# POLLUTION CONTROL RESEARCH INSTITUTE HEEP, BHEL, RANIPUR

### Pre-Qualification Requirements (PQR).

- The firm of Bidder should have in existence in past 3 years as on date of bid opening.
   Following documents proving the firm is active in past 3 years to be provided.
   Last 3 years "Profit & Loss account/Balance Sheet/ GST returns/Any other acceptable document certified by CA".
- 2. The Bidder should have supplied Atomic Absorption Spectrophotometer (AAS) in last 05 years as on date of bid opening. The self-attested copies of Purchase Orders placed on them by customers & proof of supply should be attached.
- 3. Offered item should have completed one-year operation in "Thermal Power Plant/Any Industry". Commissioning Report, Operation Certificate and End user contact details should be submitted for the same.
- 4. In case of Agent/Reseller/Traders, offering equipment from OEM, Tender specific authorization letter required from the manufacturer, clearly indicating contact details like Name, E-mail & address of manufacturer.

#### CHEMICAL LAB EQUIPMENTS FOR PATRATU PROJECT

#### **TECHNICAL SPECIFICATIONS**

#### ATOMIC ABSORPTION SPECTROPHOTOMETER

#### **Description:**

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.

#### 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. 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.

#### 3. Auto Sampler

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.

#### 4. Hydride Vapour Generator

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

#### 5. Hollow cathode lamps

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

#### 6. Monochromator

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

#### 7. Computer and Software

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

Hard Disc : 500 GB SSD, Processor : intel i7 or better Monitor : 21" colour LED or larger

RAM: 8 GB or Better USB, HDMI etc ports.

Printer with Scanner: Laser / Inkjet 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.

#### 8. 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. Optics: True Double Beam optical design.

#### CHEMICAL LAB EQUIPMENTS FOR PATRATU PROJECT

#### **TECHNICAL SPECIFICATIONS**

#### ATOMIC ABSORPTION SPECTROPHOTOMETER

#### 9.Background correction:

Automatic **Deuterium background correction** for flame atomization & hydride mode of operation and **Zeeman background correction** for graphite furnace operation.

#### 10.Accessories

- 1. Air compressor, oil free, capable of continuous operation providing the required quantity of air at the prescribed, constant pressure.
- 2. Suction hood with exhaust fan of required capacity to maintain a stable flame.
- 3. Acetylene, Nitrous Oxide, Argon filled Gas Cylinders, Regulators and Colour Coded Pressure Tubings as per system requirement.
- 4. Pressure Regulators for use with the gases such as Acetylene, hydrogen & nitrous oxide, and for gases used in the graphite furnace. 2 Nos. each.
- 5. Voltage Stabilizer: Min 10 KVA or better as per system requirement
- 6. Air compressor,
- 7. Water Chiller,
- 8. NaBH4 for HVG is to be provided if required.
- 9. One no of each 10 ml, 20 ml & 50 ml micropipette to be supplied.

#### 11. Reference Standards

Certified reference standard solutions (1 ml = 1 mg) for all the above elements mentioned in (5) should be provided with the equipment.

#### 12. Other Requirements

- (a) Item should be 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.
- (b) The range of Iron(Fe) and Copper(Cu) required to be analysed with offered item: upto 2 PPB
- (c) The equipment should be supplied along with Mandatory spare parts for three years' trouble free operation and after sales services in India.

#### Note:

- 1. All standard accessories / standards / reagents required for installation& Commissioning and proper operation of the equipments listed above shall be supplied along with the instrument.
- 2. Detailed printed Catalogue / User Manual for the items must be submitted along with the offer.
- 3. Complete scope, Installation & Commissioning at Project site shall be in vendor scope.

#### Other Terms & Conditions

**Document:** Hard copy of O&M Manual in English language giving complete technical information for operation and maintenance of the equipment including circuit diagram shall be supplied.

**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. 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.

**Warrantee:** 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 warrantee 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.

# Buyer Specific ATC document of "AAS with Graphite Furnace & HVG" for 3X800 MW Patratu Project

#### 1. MDCC (Material dispatch clearance certificate) Clause:

Please note that material shall be dispatched only after issue of Material dispatch clearance certificate (MDCC) by BHEL. You are required to submit packing list, guarantee certificate, complete test reports, calibration certificate (as applicable), Cylinder CCOE certificate, test results of Fe & Cu with certified reference standard solutions meeting specification requirement, OEM test reports of lamps etc. for issuance of dispatch clearance.

BHEL will release MDCC within 07 days from the date of receipt of complete documents as detailed above.

The delivery period of 120 days is inclusive of 07 days taken by BHEL to issue MDCC.

#### 2. Quality Requirement:

- (i) Final Inspection will be witnessed by BHEL / BHEL TPIA (Third party inspection agency) at works of successful bidder.
- (ii) Successful bidder to submit quality plan in line with technical specification in prescribed format for approval of customer / BHEL within 20 days of Purchase Order. BHEL will provide approval of quality plan within 10 days from the date of submission. Any delay in submission / approval will be in respective account.

The delivery period of 120 days is inclusive of time for quality plan submission and approval.

#### 3. **Pre-Qualification Requirement (PQR):**

The Pre-Qualification Requirements have been made part of bid as **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 Specification Requirement:

- 1. Please quote your valuable offer as per BHEL Specifications enclosed as Annexure-II.
- 2. Bidders are requested to upload point-wise compliance of BHEL Specifications along with the offer as a token of acceptance.

#### 5. **Payment Terms:**

- 90% payment after receipt of material at site against submission of PBG @ 10% of Order value valid till entire Guarantee / Warranty period. The PBG will be in BHEL format and from one of the BHEL consortium banks. For name of BHEL consortium bank, please visit our website hwr.bhel.com.
- Balance 10% payment after installation and commissioning at site.

- Payment will be released by BHEL within:
  - 45 days for Micro and Small enterprises
  - 60 days for Medium enterprises
  - 90 days for Non MSME enterprises

#### 6. **Delivery Period:**

The material should be supplied within 120 days of purchase order.

This period includes following:

- 20 days from the date of PO for supplier to submit the documents (drawings / datasheet & Quality Plan) for approval.
- 10 days for documents approval by BHEL / End User
- 07 days for inspection of material by BHEL / BHEL TPIA
- 07 days for issuing dispatch clearance from the date of receipt of documents mentioned in Clause No. 1 of this document.
- 07 days for arranging dispatch of material from the date of providing MDCC by BHEL.

Any delay in document submission / approval / Inspection will be in respective account.

#### 7. Validity:

Offer will be valid for 120 days from bid end date and extensions thereof.

BHEL will reserve the right to reject any or all quotations, quoting validity less than 120 days.

#### 8. Evaluation criteria:

Evaluation will be done on the basis of Total Landed cost up to Patratu project site (**Total package wise evaluation**).

#### 9. **Document:**

One hard copy of O&M manual in English language giving complete technical information for operation and maintenance of the equipment shall be supplied with the equipment.

#### 10. Price Basis:

Please confirm that prices have been quoted on F.O.R. Patratu site basis.

#### 11. 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. Training to chemists at site during installation should be provided for routine maintenance, operation and safety purpose.

Cost of Installation and Commissioning should be inclusive in the quoted prices.

Installation and Commissioning will be done at following address:

GENERAL MANAGER (PROJ.),
PATRATU STPP (3X800 MW),
PATRATU VIDYUT UTPADAN NIGAM LTD.
P.O.-PTPS, DIST- RAMGARH, JHARKHAND - 829119

Failing to comply to the Installation and Commissioning clause, the offer will be rejected straightaway.

#### 12. Warrantee:

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 Guarantee / Warranty clause, the offer will be rejected straightaway.

#### 13. Packing & Dispatch:

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

#### 14. | EARNEST MONEY DEPOSITE (EMD)

13.1 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	Туре
EMD for bidders	INR 1,50,000/- (INR One Lakh Fifty Thousand Only)	Equivalent Foreign currency	Refundable

- 13.2 EMD shall not carry any interest.
- 13.3 Modes of deposits will be as per General Terms and Conditions (GTC) GeM GTC 4.0 v1.11 21Jun23.

The demand draft shall be in favor of "BHEL Haridwar". E-Payment is also acceptable. For e-payment, RTGS details are as mentioned below:

Bank Details	SWIFT Details of ba	ank	Contact Details of Banker			
STATE BANK OF INDIA	SWIFT NO:	SBININBB225	Chief Mana	ager (IBD)		
RANIPUR BRANCH,	CC ACCOUNT NO :	10667995458	Contact No	o. +91 1334 224201		
OPP: BHEL MAIN GATE,	IFSC CODE:	SBIN0000586		+91 1334 226125		
SECTOR-5, RANIPUR, HARIDWAR,			Fax:	+91 1334 226512		
UTTRAKHAND, INDIA						
PIN CODE : 249403						

- 13.4 MSE Suppliers, who are the manufacturer of quoted items as per specification are exempted from submission of the EMD.
- 13.5 EMD exemption will be allowed as per criteria laid down in General Terms and Conditions (GTC) GeM GTC 4.0 v1.11\_21Jun23.
- 13.6 Bids not accompanied with requisite EMD or bids accompanied with EMD of inadequate value shall be liable for rejection, wherever exemption is not allowed.
- 13.7 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).
- 13.8 Earnest money of successful bidder shall be returned only after receipt of Performance Bank Guarantee (PBG).

#### 15. Arbitration Clause:

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

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

# 16. General Clause:

All other commercial terms and conditions will be governed by General Terms and Conditions (GTC) GeM GTC 4.0 v1.11\_21Jun23.

#### 17. Risk Purchase:

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

#### Action against Bidders / vendor / supplier / contractor in case of default:

In order to protect the commercial interests of BHEL, BHEL shall take action against supplies / 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, indulge in malpractices, cheating, bribery, fraud or any other misconduct or formation of cartels so as to influence the bidding process or influence the price etc.

Suspension of Business Dealings could be in the form of "Hold" or "Banning" a supplier/contractor or a bidder and shall be as per "Guidelines for Suspension of Business Dealings with Suppliers/Contractors" available at BHEL's website "<a href="https://www.bhel.com/guidelines-suspension-business-dealings-supplierscontractors">https://www.bhel.com/guidelines-suspension-business-dealings-supplierscontractors</a>".

#### 18. **E-invoicing:**

E-invoicing under GST has been implemented w.e.f. 01.10.2022 for all the taxable persons having turnover more than Rs. 10 cr. it has been specified by the govt that it is mandatory to mention a valid unique invoice reference no. (IRN) and QR code as generated from govt. portal on a tax invoice. Based on such information, GST ITC as claimed by BHEL in GST returns shall be matched with the corresponding details uploaded by supplier in E-invoicing system.

In case the vendor / contractor delays or fails to provide all the documents as per the purchase order / work order at the time of submitting tax invoice to BHEL, any subsequent financial loss to BHEL on account of vendor/contractor shall be to vendor's / contractor's account. BHEL has further right to take necessary steps to protect its interest at the time of release of payment. this further requires inclusion of IRN and QR code on tax invoice as announced by govt. of india w.e.f. 01.10.2022.

#### 19. | Conflict of Interest among Bidders/ Agents:

"A bidder shall not have conflict of interest with other bidders. Such conflict of interest can lead to anti-competitive practices to the detriment of Procuring Entity's interests. **The bidder,: found to have a conflict of interest shall be disqualified**. A bidder may be considered to have a conflict of interest with one or more parties in this bidding process, if:

- a) they have controlling partner (s) in common; or
- b) they receive or have received any direct or indirect subsidy/ financial stake from any of them; or
- c) they have the same legal representative/agent for purposes of this bid; or
- d) they have relationship with each other, directly or through common third parties, that puts them in a position to have access to information about or influence on the bid of another Bidder, or
- e) Bidder participates in more than one bid in this bidding process. Participation by a Bidder in more than one Bid will result in the disqualification of all bids in which the parties are involved. However, this does not limit the inclusion of the components/ sub-assembly/Assemblies from. one bidding manufacturer in more than one bid; **or**
- f) In cases of agents quoting in offshore procurements, on behalf of their principal manufacturers, one agent cannot represent two manufacturers or quote on their behalf in a particular tender enquiry. One manufacturer can also authorize only one agent/dealer. There can be only one bid from the following:

- 1. The principal manufacturer directly or through one Indian agent on his behalf; and
- 2. Indian/foreign agent on behalf of only one principal, or
- g) A Bidder or any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the contract that is the subject of the Bid, or
- h) In case of a holding company having more **than** one independently manufacturing units, or more than one unit having common business ownership/management, only one unit should quote. Similar restrictions would apply to closely related sister companies. Bidders must proactively declare such sister/ common business/ management units in same/ similar line of business.

#### 20 Acceptance of offers from country Sharing Land Border with India:

- I. Any bidder from a country which shares a land border with India will be eligible to bid in any procurement whether of goods, services (including consultancy services and non-consultancy services) or works (including turkey projects) only if the bidder is registered with the Competent Authority. Further, any bidder (including bidder from India) having specified Transfer of Technology (ToT) arrangement with an entity from a country which shares a land border with India, shall also require to be registered with the same competent authority.
- II. "Bidder" means any person or firm or company, including any member of a consortium or joint venture (that is an association of several persons, or firms or companies), every artificial juridical person not falling in any of the descriptions of bidders stated hereinbefore, including any agency branch or office controlled by such person, participating in a procurement process.
- III. "Bidder (or entity) from a country which shares a land border with India" for the purpose of this Order means:
  - a. An entity incorporated, established or registered in such a country; or
  - b. A subsidiary of an entity incorporated, established or registered in such a country; or
  - c. An entity substantially controlled through entities incorporated, established or registered in such a country; or
  - d. An entity whose beneficial owner is situated in such a country; or
  - e. An Indian (or other) agent of such an entity; or
  - f. A natural person who is a citizen of such a country; or
  - g. A consortium or joint venture where any member of the consortium or joint venture falls under any of the above
- IV. The beneficial owner for the purpose of (iii) above will be as under:
- 1. In case of a company or Limited Liability Partnership, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has a controlling ownership interest or who exercises control through other means.

#### Explanation:

- a. "Controlling ownership interest" means ownership of or entitlement to more than twenty-five per cent. of shares or capital or profits of the company;
- b. "Control" shall include the right to appoint majority of the directors or to control the management or policy decisions including by virtue of their shareholding or management rights or shareholders agreements or voting agreements;
- 2. In case of a partnership firm, the beneficial owner is the natural person(s) who, whether acting alone or together, or through one or more juridical person, has ownership of entitlement to more than fifteen percent of capital or profits of the partnership;
- 3. In case of an unincorporated association or body of individuals, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has ownership of or entitlement to more than fifteen percent of the property or capital or profits of such association or body of individuals;
- 4. Where no natural person is identified under (1) or (2) or (3) above, the beneficial owner is the relevant natural person who holds the position of senior managing official;

- 5. In case of a trust, the identification of beneficial owners) shall include identification of the author of the trust, the trustee, the beneficiaries with fifteen percent or more interest in the trust and any other natural person exercising ultimate effective control over the trust through a chain of control or ownership.
- V. An Agent is a person employed to do any act for another, or to represent another in dealings with third person.
- VI. The successful bidder shall not be allowed to sub-contract works to any contractor from a country which shares a land border with India unless such contractor is registered with the Competent Authority.
- VII. The registration shall be valid at the time of submission of bid and at the time of acceptance of bid.

  VIII. If the bidder was validly registered at the time of acceptance / placement of order, registration shall not be a relevant consideration during contract execution.

**Note:** Following declarations would be required from bidders (if applicable):

- (A) "I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India; I certify that this bidder is not from such a country or, if from such a country, has been registered with the Competent Authority. I hereby certify that this bidder fulfills all requirements in this regard and is eligible to be considered. [Where applicable, evidence of valid registration by the Competent Authority shall be attached.]"
- (B) "I have read the clause regarding restrictions on procurement from a bidder having Transfer of Technology (ToT) arrangement. I certify that this bidder does not have any ToT arrangement requiring registration with the competent authority.

#### OR

\* have read the clause regarding restrictions on procurement from a bidder having Transfer of Technology (ToT) arrangement. I certify that this bidder has valid registration to participate in this procurement."

#### 21. Make in India:

Make in India is applicable for this tender. Bidder to submit signed and stamped copy of duly filled Make in India format.

#### **Details of contact person(s)-**

Mr. Vinay Kumar Gupta

Designation: Addnl Engr (PCRI-BOI) Pollution Control Research Institute HEEP, BHEL, Haridwar- 249403

Uttarakhand, India

Email ID: vinaykumar.gupta@bhel.in

Tel: +91 1334 28 1187

Mr. Deshraj Yadav

Designation: Dy. Manager (PCRI-BOI) Pollution Control Research Institute HEEP, BHEL, Haridwar- 249403

Uttarakhand, India

Email ID: deshraj@bhel.in Tel: +91 1334 28 1187

## **Certificate**

m	line wit	n Gover	nment	Public Pi	ocurem	ient Order No	. P-43	0021/2/20	)1 /-BE-I	II at. I	5.06.	2017
&	P-4502	21/2/201	17-PP	(BE-II)	dated	28.05.2018,	we	hereby	certify	that	we	M/s
						(suppl	ier na	me) are l	ocal supp	olier m	eetin	g the
rec	quireme	nt of mir	nimum	local con	tent (50	%) as defined	in ab	ove orde	rs for the	mater	ial ag	ainst
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De	tails of	location	at wh	ich local	value ac	ddition will be	mad	e is as fo	llows:			

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

Seal and Signature of Supplier