

**POLLUTION CONTROL RESEARCH INSTITUTE
HEEP, BHEL, RANIPUR**

Pre-Qualification Requirements (PQR).

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/ GST returns/Any other acceptable document certified by CA".
2. Offered items should have completed one-year operation in any industry. Supporting documents (e.g. PO copy and Proof of supply/ Handing over protocol/ end user certificate) and end user contact details should be submitted for the same.
3. OEM Technical datasheet / Catalogue of offered items is to be submitted which are forming part of BOM.
4. In case of Agent/Reseller/Traders, offering equipment from OEM, authorization letter is required from manufacturer, clearly indicating contact details like Name, E-mail & address of manufacturer.

CHEMICAL LAB EQUIPMENTS FOR 3X800 MW PATRATU PROJECT			
INDENT NO. 20230347			
Items For Water Analysis			
SN	Item Description	Qty	Specification
1	B.O.D. ANALYSER SYSTEM	1 No.	Annexure-1
2	INCUBATOR	1 No.	Annexure-2
3	CENTRIFUGE MACHINE	1 No.	Annexure-3
4	THERMOSTAT BATH (CONSTANT TEMP BATH)	1 No.	Annexure-4
5	WATER BATH	1 No.	Annexure-5
6	PORTABLE ORP MONITOR	1 No.	Annexure-6
TECHNICAL SPECIFICATIONS			
			Annexure-1
1.0	<p>B.O.D. Analyzer System</p> <p>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.</p> <p>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. 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.</p>		
			Annexure-2
2.0	<p>Incubator</p> <p>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 100 °C. It should be complete with 3-pin plug and cord for 220 V/50 Hz, single phase AC supply.</p> <p>Other Specifications</p> <p>Temp. range : 5 to 50 °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 °C It should be supplied with instruction manual (including maintenance).</p>		

3.0 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.

Standard test to be performed for Water & Sediments in Crude oil as per ASTM D-96 and Precipitation Number in Lubricating Oil as per ASTM D-91.

Technical data for horizontal head

No. of graduated 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

Graduated 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)
 Capacity : 100 ml

Graduations should be as under:

S.No.	Range (in mL)	Subdivision (in mL)	Volume Tolerance (in mL)
1.	0 - 0.1	0.05	± 0.02
2.	> 0.1 - 0.3	0.05	± 0.03
3.	> 0.3 - 0.5	0.05	± 0.05
4.	> 0.5 - 1.0	0.10	± 0.05
5.	> 1.0 - 2.0	0.10	± 0.10
6.	> 2.0 - 3.0	0.20	± 0.10
7.	> 3.0 - 5.0	0.50	± 0.20
8.	> 5.0 - 10	1	± 0.50
9.	> 10 - 25	5	± 1.00
10.	> 25.0 - 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.

4.0 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.

Pumping Capacity : 20 litres/minutes
 Temperature Range : Ambient to 90 °C (with water)
 Temperature Control : Jumo relay
 Temperature control accuracy : ± 0.05 °C
 Approximate size (working) : 30 cm x 22.5 cm x 30 cm
 Overall wattage of heaters : 2 KW
 Water capacity : 20 litres.
 Voltage : 220 Volt 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.

5.0 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.

Heater capacity : 1.5 KW.
 Approximate dimensions : 16" x 12" x 4".
 power Supply : 220 V 50 Hz single phase AC supply.

6.0 Portable ORP Monitor**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.

Sensor/Probe:

Pt electrode combination electrode suitable for measurement in cooling waters, waste waters and drinking waters. Should be rugged enough to with stand 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 °C. Preferably sensor should be capable of measuring multiparameter such as pH, ORP, Temperature, etc.

Measurement Range : - 2000 to +2000 Mv
 Resolution : 0.1 mV
 Accuracy : ± 0.2 mV or ± 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.

Other Terms & Conditions:

Document: 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.

Buyer Specific ATC document for “Items for water analysis package” of 3X800 MW Patratu Project

1.	<p>MDCC (Material dispatch clearance certificate) Clause:</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, test reports & 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>Quality Requirement:</p> <p>(i) BHEL / BHEL’s Customer / Nominated third party 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>Pre-Qualification Requirement (PQR):</p> <p>The Pre-Qualification Requirements have been made part of bid as Annexure-A. 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>Techno-Commercial offer of only those bidders shall be evaluated who meet the Pre-Qualification Requirements.</p>
4.	<p>Technical Specification Requirement:</p> <p>1. Please quote your valuable offer as per BHEL Specifications enclosed as Annexure-B</p> <p>2. Bidders are requested to upload point-wise compliance of BHEL Specifications along with the offer as a token of acceptance.</p>

5.	<p>Payment Terms:</p> <ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> - 45 days for Micro and Small enterprises - 60 days for Medium enterprises - 90 days for Non MSME enterprises
6.	<p>Delivery Period:</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 in line to point no. 2.ii mentioned above.</p>
7.	<p>Validity:</p> <p>Offer will be valid for 120 days from bid end date and extensions thereof.</p> <p>BHEL will reserve the right to reject any or all quotations, quoting validity less than 120 days.</p>
8.	<p>Evaluation criteria:</p> <p>Evaluation will be done on the basis of Total Landed cost up to Patratu project site (Total package wise evaluation).</p> <p>Bidders are requested to quote for all 06 items as per BHEL specification. Offer of bidders not quoting for all items covered in tender specification will be rejected straightaway.</p> <p>In case, a bidder has quoted for all 06 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.</p>
9.	<p>Document:</p> <p>One (01) Hard Copy of O&M manual in English language giving complete technical information for operation and maintenance of the equipment including circuit diagram is required to be supplied along with the instrument(s).</p>
10.	<p>Price Basis:</p> <p>Please confirm that prices have been quoted on F.O.R. Patratu site basis.</p>
11.	<p>Installation and Commissioning:</p> <p>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</p>

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. **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 warrantee clause, the offer will be rejected straightaway.

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	Type
EMD for bidders quoting for both items	INR 40,000/- (INR Forty Thousand Only)	Equivalent Foreign currency	Refundable
EMD for bidders quoting for only one (01) item	NIL		

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 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 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 v1.10_02May23

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. 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.

18. 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. "

19. 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:

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- 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;

	<p>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;</p> <p>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;</p> <p>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;</p> <p>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.</p> <p>V. An Agent is a person employed to do any act for another, or to represent another in dealings with third person.</p> <p>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.</p> <p>VII. The registration shall be valid at the time of submission of bid and at the time of acceptance of bid.</p> <p>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.</p> <p>Note: Following declarations would be required from bidders (if applicable):</p> <p>(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.]"</p> <p>(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.</p> <p>OR</p> <p>* 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."</p>
20.	<p>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.</p>

Details of contact person(s)-

<p>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</p>	<p>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</p>
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