

	PPX-BOI DEPARTMENT BHARAT HEAVY ELECTRICALS LIMITED HEEP: HARDWAR-249 403 (Uttarakhand) FAX: +91 1334 226084/226462 TEL: +91 1334 28 1690/1362	ENQUIRY NO. R/5599/2017/3156V/1 DATE OF ISSUE OF ENQUIRY: 12/10/2017 ENQUIRY DUE DATE: 02/11/2017 (BY 1345 HRS IST)
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INSTRUCTION TO BIDDERS & SPECIAL TERMS OF ENQUIRY

1. SCOPE OF ENQUIRY

Sealed Bids are invited from the bidders for the supply of the Packages as per requirement mentioned below:

Sl. No.	Material Code & Item Description	Qty.	Project	Delivery Date
1	D55995237020 PACKAGE-1: Coal Analysis Equipment for North Karanpura STPP (As per list & details enclosed in Annexure-A)	1 Set	3 x 660 MW North Karanpura STPP, Unit-3 (Jharkhand) project site	30/09/2018
2	D55995237039 PACKAGE-2: Environmental Lab Equipment for North Karanpura STPP (As per list & details enclosed in Annexure-B)	1 Set		30/09/2018
3	D55995237047 PACKAGE-3: Water Analysis Equipment for North Karanpura STPP (As per list & details enclosed in Annexure-C)	1 Set		30/09/2018
4	D55995237055 PACKAGE-4: General Lab Equipments for North Karanpura STPP (As per list & details enclosed in Annexure-D)	1 Set		30/09/2018
5	D55995237080 PACKAGE-5: Equipment for Advance Analysis of Samples for North Karanpura STPP (As per list & details enclosed in Annexure-E)	1 Set		30/09/2018
6	D55995237110 PACKAGE-6: Automatic Bomb Calorimeter for North Karanpura STPP (As per details enclosed in Annexure-F)	1 No		30/09/2018

2. EARNEST MONEY DEPOSITE (EMD)

2.1 Interested vendors must submit their offer along with the following Earnest Money Deposit (EMD) in a separate sealed envelope:

Details	Amount In INR	Amount in Foreign Currency	Type
EMD	INR 2,00,000/- (INR Two Lacs only)	Equivalent amount	Refundable

2.2 EMD should be submitted in the form of demand draft/Pay Order/Cash (as permissible under Income Tax Act). The Drafts shall be drawn in favor of "BHEL Haridwar". In case of foreign bidders, E- payment is also acceptable. For E-Payment, the RTGS details are as mentioned below:

Bank Details	SWIFT Details of bank	Contact Details of Banker
STATE BANK OF INDIA RANIPUR BRANCH, OPP: BHEL MAIN GATE, SECTOR-5, RANIPUR, HARIDWAR, UTTRAKHAND, INDIA PIN CODE : 249403	SWIFT NO : SBININBB225 CC ACCOUNT NO : 10667995458 IFSC CODE : SBIN0000586	Name: Sh. Sudhir Sharma Design: Chief Manager (IBD) Contact No. +91 1334 224201 +91 1334 226125 Fax: +91 1334 226512

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- 2.3 **MSE Suppliers / Central / State - PSUs / Government departments are exempted from submission of the EMD.**
- 2.4 Bids not accompanied with requisite EMD or bids accompanied with EMD of inadequate value shall not be considered for further evaluation.
- 2.5 The bidder whose bid is technically not accepted will be informed & EMD wherever submitted shall be refunded after the finalization of the contract. EMD shall be forfeited in the event of bidder opting out after tender opening (PART-I).

3. PRE-QUALIFICATION REQUIREMENT (PQR)

The Pre-Qualification Requirements have been compiled Package-wise and placed at **ANNEXURE-I**. All the bidders should ensure submission of complete details and documents as called for in the same. The offers submitted by the bidders would be scrutinized with respect to Pre-Qualification Requirements first. Techno-Commercial offer of only those bidders shall be evaluated who meet the Pre-Qualification Requirements.

4. TECHNICAL REQUIREMENT

Please quote your offer for the required Package/Packages as per BHEL Technical Specifications, Quality requirement specified at **Annexure-A, Annexure-B, Annexure-C, Annexure-D, Annexure-E & Annexure-F** separately (**Enclosed as ANNEXURE-II**).

Bidder to quote each item of a Package separately as per specifications and also submit original catalogue of the each item issued by its Original Equipment Manufacturer (OEM) alongwith Technical bid. Failing this, the offer for the package is liable to be rejected.

Vendor can participate in one or more packages provided they fulfill the requirement as per our specifications and qualification criteria.

Bidder ensured that each page of the documents submitted with the offer/bid is signed and stamped by authorized representative.

5. SUBMISSION OF OFFER

- 5.1 Only English version of all documents would be valid & binding.
- 5.2 Bidders are advised to study all the tender documents carefully. Any submission of tender by the bidder shall be deemed to have been done after careful study and examination of the tender documents and with full understanding of the implications thereof. The specifications and terms & conditions shall be deemed to have been accepted unless otherwise specifically commented upon in 'Deviation' sheets by the bidder in his offer. Non-compliance with any of the requirements and instructions in the Tender Enquiry may result in rejection of the offer.
- 5.3 Name of vendor's dealing person with Contact No(s), Email ID and Address of correspondence shall be provided in the bid.
- 5.4 Tenders are to be submitted in Two (2) Parts and Part-I (Techno-Commercial Bid, as detailed below) will be opened first. The offers are to be submitted on or before the Due Date and time, as detailed below:

[A] PART-I: PRE-QUALIFICATION REQUIREMENT (PQR) & TECHNO-COMMERCIAL BID

Comprising of following documents:

- a. Earnest Money Deposit (EMD)/details of EMD in case of E-Payment.
- b. Bidders are required to furnish requisite details and supporting documents as specified in **Pre-Qualification Requirements (PQR)** for meeting the same. The package-wise Pre-Qualification requirements are enclosed as **ANNEXURE-I**.

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- c. Complete Technical offer with relevant document/catalogue etc. as per “**Technical Specifications: Annexure-A, Annexure-B, Annexure-C, Annexure-D, Annexure-E & Annexure-F**”, “**Standard Quality Plan (SQP)**” and “**Project Specific Terms & Conditions for Environmental Laboratory Equipment for 3 x 660 MW North Karanpura STPP, Unit-3 Project (Annexure-1)**” which are enclosed as **ANNEXURE-II**.
- d. “**INSTRUCTION TO BIDDERS & SPECIAL TERMS OF ENQUIRY**” and “**GISTC (GENERAL INSTRUCTIONS AND STANDARD TERMS & CONDITIONS AGAINST TENDER ENQUIRY)**” are an integral part of this enquiry and endorsed copies of these documents (duly signed and stamped on each page, as a token of acceptance) are to be necessarily submitted along with the offer. Deviations if any are to be listed out separately.
- e. Commercial Terms & Conditions.
- f. **Quality Assurance Plan (QAP)** of each item of quoted package (as per clause 15 of this document)
- g. List of imported items proposed to be supplied in the quoted package/s.
- h. Any Deviation with reference to technical requirements/specification to be laid down on separate sheet. Acceptance of such technical deviations would be at the discretion of BHEL.
- i. Un-Priced replica of Price Bid (Package-wise with each item).
- j. **Supplier Registration Form (SRF)**: Online Registration Portal is operational in BHEL. Bidders not registered at BHEL Haridwar, have to apply through Online Registration portal, <https://supplier.bhel.in/>. All credentials and/or documents duly signed and stamped related to registration has to be uploaded on the website and the application submitted for registration. One set of hard copy of the filled up Supplier Registration Form (SRF) downloaded from Online Registration Portal duly signed and stamped has to be submitted along with the offer.

Note: The SRF complete in all respects, should be submitted necessarily before price bid opening. The bidders registered at BHEL, Haridwar are exempted from submission of the SRF.

[B] PART-II: PRICE-BID

Containing **Prices of each item (separately) of the quoted Package/Packages** is to be submitted in original, strictly as per enquiry conditions for complete scope of tender enquiry.
Freight charges from vendor’s works to project site should be mentioned (quoted) separately in the price bid.

- 5.5 Following shall be super scribed on the envelopes which shall be addressed by name and designation to the official inviting tender:
 - PART-I (refer clause 5.4 [A]) :
 1. TENDER ENQUIRY NO. AND PACKAGE DESCRIPTION
 2. DUE DATE FOR OPENING
 3. "TECHNO-COMMERCIAL BID WITH PQR".
 - PART-II (refer clause 5.5 [B])
 1. TENDER ENQUIRY NO AND PACKAGE DESCRIPTION
 2. DUE DATE FOR OPENING
 3. "PRICE BID".
- 5.6 Parts - I & II shall be submitted in separate sealed covers duly superscribed as indicated above and shall be enclosed further in a main cover duly sealed and superscribed as:
“OFFER FOR (PACKAGE NAME) AGAINST ENQUIRY NO. DUE ON CONTAINING PART-I & PART-II Bids”. Vendor’s full name and address should be clearly mentioned on the envelope.
- 5.7 Envelope not marked with tender enquiry number is liable to be ignored and may not be opened.

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- 5.8 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:

To,

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

- 5.9 Tender opening is scheduled to start in the Tender Room at 2:00 PM (IST), on the due date. Therefore bid/quotations must reach this office / tender Box latest by 1:45 PM (IST) 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.
- 5.10 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.
- 5.11 **PART-I (Techno-Commercial bid with PQR)** will be opened on Due Date and time specified in the Enquiry, or extension thereof, in presence of tenderers who may like to attend. Incomplete offers are liable to be rejected.
- 5.12 **Techno-Commercial offer of only those bidders shall be evaluated who meet the Pre-Qualification Requirements mentioned in our Enquiry and who have submitted the EMD as stipulated in clause 3 above.**
- 5.13 **After finalization of Technical evaluation, offers of vendors approved by BHEL's customer and who have qualified commercially shall be considered for Price Bid Opening/RA.**
- 5.14 All correspondence thereof, shall be addressed to the following persons:

Mr. Gurdeep Singh Designation: Dy. Engineer (PPX-BOI) 4th Floor, Main Administrative Building HEEP, BHEL Hardwar- 249403 Uttarakhand, India Email ID: singhg@bhelhwr.co.in Tel: +91 1334 28 1680	Mr. Shailendra Kumar Designation: Sr. Manager (PPX-BOI) 4th Floor, Main Administrative Building HEEP, BHEL Hardwar- 249403 Uttarakhand, India Email ID: shail@bhelhwr.co.in Tel: +91 1334 28 1362
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- 5.15 Bidders shall be allowed in the tender room in area identified for bidders and only one authorized representative from each bidder shall be allowed.
- 5.16 Bidder shall not be allowed to carry camera/laptop in the tender room. The use of Mobile Phone is also restricted in the Tender Room.
- 5.17 Details of offers shall be read out to bidders and in no case the offers shall be handed over to any of the bidders for noting down.
- 5.18 As per directives of CENTRAL VIGILANCE COMMISSION, GOVERNMENT OF INDIA, one agent cannot represent two or more suppliers or quote on their behalf in a particular tender. If so found at any stage, BHEL Hardwar is likely to cancel Enquiries / POs to such suppliers. Further, such Indian Agent is likely to be de-listed (Black listed for business from BHEL).

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- 5.19 Vendors operating from BHEL quarters, unauthorized colonies on BHEL Land and Dharamshalas/ Hotels shall not be considered, hence such vendors need not apply.

6 RIGHT OF ACCEPTANCE

- 6.1 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.
- 6.2 Any discount/ revised offer submitted by a bidder on its own shall be accepted provided it is received on or before the due date and time of offer/bid submission (Part-I). Conditional discounts shall not be considered for evaluation of tenders.
- 6.3 Unsolicited discounts/revised offers given after enquiry opening (i.e. Part-I bid opening) shall not be accepted.
- 6.4 In case there is no change in the technical scope and/or specifications and/or commercial terms & conditions, the bidder/s shall not be allowed to change his/their price bid after the due date (i.e. Part-I bid opening).
- 6.5 In case of changes in scope and/or technical specification and/or commercial terms & conditions, having price implications, techno-commercially acceptable bidders shall be asked by BHEL (after freezing the scope, technical specifications and commercial terms & conditions) to submit the impact of such changes on their price bid. A cut-off date and time shall be given to all the techno-commercially acceptable bidders to submit the impact on their price bids.
- 6.6 In the event of any bidder, after finalizing the technical specification & scope of supply, opting to revise and submit their latest price bid instead of submitting impact on their price bid asked by BHEL, then their latest price bid shall prevail. However in such condition their original price bid will necessarily be opened.
- 6.7 After technical & commercial examination of the offers received and clarifications obtained (if required), Part-II (Revised Price Bid/ Original Price Bid along with Price Impact and Discount, if any) shall be opened, for which the date and time shall be intimated to technically and commercially acceptable bidders in case of public opening. BHEL may opt to finalise the prices through Reverse Auction amongst technically, BHEL's customer approved and commercially acceptable bidders. BHEL reserves the right to open the earlier price bids, if any, submitted by the bidder(s), if required.
- 6.8 No correspondence shall be entertained from the tenderers after opening of Part-II (Price bid), except clarifications (if any) asked by BHEL in writing.

7 BASIS OF QUOTATION

For Supplies from outside India:

The prices are necessarily to be quoted on FCA as well as CFR Mumbai (India) basis.

For Supplies from within India:

The prices are to be quoted on Ex-Works with freight Pre-paid up to destination basis. The goods must be dispatched through any Bank approved transporters having their branch at Haridwar. The names and addresses of transporters approved by IBA as well as BHEL are posted at our website www.bhelhwr.co.in. Pls. note that, if you dispatch the material by any BHEL un-approved transporter then you will be required to

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furnish the MRC (Material Receipt Certificate) from Project Site for processing of your invoice. No demurrage charges would be borne by BHEL.

Vendors should quote inland freight charges (for supplies within India, if any). In case the offer is silent regarding inland freight charges, then, **the same would be considered to be inclusive in the offer.** In such case, no separate freight charges would be payable to the supplier (in the event of ordering) and transportation has to be arranged by supplier at their own cost.

8 OFFER VALIDITY

The offer is to be submitted with a validity of 180 days from the date of opening of techno-commercial offers (Part-I Offer). BHEL will reserve the right to reject the offer, quoting validity less than 180 days.

9 PRICES & PRICE SCHEDULE

- 9.1 **The prices are to be quoted on firm basis. BHEL will reserve the right to reject the offer of the vendors not quoting the prices on Firm basis.**
- 9.2 Bidder shall closely peruse all clauses & specifications etc. indicated in tender documents before quoting. In case of any doubt about meaning of any portion of tender specifications or discrepancies or omissions in tender document or clarifications regarding scope of work etc., the official(s) inviting the tender can be contacted for clarifications, before submitting the offer.
- 9.3 *Bidder shall necessarily quote the prices of each individual item of the quoted package/packages separately in their Price bid.*
- 9.4 The prices for foreign scope of supply & services (i.e. from outside India) should be quoted in Euro/USD/JPY/UK Pound/ SF/Singapore Dollar or any other Internationally Freely Tradable Currency only.
- 9.5 In the Price Breakup source of billing, source country of supply, Currency of quotation, separate FOB & CFR Mumbai (India) Charges (for imported shipment) and rate of all applicable taxes & duties, should be clearly mentioned.
- 9.6 Transit Insurance (both Marine & Inland) would be arranged by BHEL.
- 9.7 Tenderer shall quote the rates in English language and international numerals only. Total Price shall be entered in figures as well as in words. All entries in the tender shall either be typed or written legibly in ink. Cancellations, corrections, insertions, erasures, over-writing (if unavoidable) shall be authenticated with signature and seal by the bidder.

10 APPLICABLE TAXES & DUTIES:

Details of applicable taxes & duties are to be mentioned as per clause 11 of General Instructions and Standards Terms & Conditions for bidding against tender enquiry (GISTC), Rev 01.

In this regard, following is to be specifically mentioned in the offer:

- a) GST Registration number
- b) Address of Principal place of Business
- c) Type of Business
- d) HSN code, its description & rate of applicable GST for the offered material.
- e) Whether registered under Composite Scheme of GST (Y/N)

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It should be noted that the evaluation of the offers shall be done considering the taxation/benefit as applicable under GST.

11 EVALUATION CRITERIA

- 11.1 Evaluation of bids for decision of Lowest (L-1) bidder will be done Package-wise (Material Code wise) based on **Total Landed Cost to BHEL upto project site** (considering Total Material value for the package, Taxes & duties, Packing & Forwarding, Freight, Insurance, I&C charges and Commercial Loading, if any etc.).

Note: Bidders to quote each item of a Package separately as mentioned in specifications failing to which the offer for the package is liable to be rejected.

- 11.2 Import Offers (supply portion offered on FCA as well as CFR Mumbai (India) basis) shall be loaded for Transit Insurance, Airport Handling/Clearing Charges, applicable custom duties for the project, freight element and other charges involved for delivery up to Project Site as following:
- o Transit Insurance - @ 0.01% of FCA value
 - o Airport handling/clearing charges - @ 1% of CIF value.
 - o Custom Duty (including GST): As prevailing on date of price bid opening.
 - o Inland Freight & Insurance (from Mumbai to project site): As per applicable rate of BHEL transportation contract/ standard practice at BHEL/GISTC, whichever is higher.
- 11.3 For evaluation (of offers quoted in Foreign Currency), Exchange Rate (TT selling rate of State Bank of India) as on date of tender opening (Part-I bid) shall be considered. If the relevant day happens to be a bank holiday, then the Forex rate as on the previous bank (SBI) working day shall be taken.

12 PAYMENT TERMS

12.1 STANDARD PAYMENT TERMS (For both Foreign & Indigenous Bidders):

Material Portion: 90% payment of Package Cost shall be made after receipt and acceptance of material at site and balance 10% payment after successful Installation & Commissioning of each item of Package at project site 'or' expiry of Warranty period, whichever is later.

Installation & Commissioning Portion: 100% payment against receipt of work completion certificate/successful commissioning certificate of each item of Package, signed by BHEL representative at site.

- 12.2 The payment may be claimed thru bank (i.e. CAD) or directly to BHEL. In case of payment through bank, all bank charges shall be on either side i.e. your bank's charges shall be to your account and our bank's charges shall be to our account. In case documents are presented directly to our nominated Banks, bank charges shall be to your account.
- 12.3 **For Foreign Bidders:** In case Bidders insists Payment thru Letter of Credit, BHEL may agree for Un-Confirmed and Irrevocable Letter of Credit and will; be opened 60 days prior to the scheduled delivery and will be valid for 90 days.
- 12.4 **For Indian Bidders:** Payment thru Letter of Credit (LC) will not be allowed. BHEL reserves the right to either reject the offer or load the offer of Indian bidders insisting payment thru LC.
- 12.5 **Loading for Deviation in Payment terms (for both Indian & Foreign Bidders):** BHEL reserves the right to load the offers of vendors for deviation in payment terms mentioned in the enquiry. Base rate of SBI (as on 31st March 2017) + 6% per annum, shall be considered for loading for the period of relaxation sought by bidders. Loading would be done on basic cost of items, as per table given below:

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Payment Terms		Days of Loading
After Receipt & Acceptance of material at Site (Indian/Foreign Bidders)		No Loading
Against Delivery at BHEL Site (against Material Receipt Certificate) (Indian/Foreign Bidders)		15
Against documents through bank (CAD):	Foreign Bidders	45
	Indian Bidders	30
Letter of Credit (LC)	Foreign Bidders	60
	Indian Bidders (if allowed under exceptional circumstances)	45
Usance LC	Foreign Bidders	No Loading if usance period is > 45 Days.
		Loading of days difference i.e difference between 45 days and usance period if the usance period is < 45 days
	Indian Bidders (if allowed under exceptional circumstances)	No Loading if usance period is > 60 Days.
		Loading of days difference i.e difference between 60 days and usance period if the usance period is <60 days

13 WARRANTY CLAUSE

- 13.1 The equipments shall be warranted as per 'Other Terms & Conditions' of Technical Specifications i.e. Annexure-A, Annexure-B, Annexure C, Annexure-D, Annexure-E & Annexure-F.
- 13.2 Warranty of each item of the package should be extended by vendor. BHEL reserves the right to seek warranty also issued from OEM of the item for any item of the package at its discretion.
- 13.3 Shelf life of Solutions/Standards required for the item/items should be valid for at least 18 months from date of supply. Shelf life of these Solutions/Standards should also be indicated in the packing list submitted for issue of Material Dispatch Clearance Certificate (MDCC) by BHEL prior to dispatch of item.

14 INSTALLATION & COMMISSIONING

- 14.1 Please note that Installation & Commissioning of the equipments are required as per 'Other Terms & Conditions' of Technical Specifications i.e. Annexure-A, Annexure-B, Annexure-C, Annexure-D, Annexure-E & Annexure-F at **3 x 660 MW North Karanpura STPP Project**.

The following points are to be specifically taken care & confirmed regarding I&C while quoting offer:

- Installation & Commissioning (I&C) of item/items shall have to be carried out either by approved vendor himself or its duly authorized representative. Authorization in this regard shall also have to be submitted with the offer.
The entire responsibility of supply, I & C shall however remain with the bidder.
- The scope of I&C shall include receipt of items from BHEL's site store, transportation to required location (Laboratory Building) for installation/erection, operation, calibration with standards/solutions, training and demonstration to BHEL/Customer officials. The vendor shall arrange all the required tools & tackles/chemicals/glasswares/consumables/commissioning spares/supply cables or any other requisite for successful I&C, demonstration of equipment without any additional financial implication on BHEL.

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- c) The vendor may visit the site/Laboratory building prior to taking up I&C of the equipments to make all necessary arrangement at his end. It shall be responsibility of the vendor to arrange and complete all the I&C and demonstration of all the items of the package in time bound manner through required one or more visits and to entire satisfaction of BHEL/BHEL's customer as per BHEL specifications and contract conditions and also obtain unconditional handing over protocol for all the items in the package.
- d) Completion of I&C of the package shall be considered after receipt of unconditional handing over protocol of all the items of the package. No part completion of the package shall be considered for closure of I&C of the package for processing the balance payment.
- e) *Schedule of I&C of package shall be intimated by BHEL normally within 06 months from date of dispatch of package. I&C of the package shall have to be taken up promptly and completed within 08 weeks from date of issue of intimation for I&C. In case of delay in completion of I&C, a penalty of delay @ 1% of balance payment per week shall be imposed, subject to a maximum of 10 % of balance payment. The delay and applicable penalty shall be intimated in writing. In case of delay beyond 10 weeks, BHEL reserves the right to proceed and get the I&C done by alternate source at risk & cost to vendor without further intimation to vendor.*

14.2 *Kindly confirm that Lumpsum I&C charges (Package-wise) for complete scope of work for the quoted package (inclusive of everything i.e. conveyance, lodging and boarding etc. and irrespective of no. of man-days) has been quoted separately in your offer. These charges would be payable only after successful Installation & Commissioning of the equipment at site.*

The above charges for Installation & commissioning shall be considered during Price evaluation.

15 QUALITY REQUIREMENT AND INSPECTION & TESTING

- 15.1 Quality Assurance Plan (QAP) is to be submitted for each item of the package separately along with technical offer for approval of BHEL. Offers submitted without QAP are liable to be rejected.
- 15.2 For quality assurance plan (QAP) a Standard Quality Plan (SQP) format is enclosed as a part of Annexure-II. Suppliers are requested to fill blank space of this format i.e. Item name, Project name, enquiry no., QP No. , Page details etc. in the SQP format. Suppliers shall submit separate QP for each item individually in line to prescribed format and submit with Part-1 of the tender enquiry.
- 15.3 The category of inspection of each item has been indicated in technical specification of the items. BHEL reserves the right to amend category of inspection as per project requirements.
- 15.4 The manufacturer shall conduct all routine/mandatory tests required to ensure that the equipment furnished conforms to the requirements of its specifications & approved QAP, applicable Codes and Standards.
- 15.5 BHEL/BHEL's Customer/Nominated third party inspection agency may inspect items as per approved QAP/Technical Specifications. The vendor will provide all necessary support without any additional financial implication on BHEL.

16 O&M MANUAL REQUIREMENT

O&M Manual of the equipments shall be provided as per 'Other Terms & Conditions' of Technical Specifications i.e. Annexure-A, Annexure-B, Annexure-C, Annexure-D, Annexure-E & Annexure-F.

	PPX-BOI DEPARTMENT BHARAT HEAVY ELECTRICALS LIMITED HEEP: HARDWAR-249 403 (Uttarakhand) FAX: +91 1334 226084/226462 TEL: +91 1334 28 1690/1362	ENQUIRY NO. R/5599/2017/3156V/1 DATE OF ISSUE OF ENQUIRY: 12/10/2017 ENQUIRY DUE DATE: 02/11/2017 (BY 1345 HRS IST)
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17 MATERIAL DISPATCH CLEARANCE CERTIFICATE (MDCC)

Material shall be dispatched only after issuance of Material dispatch clearance certificate (MDCC) by BHEL. For issuance of MDCC, you are required to submit the set of documents (i.e. Packing List, Test certificate, Calibration certificate & Guarantee certificate, as applicable) to BHEL in 15 days advance for review and release of MDCC by BHEL before dispatch of the consignment.

18 DELIVERY PERIOD

Material is required as per delivery schedule mentioned in the enquiry 'or' Intimation by BHEL, whichever is later. **However, you are requested to quote your best possible delivery period for the quoted Package (in totality) in number of weeks from the date of Intimation by BHEL.**

The following points are to be specifically taken care & confirmed while quoting the offer:

- All the items in the Package would be required to be supplied in totality on intimation by BHEL.*
- The intimation for supply of the package will be issued by BHEL within one year from the date of placement of Purchase Order without any additional financial implication on BHEL.*
- It shall be responsibility of vendor to handover all the items of the package to any of the BHEL approved transporters in time.*

19 PENALTY FOR LATE DELIVERY

- 19.1 In case of delay in supply of material beyond the agreed contractual delivery, Penalty for Late Delivery would be applicable @ 0.5% of the **total package value (package-wise)** per week of delay or part thereof subject to a maximum of 10% of the **total package value (package-wise)**.
- 19.2 For Supplies from outside India, the date of OBL (Original Bill of Lading)/ Air Way Bill (AWB) would be treated as the date of delivery for penalty purposes.
- 19.3 For Supplies within India, the date of GR (Goods Receipt)/ LR (Lorry Receipt) would be treated as the date of delivery for penalty purposes.
- 19.4 In case of dispatch thru BHEL un-approved transporter (for indigenous supplies), receipted GR/LR from Project Site would be required for processing of the invoice. In such case, no demurrage charges would be borne by BHEL.
- 19.5 In case of any deviation to the above penalty clause, BHEL reserves the right to load the offers to the extent to which it is not agreed by vendors (at offered value).

20 REVERSE AUCTION

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 to go for RA.

In case BHEL decides to go for Reverse Auction, only those bidders who have given their unconditional 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

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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.

Detailed terms and conditions for RA are enclosed (refer **Annexure-III**)

21 SETTLEMENT OF DISPUTES /ARBITRATION :

For Supplies from outside India:

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 or statutory modifications or reenactments thereof and the rules made thereunder and for the time being in force shall apply to the arbitration proceedings under the clause. The seat or place of arbitration shall be Haridwar, 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.

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

For Supplies from within India:

In case 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.

BHEL reserves the right to reject the offer in case bidder does not agree to the arbitration clause.

22 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.

23 DEALING WITH BANNED SUPPLIERS/ CONTRACTORS IN BHEL

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

24 PRE-BID MEETING :

Pre-Bid clarifications & deviations (if any) should be sought within 10 days of issue of the enquiry. Bidders to compile all clarifications, if any, preferably in single communication. The clarifications would be provided

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within 3 days of receipt of queries. Bidders may also have across the table discussions for seeking pre-bid clarifications (if required).

25 IMPORTANT NOTE

INSTRUCTION TO BIDDERS & SPECIAL TERMS OF ENQUIRY are to be read along with **GISTC (for both Foreign & Indian Bidders)**. A signed & stamped copy of these documents as a token of acceptance is to be submitted along with the offer. In the event of contradiction of terms and conditions mentioned, the order of preference shall be INSTRUCTION TO BIDDERS & SPECIAL TERMS OF ENQUIRY followed by GISTC (General Instructions and Standard Terms & Conditions against Tender Enquiry).

Kindly ensure the timely submission of your offer (by 1345 Hrs IST on the due date) and note that Late Offers shall not be entertained under any circumstances.

26 List of Enclosures

- i. INSTRUCTION TO BIDDERS & SPECIAL TERMS OF ENQUIRY
- ii. Pre-Qualification Requirements (**Annexure-I**) - No. of Pages: **06**
- iii. Technical Specifications, Standard Quality Plan (SQP) Format and Project Specific Terms & Conditions (**Annexure-II**) - No. of Pages: **33**
- iv. Terms & Conditions of Reverse Auction (**Annexure-III**) - No. of Pages: **01**
- v. GISTC (For Foreign Bidders) - No. of Pages: **10**
- vi. GISTC (for Indigenous Bidders) - No. of Pages: **09**

For and on behalf of BHEL, Hardwar

(S K Baveja)
AGM-Incharge (PPX-BOI)

DETAIL OF ANNEXURE - I

PRE-QUALIFYING REQUIREMENT

Package-1 (Material Code: D55995237020)

No. of Pages = 1

PRE-QUALIFYING REQUIREMENT

Package-2 (Material Code: D55995237039)

No. of Pages = 1

PRE-QUALIFYING REQUIREMENT

Package-3 (Material Code: D55995237047)

No. of Pages = 1

PRE-QUALIFYING REQUIREMENT

Package-4 (Material Code: D55995237055)

No. of Pages = 1

PRE-QUALIFYING REQUIREMENT

Package-5 (Material Code: D55995237080)

No. of Pages = 1

PRE-QUALIFYING REQUIREMENT

Package-6 (Material Code: D55995237110)

No. of Pages = 1

Total No. of Pages = 6

Pre – Qualifying Requirement (PQR)**Package – 1 (Material Code : D55995237020)****Coal Analysis Equipments for North Karanpura STPP**

1. The average annual Turnover of the bidder for last three years (2014 – 15, 2015 – 16 and 2016 – 17) should not be less than Rs. 10 Lakh. Copies of audited balance sheet to be submitted in support of this.
2. The bidder should have supplied, installed & commissioned in India at least 04 items similar to the items listed in the package, against one or more orders placed on bidder within 05 years from the date of opening of this tender. At least one Automatic Flash Point Apparatus should necessarily be included in the specified 04 items. Bidder to submit true copies (unedited) of P.Os. and I & C reports in support of this.
3. The total value of purchase order/orders submitted against PQR SI. No. 2 should not be less than Rs. 10 Lakh.

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Sr. Engineer (PCRI)

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(Dr. S. Bhatnagar)
SDGM (PCRI-Labs)

Ambrish
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(Ambrish Goel)
AGM (PCRI-Labs)

Pre – Qualifying Requirement (PQR)**Package – 2 (Material Code : D55995237039)****Environmental Lab Equipments for North Karanpura STPP**

1. The average annual Turnover of the bidder for last three years (2014 – 15, 2015 – 16 and 2016 – 17) should not be less than Rs. 20 Lakh. Copies of audited balance sheet to be submitted in support of this.
2. The bidder should have supplied, installed & commissioned in India at least 10 items similar to the items listed in the package, against one or more orders placed on bidder within 05 years from the date of opening of this tender. At least one Deposition and Corrosion Meter and Automatic Karl Fischer Titrator should necessarily be included in the specified 10 items. Bidder to submit true copies (unedited) of P.Os. and I & C reports in support of this.
3. The total value of purchase order/orders submitted against PQR Sl. No. 2 should not be less than Rs. 20 Lakh.

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Pre – Qualifying Requirement (PQR)**Package – 3 (Material Code : D55995237047)****Water Analysis Equipments for North Karanpura STPP**

1. The average annual Turnover of the bidder for last three years (2014 – 15, 2015 – 16 and 2016 – 17) should not be less than Rs. 12 Lakh. Copies of audited balance sheet to be submitted in support of this.
2. The bidder should have supplied, installed & commissioned in India at least 04 items similar to the items listed in the package, against one or more orders placed on bidder within 05 years from the date of opening of this tender. At least one Conductivity Meter and one UV-VIS Spectrophotometer should necessarily be included in the specified 04 items. Bidder to submit true copies (unedited) of P.Os. and I & C reports in support of this.
3. The total value of purchase order/orders submitted against PQR Sl. No.2 should not be less than Rs. 12 Lakh.

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Pre – Qualifying Requirement (PQR)**Package – 4 (Material Code : D55995237055)****General Lab Equipments for North Karanpura STPP (General lab. equipments)**

1. The average annual Turnover of the bidder for last three years (2014 – 15, 2015 – 16 and 2016 – 17) should not be less than Rs. 03 Lakh. Copies of audited balance sheet to be submitted in support of this.
2. The bidder should have supplied, installed & commissioned in India at least 04 items similar to the items listed in the package, against one or more orders placed on bidder within 05 years from the date of opening of this tender. At least one Hydrogen Purity Meter and Assmann Psychrometer should necessarily be included in the specified 10 items. Bidder to submit true copies (unedited) of P.Os. and I & C reports in support of this.
3. The total value of purchase order/orders submitted against PQR Sl. No. 2 should not be less than Rs. 03 Lakh.

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Pre – Qualifying Requirement (PQR)**Package – 5 (Material Code : D55995236997)****Equipments for Advance Analysis of Samples for North Karanpura STPP**

1. The average annual Turnover of the bidder for last three years (2014 – 15, 2015 – 16 and 2016 – 17) should not be less than Rs. 35 Lakh. Copies of audited balance sheet to be submitted in support of this.
2. The bidder should have supplied, installed & commissioned in India at least one item similar to the items listed in the package, against one or more orders placed on bidder within 05 years from the date of opening of this tender. The submitted each PO. should necessarily cover at least one item similar to the items listed in the package. Bidder to submit true copies (unedited) of P.Os. and I & C reports in support of this.
3. The total value of purchase order/orders submitted against PQR Sl. No. 2 should not be less than Rs. 35 Lakh.

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Pre – Qualifying Requirement (PQR)**Package – 6 (Material Code : D55995236997)****Automatic Bomb Calorimeter for North Karanpura STPP**

1. The average annual Turnover of the bidder for last three years (2014 – 15, 2015 – 16 and 2016 – 17) should not be less than Rs. 13 Lakh. Copies of audited balance sheet to be submitted in support of this.
2. The bidder should have supplied, installed & commissioned in India at least one Automatic Bomb Calorimeter against one order placed on bidder within 05 years from the date of opening of this tender. Bidder to submit true copies (unedited) of P.Os. and I & C reports in support of this.
3. The total value of purchase order submitted against PQR Sl. No. 2 should not be less than Rs. 13 Lakh.

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DETAIL OF ANNEXURE - II

TECHNICAL SPECIFICATION

Annexure-A for Package-1 (Material Code: D55995237020)

No. of Pages = 3

TECHNICAL SPECIFICATION

Annexure-B for Package-2 (Material Code: D55995237039)

No. of Pages = 12

TECHNICAL SPECIFICATION

Annexure-C for Package-3 (Material Code: D55995237047)

No. of Pages = 4

TECHNICAL SPECIFICATION

Annexure-D for Package-4 (Material Code: D55995237055)

No. of Pages = 4

TECHNICAL SPECIFICATION

Annexure-E for Package-5 (Material Code: D55995237080)

No. of Pages = 6

TECHNICAL SPECIFICATION

Annexure-F for Package-6 (Material Code: D55995237110)

No. of Pages = 1

STANDARD QUALITY PLAN (SQP) FORMAT

No. of Pages = 1

PROJECT SPECIFIC TERMS & CONDITIONS

Annexure-1

No. of Pages = 2

Total No. of Pages = 33

CHEMICAL LAB EQUIPMENTS FOR 3X660 MW NORTH KARANPURA STPP PROJECT**INDENT NO.20173156 DATED: 05.10.2017****Annexure - A for Package - 1 [Material Code - D55995237020]**

Sl no	Item Description	Qty	Inspection Category	Specification
1	Automatic Flash Point Apparatus	1	2	Annexure - 1A
2	Jar Test Apparatus	1	2	Annexure - 2A
3	Jaw Crusher	1	2	Annexure - 3A
4	Double Roll Crusher	2	2	Annexure - 4A
5	Muffle Furnace (for Ash Determination)	1	2	Annexure - 5A
6	Raymond Mini mill	1	2	Annexure - 6A
7	Riffle Sampler	2	2	Annexure - 7A
8	Sieve Shakers and Sieves	2	2	Annexure - 8A

CAT 2: QAP Approval By NTPC & Inspection by BHEL / BHEL Third Party Inspection Agency. BHEL MDCC shall be issued based on NTPC MDCC.**TECHNICAL SPECIFICATIONS****Annexure - 1A****1.0 AUTOMATIC FLASH POINT APPARATUS**

The equipment shall be used to determine flash points by the Pensky Martens Closed Cup Method (conforming to ASTM D-93).

1. Entire equipment shall be housed as a single unit, separating electronic systems inside by suitable partition.
 2. The equipment should be able to determine flash points up to 400deg. C, controlling the heating rate within prescribed limits.
 3. In case of unknown and contaminated samples, the search facility should be available.
 4. Should have constant stirring arrangement for sample.
 5. Operation should be initiated by push-button, which shall proceed till the end of test.
 6. Display of sample temperature should be digital.
 7. Audible Signal at the end of test should stop the further continuation of test.
 8. Flame introduction in the sample should be after every 1deg. C up to 104deg. C and very 3 deg. C for set values above 104deg. C.
 9. It should be suitable for operation at 220 volts 50 Hz single phase AC supply.
- Equipment should be complete with all essential accessories and should be accompanied by operation and service manual including electrical circuit diagrams spare parts list and remedial measures for trouble shooting.

Annexure - 2A**2.0 JAR TEST APPARATUS**

For floc formation tests in Water Treatment Plant, it should be designed for uniform stirring upto six samples simultaneously.

A variable transformer should provide speed from 10-100 rpm with attached counter for counting the rpm. Stirrers are driven by 1/30 HP motor with gear train. Entire unit should be mounted in elongated cast aluminium housing. Stainless steel stirring paddles of about 25x75 mm are attached to rods 250 mm x 6 mm diameter with lifting knob at the top. Locking collars on stirring rods permit adjustment of paddle height. Provision should be there to disengage paddles individually without interruption of other stirrers. Varying the speed of the stirrer should be possible without interrupting the process. A spacing of about 150 mm should be there between rods to permit use of 1000 ml beakers which rest directly on bench. The bench should have a wooden base with illumination so that observation of floc formation is easy. The apparatus should come complete with On-Off switch, 3 wire cord and plug for use at 220 V AC 50 Hz supply.

Annexure - 3A**3.0 JAW CRUSHER**

JAW CRUSHER: Suitable jaw crusher for the preparation of coal samples should have the following specifications:

Feed size 250 mm

Product size 50 mm

Capacity 0.5 to 1.0 Ton/hr

Motor 415 V operated 1400 rpm, 5 to 7 HP with belt, starter and required accessories.

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05/10/17
Anirash
05/10/17

Annexure - 4A

4.0 DOUBLE ROLL CRUSHER

4.1 DOUBLE ROLL CRUSHER: Suitable roll crusher for the preparation of coal samples should have the following specifications:

Feed size 50 mm

Product size 6 mm

Capacity 0.5 Ton/hr

Motor 415 V operated 1400 rpm, 5 HP with belt, starter and required accessories.

4.2 DOUBLE ROLL CRUSHER: Suitable roll crusher for the preparation of coal samples should have the following specifications:

Feed size 13 mm

Product size 3 mm

Capacity 0.25 Ton/hr

Motor 415 V operated 1400 rpm, 2 to 5 HP with belt, starter and required accessories.

Complete with base frames, foundation, etc.

Annexure - 5A

5.0 MUFFLE FURNACE (FOR ASH DETERMINATION)

Muffle furnace should be capable of continuous operation at temperature up to 10000C / 12000C having welded steel case with corrosion resistant paint.

Complete with energy regulator, digital solid-state temperature indicator cum controller (sub divisions 5deg. C) with thermdeg. Couple. Heating element of Kanthal wire of suitable gauge. It should have built-in digital indicator cum controller for setting the desired temperature to be achieved and it should have a push button switch to check the set temperature. The furnace should be capable of attaining 650deg. C from ambient in 30 minutes and 815deg. C in another 30 to 45 minutes. Total time to reach maximum temperature should not be more than 1½ hrs. The ventilation should be provided to give about five air changes per minute.

Temperature indicator - Digital

Temperature accuracy - ± 3 deg. C over complete range

Temperature indication - 1deg. C intervals

Temperature uniformity - Better than ± 5 deg. C

Temperature control - Automatic by ON/OFF controller and energy regulator

Approx. Internal size - 100mm x 150mm x 300mm

(Height x Width x Depth)

Furnace Temperature range - Ambient to 10000C / 12000C

This is for use at 220/230 V, 50 Hz single phase AC supply complete with cable and operation / maintenance manual with spare-parts list and circuit diagram.

Annexure - 6A

6.0 RAYMOND MINIMILL

Raymond Mini-mill - swing hammer pulveriser should be of high speed type fitted with a continuous rated motor of 0.5 HP (Synchronous speed 3000 rpm) for small scale production of 212 micron coal fine powder from inlet size of 3.35 mm of coal of approximate HGI of 50. It shall be fabricated steel construction fitted with forged steel hammers and complete with feed hopper, integral hand operated screw type feeder, product container with lid and cloth Product Delivery Tube. It shall be complete with the pair of screens of above size (i.e. 3.35 mm and 212 micron). It should be suitable for operation on 220/230 volts single phase 50 Hz AC Supply.

It should be suitable for bench mounting with replaceable fittings.

SPARES

1. Set of hammer - One

2. Set of screen 3.35 mm & 212 micron - 6 sets

Annexure - 7A

7.0 RIFFLE SAMPLER

1. Riffle Sampler should be with adjacent slots to deliver coal to opposite side and to divide it into two identical halves. Slots should be of 25 mm size and number of total slots should be 36. The sampler should be provided with legs and removable containers. The material of construction of the equipment shall be mild steel, painted with gray hammertone paint. Qty - 1 No.

2. All details given in (1) above except the slot size shall be 12.5 mm and total number of slots shall be 24. Qty - 1 No.

Annexure - 8A

8.0 SIEVE SHAKERS AND SIEVES

Booms
05/10/17

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05/10/17

ANNEXURE - II**1. Automatic Sieve Shaker**

The equipment should be a heavy duty motorized automatic sieve shaker which operates with both vertical and horizontal sieving action for better particle size distribution analysis in the measuring range of 63 μ m to 63 mm. It should have suitable clamping device for holding up to 7 sieves of 8" (200 mm) dia with sieving pan and sieve cover and a total sample weight of 6 Kg. It should have an automatic timer with a variable time setting from 5 to 60 minutes. The instrument should be supplied with sieve cover, receiving pan and sieving aids of Vulkollan cubes (100 cubes). Complete with all necessary spares, accessories and O&M manual for use at 220 V 50 Hz single phase AC supply.

2. Wet Sieve Shaker, Yoder Type

The equipment shall be driven by 1/2 HP motor suitable for 220 Volts, 50 Hz single phase A/C power supply. It shall achieve thirty (30) tapping per minute by a system of worm and gear. The upward motion 30 mm, with sieve holder 200 mm dia sieve and one water tank 305 mm dia. Complete with motor, water tank and all essential accessories for ready use of equipment, along with cord, three pin plug, Operation & Maintenance Manual, spare-part list, etc.

3. Test Sieves (Conforming to Indian Standard Specification)

The frame shall be of 200 mm diameter and made out of Spun Brass and without any joint in it, a clean rigid design of minimum weight and free from corners where the material could be lodged. Uniform fabrication of sieves shall permit easy and smooth nesting on each others and also with lid and receiver. Imported 18/8 stainless steel quality standard sieve cloth shall be used for better performance and nesting. The mesh shall be flat, taut and uniform and with permanent tension round the whole circumference.

S.No.	Sieve Number	Size	Quantity
1.	6	3.35 mm	Two No.
2.	8	2.36 mm	Two Nos.
3.	12	1.70 mm	Two No.
4.	16	1.18 mm	Two Nos.
5.	20	850 μ m	Two No.
6.	30	600 μ m	Two Nos.
7.	40	425 μ m	Two No.
8.	50	300 μ m	Six Nos.
9.	70	212 μ m	Six Nos.
10.	100	150 μ m	Six Nos.
11.	200	75 μ m	Six No.
12.	325	45 μ m	Two No.

Lid and Receiver of above Sieves (set) Two Nos.

Other Terms & Conditions

Document: One hard copy of O&M Manual in English language giving complete technical information for operation and maintenance of the equipment.

Installation and Commissioning: The supplier shall install & commission the equipment at site. Supplier should demonstrate the performance of the Equipment and all its accessories to ensure compliance with complete specifications & parameters quoted by them to the satisfaction of BHEL/end user. Cost of installation & Commissioning, if any, should be indicated separately. Training to chemists at site during installation should be provided for routine maintenance, operation and safety purpose. Failing to comply to the Installation and Commissioning clause, the offer will be rejected straightaway.

Warranty: The equipment shall be warranted for satisfactory performance for a period of 12 months from the date of installation or 18 months from date of dispatch, whichever is later. Failing to comply to the warranty clause, the offer will be rejected straightaway.

Packing & Dispatch: The equipment / accessories shall be packed in a suitable water proof/vibration proof packing box capable of bearing air and road transit hazards. Packing box shall be properly identified and marked with BHEL's (India) Purchase Order Number. Also, "PCRI HWR" should be written in bold letters on all four sides of the packing box.

The Project Specific Terms and Conditions Annexed at Annexure-1 are also to be read in conjunction with this document.

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Worked by

Avinash
05/10/17

(Avinash Kumar)
Sr. Engineer
Checked by

Dr. S Bhatnagar
05/10/17

(Dr. S Bhatnagar)
SDGM
Supervised by

Ambrish
05/10/17

Ambrish Goel
AGM
Approved by

CHEMICAL LAB EQUIPMENTS FOR 3X660 MW NORTH KARANPURA STPP PROJECT

INDENT NO.20173156 DATED: 05.10.2017

Annexure - B for Package - 2 [Material Code - D55995237039]

Sl no	Item Description	Qty	Inspection Category	Specification
1	Automatic Karl Fischer Titrator	1	2	Annexure - 1B
2	B.O.D. Analyzer System	1	2	Annexure - 2B
3	Balance (Top Loading)	1	2	Annexure - 3B
4	Centrifuge Machine	1	2	Annexure - 4B
5	Comparators	1	2	Annexure - 5B
6	Computer with printer and scanner	1	2	Annexure - 6B
7	Dean & Stark Apparatus	1	2	Annexure - 7B
8	Density Hydrometer	1	2	Annexure - 8B
9	Deposition and Corrosion Meter	2	2	Annexure - 9B
10	Electronic Analytical Balance	2	2	Annexure - 10B
11	Flame Photometer	1	2	Annexure - 11B
12	Heating Mantle	1	2	Annexure - 12B
13	Hot Air Dryer	1	2	Annexure - 13B
14	Hot Plate	1	2	Annexure - 14B
15	Humidity Oven	1	2	Annexure - 15B
16	Hydrometers		2	Annexure - 16B
	i) Range 0.800 to 1.000	2		-
	ii) Range 1.000 to 1.100	2		-
	iii) Range 1.100 to 1.200	2		-
	iv) Range 1.400 to 1.500	2		-
17	Incubator	1	2	Annexure - 17B
18	Magnetic Stirrer Cum Hot Plate	1	2	Annexure - 18B
19	Membrane Filter Holder Assembly	1	2	Annexure - 19B
20	Oven	2	2	Annexure - 20B
21	Refrigerator	1	2	Annexure - 21B
22	Sample Cooler	1	2	Annexure - 22B
23	Saybolt Viscometer	1	2	Annexure - 23B
24	Specific Gravity Bottle	2	2	Annexure - 24B
25	Stop Watch -	4	2	Annexure - 25B
26	Thermometers		2	Annexure - 26B
	i) Range 0 to 50 C	2		-
	ii) Range 0 to 100 C	2		-
	iii) Range 0 to 250 C	2		-
	iv) Range 0 to 350 C	2		-
27	Thermostat Bath	1	2	Annexure - 27B
28	Vacuum Pump	1	2	Annexure - 28B
29	Viscometer (Kinematic)	1	2	Annexure - 29B
30	Water Bath	1	2	Annexure - 30B
31	Digital Camera(6 MP)	1	2	-
32	Portable ORP Monitor	1	2	Annexure - 32B

CAT 2: QAP Approval By NTPC & Inspection by BHEL / BHEL Third Party Inspection Agency. BHEL MDCC shall be issued based on NTPC MDCC.

TECHNICAL SPECIFICATIONS

Annexure - 1B

1.0 AUTOMATIC KARL FISCHER TITRATOR

This should be digital, direct reading instrument for the determination of water content of liquid or solid samples by completely automatic titration. It shall give the water content in mg, ppm or %. It should be able to detect water from 1 ppm to 5%. It should generate Karl Fischer Reagent by Coulometric release of iodine to titrate water. Coulometric end point detection

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circuit should employ a dual platinum electrode sensor. Results should be indicated on a digital register reading directly in microgram of water. It should have precision $<0.3\%$ at 1 mg or better.

It should completely avoid the use of burettes and elaborate glassware. The magnetic stirrer should be built up in the control unit.

Iodine generator should be refillable, glass-walled cartridge with diaphragm and sensing electrodes. Filling shall be automatic with inbuilt pumping system to fill and empty the unit.

Titration should be supplied complete with titration vessel, dual platinum sensing electrode, generator assembly, and magnetic stirrer bar, 1 ml glass syringe, 10 ml plastic syringe for solution, 6 charges of pyridine free Karl – Fisher reagent kit for titration, water standards and standard consumable spares for the instrument for 3 years trouble free operation. Operation and maintenance manual with circuit diagrams and trouble shooting guidelines should also be provided.

The instrument is for use at 220 V 50 Hz Single Phase AC supply.

Annexure - 2B

2.0 BALANCE (TOP LOADING)

A top loading electronic balance with digital display, it should have arrangement for levelling the base and protection for excessive weight. It should have in-built auto calibration facility.

i) Weighing range - Upto 2000 g

ii) Standard Deviation or Precision - 0.05 g

iii) Readability - 0.1 g or better

iv) Facility for continuous taring

The balance must be for use at 220 V, 50 Hz, single phase AC supply and should be accompanied by Instruction Manual containing fault finding procedure. It should be supplied with in-use plastic cover, and spare fuses.

Annexure - 3B

3.0 B.O.D. ANALYSER SYSTEM

The BOD analysis equipment should use pressure sensor technology. The equipment should do the mercury free respirometric BOD measurement using pressure sensor technology with a range of 0 – 3000 ppm BOD as O₂. The sensor should measure the oxygen depletion with LCD display and should have features like automatic initiation of the measurement, five days data storage memory and battery operation.

The equipment should consist of complete unit containing electro manometer and inductive stirring unit and six sensors and standard accessories like magnetic stirring rod, gasket, over flow measuring flasks, etc. and required thermostatically controlled cabinet for the incubation of the measurement samples. With standard spares and accessories along with operation and maintenance manual including detailed theory and procedure for the measurement of BOD, diaphragm pad, potassium hydroxide solution and nitrification inhibitor. All electrically operated parts should be usable at 230 V, 50 Hz single phase AC supply.

Annexure - 4B

4.0 CENTRIFUGE MACHINE

Laboratory centrifuge consisting of electronic speed control for 500 to 4000 rpm and direct reading tachometer with $\pm 5\%$ accuracy. It should have electric timer of 30 minutes / 60 minutes and a safety latch to prevent opening of cover until centrifuge has stopped. The motor should be flameproof to permit its use with flammable liquids such as crude oil, furnace and lubricating oil. It should have full width control panel at front of base. Provision should be made to vibration isolators for extra-quiet operation.

Technical data for horizontal head

No. of tubes - 4

Tube size - 100 ml

Maximum rpm - 2400 (approx.)

Maximum RCF - 1100

It should be supplied with all the necessary accessories for its general-purpose use.

SPARES

Oil tubes made of pyrex / corning glass for water and sediments in crude mineral oil - 36 Nos.

Long form for ASTM D 96 & D 91

Size 37 mm (OD) x 200 mm (L)

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Capacity 100 ml

Graduations should be as under:

Range ml.	Subdivision ml.	Volume tolerance ml.
0 – 0.1	0.05	±0.02
>0.1 – 0.3	0.05	±0.03
>0.3 – 0.5	0.05	±0.05
>0.5 – 1.0	0.1	±0.05
>1.0 – 2.0	0.1	±0.10
>2.0 – 3.0	0.2	±0.10
>3.0 – 5.0	0.5	±0.02
>5.0 – 10	1	±0.50
>10 – 25	5	±1.00
>25 – 100	25	±1.00

The centrifuge should be accompanied by spare-parts for 2 year trouble-free operation and Operation and Maintenance manual. For use at 220V, 50Hz, AC single phase.

Annexure - 5B

5.0 COMPARATORS

It should be Lovibond Comparator or equivalent for routine chemical analysis by direct reading of results using standard discs complete with pair of 13.5 mm & 40 mm cells along with each comparator. The comparator shall have the provision for two cells, one for the sample and other behind the disc to contain same depth of samples without indicator for comparison. It should have provision of compensation for turbid samples as well as daylight bench-top illumination system.

9.1 Accessories

- Nessler attachment for determining the difference between pale colours : 2Nos.
- Nessler Tube (Pair) of 113 mm for the above nessleriser attachment : 2 doz.
- do- of 250 mm for the above nessleriser attachment : 2 doz.
- Special Glass Cylinders AF 315 : 1 doz.
- Tablets:

- DPD tablets (bottles of 100 tab) : 12 Nos.
- Indigo-Carmine tablets (bottles of 100 tab) : 3 Nos.

9.2 Comparator Discs

All the discs shall have standard 9 or 10 permanent unfading guaranteed colour standards pre-calibrated against original laboratory standards mounted permanently in durable plastic wheels. The discs shall be interchangeable and should be used in the above Comparator. Technical method sheets describing complete chemical data shall be supplied along with every individual disc.

Sl.No. Test Disc No Range Covered Quantity required

- Ammonia NAA 0.02 to 0.16 ppm Two Nos.
NAB 0.2 to 0.52 ppm Two Nos.
NAC 0.56 to 1.2 ppm Two Nos.
- Chlorine (in 3/40 A 0.1 to 1 ppm Two Nos.
Water) by Palin NDPB 0.05 to 0.5 ppm Two Nos.
Method using
DPD tablets)
- Oxygen NOE 0 to 0.12 ml/litre Two Nos.

Annexure - 6B

6.0 Computer with printer and scanner

- Core i3 processor, RAM : 4 GB, Hard Disk : 500 GB
- WIN8 Professional 8.1 Operating System
- Monitor : 14" SVGA colour monitor
- Ports : 2 Serial & 1 Parallel
- Keyboard : Standard Windows Keyboard
- Mouse : Mouse + Pad

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7.0 Software : Windows based data logging/driver software with provision to averaging out data at selectable interval

8.0 Black and White Laser jet printer

Annexure - 7B

7.0 DEAN & STARK APPARATUS

Made of pyrex / borosilicate glass for determination of moisture in oil, it should consist of the following parts, as per IS: 1448 (1976) (P. 40).

1. Distillation Flask

Capacity (min.) 500 ml

Connection B-19/B-24 joint

2. Condenser

Jacket length 400 mm

Ends should have B-19/B-24 joints

3. Receiver tube with B-19/B-24 joints

Capacity Sub-Divisions

2 ml 0.05 ml

10 ml 0.1 ml

Annexure - 8B

8.0 DENSITY HYDROMETER

Hydrometer should be made of glass graduated in units of Density Conforming to ASTM Specification

E-100 and calibrated at 15deg. C. Suitable for determination of density of

hydrocarbons:-

Sl. No. Range Subdivisions Quantity

1. 0.80 to 1.00 0.001 2 Nos.

2. 1.00 to 1.10 0.001 2 Nos.

3. 1.10 to 1.20 0.001 2 Nos.

4. 1.40 to 1.50 0.001 2 Nos.

Annexure - 9B

9.0 DEPOSITION & CORROSION METER

Deposition & Corrosion Meter is meant for monitoring bio fouling, scaling and corrosion of cooling water systems. The test material should be SS 304, Cupronickle 90:10, Cupronickle 95:05 and brass.

14.1 Bio fouling monitor

1. Sample tube material – as mentioned above.

2. Water flow indicator – Rotameter

3. Flow control valve – manual / automatic control

4. Differential pressure gauge – Diaphragm dial type range 0-250 mm W.C

5. Inlet and outlet water pressure tapping.

6. By pass line of SS / copper tube for differential pressure gauges.

7. Mounted on panel

14.2 Scaling Monitor

1. Sample tubes (3 no. each) – material as mentioned above

2. Outside jacket tube – Acrylic

3. Metal temperature sensor – 20-100deg. C; accuracy 1deg. C

4. Inlet and outlet water temperature sensor and digital indicator – 10-70deg. C; accuracy – 1deg. C

5. Water flow sensor digital indicator – 200 to 1000 litres accuracy 5%

6. Water flow indicator – Rotameter or digital indicator

7. Heater – 1000 to 1500 watts 220 $\pm$ 10 V AC

8. Heat input controller – Selector switch.

9. Power input – 220 $\pm$ 10 V AC

10. Heater protection relay – 50 to 100deg. C operating valve

11. Heater and water flow relay – Automatic on/off switch for heater with water flow stopper.

12. Display – Digital.

13. Water flow regulator – valve.

14. Complete with all fittings and fixtures for attachment of equipment.

14.3 Corrosion Test Racks

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1. Corrosion test rack equipment – 12 no.
2. Corrosion test coupons size 13 mm×76 mm×1.6 mm as per ASTM-D-2688-92 – Mild steel, SS 304, Cupronickle 90:10, Cupronickle 95:05, Brass – 100 no. each
3. Complete with all fittings and fixtures for attachment of equipment

Annexure - 10B

10.0 ELECTRONIC ANALYTICAL BALANCE

This should be a top loading electronic analytical balance having auto calibration facility with built in weights. It should have tare facility and automatic draught shield. Stabilisation time should not be more than 15 seconds and pan size should not be less than 80mm.

I II

i) Range/capacity : 220 gm 220 gm

ii) Readability : 0.1 mg 0.01 mg

Complete with all accessories and O&M Manual, it should be suitable for use at 220 V, 50 Hz single phase AC supply.

Annexure - 11B

11.0 FLAME PHOTOMETER

Flame photometer is for the determination of Na, K, Ca, Li and Ba in water samples. It should preferably work on LPG. It should have inbuilt flame igniter, automatic flame control / flame failure detection and other user safety features.

Sensitivity - 1 ppm Na & K FSD.

Range - 0 – 100 ppm for all the elements.

Air supply - in - built, preset regulator.

Compressor - oil free, portable.

Interface - RS 232

Power supply - 230 V, 50 Hz, Single phase AC.

Standard solutions - 1ml = 1mg solution for all the five elements.

The supply should be complete with all standard spares and accessories for three years trouble free operation and operation and maintenance manual.

Annexure - 12B

12.0 HEATING MANTLE

It should be glass-cloth mantle suspended in cylindrical aluminium housing and well insulated against heat loss.

Capacity - To hold 500 ml, 1000 ml round bottom flasks.

Power - 250 – 1000 W

- 220 V, 50 Hz AC supply

It should also have thermostat, temperature regulator with ON / OFF switch.

Annexure - 13B

13.0 HOT AIR DRYER

Electrically operated and portable type hot air dryer for general drying purpose.

It should comprise of electric motor and about 500 W heater enclosed in light weight, but high impact thermoplastic.

It should be provided with 3-way switch (Off, Cool, Hot).

Maximum air flow temperature – 70deg. C.

Air delivery : 3-4 cubic feet per minute.

It should be supplied with 7 feet 3 conductor cord & 3 prong plug for use at 220 V, 50 Hz AC supply.

Annexure - 14B

14.0 HOT PLATE

Rectangular hot plate should be made of cast iron top with smooth corrosion resistant finish with a maximum operating temperature of 500deg. C.

It should have continuously variable thermostat control with pilot lamp & a nickle-chromium alloy heating element.

The lower steel case should preferably be perforated to allow ventilation for the controls and

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lower section with protective rubber feet. Complete with 5 feet, 3 wire cord and 3 prong plug.
Wattage-1000 Watts.
Approximate Size - 30 cm x 20 cm

Annexure - 15B

15.0 HUMIDITY OVEN

Humidity Oven should be triple walled with forced air circulation by a motorised blower. Inside walls should be of stainless steel, outside walls of mild steel and intervening walls of G.I sheets. It should have outer double metal door with one full view inner glass door. It should be fitted with a refrigeration compressor (to work at temperature lower than the room temperatures, nichrome heaters thermostat and wet contact thermometer (humidifier), with separate switches for heat and humidification. It should be provided with three shelves.

Technical data

Chamber dimensions (approx.) - 700 x 450 x 450 mm

(Height, Width & Depth)

Temperature range - 5deg. C to 70deg. C

Temperature control accuracy - ± 0.5 deg. C

Humidity range - 10-95% RH

Humidity control accuracy - $\pm 1\%$ RH

Drift over 72 hours - Less than 1deg. C and 2% RH

It should come complete in all respects, ready for use, with indicating lamp, main switch, 3 meter 3-core cable with three prong plug for use at 220V & 50Hz single phase AC supply.

Operation & Maintenance Manual with spare-parts list and circuit diagram should accompany the instrument.

Annexure - 16B

16.0 HYDROMETERS

Hydrometer set is used for the measurement of specific gravity of liquids (such as Sodium Hydroxide & Hydrochloric Acid). It should have a length of 300 mm and made of pyrex / borosilicate glass.

S.No. Range of Sp. Gravity Division Quantity

1. 0.800 - 1.000 0.002 2 Nos.

2. 1.000 - 1.100 0.002 2 Nos.

3. 1.100 - 1.200 0.002 2 Nos.

4. 1.400 - 1.500 0.002 2 Nos.

These should be supplied with a thermometer (0 to 50°C x 0.1°C) in a leather case.

Annexure - 17B

17.0 INCUBATOR

The Incubator should be for general purpose incubation and BOD tests with auto as well as manual control and interior illumination.

It should have full view inner glass door to allow inspection of samples without disturbing the temperature of Working Chamber. Compressor should be hermetically sealed and permanently lubricated. Door gasket should be impregnated with magnets to provide positive seal. It should be supplied with a voltage regulator. Plastic drip pan and dial thermometer range 0 to 100deg. C. It should be complete with 3-pin plug and cord for 220 V/50 Hz, single phase AC supply.

Other Specifications

Temp. range - 5 to 50deg. C.

No. of shelves - 2

Storage capacity - 6-7 cubft (0.16-0.19 M3)

Storage area. - 0.7 M2 (approx.)

Control accuracy - ± 0.5 deg. C

It should be supplied with instruction manual (including maintenance).

Annexure - 18B

18.0 MAGNETIC STIRRER-CUM-HOT PLATE

It should be a hot plate & magnetic stirrer combination which permits stirring of samples at identical speeds under similar and differing temperature conditions.

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Technical data

Speed - Up to 1500 rpm variable.

Top plate size - Circular 16 cm diameter.

Heater Wattage - 1000 W

Hot plate control - Thermostatic

The unit should have ON/OFF switch, a pilot indicator lamp, speed and heat control separate for hot plate and magnetic stirrer. For use at 220 V AC 50 Hz single phase.

It should be supplied with 3 meter 3 core chord & 3 prong plug.

Annexure - 19B

19.0 MEMBRANE FILTER HOLDER ASSEMBLY (MILLIPORE OR EQUIVALENT)**21.1 Stainless Steel Filter Holder**

This assembly should have stainless steel barrel, base, filter support screen, top cap and tubing adapter with anodized aluminium locking ring, PTFE "O" rings and silicon stopper. It should come with 9.5 mm inlet hose connector for applied air or gas pressure.

Capacity 100 ml

Filter dia 47 mm

Dimensions (approx.) 70 mm dia., 292 mm height.

21.2 Stainless Steel Filter Holder

This assembly should have stainless steel funnel, base and filter support screen with anodized aluminium locking ring, nylon lock wheels, PTFE gaskets and silicon stopper and suitable 1 litre borosilicate glass filtering flask.

Capacity 650 ml.

Filter dia. 47 mm

Dimensions (approximately) 114 mm dia., 229 mm height.

21.3 Glass Filter Holder:

These are for the analysis of suspended solids in water. Consisting of borosilicate glass funnel and base, anodized aluminium spring clamp, coarse frit glass filter support and silicon stopper; for mounting on standard 1litre filtering flask.

Capacity 300 ml.

Filter dia 47 mm

Dimensions (appxly.) 76 mm dia., 229 mm height.

It should come complete with 1 litre borosilicate filtration flask.

Annexure - 20B

20.0 OVEN

It should be electrically heated and made of double wall construction with stainless steel inner chamber of approximately the following dimensions:

(1) 48 cm x 45cm x 38cm.

(2) 63cm x50cm x49cm.

The chamber should be well insulated to minimize heat losses. It should be provided with 2 removable perforated stainless steel shelves and runner type support for the shelves. The heater element should be made of superior quality nichrome wire and should be easily accessible.

i) Temperature Range Ambient to 300deg. C

ii) Temperature control ± 0.5 deg. C

iii) Temperature control Electrically operated thermostat / Digital energy regulator controller

iv) Temperature uniformity + 2deg. C maximum

Front panel control should include pilot lamp, temperature control knob, (calibrated in deg.C) heater switch and booster heater switch.

It should be equipped with an adjustable vent and thermometer holder at the top and efficient arrangement for good circulation of air inside the chamber.

The equipment should be accompanied by instruction manual incorporating circuit diagram.

For use at 220 V, 50 Hz single phase AC supply.

Spares

1. Thermometers 4 Nos.

2. Heating Element 1 Set

3. Indicating Bulbs 12 Nos.

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Annexure - 21B

21.0 REFRIGERATOR

This should be double door, frost free refrigerator of Capacity minimum 300 lit., complete with voltage stabilizer and suitable stand.

Annexure - 22B

22.0 SAMPLE COOLER

Sample cooler should be efficient counter-flow heat exchanger designed for the cooling of high temperature, high pressure fluid samples, e.g. Boiler Water, Steam Feed Water, etc. for tests at atmospheric pressures and temperatures. The pressure rating on the coil should be 420 kg/cm² at 400deg. C. Rugged, coil within shell construction should ensure trouble-free service. Inner coil should be of Inconel seamless tubing and outer shell of Type 304 SS seamless tubing. Internal cooler baffling should be arranged for maximum rate of heat transfer and low coolant pressure loss. The cooler should be conveniently attachable with any piping system. Mounting is to be facilitated by clamp type brackets, but the unit should be suitable for mounting "in the piping".

Terminal connections should be clearly marked, showing cooling water and sample inlets and outlets. Coolant connections should be 1/2" NPT. A metal name plate showing flow should be permanently attached.

The sample cooler should be suitable for sampling Boiler Water, Steam having initial conditions corresponding to all present power stations, maximum conditions, providing the cooling water is flowing. Each unit should be hydrostatically tested at room temperature to 630 kg/cm² on the inner coil and 26 kg/cm² on the outer shell.

Max. operating pressure : 420 kg/cm²

Max. operating temperature : 400deg. C.

Sample connections : 1/2" NPT

Net weight : Approx. 3.5 kgs.

Shell maximum W.P. :-

Pressure Drop - Shell : 0.2 kg/cm² at 700 litres per hour (water flow)

Coil : 3.88 kg/cm² at 115 kg/hr (waterflow)

Annexure - 23B

23.0 SAYBOLT VISCOMETER (With Universal & furol tips)

Saybolt viscometer should have two test limits with universal & furol tips. It should consist of a composite bath and cup assembly permitting two saybolt tests to be carried out up to 100deg. C.

The bath should be electrically heated by a 3 heat switch & a contact thermometer & relay for accurate temperature control.

The bath should have provision for a cooling coil and suitable connections for water supply.

Complete with two saybolt universal and furol tip viscometers.

Two oil receiving flasks, two thermometers holders.

This is for use at 220 V AC 50 Hz single phase supply.

The instrument must be supplied with operation and maintenance manual & necessary accessories and spares for 2 years trouble free operation.

Annexure - 24B

24.0 SPECIFIC GRAVITY BOTTLE

These are Specific Gravity Bottles with capillary bore made of borosilicate glass with interchangeable stopper.

Sl.No.	Capacity in ml	Capacity Tolerance in mm size in No.	Dia x Ht Stopper in ml.	Quantity	
1.	10	1	24 x 46	10/5	1
2.	25	2	38 x 56	10/5	1

Annexure - 25B

25.0 STOP-WATCH

It should be a digital hand-held stopwatch with stop, start and reset facilities. It should indicate hour, minute, seconds and microseconds. It should be supplied complete with battery and leather carrying case.

Annexure - 26B

26.0 THERMOMETERS

Thermometers used for general laboratory purpose should have etched stem with permanent filler and partial immersion. The stem should have 6-7 mm OD. The thermometers should be nitrogen filled above mercury. It should be provided with top suspension ring.

S.No. Range Division Length Quantity
(deg C) in deg.C. in mm in Nos.

1.	0 to 50	0.5	300	2
2.	0 to 100	1.0	300	2
3.	0 to 250	1.0	350	2
4.	0 to 350	1.0	450	2

Annexure - 27B

27.0 THERMOSTAT BATH (CONSTANT TEMPERATURE BATH)

This should be a combination of water bath & circulating water at controlled temperature. It should have a pump cum stirrer for circulation by pressure. Stirrer should be removable from the drive.

It should be provided with a cooling coil for better control of temperature at near ambient conditions. It should be made of stainless steel inner chambers & outer chamber painted in stove enamel. Complete with contact and central thermometers, pilot indicating lamp, manual control valve and drain valve, inlet and outlet nozzles to permit closed circulation of thermostatic water to other source. The rate of increase and decrease of temperature should be within a specified time.

CLAUSE NO. TECHNICAL REQUIREMENTS

Pumping Capacity 20 litres/minutes

Temperature Range Ambient to 90deg. C (with water)

Temperature Control Jumo relay

Temperature control accuracy ± 0.05 deg. C

Approximate size (working) 30 cm x 22.5 cm x 30 cm

Overall wattage of heaters 2 KW

Water capacity 20 litres.

For use at 220 V AC 50 Hz.

It should be supplied with Instruction Manual incorporating the necessary circuit diagrams and spares for three years trouble free operation including heater, stirrer and temperature probe.

Annexure - 28B

28.0 VACUUM PUMP (DOUBLE STAGE)

These are of pressure cum vacuum rotary type for general laboratory purpose.

Technical data

Free air displacement 20 liters / minute

Ultimate pressure 30 psig.

Pumping speed 2000 rpm

Ultimate vacuum 0.1 micron of mercury

Motor Horse Power 1/4 HP

Approximate oil capacity 200 ml

The motor should have safety cut off to avoid over loading. Pump body and end plates should be made of cast iron.

Complete with intake oil/filter, exhaust muffler, vacuum and pressure gauges with regulator, rubber feet, and moisture trap.

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This is for use at 220 V AC 50 Hz single phase.

It should be supplied with 5 meter 3 core cord & 3 prong plug.

SPARES

Oil for vacuum pump 1 litre

Annexure - 29B

29.0 VISCOMETERS (KINEMATIC)

31.1 These are U-tube, Calibrated, Kinematic Viscometers made of pyrex / corning glass with engraved constant, for the measurement of viscosity of transparent/opaque samples. The viscometers should be supplied with calibration certificates.

Viscosity Range in cst	Nominal constant	Quantity in No. each for Transparent & Opaque Samples
1.6 - 8.0	0.008	2
6 - 30	0.03	4
20 - 100	0.1	4
60 - 300	0.3	2
200 - 1000	1.0	2
600 - 3000	3.0	2

31.2 Suspension Mounting - 5 Nos.

There should be suitable suspension mounting for above viscometers to suspend them in thermostatic bath. The mounting should be such that, it protects the viscometer against breakage and are interchangeable.

31.3 Viscosity Bath - 2 Nos.

The bath tank should be made of stainless steel with double glass windows fitted at the front and rear. The heat resistant armoured glass inner windows should be sealed with silicone rubber gaskets and the outer plate glass windows secured by clips to allow easy removal for cleaning.

The bath should be equipped with a thermistor bridge temperature control unit, a temperature selection dial calibrated 10deg. C to 120deg. C, coarse and fine controls for precise temperature adjustment with reference to a thermometer in the bath, controls for selecting manual or automatic operation of the boost heater and setting the required degree of permanent heating and for setting the temperature at which the safety cut-out operates.

All electrical components including the heaters and stirrer should be removable without emptying the bath.

Specifications & Accessories

External Dimensions, mm (approx.) - 650x325x600 high

Height to top of tank, mm (approx.) - 475

Working space, mm (approx.) - 400x250x400 deep

Window opening, mm (approx.) - 375x340

Volume of tank, litre - 40-45

Temperature range. - Max 120deg. C ;

Minimum (without coolant)

10deg. C above ambient,

10deg. C below ambient.

Temperature Control - Better than + 0.01deg. C throughout the range

Refrigeration Unit - A low powered, small size, unit suitable for maintaining a bath of 35 to 45 litres at 5 to 10deg. C

below ambient. Complete with a flat, vertical evaporator coil of (approx.) 175x75x25 mm. For operation on 220V, 50Hz AC supply..

Metal lid. - With 8 holes & levelling rings for visco-meter holder.

Sindanye Discs. - With bakalite handle. ; Set of 8.

Circular spirit level - Accurate to 5 min of area.

Per banan rubber cap - To seal gap between viscometer limbs and holder.

Stand, with oil draining tray - To accommodate 6 inverted viscometers and six viscometers in holders.

Fluorescent lighting attachment.

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The bath should be useable at 220V, 50Hz single phase AC supply and accompanied by operation and maintenance manual.

Annexure - 30B

30.0 WATER BATH

Water bath should be of rectangular shape made of Stainless steel with 8 openings of 3" diameter. Openings fitted with concentric rings central cover with handle. It should have constant level device (overflow drain) and a stopcock for draining purpose. Thermostatic temperature control with digital display of temperature.

The heater capacity should be 1.5 KW.

Approximate dimensions: 16" x 12" x 4".

For use at 220 V 50 Hz single phase AC supply.

Annexure - 31B

31.0 Digital Camera(6 MP)

Camera should be of Sony, Canon or any other equivalent reputed make

Annexure - 32B

32. PORTABLE ORP MONITOR

Measurement Range : - 2000 to +2000 Mv

Resolution : 0.1 mV

Accuracy : ± 0.2 mV or $\pm 0.1\%$ of reading, whichever is greater

Output : One-way, RS-232 via docking station/ 199-point memory recall

Inputs : (2) 5-pin connector

Input Impedance : >1012 Ohms

Display : Custom LCD with Backlight

Measurement Selection: pH/ORP/Temperature

Power Requirements : 4 AA batteries or 110 to 220 VAC line power through docking station.

a) Sensor/Probe Pt electrode combination electrode suitable for measurement in cooling waters, waste waters and drinking waters. Should be rugged enough to withstand normal operating conditions at coal & gas based stations. It should be easily replaceable and sensitive enough for regular operations. It should be compatible with online monitor. The operating ambient temperatures are up to 50 deg. C. Preferably sensor should be capable of measuring multiparameter such as pH, ORP, Temperature, etc

b) General The instrument should be capable for operation in cooling waters, waste waters and drinking waters. The output data should be measurable every half an hour and it should be stored in the in built memory of the instrument. Minimum of 500 measurements should be stored in the in built memory and provision should be there to transfer the data to a desktop or laptop computer through suitable software. The instrument should be provided with all necessary cables, connectors, data storage/acquisition system, suitable software, etc

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Other Terms & Conditions

Document: One hard copy of O&M Manual in English language giving complete technical information for operation and maintenance of the equipment.

Installation and Commissioning: The supplier shall install & commission the equipment at site. Supplier should demonstrate the performance of the Equipment and all its accessories to ensure compliance with complete specifications & parameters quoted by them to the satisfaction of BHEL/end user. Cost of installation & Commissioning, if any, should be indicated separately. Training to chemists at site during installation should be provided for routine maintenance, operation and safety purpose. Failing to comply to the Installation and Commissioning clause, the offer will be rejected straightaway.

Warranty: The equipment shall be warranted for satisfactory performance for a period of 12 months from the date of installation or 18 months from date of dispatch, whichever is later. Failing to comply to the warranty clause, the offer will be rejected straightaway.

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The Project Specific Terms and Conditions Annexed at Annexure-1 are also to be read in conjunction with this document.

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CHEMICAL LAB EQUIPMENTS FOR 3X660 MW NORTH KARANPURA STPP PROJECT

INDENT NO.20173156 DATED: 05.10.2017

Annexure - C for Package - 3 [Material Code - D55995237047]

Sl no	Item Description	Qty	Inspection Category	
1	Conductivity Meter (Bench top)	2	2	Annexure-1C
2	Conductivity Meter (Portable)	2	2	Annexure-2C
3	pH meter (Benchtop)	2	2	Annexure-3C
4	pH meter (Portable)	2	2	Annexure-4C
5	Turbidity Meter (Nephelometric)	2	2	Annexure-5C
6	UV-VIS Spectrophotometer	2	2	Annexure-6C

CAT 2: QAP Approval By NTPC & Inspection by BHEL / BHEL Third Party Inspection Agency. BHEL MDCC shall be issued based on NTPC MDCC.

TECHNICAL SPECIFICATIONS

Annexure-1C

1.0 CONDUCTIVITY METER (BENCH TOP)

This should be direct reading microprocessor controlled conductivity meter for the measurement of specific conductance in micro Siemen/cm and Siemen/cm with a provision for measurement of resistance in Ohms. It should have provision for automatic temperature compensation, auto ranging, adjustable temperature coefficients, reference temperature and to use both two and four electrode cells.

The instrument should incorporate the following features:

1. Range - 1 micro Siemen/cm f.s.d. to 0.1 Siemen/cm f.s.d in 12 ranges
2. Accuracy - $\pm 1\%$ of full scale
3. Minimum measurement limit - 0.1 micro Siemen/cm
4. Temperature compensation - 0deg.C - 60deg.C (auto)
5. Range of cell constant adjustment - 0.01 to 1.2
6. Temperature Co-efficient - From 1.4% to 2.7% per deg.C

The instrument will be operated at 220 V AC 50 Hz. The instrument should be supplied with 3-pin plug and 3 meter long cable. Must be supplied with instruction Manual containing circuit diagram, operation and maintenance instruction and procedure for fault rectification along with list of spare parts.

SPARES

a) Dip / Cup type, 4 and 2 electrode conductivity cells made of acrylic body and having the following cell constants:

- i) 0.01 cm-1 2 Nos.
- ii) 0.1 cm-1 2 Nos.
- iii) 0.5 cm-1 2 Nos.

b) Flow type conductivity cells of 0.1 cm-1 2 Nos.

2.0 CONDUCTIVITY METER (PORTABLE)

Annexure-2C

It should be direct reading microprocessor controlled conductivity meter for measurement of specific conductance in micro Siemen /cm, Battery operated with provision for using with mains.

Automatic Temperature compensation in 0-60oC range with selectable reference temperature 20deg.C - 25deg.C.

Range : 0-2, 0-20, 0-200, 0-2000 and 0-20,000 μ Siemens/cm

Accuracy : $\pm 1\%$ of full scale

Smallest Scale Division : 0.01 micro Siemens/cm on lowest range

Complete with cell holder, temperature probe, batteries, leather carrying case and instruction manual.

Accessories

1. Conductivity cells - 2 No.
(Cell constant 0.1 cm -1)
2. Conductivity Cell - 2 No.
(Cell constant 0.5 cm -1)
3. Battery - 1 charge

3.0 pH METER (BENCH TOP)

Annexure-3C

Digital pH meter should have following specifications:

- i) Range 0-14.00 pH
± 1999 mV
- ii) Accuracy ± 0.01 pH
+ 1 mV
- iii) Repeatability + 0.01 pH
+ 1 mV
- iv) Drift rate < 0.01 pH in 24 hrs.
- v) Temperature Compensation 0-60deg.C.
Automatic giving pH at 25deg.C
- vi) Display 4 digit LED

The instruments should be suitable for use at 220 V, 50 Hz Single phase AC supply. It should be supplied with Operation & Maintenance Manual complete with circuit diagram and fault finding procedure, Electrode Holders and stand.

Spares & Accessories

- i) Combination Electrode with filling solution 8 Nos.
- ii) Temp. probe 2 Nos.

4.0 pH METER (PORTABLE)

Annexure-4C

It should be handy, lightweight, batteries operated with a provision for operating at 220 V AC, 50 Hz single phase power supply.

- Range i) 0 – 14 pH
- ii) -100 to +700 mV
- iii) +100 to -700 mV
- Accuracy i) pH ± 0.1
- ii) mV ± 10

It should be a single combination pH electrode with appropriate end correction and automatic temperature compensation covering the entire pH range, have provision for temperature compensation in 0-100deg.C. Complete with electrodes, electrode holder, batteries, etc. & instruction manual.

Spares

- 1. Combination Electrodes with filling solution. 4 Nos.
- 2. Batteries 1 Set

5.0 TURBIDITY METER (NEPHELOMETRIC)

Annexure-5C

Direct reading instrument for the measurement of low level of turbidity using nephelometric principle.

Range - 0-1000 NTU in five ranges viz.

0 – 0.2, 0 -1, 0 -10, 0 -100 & 0-1000

Accuracy - ± 2% of FSD or better

Calibration - Formazin Standard

Reproducibility - + 2% of full scale or better

Spares

- 1. Sample cuvettes - 2 Dozens
- 2. Source lamps - 4 Nos.
- 3. Fuses - 6 Nos.

Calibration standards in the following ranges should be provided with the instrument:

1.0, 10, 100 and 1000 NTU (Two sets in each range).

The instrument must be accompanied by Operation and Maintenance Manual incorporating circuit diagram and trouble shooting guidelines for use at 220 V 50 Hz single phase AC.

Revision : 00
05/10/17
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6.0 UV-VISIBLE SPECTROPHOTOMETER**6.1 SINGLE BEAM**

This should be microprocessor controlled single beam UV-Vis spectrophotometer with large LCD display and touch button keyboard. The microprocessor should be able to store multipoint calibration curves and should give absorbance, transmittance as well as concentration readings. Wavelength scan function with the identification of the most sensitive wavelengths should be available in the instrument.

- i) Operating Wavelength Range : 200-1000 nm
- ii) Wavelength presentation : Digital counter in 0.2 nm increments
- iii) Wavelength accuracy : Better than ± 1.0 nm
- iv) Wavelength repeatability : Better than 0.3 nm
- v) Stray light : Less than 0.3% T at 220 nm
- vi) Photometric readout : Digital display for linear transmittance (T)
- vii) Spectral band width : ≤ 5.0 nm
- viii) Photometric accuracy : ± 0.003 Abs (at 0.5 Abs)
- ix) Photometric noise : 0.002A peak to peak
- x) Path Length : Variable with suitable pyrex / silica glass cuvettes and holders for use with cuvettes up to 100 mm path length

6.2 DOUBLE BEAM

Double beam UV-visible spectrophotometer should be microprocessor controlled with dual source assembly for UV & visible region, monochromator, digital readout of absorbance/transmittance and concentration.

- i) Operating Wavelength Range : 200-1000 nm
- ii) Wavelength presentation : Digital counter in 0.2 nm increments
- iii) Wavelength accuracy : Better than ± 0.5 nm
- iv) Wavelength repeatability : Better than 0.25 nm
- v) Stray light : Less than 0.3% T at 220 nm
- vi) Photometric readout : Digital display for linear transmittance (T)
- vii) Spectral band width : Variable (0.1 to 7.5 nm stepwise)
- viii) Photometric accuracy : 'A' to 'C' conversion 0.5% of value or better
- ix) Photometric noise : 0.001A near OA
0.002A near 1.0A
0.004A near 1.5A
- x) Photometric stability : 0.2% T/day
- xi) Resolution : Better than 0.2 nm through out the entire range.
- xii) Slit : Both manually adjustable and programmed.

The instrument should have the facility for storage of spectra with facilities for multi wavelength mode, baseline correction, peak area and other statistical calculations along with in - built printer and Interface for PC.

ACCESSORIES

1. Matched pair of rectangular cells of following path length for use in 200-1000 nm range made of pyrex / silica glass.

- a) 10 mm : 4 pairs
- b) 20 mm : 2 pairs
- c) 50 mm : 4 pairs
- d) 100 mm : 1 pair

2. Cell holder for use with 20 mm & 50 mm & 100 mm path length cells.

3. Voltage stabilizer suitable for use with the main instrument.

Both the Spectrometers are for use at 220 V AC 50 Hz, single phase power supply. The instruments must be accompanied by O&M Manuals which should be complete with circuit diagram, performance testing, and fault finding procedures.

The equipments should be supplied along with two years' requirement of spare-parts for smooth use particularly source lamp and fuses.

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Other Terms & Conditions

Document: One hard copy of O&M Manual in English language giving complete technical information for operation and maintenance of the equipment.

Installation and Commissioning: The supplier shall install & commission the equipment at site. Supplier should demonstrate the performance of the Equipment and all its accessories to ensure compliance with complete specifications & parameters quoted by them to the satisfaction of BHEL/end user. Cost of installation & Commissioning, if any, should be indicated separately. Training to chemists at site during installation should be provided for routine maintenance, operation and safety purpose. Failing to comply to the Installation and Commissioning clause, the offer will be rejected straightaway.

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CHEMICAL LAB EQUIPMENTS FOR 3X660 MW NORTH KARANPURA STPP PROJECT

INDENT NO.20173156 DATED: 05.10.2017

Annexure - D for Package - 4 [Material Code - D55995237055]

Sl no	Item Description	Qty	Inspection Category	Specification
1	Assmann Psychrometer	2	2	Annexure-1D
2	Dew Point Apparatus	1	2	Annexure-2D
3	Fortins Barometer	1	2	Annexure-3D
4	Hygrometer	1	2	Annexure-4D
5	Maximum And Minimum Thermometer	1	2	Annexure-5D
6	Orsat Gas Analyzer	1	2	Annexure-6D
7	Wet and Dry Bulb Hygrometer	2	2	Annexure-7D
8	Hydrogen Purity Meter	1	2	Annexure-8D
CAT 2: QAP Approval By NTPC & Inspection by BHEL / BHEL Third Party Inspection Agency. BHEL MDCC shall be issued based on NTPC MDCC.				

TECHNICAL SPECIFICATIONS

Annexure-1D

1.0 ASSMANN PSYCHROMETER

This should be senior model with long stem and battery driven or mechanical driven fan, dry & wet bulb thermometer, having range of -30deg. C to 50deg. C with a least count of 0.05deg. C. It should be provided with psychrometric chart, O&M manual and leather carrying case. The instrument is for use at 220 V 50 Hz Single Phase AC supply.

Annexure-2D

2.0 DEW POINT APPARATUS

This is for measuring the dew point of hydrogen gas in the generator casing. The instrument should be intrinsically safe from hazardous areas and should be able to measure dew point in the range of +20deg. C to -60deg. C. It should have auto calibration / calibration check facility and should comply with ASTM D 2029. The working principle should be either (a) Automatic Chilled mirror (Peltier cooling) principle or (b) Capacitance method.

a) Automatic Chilled Mirror

Consisting of internal cooling, temperature sensing, photo-source and photo-detector systems for the determination of dew point by measuring the moisture on the mirror. It should be complete with necessary electronics to give digital display of the dew point temperature and ambient temperature in deg. C and moisture in % and ppm. It should avoid elaborate piping within the instrument so that the time taken for attaining equilibrium is minimized. Complete with necessary connections, valves and tubing, operation and maintenance manual. Should operate at 230 V, 50 Hz single phase AC supply.

b) Capacitance method

Capable of measuring various levels of moisture content in test gases using aluminium oxide or silicon oxide sensor - which change capacitance in proportion to the amount of moisture absorbed. Isolation package housing the sensor should allow for the introduction of the test gases maintaining the test gas integrity. Should have the necessary microprocessor capable of computation and digital display of the dew point and ambient temperature in deg. C and moisture in ppm and percentage. Battery operated, complete with necessary connections and tubing accompanied by operation and service manual.

3.0 FORTIN'S BAROMETER

Annexure-3D

Fortin's Barometer is for general laboratory use, graduated in inches & mm.

Mercury column should be calibrated from 20-31 inches, with readability by vernier to 0.01 inch and from 508 to 790 mm to 0.1 mm.

Fortin type cistern should permit precise adjustment of zero point. It should include thermometer 0-50deg. C recessed in protective channel.

The unit should be completely encased in a polished wooden case with white plastic reflectors and provision for mounting on the wall.

Assembling of the barometer should be preferably carried out by the supplier at the site. The instruction manual should contain tables for temperature and gravity corrections.

4.0 HYGROMETER

Annexure-4D

Air hygrometer should come with silver metal scale 0 to 100 x 1% RH.

It should be accurate to + 3% RH in the range of 30-90% at temperatures upto 45°C.

The assembly should be enclosed in a chromium plated case of about 125 mm dia.

It should have provision for hanging on the wall.

5.0 Maximum And Minimum Thermometer

Annexure-5D

The thermometer shall register both maximum and minimum temperature. Range: -40°C to +50 °C

6.0 ORSAT GAS ANALYSER

Annexure-6D

Portable Orsat gas analyser for the determination of CO₂, CO, & O₂ in flue gas samples should consist of the following parts, made of borosilicate glass:

- i) Two absorption pipettes filled with thin walled glass tubing and one with copper spirals, and three rubber expansion bags.
- ii) Manifold made of 2-3 mm I.D. and length approximately 35 mm, capillary tubing, with four stop-cocks: one three – way horizontal and three vertical and a U-tube drying facility at I/L to the manifold.
- iii) 100 ml measuring burette Class A, with water jacket. The lower portion of burette should be graduated in 0.1 ml, up to 30 ml and the remaining 70 ml in 5 ml divisions.
- iv) Leveling bottle 250 ml capacity.

The assembly should be neatly fitted with supports, clamps in a portable polished wooden case with removable front and back covers.

SPARES

1. Absorption pipettes with 2-3 mm I.D. capillary tube - 12 Nos.
2. Absorption pipettes copper spirals - 6 Nos.
3. Measuring burette with water jacket - 6 Nos.
4. Leveling bottle - 6 Nos.
5. Manifold - 12 Nos.

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7.0 WET & DRY BULB HYGROMETER

Annexure-7D

Wet & dry bulb hygrometers should be on polished Zinc scale in polypropylene frame with reservoir and spare wicks.

Thermometer range 0 – 50deg. C

Thermometer graduation 0.5deg. C

It should have provision for mounting on the wall.

Two copies of psychrometric charts should be provided.

54.0 PORTABLE ORP MONITOR

Measurement Range : – 2000 to +2000 Mv

Resolution : 0.1 mV

Accuracy : ± 0.2 mV or $\pm 0.1\%$ of reading, whichever is greater

Output : One-way, RS-232 via docking station/ 199-point memory recall

Inputs : (2) 5-pin connector

Input Impedance : >1012 Ohms

Display : Custom LCD with Backlight

Measurement Selection: pH/ORP/Temperature

Power Requirements : 4 AA batteries or 110 to 220 VAC line power through docking station.

a) Sensor/Probe Pt electrode combination electrode suitable for measurement in cooling waters, waste waters and drinking waters. Should be rugged enough to withstand normal operating conditions at coal & gas based stations. It should be easily replaceable and sensitive enough for regular operations. It should be compatible with online monitor. The operating ambient temperatures are up to 50 deg. C. Preferably sensor should be capable of measuring multiparameter such as pH, ORP, Temperature, etc

b) General The instrument should be capable for operation in cooling waters, waste waters and drinking waters. The output data should be measurable every half an hour and it should be stored in the in built memory of the instrument. Minimum of 500 measurements should be stored in the in built memory and provision should be there to transfer the data to a desktop or laptop computer through suitable software. The instrument should be provided with all necessary cables, connectors, data storage/acquisition system, suitable software, etc.

8.0 Hydrogen Purity Meter

Annexure-8D

Function: Sensing & Measurement of Hydrogen in Air, gas holders, valves, pipelines, etc.

Range : 0 - 100 % purity

Sensor : Thermal Conductivity Detector

Readout : LCD Digital display.

Sampling Method : suction

Alarms : Audio-Visual alarm for LO, Hi ranges & Battery low

Response Time : Less than 10 seconds.

Power : rechargeable batteries + charger

Instrument shall be supplied with all required accessories.

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Other Terms & Conditions

Document: One hard copy of O&M Manual in English language giving complete technical information for operation and maintenance of the equipment.

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CHEMICAL LAB EQUIPMENTS FOR 3X660 MW NORTH KARANPURA STPP PROJECT

INDENT NO.20173156 DATED: 05.10.2017

Annexure - E for Package - 5 [Material Code - D55995237080]

Sl no	Item Description	Qty	Inspection Category	Specification
1	Atomic Absorption Spectrophotometer	1	2	Annexure - 1E
2	Gas Chromatograph	1	2	Annexure - 2E
3	Thermo Gravimetric Analyzer	1	2	Annexure - 3E

CAT 2: QAP Approval By NTPC & Inspection by BHEL / BHEL Third Party Inspection Agency. BHEL MDCC shall be issued based on NTPC MDCC.

TECHNICAL SPECIFICATIONS

Annexure - 1E

1.0 ATOMIC ABSORPTION SPECTROPHOTOMETER

This is double beam Atomic Absorption Spectrophotometer with full multi-element capability controlled by data workstation running under windows and having manual override with local controls. It should be easily usable with all applications like flame absorption / emission, graphite furnace, hydride vapour or mercury cold vapour absorption modes and should have automatic background correction. Having digital display of linear absorbance & concentration, it should preferably have parallel mounting of both flame and flameless (graphite furnace) assemblies.

2.1 Flame

This part should consist of air cooled burners with good flame stability and low carbon buildup for acetylene / hydrogen, acetylene / nitrous oxide flames and standard 100 mm burner for air / acetylene flame. It should have provision for automatic ignition and extinction of flame with a safety in-lock features to prevent flashback by pressure monitoring and safe gas handling in case the flame goes out. The system should do safe automatic shutdown in case of power failure or in case the pressure of any gas falls below the safe limit. Vertical, horizontal and rotational adjustments of the burner head should be possible. It should be provided with rotameter flow control valves and pressure gauges and a pressure control valve incorporated for both of fuel and support gases. All controls should be achievable through software commands.

2.2 Graphite furnace

Flameless water-cooled graphite furnace assembly should come with pyrolytic graphite coated furnace tube as well as boats. It should be circulating water-cooled complete with water reservoir tank, pump and necessary tube and valve connections. Data station controlled with provision of local controls.

2.3 Auto sampler / hydride generator

Furnace and flame auto sampler should be equipped with automatic sampling, standard presentation and preparation facilities. Intelligent dilution (for furnace) / in line dilution (for flame) should be available for over range samples.

Computer controlled continuous flow vapour system for the measurement of hydride of metals and mercury.

2.4 Hollow cathode lamps

Instrument should have a minimum of 4 lamp connections with two lamps on at a time. The

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lamp alignment and energy optimization should be computer controlled. Lamps compatible with the instrument for the following elements should be supplied.

Al, As, B, Ba, Ca, Cd, Co, Cr, Cu, Fe, Ga, Hg, K, Li, Mg, Mn, Mo, Na, Ni, Pb, Sb, Se, Si, Sn, Sr, Ti, V, W and Zn.

2.5 Monochromator

Echelle/ Ebert or Czerny – Turner monochromator employing a grating of 1800 lines / mm.

2.6 Computer and Software

The system should be recent standard Pentium and using WINDOWS based operating system. Configuration of the system shall be as follows (or the latest as available):

Hard Disc : 1 TB or more

Processor : Pentium P IV with >1.5 GHz

Monitor : SVGA 17" colour or larger

RAM : Min. 4 GB or better

DVD/CD

CD ROM : 52x CD ROM

PRINTER WITH SCANNER : LASER / INKJET PRINTER WITH SCANNER

Window based software for the system function including control of major accessories with single or multi element capacity for flame / furnace with the required inter locking for safe operation.

2.7 Technical data

Wavelength Range : 190nm - 900nm

Digital meter : 4 - digit LED

Slit width : 0.2, 0.5 & 1.0 nm

Wavelength display : 3 digit digital counter.

2.8 Accessories

(i) Air compressor, oil free, capable of continuous operation providing the required quantity of air at the prescribed, constant pressure.

(ii) Suction hood with exhaust fan of required capacity to maintain a stable flame.

(iii) Pressure Regulators for use with the gases such as Acetylene, hydrogen & nitrous oxide, and for gases used in the graphite furnace. 2 Nos. each.

(iv) Voltage Stabilizer (For use at 220 V AC 50 Hz single phase supply). - 1 no.

Reference Standards

Certified reference standard solutions (1 ml = 1 mg) for all the elements mentioned in (4.) should be provided with the equipment.

Complete with all essential accessories for the tests of all metals in ppm as well as in ppb level, along with Operation and Maintenance Manual, Methods of determination of metals by Atomic Absorption Spectroscopy, electrical circuit diagrams and trouble shooting guide.

The equipment should be procured along with Mandatory spare parts for three years' trouble free operation and after sales services in India.

Annexure - 2E

2.0 GAS CHROMATOGRAPH

2.1 Brief Description of the Instrument/System

This should be microprocessor controlled data work station based, computer compatible gas chromatography system for capillary and 530 micron mega bore columns. The main unit should consist of the injectors, oven, detectors, flow system and the related electronics. It should comply with ASTM – D 3612 for analysis of dissolved gases in oil and ASTM – D 1945 for the analysis of natural gas samples.

2.2 Operational Requirements

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The system should be capable of operating with capillary column as well as 530 micron megabore columns, possess two injection ports or equivalent injector system, provision for mounting two columns and at least two detectors. It should preferably have stripper column attachment containing high surface area beads for the extraction of dissolved gases in oil (say, transformer oil) using the carrier gas. Should include functional key board with alphanumeric print out and signal analog output, should have provision for column compensation, power fail memory protection, control of four heated zones (injector, oven, detectors) and built in diagnostics and comprehensive self testing. It should operate on 220 $\pm$ 10 volts, 50 Hz AC power supply.

2.3 Technical Specification

2.3.1 Injector

The injector system should be dedicated for both, capillary columns (all types and all sizes of capillary columns) as well as 530 micron mega bore columns. The design should provide temperature programmable split-splitless and direct injection. The injector should be with heater, auto sample injection system (optional), temperature sensor, protection from overheating and septum purge. The adjustments of the split flow and the septum purge should not affect the column flow, and the purge time should also be adjustable. The range of temperature should be at least 400deg. C, with a provision of 1deg. C increment in the entire operating range. Facility shall be available for solvent rejection and back flush.

2.3.2 Columns

The columns should be useful for the analysis of dissolved gases in transformer oil such as CH₄, C₂H₂, C₂H₆, CO, CO₂, N₂, etc., as well as natural gas samples and if separate columns are needed for both the analysis, facility for switch over should be provided in the hardware without changing the column ends from detector side in the oven. The columns should be packed with molecular sieve/ silica gel / diisodecyl phthalate / chromosorb / carboxisieve / seporcarb: all or as many as required for the partition as well as adsorption of component gases in both the applications.

2.3.3 Column Oven

High performance and sufficiently large capacity oven which can accommodate both, capillary columns (up to 100 meter length) and 530 micron mega bore columns with their respective mounting supports. The temperature range should cover upto at least 400deg. C. It should be with temperature sensor and overheat protector. It should provide an accuracy of $\pm$ 1deg. C for the entire temperature range, and a temperature stability of 0.01deg. C for 1o C ambient change. It should have provision for multi-linear programming (at least 4 ramps and 5 plateaus), with a rate of at least 0.1 to 45o C per minute and at least 650 minutes run time. Should have provision of set point entry of upto 1o C for temperatures and upto 0.1o C for program rates. Re-calibration of the oven should be possible up to $\pm$ 0.01o C. The cooling and restablization of the oven temperature should be in automatic sequence and fast through a microprocessor controlled vent at the rear of the column oven. Oven should also be capable of adopting two detectors (similar or different).

2.3.4 Flow System

It should be dual flow, dual column system. Inlet pressure and flow rate of the carrier gas should be controlled by electro pneumatic control/manually as well as through data processor with digital and screen display of the pressure and the flow rates.

2.3.5 Detectors

The detectors should be of modular type for their quick interchangeability, and should be dedicated for accepting effluent from both, the capillary columns (all types and all sizes) as well as 530 micron mega bore columns. The operating temperature range should cover upto at least 400deg. C. It should be with make up gas and automatic zeroing facility. Each detector should be supplied in a self contained module with heater, temperature sensor and overheat protector.

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(a) Flame Ionization Detector

It should be of an appropriate design for the operator's safety. The ignition facility should be an easily replaceable auto igniter involving push button ignition. Should provide a detection limit of less than 5 picogram carbon/sec or equivalent with S/N=2 and nitrogen as carrier gas, and a linear dynamic range of up to at least 10. The departure from linearity should be less than + 1% for the entire range.

(b) Thermal Conductivity Detector (TCD)

The constant current system maintains a stable bridge current even when the detector temperature is changed, thus requiring no additional intervention.

Excessive current flow in the bridge circuit or stoppage of the carrier gas stream will activate the filament protection circuit which will turn off the bridge current to protect the filaments and indicate such action on the display & by alarm buzzer.

The rhenium-tungsten filaments, which have a resistance of 100 each, provide excellent stability and high reliability. Make-up gas flow of a few milliliters to a few tens of milliliters per minute provides sharper peaks in capillary column GC.

2.3.6 Data Station

It should have basic program facility and capable of providing accurate and reproducible integration, reintegration/repot and multilevel calibration, base line correction, area calculation, data subtraction and report formats. Should have, ingrained provision for statistical analysis, printer-plotter function, and battery back up for memory protection. It should also have provision for CV and specific gravity calculation of Natural gas in the gas analysis software. It should be able to operate on 220 ± 10 volts, 50 Hz AC power supply.

2.3.7 Computer and Software

The system should be recent Pentium based PC using latest WINDOWS Operating System environment. Configuration of the system shall be as follows:

Hard Disc : 1 TB or more

Processor : Pentium P IV with >1.5 GHz speed

Monitor : SVGA 17" colour or bigger

RAM : 4 GB or better

DVD/CD

CD ROM : 52x CD ROM

Printer : Inkjet / Laser Printer

Software performing the following functions should be provided:

- Gas analysis (Natural/Naphtha).
- Water and environmental analysis for priority organics including pesticides, poly aromatic hydrocarbons (PAH), poly chloro benzene (PCBs), penta chloro phenols (PCPs).
- Dissolved gas analysis of transformer oils
- Quality control protocols
- Data display, Data import/export, Data handling and reporting

2.4 Additional Items to be supplied as Accessories:

Operation and maintenance manual as well as service manual; application notes for the analysis of pesticides, PAH compounds, PCBs, PCPs etc. in environmental samples; two

stage gas regulators for nitrogen, hydrogen and air with necessary tubing and connectors; high capacity gas purifier for hydrogen, air and carrier gas; and two sets each calibration gas cylinders for natural gas and dissolved gases in transformer oil analysis with all necessary spares and consumables for at least three year trouble free operation.

In case if the instrument does not contain the stripper column for the in-situ extraction of dissolved gases in transformer oil, separate extraction kit complying with ASTM D-3612 should be provided with the instrument.

Annexure - 3E

3.0 THERMO GRAVIMETRIC ANALYSER

Thermo gravimetric analyzer is for the proximate analysis of coal. It should meet the requirements of ASTM D – 5142. It should have the capability to analyse 15 – 20 samples simultaneously with no limit on the minimum number of samples to be loaded. The system should automatically monitor and calculate weight loss for moisture, volatile matter, ash, loss on ignition (LOI) or fixed carbon in the range exceeding 0% to a total weight loss of 100%. Balance should be in – built, top loading with auto calibration facility and a sensitivity of ± 0.0001 gm. The weight range should be adequate to cover the analytical applications.

Sample size : 1 to 5 gm.

Maximum furnace temperature : 1000oC

Temperature stability : ± 5 oC

Instrument precision : 0.001gm

Gas requirement : Oxygen, 99.5% pure, 35 psi regulated

Nitrogen, 99.5% pure, 35 psi regulated

Compressed air, oil and water free, 35 psi.

Sample weight : 1 gm.

Calibration sample : 50 gm.

Power requirement : 220 $\pm$ 10 V, 50 Hz, Single phase A/C.

LCD display and printer with built-in operational program to perform all calculations as well as control heating temperature, atmosphere, duration and heating rate should be available with the instrument. Programmable memory for the storage of analytical methods and results should be provided with built in PC interface. It should be complete with compressor and regulators for the gases, all spares and consumables for a period of minimum 3 years trouble free operation and accompanied by operation and maintenance manual.

Poorv
05/10/17

Avinash
05/10/17

Other Terms & Conditions

Document: One hard copy of O&M Manual in English language giving complete technical information for operation and maintenance of the equipment.

Installation and Commissioning: The supplier shall install & commission the equipment at site. Supplier should demonstrate the performance of the Equipment and all its accessories to ensure compliance with complete specifications & parameters quoted by them to the satisfaction of BHEL/end user. Cost of installation & Commissioning, if any, should be indicated separately. Training to chemists at site during installation should be provided for routine maintenance, operation and safety purpose. Failing to comply to the Installation and Commissioning clause, the offer will be rejected straightaway.

Warranty: The equipment shall be warranted for satisfactory performance for a period of 12 months from the date of installation or 18 months from date of dispatch, whichever is later. Failing to comply to the warranty clause, the offer will be rejected straightaway.

Packing & Dispatch: The equipment / accessories shall be packed in a suitable water proof/vibration proof packing box capable of bearing air and road transit hazards. Packing box shall be properly identified and marked with BHEL's (India) Purchase Order Number. Also, "PCRI HWR" should be written in bold letters on all four sides of the packing box.

The Project Specific Terms and Conditions Annexed at Annexure-1 are also to be read in conjunction with this document.

Pooran
05/10/17

(Pooran Kumar)
Dy. Engineer
Worked by

Avinash
05/10/17

(Avinash Kumar)
Sr. Engineer
Initiated by

S. Bhatnagar
05/10/17

(Dr. S Bhatnagar)
SDGM
Supervised by

Ambrish
05/10/17

Ambrish Goel
AGM
Approved by

CHEMICAL LAB EQUIPMENTS FOR 3X660 MW NORTH KARANPURA STPP PROJECT

INDENT NO.20173156 DATED: 05.10.2017

Annexure - F for Package - 6 [Material Code - D55995237110]

Sl no	Item Description	Qty	Inspection Category	Specification
1	Automatic Bomb Calorimeter	2	2	Annexure - 1F
CAT 2: QAP Approval By NTPC & Inspection by BHEL / BHEL Third Party Inspection Agency. BHEL MDCC shall be issued based on NTPC MDCC.				
TECHNICAL SPECIFICATIONS				
Annexure - 1F				
1.0 AUTOMATIC BOMB CALORIMETER The equipment should be complete set of automatic (Isoperibol) bomb calorimeter with all essentials/ accessories for estimation of calorific value of coal and oil. It should be microprocessor controlled, with touch panel keyboard for data entry and operation control, Menu driven programmed operating system, RS 232 port, etc. and should comply with ASTM - D 5865. Range : 3000 – 6000 cal / gm sample. Temperature measurement resolution : Better than 0.001deg. C Room temperature : 15deg. C – 35deg. C Gas : Oxygen 99.9% pure (30 Kg/cm²) Panel display : Digital display Electrical power requirement : 230 ±10 V AC, 50 Hz, Single phase. Certified calibration sample : 50 grams, benzoic acid. The equipment should come complete with all accessories / essentials required for at least three years trouble free operation along with the calibration certificate for pyrometer/thermometer and test certificate for the bomb. The package should also be accompanied by operation and maintenance manual.				
Other Terms & Conditions Document: One hard copy of O&M Manual in English language giving complete technical information for operation and maintenance of the equipment. Installation and Commissioning: The supplier shall install & commission the equipment at site. Supplier should demonstrate the performance of the Equipment and all its accessories to ensure compliance with complete specifications & parameters quoted by them to the satisfaction of BHEL/end user. Cost of installation & Commissioning, if any, should be indicated separately. Training to chemists at site during installation should be provided for routine maintenance, operation and safety purpose. Failing to comply to the Installation and Commissioning clause, the offer will be rejected straightaway. Warranty: The equipment shall be warranted for satisfactory performance for a period of 12 months from the date of installation or 18 months from date of dispatch, whichever is later. Failing to comply to the warranty clause, the offer will be rejected straightaway. Packing & Dispatch: The equipment / accessories shall be packed in a suitable water proof/vibration proof packing box capable of bearing air and road transit hazards. Packing box shall be properly identified and marked with BHEL's (India) Purchase Order Number. Also, "PCRI HWR" should be written in bold letters on all four sides of the packing box. The Project Specific Terms and Conditions Annexed at Annexure-1 are also to be read in conjunction with this document.				
<i>Pooran</i> 25/10/17 (Pooran Kumar) Dy. Engineer Worked by <i>Avinash</i> 05/10/17 (Avinash Kumar) Sr. Engineer Checked by <i>Ambrish</i> 05/10/17 (Dr. S Bhatnagar) SDGM Supervised by <i>Ambrish</i> 05/10/17 AGM Approved by				

		QUALITY PLAN											
		ITEM : -----					QP NO : ----- REV: 00 DATE : ----- Page -----of-----			PROJECT : ----- ENQUIRY NO. : -----			
S.NO .	COMPONENT / OPERATION	CHARACTERISTI C CHECKED	CATEGO RY	TYPE OF CHECK	QUANTUM OF CHECK	REFERNCE DOCUMENT	ACCEPTANCE NORM	FORMAT OF RECORD		INSPECTION AGENCY			REMARKS
										M	C	N	
1	2	3	4	5	6	7	8	9	D	10	11	12	13

1	Item Name:----- -----												
1.1	1. Make 2. Model 3. Range 4.Bill of Material 5.Other Parameter	Visual	Major	Physical	100%	Tech. Spec. / Approved Documents	Tech. Spec. / Approved Documents	IR / TC	D	P	V / W	V / W	CHP
1.2	Performance Test 1. Accuracy Test 2. Repeatability Test 3. Response Test	Functional	Major	Electrical	100%	Tech. Spec. / Approved Documents	Tech. Spec. / Approved Documents	IR / TC	D	P	V / W	V / W	CHP
1.3	Calibration Test Reports	Calibration	Major	Electrical	100%	Tech. Spec. / Approved Documents	Tech. Spec. / Approved Documents	TC	D	P	V	V	
1.4	Packing	Packing	Major	Physical	100%	Tech. Spec. / Approved Documents	Tech. Spec. / Approved Documents	TC	D	P	V	V	

	LEGEND : M – SUPPLIER / SUB SUPPLIER C - BHEL / NOMINATED INSPECTION AGENCY N – CUSTOMER /CUSTOMER NOMINATED AGENCY CHP- CUSTOMER HOLD POINT REPORT D - DOCUMENTS	P – PERFORMED BY W – WITNESSED BY V – VERIFICATION BY TC – TEST CERTIFICATE IR- INSPECTION		
MANUFACTURER / SUBCONTRACTOR SIGN & SEAL	RECORDS IDENTIFIED WITH "V" SHALL BE ESSENTIALLY INCLUDED IN QA DOCUMENTATION.		REVIEWED BY SIGN & SEAL	APPROVED BY SIGN & SEAL

Annexure – 1**Project Specific Terms & Conditions for Environmental Laboratory Equipment for
3x660 MW North Karanpura STPP Project**

These conditions are in addition to latest version of General Instructions and Standard Terms & Conditions (GISTC) for bidding against Tender Enquiry.

1. Bidder to quote each item of a Package separately as per specifications and also submit original catalogue of each item issued by its Original Equipment Manufacturer (OEM) alongwith Technical bid. Failing this, the offer for the package is liable to be rejected.
2. Price bid of those technically qualified vendors would be opened which would be approved by BHEL's Customer.

Installation & Commissioning (I & C) of item/items shall have to be carried out either by vendor himself or its duly authorized representative. Authorization in this regard shall also have to be submitted with the offer.

Warranty of each item of the package should be extended by vendor. BHEL reserves the right to seek warranty also issued from OEM of the item for any item of the package at its discretion.

The entire responsibility of supply, I & C shall however remain with the bidder.

3. All the items in each of the package / packages would be required to be supplied in totality on intimation by BHEL.
4. The intimation for supply of the package will be issued by BHEL within one year from the date of placement of Purchase Order without any additional financial implication on BHEL.
5. Shelf life of Solutions/Standards required for the item/items should be valid for at least 18 months from date of supply. Shelf life of these Solutions/Standards should also be indicated in the packing list submitted for issue of Material Dispatch Clearance Certificate (MDCC) by BHEL prior to dispatch of item.
6. The prices should be quoted Ex-works freight pre-paid basis. Freight Charges from vendor's works to project site should be mentioned (quoted) separately in the price bid.
7. It shall be responsibility of vendor to handover all the items of the package to any of the BHEL approved transporters in time.
8. Evaluation of bids for decision of lowest bidder would be made based on offered price separately for each package in totality which shall include all taxes, duties, freight, Packing & Forwarding, I & C charges etc.
9. Bidder should submit list of imported items proposed to be supplied in the package alongwith technical bid.
10. BHEL reserve the right to reject any or all the offers before placement of order without any obligation / assigning any reason.

Inspection and Testing:

1. Quality Assurance Plan (QAP) is to be submitted for each item of the package separately along with technical offer for approval of BHEL. Offers submitted without QAP are liable to be rejected.
2. The category of inspection of each item has been indicated in technical specification of the items. BHEL reserves the right to amend category of inspection as per project requirement.

Contd...2

Animesh
05/10/17

3. The manufacturer shall conduct all routine/mandatory tests required to ensure that the equipment furnished conforms to the requirements of its specifications & approved QAP, applicable Codes and Standards.
4. BHEL / BHEL's Customer / Nominated third party inspection agency may inspect items as per approved QAP/Technical Specifications. The vendor will provide all necessary support without any additional financial implication on BHEL.

Installation & Commissioning (I & C) :

1. The scope of I & C shall include receipt of items from BHEL's site store, transportation to required location (Laboratory Building) for installation/erection, operation, calibration with standards/solutions, training and demonstration to BHEL/Customer officials. The vendor shall arrange all the required tools & tackles/chemicals/glasswares/consumables/commissioning spares/supply cables or any other requisite for successful I & C, demonstration of equipment without any additional financial implication on BHEL.
2. The vendor may visit the site/Laboratory building prior to taking up I & C of the equipment to make all necessary arrangement at his end. It shall be responsibility of the vendor to arrange and complete all the I & C and demonstration of all the items of the package in time bound manner through required one or more visits and to entire satisfaction of BHEL/BHEL's customer as per BHEL specifications and contract conditions and also obtain unconditional handing over protocol for all the items in the package.
3. Completion of I & C of the package shall be considered after receipt of unconditional handing over protocol of all the items of the package. No part completion of the package shall be considered for closure of I & C of the package for processing the balance payment.
4. Schedule of I & C of package shall be intimated by BHEL normally within 06 months from date of dispatch of package. I & C of the package shall have to be taken up promptly and completed within 08 weeks from date of issue of intimation for I & C. In case of delay in completion of I & C, a penalty of delay @ 1% of balance payment per week shall be imposed, subject to a maximum of 10 % of balance payment. The delay and applicable penalty shall be intimated in writing. In case of delay beyond 10 weeks, BHEL reserves the right to proceed and get the I & C done by alternate source at risk & cost to vendor without further intimation to vendor.

Avinash
05/10/17
(Avinash Kumar)

Sr. Engineer

Initiated by

S. Bhatnagar
7/5/10/17
(Dr. S Bhatnagar)

SDGM

Supervised by

Ambrish
5/10/17
Ambrish Goel

AGM

Approved by

Terms & Conditions of Reverse Auction

Against this enquiry for the subject item 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 IV) 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 VII) 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 (s) (whose quote is highest in online sealed bid) may not be allowed to participate in further RA.



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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22. INFORMATION TO THE BIDDERS.
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

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



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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.

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)

- 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

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)

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.

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)

- 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

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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.

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- 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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- 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

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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@bhelnhr.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.

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25. 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 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

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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.

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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.

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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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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.

JURISDICTION: 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.