral turpentine oil where necessary. The priming paint AA 56101 shall be then applied over the surface in accordance with clause 6.3.1 . 6.3.6 <u>Application of High Build Black Coal Tar Epoxide paint AA56135</u>: Process of application of this primer shall conform to AA 0674104. 6.3.7 <u>Application of Priming Paint AA 56114</u>: Process of application of this primer shall conform to AA 0674123. 6.3.8 <u>Application of High Build Intermediate Epoxy paint AA56112</u>: Process of application of this primer shall conform to AA 0674123. 6.3.9 <u>Application of Polyurethane finish paint AA56142</u>: Process of application of this primer shall conform to AA 0674123 6.3.10 <u>Drying</u>: The painted surface shall be allowed to air dry for a minimum period of 12 hours. 7.0 Quality checks: 7.1 Quality control should inspect the various paints and putties received in stores according to relevant specifications. 7.2 The QC/shop should ensure that complete technological process of painting is followed and all the operations are carried out fully. 7.3 The viscosity of the paints/ primers should be checked after adding the solvent/ thinner for each mixture in viscosity meter.				
हस्ताक्षर एवं दिनांक SIGN & DATE 22/11/04	सामग्री सूची संख्या INVENTORY NO. P-5550	Rev No. 01	निर्माणकर्ता Worked by R.RAWAT	जांचकर्ता Checked by K.N.MEHTA	12/01/04 19/01/04	

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स्वाधिकार एवं गोपनीय

युव प्रलेख में दी गई सूचना भारत भारती इलेक्ट्रिकल्स की सम्पत्ति है इसका प्रसार एवं प्रकाशक रूप में किसी भी तरह प्रयोग, जो कि कंपनी के हित में हानिकारक हो न किया जाए।

दिनांक एवं हस्ताक्षर SIGN & DATE		उत्पाद मानक PRODUCT STANDARD HEAT EXCHANGER ENGINEERING		HE 77001		
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सामग्री सूची संख्या INVENTORY NO.	SUPERSEDES को अधिकतम करता है INVENTORY NO.	7.4 The QC department shall visually inspect the finished component for various paint film defects such as gloss, uniformity of shade, wrinkles, orange peel effect, blistering etc. 7.5 The thickness of the dried painted film, when measured by using suitable instruments for the non-destructive measurement of the coats as detailed in IS: 6012, shall be as follows:				
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		Primer as per AA 56114	2	70 microns		
		Intermediate as per AA 56112	1	70 microns		
		Final as per AA 56142	2	60 microns		
		Primer as per AA 56101	2	70 microns		
		Final as per AA 56135	2	200 microns		
8.0 List of cross referred specifications/standards :						
AA 56101, AA 55151, AA 56112, AA 56114, AA 56135, AA 56708, AA 57104, AA 55306, AA 0674101, AA 0674104, AA 0674123, IS 101, IS 6012						
सामग्री सूची संख्या INVENTORY NO.	हस्ताक्षर एवं दिनांक SIGN & DATE	स्वत्वधिकार एवं गोपनीय इस दस्तावेज में दी गई सूचना भारत हेवी इलेक्ट्रिकल्स की संपत्ति है प्रत्यक्ष या अप्रत्यक्ष रूप से किसी भी तरह प्रयोग, जो कि कंपनी के हित में संतुलित हो न कि अन्य।				
P-5550		Rev No. 01	निर्माणकर्ता Worked by	R.RAWAT		12.01.2014
		जांचकर्ता Checked by	K.N.MEHTA		14-01-2014	

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Rev No. 01		 उत्पाद मानक PRODUCT STANDARD HEAT EXCHANGER ENGINEERING HE 77001					
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Item No.	Assemblies/Sub assemblies/Surface	Paints/preservatives required	BHEL Sp. No.	No. of coats	PGMA No.	Mode	Remarks
1	2	3	4	5	6	7	8
1.0	Bottom Plate, Dome walls, Side walls, Hot well				160-11 to 160-22	Spray or Brush	Edges subjected to welding after painting should be left uncoated (Approx. 80 mm)
1.1	Outer Surface Priming paint coat Intermediate paint coat Finish paint coat	- Epoxy based Zinc rich primer paint - High build intermediate epoxy paint - Polyurethane finish paint (Total DFT of primer, intermediate & finish paint shall be at least 180 microns)	AA56114 AA56112 AA56142	2 1 2	160-25 to 160-45		Process of application AA0674123 Finish paint coat to be done at site.
1.2	Inner Surface (steam space)	Steam washable paint	AA55151	2	-- do --	--do--	
2.0	Main tube plate blanks (before drilling). All over	DTE Medium oil & covered with polythene sheet	AA57104	1	160-18 to 160-24	--do--	DTE Medium Oil to be sprayed after shot blasting.
3.0	Support tube plate blanks (before drilling) All over	DTE Medium oil & covered with polythene sheet	AA57104	1	160-28	--do--	DTE Medium Oil to be sprayed after shot blasting.
निर्माणकर्ता Worked by		R.RAWAT		जांचकर्ता Checked by		K.N.MEHTA	
		20/11/04				14/12/04	

सामग्री सूची संख्या INVENTORY NO. P-5550	हस्ताक्षर एवं दिनांक SIGN & DATE 14/01/04	सत्यधिकार एवं गोपनीय 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.		COPYRIGHT AND CONFIDENTIAL		सामग्री सूची संख्या को अभिलेखित करना है INVENTORY NO.	दिनांक एवं हस्ताक्षर SIGN & DATE
Rev No. 01	Assemblies/Sub assemblies/Surface 2	Paints/preservatives required 3	BHEL Sp. No. 4	No. of coats 5	PGMA No. 6	Mode 7	Remarks 8
1 4.0 5.0 5.1 5.2 5.3 5.3.1 5.3.2 5.4	Support tube plate blanks (after drilling) All over Front and Rear water chambers (end sections) Outer surfaces Priming paint coat Intermediate paint coat Finish paint coat Inner surfaces (steam space side) including tube plate on both sides Inner surface (Cooling water side) excluding tube plate Sea water applications Inland water Machined flanges	Steam washable paint - Epoxy based Zinc rich primer paint - High build intermediate epoxy paint - Polyurethane finish paint (Total DFT of primer, intermediate & finish paint shall be at least 180 micron) Steam washable paint Anti corrosive Priming paint - Epoxy based zinc rich primer paint - High build black coal tar epoxide paint. (Total DFT of the primer & final paint shall be at least 250 microns) Mobilux grease -2 with waxed paper	AA55151 AA56114 AA56112 AA56142 AA55151 AA56101 AA56114 AA56135 M/s IOC HW57400 99005	2 2 1 2 2 2 2 2	160-28 160-24 160-29	Spray or Brush --do-- --do-- --do-- --do-- Brush	Paint should cover all tube holes Process of application AA0674123 Finish paint coat to be done at site Steam washable paint should cover tube holes also. Specific instructions to be given in the drawing for sea water application Process of application AA0674123 Process of application AA0674104
निर्माणकर्ता Worked by R.RAWAT	जांचकर्ता Checked by K.N.MEHTA	HE 77001	उत्पाद मानक PRODUCT STANDARD HEAT EXCHANGER ENGINEERING	पृष्ठ 13 का 10 Page 10 of 13			

सामग्री सूची संख्या INVENTORY NO. P-5550	हस्ताक्षर एवं दिनांक SIGN & DATE 19/01/04	स्वत्वाधिकार एवं गोपनीय COPYRIGHT AND CONFIDENTIAL 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.				सामग्री सूची संख्या SUPERSEDES को अधिकृतित करना है INVENTORY NO.	दिनांक एवं हस्ताक्षर SIGN & DATE
Rev No. 01		निर्माणकर्ता Worked by R.RAWAT		जांचकर्ता Checked by K.N.MEHTA		20/01/04 19/01/04	
Item No.	Assemblies/Sub assemblies/Surface	Paints/preservatives required	BHEL Sp. No.	No. of coats	PGMA No.	Mode	Remarks
1	2	3	4	5	6	7	8
6.0	Water boxes, CW inlet/outlet nozzles.				160-31	Spray	
6.1	Outer surfaces excluding machined surfaces Priming paint coat Intermediate paint coat Finish paint coat	- Epoxy based Zinc rich primer paint - High build intermediate epoxy paint - Polyurethane finish paint (Total DFT of primer, intermediate & finish paint shall be at least 180 microns)	AA56114 AA56112	2 1	160-32 160-34 160-35	or Brush	Process of application AA0674123 Finish paint coat to be done at site Specific instruction to be given in the drawing for lining.
6.2	Inner surfaces excluding machined surfaces. Sea water applications	Anti corrosive Priming paint.	AA56101	2	--do--	--do--	
6.2.1	Inland water	- Epoxy based zinc rich primer paint	AA56114	2	--do--	--do--	Process of application AA0674123
6.2.2		- High build black coal tar epoxide paint. (Total DFT of the primer & final paint shall be at least 250 microns)	AA56135	2	--do--	Brush	Process of application AA0674104
6.3.	Machined flanges including the threaded/ unthreaded holes on it.	Mobilux grease -2 with waxed paper	M/s IOC HW57400 99005	-	--do--	--do--	
7.0	Air suction piping (outer surfaces)	Steam washable paint	AA55151	2	160-36	--do--	
8.0	Shell internals & baffles including stiffening rods & pipes. (outer surfaces)	Steam washable paint	AA55151	2	160-28	--do--	

उत्पाद मानक

PRODUCT STANDARD

HEAT EXCHANGER ENGINEERING

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सामग्री सूची संख्या INVENTORY NO. P-5550		हस्ताक्षर एवं दिनांक SIGN & DATE 20/11/24		स्वाम्यधिकार एवं गोपनीय COPYRIGHT AND CONFIDENTIAL 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.			सामग्री सूची संख्या INVENTORY NO. हस्ताक्षर एवं दिनांक SIGN & DATE	
01							HE 77001	
उत्पाद मानक PRODUCT STANDARD HEAT EXCHANGER ENGINEERING		पृष्ठ 13 का 12 Page 12 of 13						
Item No.	Assemblies/Sub assemblies/Surface	Paints/preservatives required	BHEL Sp. No.	No. of coats	PGMA No.	Mode	Remarks	
1	2	3	4	5	6	7	8	
9.0	Dome internals. (outer surfaces)	Steam washable paint	AA55151	2	160-29	Spray or Brush	Process of application AA0674123	
10.0	LP Heater support structure. (All over)	Steam washable paint	AA55151	2	160-38	--do--	Finish paint coat to be done at site.	
11.0	Steam throw device.							
11.1	Outer surfaces Priming paint coat Intermediate paint coat Finish paint coat	- Epoxy based Zinc rich primer paint - High build intermediate epoxy paint - Polyurethane finish paint (Total DFT of primer, intermediate & finish paint shall be at least 180 micron)	AA56114 AA56112 AA56142	2 1 2	160-49 160-37	--do--	Process of application AA0674123	
11.2	Inner surfaces.	Steam washable paint	AA55151	2	--do--	--do--	Process of application AA0674123	
12.0	Hinge and Hinge support assembly.							
12.1	Unmachined surfaces Priming paint coat Intermediate paint coat Finish paint coat	- Epoxy based Zinc rich primer paint - High build intermediate epoxy paint - Polyurethane finish paint (Total DFT of primer, intermediate & finish paint shall be at least 180 micron)	AA56114 AA56112 AA56142	2 1 2	160-51 160-37	--do--	Process of application AA0674123	
12.2	Machined surfaces	Mobilux grease-2 with waxed paper	M/s IOC HW57400 99005				Finish paint coat to be done at site.	
निर्माणकर्ता Worked by R.RAWAT		जांचकर्ता Checked by K.N.MEHTA		12/01/24		19/01/24		

सामग्री सूची संख्या INVENTORY NO. P-5550		हस्ताक्षर एवं दिनांक SIGN & DATE [Signature] 10/11/04		स्वत्वाधिकार एवं गोपनीय 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.				सामग्री सूची संख्या SUPERSEDES INVENTORY NO.		दिनांक एवं हस्ताक्षर SIGN & DATE		
Rev No. 01										उत्पाद मानक PRODUCT STANDARD HEAT EXCHANGER ENGINEERING		HE 77001
										पृष्ठ 13 का 13 Page 13 of 13		
Item No.	Assemblies/Sub assemblies/Surface	Paints/preservatives required	BHEL Sp. No.	No. of coats	PGMA No.	Mode	Remarks					
1	2	3	4	5	6	7	8					
13.0	Sole plate and packers for spring assemblies. All over	Steam washable paint	AA55151	2	160-71	Spray or Brush	Process of application AA0674123					
14.0	Springs . All over	--	--	--	160-71	--	Finish paint coat to be done at site.					
15.0	Springs cages. All over. Priming paint coat	- Epoxy based Zinc rich primer paint	AA56114	2	160-71	Spray or Brush	Process of application AA0674123					
	Intermediate paint coat	- High build intermediate epoxy paint	AA56112	1								
	Finish paint coat	- Polyurethane finish paint	AA56142	2								
16.0	Stand pipes.	(Total DFT of primer, intermediate & finish paint shall be at least 180 microns)										
	Outer surfaces Priming paint coat	- Epoxy based Zinc rich primer paint	AA56114	2	160-72	--do--	Process of application AA0674123					
	Intermediate paint coat	- High build intermediate epoxy paint	AA56112	1			Finish paint coat to be done at site.					
	Finish paint coat	- Polyurethane finish paint	AA56142	2								
17.0	Stay rods and similar other components. All over.	(Total DFT of primer, intermediate & finish paint shall be at least 180 microns) Steam washable paint	AA55151	2	160-51 160-28	--do--						
निर्माणकर्ता Worked by		R.RAWAT		[Signature]		12/01/04						
जांचकर्ता Checked by		K.N.MEHTA		[Signature]		12/01/04						



CORPORATE PURCHASING SPECIFICATION

AA57104

Rev No.03

PREFACE SHEET

TURBINE OIL – GRADE VG 46

FOR INTERNAL USE ONLY
 REMOVE THIS PREFACE BEFORE ISSUE TO SUPPLIERS

Equivalent/Comparable Standards:

- 1) INDIAN : IS 1012-2002

User Plants and Replaced Plant Specifications/References:

- | | | |
|-------------------|------------------|-------------|
| 1) BHOPAL | : Servoprime 46. | Turbinol 46 |
| 2) HEEP, HARIDWAR | : Servoprime 46. | Turbinol 46 |
| 3) HYDERABAD | : Servoprime 46. | Turbinol 46 |

Revisions:

As per clause 44.4.b) of MOM of MRC-CPO+NM

APPROVED:

INTERPLANT MATERIAL RATIONALISATION
 COMMITTEE – MRC(CPO+NM)

Rev No.03	Amd No.	Reaffirmed	Prepared	Issued	Dt. of 1 st Issue
Dt:21-09-2015	Dt:	Year:	HEEP, Haridwar	Corp.R&D	01-01-1981



CORPORATE PURCHASING SPECIFICATION

AA57104

Rev No. 03

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TURBINE OIL – GRADE VG 46

1 GENERAL

This specification governs the quality requirements of Turbine oil grade VG 46.

2 APPLICATION

Suitable for use in steam and hydro turbines and their associated hydraulic system at all conditions of services at a temperature of 0°C and above.

3 COMPLIANCE WITH NATIONAL STANDARDS:

The material shall comply, in general, with the requirements of the following National Standards and also meet the requirements of this specification.

IS 1012-2002: Turbine Lubricating Oils. Gr: VG 46

4 DESCRIPTION

- 4.1 The oil shall be blended from a suitable refined turbine base stock with additives such as antioxidants, rust and corrosion inhibitors, anti-foam agents to meet the requirements of this specification. However, the use of viscosity index improver additives is prohibited.
- 4.2 The additives used shall be wholly soluble in the oils and shall be uniformly distributed throughout at all temperatures above the specified pour points and upto 120°C. When cooled to 6°C below its pour point for 4 hours, the oil shall regain its homogeneity and shall show no evidence of separation when brought to the ambient temperature in an undisturbed condition.
- 4.3 The oil shall be considered as fully compatible with other oils if a mixture of equal volumes of these oils comply with the requirements of this specification.
- 4.4 The finished oil shall be clear and free from water, suspended matter, dirt, sediment and other extraneous impurities.

5 TEST SAMPLES

One litre sample from each consignment shall be supplied for testing and approval.

- 5.1 To draw a representative sample, the contents of the container selected for sampling shall be mixed as thoroughly as possible by shaking or stirring or both or by rolling, so as to bring all portions into uniform distribution.
- 5.2 The samples shall be taken in a suitable, clean, dry air-tight glass bottle of one litre capacity. It should be almost but not completely filled by the sample.
- 5.3 In case of failure of first sample, two samples shall be drawn from other two drums of the same consignment at random and failure of the second sample in complying with the specification will lead to the rejection of the whole consignment.

Revisions:

As per clause 44.4.b) of MOM of MRC-CPO+NM

APPROVED:

INTERPLANT MATERIAL RATIONALISATION
COMMITTEE – MRC(CPO+NM)

Rev No.03	Amd No.	Reaffirmed	Prepared HEEP, Haridwar	Issued Corp.R&D	Dt. of 1 st Issue 01-01-1981
Dt:21-09-2015	Dt:	Year:			

9/4/16

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6 PROPERTIES

Unless otherwise specified, when tested in accordance with the relevant parts of IS 1448, the test sample shall show the following properties:

6.1 Kinematic Viscosity at 40°C

41.4 to 50.6 centi-Stokes.

6.2 Flash Point (Cleveland Open Cup)

200°C minimum.

6.3 Total Acid Number

0.3 mg of KOH/g oil, maximum.

In addition, for properties in respect of oxidation stability, pour point, corrosiveness to copper, rust preventive characteristics, emulsion characteristics, foaming characteristics, air release value, inorganic acidity and viscosity index, the material shall conform to the requirements of IS 1012 Grade VG 46.

Test results of these properties shall be certified by the supplier.

7 TEST CERTIFICATES

Unless otherwise stated, three copies of test certificates shall be supplied along with each consignment giving the following information.

In addition, the supplier shall ensure to enclose one copy of test certificates along with their dispatch documents to facilitate quick clearance of the material.

AA57104 (Rev.No.03): TURBINE OIL – GRADE VG 46

BHEL Order No.

Manufacturer's /Supplier's name.

Trade mark, if any.

Batch/Lot No.

Date of manufacture

Test results of clause 6

8 PACKING AND MARKING

The material as stated in our order shall be delivered in bulk or supplied in mild steel drums, which shall be leak free, dry, clean and free from substances soluble in Turbine oil.

Each container shall legibly be marked or labelled with the following information:

AA57104: TURBINE OIL – GRADE VG 46

BHEL Order No.

Manufacturer's/Supplier's Name

Trade Mark, if any.

Batch/Lot No.

Date of manufacture

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Quantity supplied

9 ENVIRONMENTAL REQUIREMENTS

The supplier shall furnish Material Safety Data Sheet (MSDS) covering all information relating to human safety and environmental impacts of the hazardous materials particularly during their transportation, storage, handling and disposal along with each supply.

Each container shall be marked with corresponding symbol and minimum worded cautionary notice for flammable / corrosive / toxic / harmful / irritant and oxidizing etc. as applicable.

10 REFERRED STANDARDS (Latest Publications Including Amendments)

- 1) IS 1448

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