

Tender No. F/F219/6/1650/K1



BHARAT HEAVY ELECTRICALS LIMITED
HEEP HARIDWAR INDIA-PIN 249403
FAX NO: 0091 1334 226462/223948
PHONE NO: 0091 1334 284144

Tender No.: F/F219/6/1650/K1

Due Date: 22.08.2016

Sub: BHEL-HEEP/OPEN-TENDER (Steel Bars Grade X18CRMONBVN11-1 +QT)

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	Mat. Code	Size	Qty. (Kg)
F/F219/6/1650/K1	Steel Bars Grade X18CRMONBVN11-1 +QT Specification- HW18814 Rev: 01 and addendum to Spec. HW18814 Grade- X18CrMoNbVN11-1 +QT	HW1880214067	Dia- 110 mm	17000
		HW1880214083	Dia- 130 mm	23500
		HW1880214075	Dia- 140 mm	10000

The tender documents & Specification of item can be down loaded 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 Minimum Qualifying Requirements (as per Annexure-II) will be considered for further technical evaluation.**

This notification shall be published in national newspaper. **The last date for downloading tender documents shall be 21.08.2016 & opening of tender shall be 22.08.2016.** Tenders will be received up to 01.45 P.M. on **22.08.2016** 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 22.08.2016) will not be opened.** BHEL will not be responsible for any type of postal / courier delay.

Intending vendors must remit requisite EMD Rs. 2,00,000 (Rupees Two Lac 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-

- Central/ State – PSUs/ Government departments
- 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 vendors registered for item Steel Bars Grade X18CRMONBVN11-1 +QT as per HW18814 Rev: 01 and addendum to Spec. HW18814 with BHEL, Haridwar are only exempted from EMD.

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

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

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

IN ADDITION TO VENDORS MENTIONED ABOVE, OFFERS SHALL ONLY BE CONSIDERED OF 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". The tender will be opened 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.

Tender No. F/F219/6/1650/K1

INSTRUCTIONS TO BIDDERS FOR OPEN TENDER

DEFINITION

Registered Vendors - Are those who are registered with BHEL, Haridwar for procurement of Steel Bars Grade X18CRMONBVN11-1+QT.

Un-registered Vendors - Are those who are not registered with BHEL, Haridwar for procurement of Steel Bars Grade X18CRMONBVN11-1+QT.

Vendors must fill up Annexure– II 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 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 Valid documentary proof for exemption of EMD.**
 - ii) **Envelope II : Pre- Qualifying Requirement & Supplier Registration Form.**
 - iii) **Envelope III : Techno -Commercial Bid.**
 - iv) **Envelope IV : Price Bid.**
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 Formas 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 + Inspection + 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 on item wise basis after combining DEEC & PI quantity 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 / Guarantee 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. Bidder should clearly indicate their acceptance for reverse auctioning in Annexure- VII. The Terms & Condition for Reverse Auctioning are as per Annexure VII.**
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.**

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Note: Please visit our site www.bhelhwr.co.in for General Instructions and Standard Terms & Conditions (GISTC) for Tender Enquiries for Indian & Foreign Vendor. 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-II.
- 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- I** - 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. Endorsed copy of Quality Plan (Quality Plan placed at Annexure- V).

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 both the options (a) FOB dispatching port & (b) C&F Landing Port. In case of FOB, Loading port must be mentioned.**
- d. **In case of Indigenous vendor, prices may be quoted on FOR- Destination- Store-HEEP-BHEL basis.** Insurance – Marine in case of foreign vendor & inland in case of Indigenous vendor shall be taken care by BHEL.
- 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.**
- g. LD Penalty shall be applicable at the rate of ½ % (half percent) per week or part thereof subject to a maximum of 10% of total order value. In case of any variation in LD penalty, your prices shall be loaded to the extent LD penalty not accepted by you.

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.

Tender No. F/F219/6/1650/K1

MARKING OF ENVELOPE:

- Each envelope is to be super scribed as “TENDER FOR (ITEM NAME) AGAINST TENDER NO. **F/F219/6/1650/K1** DUE ON **22.08.2016**.
- 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 - Part-I to be kept in another envelop – Envelop-B & to be marked as Techno-Commercial Offer.
- 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-I**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 both the options (a) FOB dispatching port & (b) 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	For Foreign Vendors- Confirm that payment term shall be "On collection basis through SBI/PNB Ranipur, Hardwar" (CAD). For Indigenous Vendors- Confirm that payment term shall be "100% payment after receipt and acceptance of material.	YES / NO
11	For Foreign Vendors- Third party (LRS/TUV/BV) inspection charges need to be mentioned separately. In case same is not mentioned separately, it will be presumed to be inclusive in your offer and no further confirmation will be taken after opening of techno-commercial bid part-1.	YES/NO
12	LD Penalty shall be applicable at the rate of ½ % (half percent) per week or part thereof subject to a maximum of 10% of total order value.	YES / NO
13	Confirm that all test certificates to be submitted as per BHEL specification. in TRIPLICATE along with dispatch documents	YES / NO
14	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
15	Confirm specifically that material shall be supplied as per tender documents.	YES / NO
16	Ink signed order acceptance shall be furnished within 15 days of order placement.	YES / NO
17	Confirm if there is Indian agency commission.	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

ANNEXURE-II**Pre / Minimum Qualification Requirement****➤ Technical Requirements-**

Below points (1 to 5) are mandatory qualification requirements. Offers of vendors not meeting these requirements will not be considered.

Sl. No.	Technical Requirement	Vendor's confirmation (Y/N)																		
01	Vendor must have experience of manufacturing and supplying forged/rolled bars of material grade X18CrMoNbVN11 - 1/ X19CrMoNbVN11-1. Material supplied in hardened and tempered condition only will be considered for experience.																			
02	<p>Minimum experience requirement: Vendor must meet any one of the following experience criteria in grade X18CrMoNbVN11-1/ X19CrMoNbVN11 - 1 on the tender opening date. :</p> <p>a) Successfully executed at least three orders Or b) Supplied minimum 5 Tons Or c) Executed at least one order and having Creep Rupture data for 1000hrs or Creep Properties as per EN10269. Creep Rupture data/ Creep test results has to be submitted with offer.</p> <p>In support of above vendor to submit experience details as applicable as per format below:</p> <table border="1"> <thead> <tr> <th>Sl. No</th> <th>Name of customer</th> <th>Purchase order No</th> <th>Size</th> <th>Year of supply</th> <th>Quantity</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>Vendor to submit documentary evidence like test certificates covering chemical, mechanical properties, heat treatment, supply dimension details in support of experience.</p>	Sl. No	Name of customer	Purchase order No	Size	Year of supply	Quantity													
Sl. No	Name of customer	Purchase order No	Size	Year of supply	Quantity															
03	Vendor must have following manufacturing facilities, in-house / within the Group Company, to manufacture enquiry items: <ul style="list-style-type: none"> - Steel Melting & Refining - Rolling / Forging - Heat Treatment Details of above facilities are to be submitted. 																			
04	Vendor to furnish in house testing facilities to carry out testing as per the requirements of BHEL specification HW18814 and addendum. In case of outsourcing of any test, vendor to agree to carry out testing at Government accredited labs only.																			
05	Vendor to confirm that they will meet all the requirements of BHEL specification HW18814 with their addendum.																			
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	Vendor to confirm 'Inspection by BHEL nominated inspection agency 'TUV' in case of indigenous vendor and inspection by third party inspection agency (LRS/TUV/BV) in case of foreign vendor as per standard quality plan no. QA/CF/QP/366/OT'.	
Note- This is applicable for both registered as well as un-registered vendors.		

Signature with stamp

Name:

Name of Firm:

Designation:

Date:


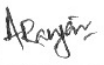
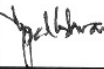
ANNEXURE-III**(Item Details and Delivery Schedule)**





Tender No.	Item Description	Mat. Code	Size	Qty. (Kg)	Delivery
F/F219/6/1650/K1	Steel Bars Grade X18CRMONBVN11-1+QT Specification- HW18814 Rev: 01 and addendum to Spec. HW18814 Grade- X18CRMONBVN11- 1+QT	HW1880214067	Dia- 110 mm	17000	28/02/2017
		HW1880214083	Dia- 130 mm	23500	28/02/2017
		HW1880214074	Dia- 140 mm	10000	28/02/2017

Remarks-

1. Quantity tolerance $\pm 10\%$ acceptable.
2. Material to be supplied as per BHEL Specification HW18814 Rev: 01 and addendum to spec. HW18814.
3. Early delivery after Nov'2016 is also acceptable.
4. Comparative Statement will be evaluated on item wise basis after combining DEEC and PI Quantity.
5. After placement of order vendor should submit their invoices against goods and services immediately after supply of goods & services but not later than 30 days from the invoice date. In case of any delay, consequential losses like loss of input credit and non-availability of concessional forms etc., shall be to the vendor account.

NOTE: THE QUANTITY INDICATED ABOVE CAN BE INCREASED/ DECREASED.

दिनांक व तिथि SIGN & DATE		<p style="text-align: center;">संस्थान क्रय विनिर्देश (डीप - हरिद्वार)</p> <p style="text-align: center;">PLANT PURCHASE SPECIFICATION (HEEP - HARDWAR)</p>	<p style="text-align: center;">HW 18814</p> <p style="text-align: center;">पृष्ठ का Page 2 of 4</p>															
सप्लायर्स INVENTORY NO	<p>8.0 MECHANICAL PROPERTIES:</p> <p>A hardness test shall be performed to verify the uniformity of the strength within a delivery lot (per melt and heat treatment batch). The test amount shall be 10% of the bars with a minimum of 10 bars. When the lot contains less than 10 bars all bars shall be tested for hardness. The mechanical properties shall be tested on hardest and softest bar.</p> <p>The specimens are to be taken in longitudinal direction according to EN10269. For bars with diameter (d) or side lengths (a, b) > 100mm, the specimen shall be taken at a distance d/3 respectively a/3 and b/3 from the respective surfaces. In this case, transverse specimens are also allowed. The following properties shall be achieved at room temperature:</p> <table border="1" data-bbox="440 764 1430 940"> <thead> <tr> <th>Diameter (d)/ side length (a)¹ (mm)</th> <th>0.2% Proof Strength (N/mm²)</th> <th>Tensile Strength (N/mm²)</th> <th>Elongation (l₀ = 5d) (%)</th> <th>Reduction of area (%)</th> <th>Impact Energy² (J)</th> <th>Hardness HB30</th> </tr> </thead> <tbody> <tr> <td>d,a ≤ 160</td> <td>≥ 780</td> <td>900-1050</td> <td>≥ 10</td> <td>≥ 40</td> <td>≥ 20</td> <td>270-320</td> </tr> </tbody> </table> <p>1) The values of the smallest side length (a) shall be reached.</p> <p>2) Average of 6 Charpy V-notch specimens, minimum value = 16J</p> <p>Impact energy test shall be performed on bars having side length ≥ 12 mm or diameter ≥ 16 mm respectively.</p>				Diameter (d)/ side length (a) ¹ (mm)	0.2% Proof Strength (N/mm ²)	Tensile Strength (N/mm ²)	Elongation (l ₀ = 5d) (%)	Reduction of area (%)	Impact Energy ² (J)	Hardness HB30	d,a ≤ 160	≥ 780	900-1050	≥ 10	≥ 40	≥ 20	270-320
Diameter (d)/ side length (a) ¹ (mm)	0.2% Proof Strength (N/mm ²)	Tensile Strength (N/mm ²)	Elongation (l ₀ = 5d) (%)	Reduction of area (%)	Impact Energy ² (J)	Hardness HB30												
d,a ≤ 160	≥ 780	900-1050	≥ 10	≥ 40	≥ 20	270-320												
COPYRIGHT AND CONFIDENTIAL The information on this document is the property of Bharat Heavy Electricals Limited. It must not be used outside or disclosed in any way detrimental to the interest of the company.	<p>9.0 OUTER AND INNER QUALITY/NON DESTRUCTIVE EXAMINATION:</p> <p>9.1 General:</p> <p>Cracks, other material separations or more severe linear inclusion lines are only acceptable when located in the dimensional tolerances areas.</p> <p>9.2 Scope of Inspection:</p> <p>Following NDE shall be performed in delivery condition:</p> <ul style="list-style-type: none"> verification test of all bars Complete ultrasonic inspection (UT) of all bars ≥ 30 mm thickness/diameter according to EN 10308 type 1a-1c (table 1) 																	
स्वत्वाधिकार एवं गोपनीय इस दस्तावेज़ में दी गई सूचना भारत हीवी इलेक्ट्रिकल्स लि. की संपत्ति है, इसका प्रयोग केवल इलेक्ट्रिकल्स लि. के लिए ही करे जा सकता है, जो कि किसी भी प्रकार से बिना अनुमति के किसी अन्य व्यक्ति को नहीं देना चाहिए।																		
दिनांक व तिथि SIGN & DATE 4/5/11																		
सप्लायर्स संख्या INVENTORY NO P-4098	REV.NO. 01		निर्माणकर्ता WORKED BY ASHISH		25.04.11													
			जांचकर्ता CHECKED BY GOPAL KRISHNAN		25.4.11													

चिह्नक एवं तिथि SIGN & DATE		संस्थान क्रय विनिर्देश (हीप - हार्डवार) PLANT PURCHASE SPECIFICATION (HEEP - HARDWAR)		HW 18814 पृष्ठ का Page 4 of 4		
सुपरसेड्स INVENTORY NO. शरीर शरीर शरीर को अधिष्ठाता अधिष्ठाता	<p>The clearance however does not relieve the supplier of his responsibility for the hidden non-permissible defects, which are found later.</p> <p>13.0 CROSS REFERRED STANDARDS:</p> <p>EN10204, EN10269, EN 10308</p>					
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.						
स्वातंत्र्यकार्य एवं गोपनीय इस दस्तावेज़ में दी गई सूचना भारत हीवी इलेक्ट्रिकल्स की सम्पत्ति है इसका प्रयोग एवं प्रसारण केवल हीवी इलेक्ट्रिकल्स की लिमिटेड के हित में ही किया जाये						
चिह्नक एवं तिथि SIGN & DATE  4/5/11						
शरीर शरीर शरीर INVENTORY NO. P-4098	REV NO. 01	A	निर्माणकर्ता WORKED BY	ASHISH		25.04.11
			जांचकर्ता CHECKED BY	GOPAL KRISHNA N		25.4.11

Addendum to Specification HW18814

(Material Grade: X18CrMoNbVN11-1+QT)

PRODUCT AND PROCESS QUALIFICATION:

1.0 General:

Product and process qualification procedures are required for first order. The product and process qualification is required for each of the manufacturer's fabrication facility.

Depending on the complexity of the product and / or process and experience from the first orders, requirement of additional process qualification in subsequent orders shall be reviewed by BHEL.

Prior to the start of manufacture, the manufacturer has to submit a manufacturing and testing plan to BHEL in which the quality assured process workflow, i.e. the sequence of process activities (manufacturing, testing and inspection steps) are specified in chronological order.

BHEL must be informed for any change in manufacturing and testing processes. Depending on the type and scope and thus the significance of any given change, BHEL will decide whether it is necessary to requalify the product and/or process.

Subcontracting of process steps to sub suppliers is only acceptable after written approval from BHEL.

1.1 The following additional tests have to be performed during qualification:

1.1.1 Tensile tests at elevated temperature:

In accordance with EN 10002-5 a tensile test in longitudinal direction has to be performed at 550°C.

Following properties must be achieved:

0.2% Proof Stress	≥ 475 Mpa,
Tensile Strength	≥ 520 MPa,
Elongation (l ₀ =5d)	≥ 16%
Reduction in area	≥ 55%

In accordance with EN 10002-5 a tensile test in longitudinal direction has to be performed at 600°C.

Following properties must be achieved:

0.2% Proof Stress	≥ 395 Mpa,
Tensile Strength	≥ 425 MPa,
Elongation (l ₀ =5d)	≥ 18%
Reduction in area	≥ 60%

1.1.2 Microstructure Examination

The homogeneity of the microstructure has to be checked and documented by micro section. The microstructure must be uniform and free from porosity, excessive segregation and other in homogeneities.

Delta ferrite content > 5% is not acceptable.

The inclusion content has to be determined in accordance with ASTM E 45.

The grain size must be measured after all heat treatments have been performed in accordance with ASTM E 112 or ISO 643. Grain size 4 or finer must be achieved. A deviation from the average grain size of more than 2 grain sizes is not permissible.

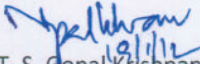
2.0 Cross Referred Standards:

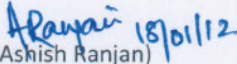
1. EN 10002-5

2. ASTM E112

3. ISO 643

4. ASTM E-45


(T. S. Gopal Krishnan)
SDGM/MTE
HEEP, BHEL, Haridwar


(Ashish Ranjan)
Dy. Mgr/MTE
HEEP, BHEL, Haridwar

ANNEXURE-V

(Quality Plan QA/CF/QP/366/OT)

MANUFACTURER'S NAME AND ADDRESS		QUALITY PLAN										TO BE FILLED BY BHEL									
BHEL		ITEM		HEAT RESISTANT STEEL BARS		OP NO.		QA/QP/366/OT						TO BE FILLED BY BHEL							
		DRG. NO./SIZE		AS PER PO		REV		00													
		SPEC. REV		HW18814 (X18CrMoNbVN11-1) WITH ADDENDUM		00		Page 1 of 1													
SL. NO.		COMPONENT & OPERATIONS		CHARACTERISTICS		CLASS		TYPE OF CHECK		QUANTUM OF CHECK		REFERENCE DOCUMENT		ACCEPTANCE NORMS		FORMAT OF RECORDS		AGENCY		REMARKS	
1		2		3		4		5		6		7		8		9		10		11	
1	MELTING	CHEMICAL COMPOSITION	MAJOR	SPECTRO ANALYSIS	EACH HEAT	HW18814	HW18814	TC	P	V											
2	REFINING & VACUUM DEGASSING	CHEMICAL COMPOSITION	MAJOR	SPECTRO ANALYSIS	EACH HEAT	HW18814	HW18814	TC	P	V											
3	HOT FORGING / ROLLING					AS PER VENDOR'S PRACTICE		IR	P												
4	HEAT TREATMENT	TIME & TEMPERATURE	MAJOR	HT GRAPH	100%	HW18814	HW18814	TC	P	V											
5	STRAIGHTENING & STRESS RELIEVING	STRAIGHTNESS, TIME & TEMPERATURE	MAJOR	STARIGHTNESSHT GRAPH	100%	HW18814	HW18814	TC	P	V											TO BE PERFORMED IF REQUIRED
6	HARDNESS TEST	HARDNESS	MAJOR	HARDNESS	AS PER SPEC	HW18814	HW18814	TC	P	W											
7	PRODUCT AND PROCESS QUALIFICATION AS PER ADDENDUM TO SPECIFICATION HW18814																				
7.1	TENSILE TESTING AT 550°C (IN LONGITRUDINAL DIRECTION)	0.2% PROOF STRESS, TENSILE STRENGTH % ELONGATION % REDUCTION IN AREA	MAJOR	MECHANICAL TEST	ON BARS WITH MAX & MIN HARDNESS PER HEAT PER HT BATCH	ADDENDUM TO SPECIFICATI ON HW18814	HW18814	TC	P	W											
7.2	TENSILE TESTING AT 600°C (IN LONGITRUDINAL DIRECTION)	0.2% PROOF STRESS, TENSILE STRENGTH % ELONGATION % REDUCTION IN AREA	MAJOR	MECHANICAL TEST	ON BARS WITH MAX & MIN HARDNESS PER HEAT PER HT BATCH	ADDENDUM TO SPECIFICATI ON HW18814	HW18814	TC	P	W											
7.3	MICROSTRUCTURE EXAMINATION	DELTA FERRITE CONTENT INCLUSION CONTENT GRAIN SIZE	MAJOR	METALLOGRAPHY	ON BARS WITH MAX & MIN HARDNESS PER HEAT PER HT BATCH	ADDENDUM TO SPECIFICATI ON HW18814	HW18814	TC	P	W											

APPROVED BY Sanjeey 16/07/2016
SANJEEY KR. BHARDWAJ
 SR. ENGINEER (QA-QC)
 BHEL

LEGEND:
 I 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 'CHIP' OF CUSTOMER

FOR CUSTOMER USE

ANNEXURE- VI

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- VII

TERMS AND CONDITIONS OF REVERSE AUCTIONING

Against this enquiry for the subject item/ system with detailed scope of supply as per enquiry specifications, BHEL may resort to "REVERSE AUCTION PROCEDURE" i.e., **ON LINE BIDDING (THROUGH A SERVICE PROVIDER)**. The philosophy followed for reverse auction shall be English Reverse (No ties).

1. For the proposed reverse auction, technically and commercially acceptable bidders only shall be eligible to participate.
2. Those bidders who have given their acceptance for Reverse Auction (quoted against this tender enquiry) will have to necessarily submit „online sealed bid“ in the Reverse Auction. Non-submission of „online sealed bid“ by the bidder for any of the eligible items for which techno-commercially qualified, will be considered as tampering of the tender process and will invite action by BHEL as per extant guidelines in vogue.
3. BHEL will engage the services of a service provider who will provide all necessary training and assistance before commencement of on line bidding on internet.
4. In case of reverse auction, BHEL will inform the bidders the details of Service Provider to enable them to contact & get trained.
5. Business rules like event date, time, bid decrement, extension etc. also will be communicated through service provider for compliance.
6. Bidders have to fax the Compliance form (Annexure VIII) before start of Reverse auction. Without this, the bidder will not be eligible to participate in the event.
7. In line with the NIT terms, BHEL will provide the calculation sheet (e.g., EXCEL sheet) which will help to arrive at "Total Cost to BHEL" like Packing & forwarding charges, Taxes and Duties, Freight charges, Insurance, Service Tax for Services and loading factors (for non-compliance to BHEL standard Commercial terms & conditions) for each of the bidder to enable them to fill-in the price and keep it ready for keying in during the Auction.
8. Reverse auction will be conducted on scheduled date & time.
9. At the end of Reverse Auction event, the lowest bidder value will be known on auction portal.
10. The lowest bidder has to fax/e-mail the duly signed and filled-in prescribed format for price breakup including that of line items, if required, (**Annexure IX**) as provided on case-to-case basis to Service provider within two working days of Auction without fail.
11. In case BHEL decides not to go for Reverse Auction procedure for this tender enquiry, the Price bids and price impacts, if any, already submitted and available with BHEL shall be opened as per BHEL's standard practice.
12. Bidders shall be required to read the "Terms and Conditions" section of the auctions site of Service provider, using the Login IDs and passwords given to them by the service provider before reverse auction event. Bidders should acquaint themselves of the „Business Rules of Reverse Auction“, which will be communicated before the Reverse Auction.
13. If the Bidder or any of his representatives are found to be involved in Price manipulation/ cartel formation of any kind, directly or indirectly by communicating with other bidders, action *as per extant BHEL guidelines*, shall be initiated by BHEL and the results of the RA scrapped/ aborted.
14. The Bidder shall not divulge either his Bids or any other exclusive details of BHEL to any other party.
15. **In case BHEL decides to go for reverse auction, the H1 bidder (whose quote is highest in online sealed bid) may not be allowed to participate in further RA process.**

ANNEXURE- VIII

Process Compliance Form

(The bidders are required to print this on their company's letterhead and sign, stamp before faxing)

To
Name & Address of Service Provider
For Reverse Auction (Will be informed
Later)

Sub: Agreement to the Process related Terms and Conditions

Dear Sir,

This has reference to the Terms & Conditions for the Reverse Auction mentioned in the RFQ document for {Items} against BHEL enquiry/ RFQ no. **F/F219/6/1650/K1**.

This letter is to confirm that:

- d)** The undersigned is authorized official/ representative of the company to participate in RA and to sign the related documents.
- e)** We have studied the Reverse Auction Terms & Conditions and the Business rules governing the Reverse Auction as mentioned in your letter and confirm our agreement to them.
- f)** We also confirm that we have taken the training on the auction tool and have understood the functionality of the same thoroughly.
- g)** We also confirm that, in case we become L1 bidder, we will email/ fax the price confirmation & break up of our quoted price (including that of line items) as per **Annexure - IX** within **two** working days (of BHEL) after completion of RA event, besides sending the same by registered post/ courier both to M/s. BHEL and Service provider of Reverse Auction

We, hereby confirm that we will honor the Bids placed by us during the auction process.

With regards

Signature with company seal

Name –
Company / Organization
Designation within Company / Organization
Address of Company / Organization

- Sign this document and Fax it to Service provider of Reverse Auction at 24 Hrs prior to start of the Event.
- Attach a signed copy of the RFQ document along with the Agreement Form/ Process Compliance form and send to Service provider of Reverse Auction.

ANNEXURE- IX

RA price confirmation and breakup

To

Name & Address of Service Provider
For Reverse Auction (Will be informed
Later)

CC: M/s BHEL
Heavy Electricals Equipment Plant, Haridwar

Sub: **Final price quoted during Reverse Auction and price breakup**

Dear Sir,

We confirm that we have quoted.

Rs.{_____} for item covered under tender enquiry No. F/F219/6/1650/K1.

Total price of the items covered under above cited enquiries is inclusive of
{Packing & forwarding, E.D., C.S.T., freight and insurance charges up to BHEL Haridwar District
Haridwar state- Uttarakhand and Type Test Charges etc., (exclusive of service tax), other as per
NIT}

as our final landed prices as quoted during the Reverse Auction conducted today
{date} which will be valid for a period of 60 days.

The price break-up including that of line items is as given below.

Total -Rs. =====
=====

Thanking you and looking forward to the valuable order from BHEL.

Yours sincerely,

For _____

Name: Company:

Date:

Seal: