

## PRE QUALIFICATION REQUIREMENTS (PQR) FOR PATRATU PACKAGE-1

1. 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/Any other acceptable document certified by CA"
2. The Bidder/OEM should have supplied **Conductivity Meter, pH Meter, Turbidity Meter, Flame Photometer & Jar Test Apparatus** 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 any industry. 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.

Sl no	Item Description	Qty (No.)	Specification Annexure
1	Conductivity Meter (Bench top)	2	Annexure-1
2	Conductivity Meter (Portable)	2	Annexure-2
3	pH meter (Benchtop)	2	Annexure-3
4	pH meter (Portable)	2	Annexure-4
5	Turbidity Meter (Nephelometric)	2	Annexure-5
6	Flame photometer	1	Annexure-6
7	Jar test apparatus	1	Annexure-7
<b>TECHNICAL SPECIFICATIONS</b>			
			<b>Annexure-1</b>
1	<b>CONDUCTIVITY METER (BENCH TOP)</b> <p>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.</p> <p>The instrument should incorporate the following features:</p> <ol style="list-style-type: none"> <li>1. Range - 1 micro Siemen/cm f.s.d. to 0.1 Siemen/cm f.s.d in 12 ranges</li> <li>2. Accuracy - <math>\pm 1\%</math> of full scale</li> <li>3. Minimum measurement limit - 0.1 micro Siemen/cm</li> <li>4. Temperature compensation - 0 °C - 60 °C (auto)</li> <li>5. Range of cell constant adjustment - 0.01 to 1.2</li> <li>6. Temperature Co-efficient - From 1.4% to 2.7% per deg.C</li> </ol> <p>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.</p> <p><b>SPARES</b></p> <p>a) Dip / Cup type, 4 and 2 electrode conductivity cells made of acrylic body and having the following cell constants:</p> <ol style="list-style-type: none"> <li>i) <math>0.01 \text{ cm}^{-1}</math> : 2 Nos.</li> <li>ii) <math>0.1 \text{ cm}^{-1}</math> : 2 Nos.</li> <li>iii) <math>0.5 \text{ cm}^{-1}</math> : 2 Nos.</li> </ol> <p>b) Flow type conductivity cells of <math>0.1 \text{ cm}^{-1}</math> : 2 Nos.</p>		
2	<b>CONDUCTIVITY METER (PORTABLE)</b> <p>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.</p> <p>Automatic Temperature compensation in 0-60oC range with selectable reference temperature 20 °C - 25 °C.</p> <p>Range : 0-2, 0-20, 0-200, 0-2000 and 0-20,000 <math>\mu</math> Siemens/cm</p> <p>Accuracy : <math>\pm 1\%</math> of full scale</p> <p>Smallest Scale Division : 0.01 micro Siemens/cm on lowest range</p> <p>Complete with cell holder, temperature probe, batteries, leather carrying case and instruction manual.</p> <p><b>Accessories</b></p> <ol style="list-style-type: none"> <li>1. Conductivity cells (Cell constant <math>0.1 \text{ cm}^{-1}</math>) : 2 No.</li> <li>2. Conductivity cells (Cell constant <math>0.1 \text{ cm}^{-1}</math>) : 2 No.</li> <li>3. Battery : 1 charge</li> </ol>		
			<b>Annexure-2</b>

3	<p style="text-align: right;"><b>Annexure-3</b></p> <p><b>pH METER (BENCH TOP)</b>  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 &lt; 0.01 pH in 24 hrs.  v) Temperature Compensation 0- 60 °C.  Automatic giving pH at 25 °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 &amp; Maintenance Manual complete with circuit diagram and fault finding procedure, Electrode Holders and stand.  <b>Spares &amp; Accessories</b>  i) Combination Electrode with filling solution: 8 Nos.  ii) Temp. probe: 2 Nos.</p>
4	<p style="text-align: right;"><b>Annexure-4</b></p> <p><b>pH METER (PORTABLE)</b>  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 0-100oC. Complete with electrodes, electrode holder, batteries, etc. &amp; instruction manual.  <b>Spares</b>  1. Combination Electrodes with filling solution: 4 Nos.  2. Batteries: 1 Set</p>
5	<p style="text-align: right;"><b>Annexure-5</b></p> <p><b>TURBIDITY METER (NEPHELOMETRIC)</b>  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 &amp; 0-1000  Accuracy: ± 2% of FSD or better  Calibration: Formazin Standard  Reproducibility: + 2% of full scale or better  <b>Spares</b>  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 (<b>Two sets in each range</b>).  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.</p>

6	<p style="text-align: right;"><b>Annexure-6</b></p> <p><b>FLAME PHOTOMETER</b></p> <p>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.</p> <p>(i) Sensitivity : 1 ppm Na &amp; K FSD.</p> <p>(ii) Range : 0 – 100 ppm for all the elements.</p> <p>(iii) Air supply : in - built, preset regulator.</p> <p>(iv) Compressor : oil free, portable.</p> <p>(v) Interface : RS 232</p> <p>(vi) Power supply : 230 V, 50 Hz, Single phase AC.</p> <p>(vii) Standard solutions : 1ml = 1mg solution for all the five elements.</p> <p>The supply should be complete with all standard spares and accessories for three years trouble free</p>
7	<p style="text-align: right;"><b>Annexure-7</b></p> <p><b>JAR TEST APPARATUS</b></p> <p>General: For floc formation tests in Water Treatment Plant, it should be designed for uniform stirring upto six samples simultaneously.</p> <p>A variable transformer should provide speed from 10-100 rpm with attached counter for counting the rpm.</p> <p>Stirrers are driven by 1/30 HP motor with gear train.</p> <p>Entire unit should be mounted in elongated cast aluminium housing.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>The apparatus should come complete with On-Off switch, 3 wire cord and plug for use at 220 V AC 50 Hz supply.</p> <p>The unit shall be supplied complete with 06 Nos. breakers of capacity 1 litre each.</p>
	<p><b>Other Terms &amp; Conditions</b></p> <p><b>Document:</b> Hard copy of O&amp;M Manual in English language giving complete technical information for operation and maintenance of the equipment.</p> <p><b>Installation and Commissioning:</b> The supplier shall install &amp; commission the equipment at site. Supplier should demonstrate the performance of the Equipment and all its accessories to ensure compliance with complete specifications &amp; 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.</p> <p><b>Warranty:</b> 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 earlier. Failing to comply to the warranty clause, the offer will be rejected straightaway.</p> <p><b>Packing &amp; Dispatch:</b> 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 <b>BHEL's (India) Purchase Order Number</b>. Also, “<b>PCRI HWR</b>” should be written in bold letters on all four sides of the packing box.</p>

## **Buyer Specific ATC document for Water Analysis Items of Patratu Project (Package-1)**

1.	<p><b>MDCC (Material dispatch clearance certificate) Clause:</b></p> <p>Please note that material shall be dispatched only after issue of Material dispatch clearance certificate (MDCC) by BHEL. For issue of MDCC, you are required to submit the set of documents (i.e. Packing list, Guarantee certificate, Complete test reports &amp; Calibration certificate (if applicable).</p> <p>BHEL will release MDCC within 07 days from the date of receipt of complete documents as detailed above.</p> <p>The delivery period of 120 days is inclusive of 07 days taken by BHEL to issue MDCC.</p>
2.	<p><b>Quality Requirement:</b></p> <p>(i) BHEL / BHEL's Customer / Nominated third part inspection agency may do inspection at works of bidder before dispatch of material.</p> <p>(ii) Bidders are requested to submit quality plan in line with technical specification in prescribed format in the event of ordering for approval of customer / BHEL <u>within 15 days of Purchase Order</u>. BHEL will provide approval of quality plan within 15 days from the date of submission. Any delay in submission / approval will be in respective account.</p> <p>The delivery period of 120 days is inclusive of time for quality plan submission and approval.</p>
3.	<p><b>Pre-Qualification Requirement (PQR):</b></p> <p>The Pre-Qualification Requirements have been made part of bid. 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.</p> <p><b>Techno-Commercial offer of only those bidders shall be evaluated who meet the Pre-Qualification Requirements.</b></p>
4.	<p><b>Technical Specification Requirement:</b></p> <p>1. Please quote your valuable offer as per BHEL Specification enclosed with bid documents.</p> <p>2. Bidders are requested to upload point-wise compliance of BHEL Specification along with the offer as token of acceptance.</p>
5.	<p><b>Payment Terms:</b></p> <ul style="list-style-type: none"><li>• 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 <a href="http://hwr.bhel.com">hwr.bhel.com</a>.</li><li>• Balance 10% payment after installation and commissioning at site.</li><li>• Payment will be released by BHEL within:<ul style="list-style-type: none"><li>- 45 days for Micro and Small enterprises</li><li>- 60 days for Medium enterprises</li><li>- 90 days for Non MSME enterprises</li></ul></li></ul>

6.	<p><b>Delivery Period:</b></p> <p>The delivery shall be 120 days from the date of PO placement. This period is inclusive of 7 days for BHEL to arrange dispatch clearance (provided MDCC related documents are complete in all respect) and Quality Plan (QP) submission and approval.</p>
7.	<p><b>Evaluation criteria:</b></p> <p>Evaluation will be done on the basis of Total Landed cost up to Patratu project site considering all items together <b>(Total value wise evaluation)</b>.</p> <p><b>Bidders are requested to quote for all 07 items as per BHEL specification. Offer of bidders not quoting for all items covered in tender specification will be rejected straightaway.</b></p> <p><b>In case, a bidder has quoted for all 07 items, however, their offer is technically not accepted even for one (01) item, in such scenario, complete offer of the bidder will be rejected by BHEL.</b></p>
8.	<p><b>Document:</b></p> <p>O&amp;M manual in English language giving complete technical information for operation and maintenance of the equipment is required to be supplied along with the instrument(s).</p>
9.	<p><b>Price Basis:</b></p> <p>Please confirm that prices have been quoted on F.O.R. Patratu site basis.</p>
10.	<p><b>Installation and Commissioning:</b></p> <p>The supplier shall install &amp; commission the equipment at site. Supplier should demonstrate the performance of the Equipment and all its accessories to ensure compliance with complete specifications &amp; 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.</p> <p><b><i>Cost of Installation and Commissioning should be inclusive in the quoted prices.</i></b></p> <p>Installation and Commissioning will be done at following address:</p> <p>GENERAL MANAGER (PROJ.), PATRATU STPP (3X800 MW), PATRATU VIDYUT UTPADAN NIGAM LTD. P.O.-PTPS, DIST- RAMGARH, JHARKHAND - 829119</p> <p><b><i>Failing to comply to the Installation and Commissioning clause, the offer will be rejected straightaway.</i></b></p>
11.	<p><b>Warranty:</b></p> <p>The equipment shall be warranted for satisfactory performance for a period of 18 months from the date of dispatch or 12 months from the date of installation, whichever is earlier.</p> <p><b>Failing to comply to the Guarantee / Warranty clause, the offer will be rejected straightaway.</b></p>
12.	<p><b>Packing &amp; Dispatch:</b></p> <ol style="list-style-type: none"> <li>1. The equipment / accessories shall be packed in a suitable water proof / vibration proof packing boxes capable of bearing air and road transit hazards.</li> <li>2. Packing box shall be properly identified and marked with <b>BHEL's (India) Purchase Order Number</b>. Also, <b>"PCRI HWR"</b> and <b>Name of the Item/Items</b> should be written in bold letters on all four sides of Packing box.</li> </ol>

**13. EARNEST MONEY DEPOSIT (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	Type
EMD	<b>INR 40,000/-</b> (INR Forty 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 v\_1.9\_31Mar23.

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 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	Chief Manager (IBD) Contact No. +91 1334 224201 +91 1334 226125 Fax: +91 1334 226512

13.4 MSE Suppliers, who are the manufacturer of all 07 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 v\_1.9\_31Mar23.

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).

**14. 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.

**15. General Clause:**

All other commercial terms and conditions will be governed by General Terms and Conditions (GTC) GeM\_GTC\_4.0 v\_1.9\_31Mar23.

**16. 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 “<https://www.bhel.com/guidelines-suspension-business-dealings-supplierscontractors>”.

**17. Price Break-up:**

All bidders are requested to provide item-wise price break-up (including everything such as Packing, Forwarding, Freight, GST or other taxes, Installation and commissioning etc.) in percentage (%) of total quote value in below table:

Sr. No.	Name of Item	Qty (No)	Item price for total quantities in percentage (%) of total quoted value
1	Conductivity Meter (Bench top)	2	.....%
2	Conductivity Meter (Portable)	2	.....%
3	pH meter (Benchtop)	2	.....%
4	pH meter (Portable)	2	.....%
5	Turbidity Meter (Nephelometric)	2	.....%
6	Flame photometer	1	.....%
7	Jar test apparatus	1	.....%
Total Quoted value in percentage (%)			100%

**Note:** This price break-up will not be used for price evaluation purpose. Evaluation will be done on the basis of total quoted value.



18.	<p><b>Conflict of Interest among Bidders/ Agents:</b></p> <p>"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. <b>The bidder, found to have a conflict of interest shall be disqualified.</b> A bidder may be considered to have a conflict of interest with one or more parties in this bidding process, if:</p> <ul style="list-style-type: none"> <li>a) they have controlling partner (s) in common; <b>or</b></li> <li>b) they receive or have received any direct or indirect subsidy/ financial stake from any of them; <b>or</b></li> <li>c) they have the same legal representative/agent for purposes of this bid; <b>or</b></li> <li>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; <b>or</b></li> <li>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; <b>or</b></li> <li>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: <ul style="list-style-type: none"> <li>1. The principal manufacturer directly or through one Indian agent on his behalf; and</li> <li>2. Indian/foreign agent on behalf of only one principal, <b>or</b></li> </ul> </li> <li>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; <b>or</b></li> <li>h) In case of a holding company having more <b>than</b> 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. "</li> </ul>
19.	<p><b>E-invoicing:</b></p> <p>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.</p> <p>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.</p>

## Certificate

In line with Government Public Procurement Order No. P-45021/2/2017-BE-II dt. 15.06.2017 & P-45021/2/2017-PP (BE-II) dated 28.05.2018, we hereby certify that we M/s \_\_\_\_\_(supplier name) are local supplier meeting the requirement of minimum local content (50%) as defined in above orders for the material against Enquiry No. \_\_\_\_\_

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

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

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

Seal and Signature of Supplier