ENGINEERING PROJECTS (INDIA) LTD.
(A Govt. of India Enterprise)

NOTICE INVITING TENDER

Tender No ERO/MMD/674/1048 Dated 17.02.2016

TENDER FOR CIVIL AND ELECTRICAL WORKS RELATED TO INSTALLATION OF HVAC SYSTEM IN THE J.C.GHOSH & P.C.ROY SCIENCE BLOCK, IIT KHARAGPUR.

EPI is constructing J.C.GHOSH & P.C.ROY SCIENCE COMPLEX for Indian Institute of Technology (IIT), Kharagpur. Now, IIT-Kharagpur intend to provide centrally air conditioning system in the aforesaid building to mitigate the need of the user.

Sealed percentage rate tenders in two bid system (Techno Commercial and Price bid) are invited by Engineering Projects (India) Ltd.(EPI) on behalf of Indian Institute of Technology (IIT), Kharagpur from eligible & experienced contractors for the following works:

<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Name of Work</th>
<th>Qty.</th>
<th>Estimated Cost</th>
<th>Earnest Money Deposit</th>
<th>Completion Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>CIVIL AND ELECTRICAL WORKS RELATED TO INSTALLATION OF HVAC SYSTEM IN THE J.C.GHOSH &amp; P.C.ROY SCIENCE BLOCK, IIT KHARAGPUR</td>
<td>01 Job</td>
<td>Rs.2,35,39,380.00 (Rupees Two Crore Thirty Five Lakh Thirty Nine Thousand Three Hundred Eighty Only)</td>
<td>Rs. 4,70,788.00 (Rupees Four Lakh Seventy Thousand Seven Hundred Eighty Eight Only)</td>
<td>04 (Four) months</td>
</tr>
</tbody>
</table>

Apart from above, any other services not covered above but required as per direction of EPI are deemed to be included in the scope of work. The work is to be carried out on item rate basis as per bill of quantities and tender conditions.

The detailed scope of work is given in the tender document.

Time schedule of tender activities.

i) Date & Time of sale/downloading of Tender Document: From 17/02/2016 to 02/03/2016 between 11:00 Hrs. IST to 17.00 Hrs. IST

ii) Last Date & Time of Submission of Tenders: 03/03/2016 upto 15.00 Hrs.IST

iii) Date & Time of Opening of Envelope-1 (Techno-Commercial Bid): 03/03/2016 at 15.30 Hrs. IST

In case any unscheduled holiday takes place on the last day of issue of Tender/submission of tender, the next working day will be treated as scheduled day and time for issue/submission of tender.
1. Contractors who fulfill the following basic qualifying requirements are eligible to participate in this tender. The joint ventures are not accepted.

a) Bidder Should have completed /substantially completed during last 7 (Seven) years from the last date of submission of the bid the following “similar works”.

i) Three similar works each of costing minimum 40% of the estimated cost put to this tender.

ii) Two similar works each of costing minimum 50% of the estimated cost put to this tender.

iii) One similar work costing minimum 80% of the estimated cost put to this tender.

One similar work of any nature (either part of i to iii) or a separate one) costing not less than the amount equal to 40% of the estimated cost put to this tender with Central/State Government Organization / Central Autonomous Body / Central Public Sector undertaking.

- Similar works shall mean “Building with External Electrical installation works” and The bidder should have executed the work of supply, installation, testing, commissioning of at least one transformer of 1000 KVA capacity or more”

- The cost of free issue materials shall not be included in the completion cost of works.

- For evaluation purpose, the completion cost of works mentioned in the completion certificate shall be enhanced by 7% per annum till the end of month prior to date of NIT.

The substantially completed works shall be the works where at least 90% billing of total awarded value has been achieved. The certificates issued by client with billed value of work shall form the basis of evaluation.

b) Should have had Average Annual Financial Turnover of not less than 30% of the estimated cost of the work in the last three consecutive years ending 31.03.2015 duly certified by a Chartered Accountant.

c) Should not have incurred any loss in more than two years during the immediate last five consecutive financial years ending 31.03.2015. Copies of balance sheet / certificate from Chartered Accountant to be submitted.

d) Should have a Solvency of 40% of the estimated cost issued by a Bank. The Solvency Certificate should not have been issued earlier than one year of last date of submission of the tender.

e) Should have valid Permanent Account Number of Income Tax and Service Tax Registration number.

f) Should have valid PF Registration number. It is desired that bidder should have valid VAT
Registration number in the State of West Bengal. In case the bidder do not have valid VAT registration number, the same shall be obtained by the successful bidder within one month from the date of LOI or before release of 1st R/A bill whichever is earlier.

g) Should have latest Sales Tax clearance Certificate.

h) Bid Capacity: The bidding capacity of the contractor should be equal to or more than the estimated cost of the work put to Tender. The bidding capacity shall be worked out by the following formula:

\[ \text{Bidding Capacity} = [A \times N \times 2] - B \]

Where,

\( A \) = Maximum value of construction works executed in any one year during the last five years taking into account the Completed as well as works in progress ending last day of the month previous to the one in which applications invited:

\( N \) = Number of years prescribed for completion of work for which bids have been invited.

\( B \) = Value of existing commitments and ongoing works to be completed during the period of completion of work for which bids have been invited. The Tenderers are requested to furnish the existing commitments on works under execution along with stipulated period for completion of remaining each of the work in an affidavit in non-judicial stamp paper for a value of Rs. 100/- duly certified that the particulars furnished are correct as per the Proforma in Annexure –A.

Even though an applicant may satisfy the eligibility criteria, EPI reserves the right for not issuing the tender document if the applicant has record of poor performance such as abandoning work, not properly completing the work, delay in completion of work, poor quality of work, financial failure / weakness etc.

2. Tenderers have to submit confirmation letter whether they are registered under MSME Act or not, if yes, then to submit relevant copies of the registration letter (in the form of Memorandum -2 with the concerned DIC) in envelop-1 i.e. Techno-commercial part and the party will be exempted from submission of tender fee and EMD.

3.0 Tender documents comprising of the following are available on the website of EPI: www.epi.gov.in/ CPP Portal

(i) Notice Inviting Tender and Annexure-A
(ii) Instruction to Tenderers, General Conditions of Contract (available in EPI’s website), Addendum to Instruction to Tenderers, Memorandum, Form of Tender & Letter of Undertaking – (Vol-I)
(iii) Additional Conditions of Contract, Technical Specification and Tender Drawings - (Vol-II)
(iv) Bill of Quantity & Quoting Sheet - (Vol-III)

4.0 The complete tender documents can be downloaded by the intending bidders directly from EPI website www.epi.gov.in and cpp portal www.eprocure.gov.in. The tender fees of Rs.5,000.00 (Rupees Five Thousand only) (Non-Refundable) by Crossed Demand Draft /Pay Order favouring “Engineering Projects (India) Ltd.”, payable at Kolkata shall be submitted by the bidder alongwith their bid in Envelope-1. Relevant experience certificates and other documents as mentioned above Cl 1.0 (a) to 1.0 (i) duly attested by Gazetted Officer not below the rank of Executive Engineer or equivalent or Notary Public fulfilling the qualifying criteria shall be enclosed in Envelope-1. Completion Certificates from clients shall be in the name of the Company who is submitting the tender. The bidder has to
produce original documents for verification at the time of opening of tender or as and when demanded. The Tender of any tenderer shall be rejected if on detailed scrutiny, documents submitted along with the tender are found to be unsatisfactory. The decision of EPI in this regard shall be final and binding on the tenderer.

Tender documents can also be obtained from General Manager (MMD), Engineering Projects (India) Ltd. 50, Chowringhee Road Kolkata-700071 from 11:00 Hrs to 17:00 Hrs IST on all working days (Monday to Friday) except Public Holidays, on submission of request letter along with tender fees of 5,000.00 (Rupees Five Thousand only) (Non-Refundable) by Crossed Demand Draft favouring “Engineering Projects (India) Ltd.”, payable at Kolkata and relevant experience certificates and other documents as mentioned above (Cl.1.0. (a) to 1.0 (i) duly attested by Gazetted Officer not below the rank of Executive Engineer or equivalent or Notary Public fulfilling the qualifying criteria. Issuance of Tender Documents shall, however, not construe that the tenderer is considered qualified for the tender work and the same may be rejected if on detailed scrutiny, the documents submitted along with the tender are found to be unsatisfactory./forged. Decision of EPI in this regard shall be final and binding on the Tenderer.

5.0 The experience certificates issued by Government Organizations / Semi Government Organizations / State Government Public Works Department / Central Government / Public Sector Undertakings / Autonomous Bodies / Municipal Bodies / Public Limited Companies listed on BSE / NSE and private party shall be accepted for assessing the eligibility of the tenderer. However, the certificates issued by Public Limited Company & Private Party must be supported by TDS certificates / Turnover Certificate from Chartered Accountant in support of value of work done by the tenderer.

6.0 Completion certificates from the client shall be in the name of the company who is submitting the tender.

7.0 Issuance of Tender Documents to any Tenderer shall, however, not construe that the Tenderer is considered qualified for the tender work and the same may be rejected if on detailed scrutiny, the document submitted along with the tender are found to be unsatisfactory. The decision of EPI in this regard shall be final and binding on the Tenderer.

8.0 All Tenders shall be accompanied by Earnest Money Deposit as stated above. This can be in the form of Crossed Demand Draft or Pay Order of any Nationalized Bank / Scheduled Bank for the full amount of EMD payable favouring, “Engineering Projects (India) Ltd.”, payable at Kolkata or in the form of Bank Guarantee of any Nationalized Bank / Scheduled Banks, in accordance with the prescribed format of EPI (given at page no. 100 of GCC, favouring “Engineering Projects (India) Ltd.”. The EMD shall be valid for a minimum period of 150 days (One Hundred Fifty Days) from the last day of submission of Tender. Tenders submitted without tender fee (in case of downloaded ) and EMD or with inadequate amount of tender fee & EMD shall be rejected.

9.0 The offer shall remain valid for a period of 90 days from the last date of submission of offer.

10.0 The Terms & Conditions contained in the NIT and tender document should be applicable.

11.0 Tender documents shall be issued by and submitted to:

General Manager (MMD)
Engineering Projects (India) Ltd.
50, Chowringhee road
12.0 EPI reserves the right to accept any tender or reject any or all tenders or annul this tendering process or split the tender without any reason and liability whatsoever and to re-invite tender at its sole discretion. The corrigendum, extension, cancellation of this NIT, if any, shall be given on EPI’s website: www.epi.gov.in only. All Corrigendum and addendum are to be submitted duly signed & stamped on each page as token of acceptance. The intending Tenderers are requested to visit EPI’s website regularly for this purpose.

13.0 The corrigendum or addendum, extension, cancellation of this NIT, if any, shall be hosted on the EPI’s website www.epi.gov.in /CPP portal www.eprocure.gov.in . The bidders are required to check EPI’s website/CPP Portal regularly for this purpose, to take into account before submission of tender.

14.0 All corrigendum and addendum shall be part of the tender document and are to be submitted duly signed and stamped by tenderer. Even if tenderer fails to submit corrigendum and addendum duly signed by him, it will be deemed that the tenderer have gone through such corrigendum /addendum, if any, and no claim shall be entertained by EPI on account of any omission /error on his part.

15.0 The price bid of those bidders whose bid has been technically accepted on the basis of documents submitted shall be opened with prior intimation to them. However, it is made clear that the offer of the L-1 (Lowest) bidders shall be accepted subject to the confirmation of authenticity of the PQ documents/ EMD/Tender fee/BG from the concerned department /bank.

16.0 In case of tie-tender, where two firms are biding lowest, EPIL reserve the right to split the work among those bidders and / or EPIL will reserve the right to award the tender to any one of such bidder.

17.0 The tender documents shall be submitted to:

General Manager (MMD)
Engineering Projects (India) Ltd.
50, Chowringhee road
Kolkata-700071

18.0 Contact details for site related Queries / Visit :
    Shri  M Roy, Addl GM
    Engineering Projects (India ) Ltd.
    Science block,
    Indian Institute of Technology
    Kharagpur- 721302,
    Mob- 9874955525

Dated: 17.02.2016                   General Manager
BID CAPACITY

NAME OF THE WORK : TENDER FOR CIVIL AND ELECTRICAL WORKS RELATED TO INSTALLATION OF HVAC SYSTEM IN THE J.C.GHOSH & P.C.ROY SCIENCE BLOCK, IIT KHARAGPUR.

NIT No: ERO/MMD/674/1048

ESTIMATED COST PUT TO TENDER : Rs. 2,35,39,380/-

**Bid Capacity**: The bidding capacity of the contractor should be equal to or more than the estimated cost of the work put to Tender. The bidding capacity shall be worked out by the following formula:

\[
Bidding Capacity = \left[ A \times N \times 2 \right] - B
\]

Where,
- \( A \) = Maximum value of construction works executed in any one year during the last five years taking into account the completed as well as works in progress
- \( N \) = Number of years prescribed for completion of work for which bids have been invited
- \( B \) = Value of existing commitments and ongoing works to be completed during the period of completion of work for which bids have been invited \( \text{(Format enclosed)} \)

**BID CAPACITY CALCULATION BY BIDDER**

SIGN & STAMP OF BIDDER
AFFIDAVIT

(To be typed on Rs. 100/- non-judicial stamp paper)

I/We ..................................................................aged ..........years son of ..................................do hereby solemnly affirm and declare as follows for and on behalf of the Firm:

LIST OF EXISTING COMMITMENT AND ONGOING WORKS

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Name of Works</th>
<th>Client Name &amp; Address</th>
<th>Work Order Value (in Rs)</th>
<th>Work Executed till Date (Rs)</th>
<th>Balance Amount of work to be completed (Rs)</th>
<th>Balance period to complete the works (Total months)</th>
<th>Work to be completed in 12 month</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
</tr>
</tbody>
</table>

Balance Commitments during 12 month as per NIT Rs

It is certify that the above particulars furnished are true and correct. If any information given is found to be concealed at a later date, the Contract will be terminated forthwith without prejudice to the rights thereon consequent on termination and the bidder will be blacklisted.

I/We agree for debarring tendering for one year if any facts are suppressed.

Signature of Notary Public

SIGN AND STAMP OF BIDDER
ADDITIONAL CONDITIONS OF CONTRACT (ACC)

1.0 The following Additional Conditions of Contract shall be read in conjunction with General Conditions of Contract. If there are any provisions in these Additional Conditions of Contract, which are at variance with the provisions of General Conditions of Contract, the provisions in these Additional Conditions of Contract shall take precedence.

2.0 INTRODUCTION
EPI is constructing J.C.GHOSH & P.C.ROY SCIENCE COMPLEX for Indian Institute of Technology (IIT), Kharagpur. Now, IIT-Kharagpur intend to provide centrally air conditioning system in the aforesaid building to mitigate the need of the user.

3.0 SCOPE OF WORK INCLUDED IN THE CONTRACT

The brief scope of work included in this tender shall include (but not limited to) Civil, Plumbing, Sanitary, Internal & External Electrical including installation of transformer, PCC Panel required for central Air conditioning System (HVAC), for J.C.Ghosh & P.C.Roy Science block at IIT Kharagpur.

Apart from the above, any other services not covered above but required as per direction of Engineer In-charge of EPI are deemed to be included in the scope of work. The work is to be carried out as per bill of quantities and tender conditions.

4.0 CO-OPERATION /CO-ORDINATION

Works of the J.C.Ghosh & P.C.Roy Science block is still going on. The bidder has to execute the work with proper coordination with the executing contractor/sub-agencies working there.

However, if due to negligence, non cooperation of the bidder or his associates during execution of the work of the J.C.Ghosh & P.C.Roy Science block suffers damage, loss etc. if any, the same should be got rectified/made good by the bidder at his own cost failing which EPI may get the said rectification/making good done by other agencies and the cost of the same will be recovered from the bidder. The decision of EPI regarding extend of rectification and cost thereof will be final and binding on the bidder.

5.0 DISQUALIFICATION

The tenderers may note that they are liable to be disqualified and not considered for the opening of Price Bid if;

a) Representation in the forms, statements and attachments submitted in the prequalification document are proved to be incorrect, false and misleading.
b) They have record of poor performance during the past 7 years such as abandoning the work, rescinding of contract of which the reasons are attributable to the non-performance of the contractor, inordinate delay in completion, consistent history of litigation / arbitration awarded against the contractor or any of its constituents or financial failures due to bankruptcy etc. in their on-going / past projects.

c) They have submitted incompletely filled in formats without attaching certified supporting documents and credentials to establish their eligibility to participate in the Tender.

d) If the tenderers attempt to influence any member of EPI.

5.1 EPI reserves its right to take appropriate action including disqualification of tenderer(s) and forfeiture of the earnest money deposited by him/them as may be deemed fit and proper by EPI at any time without giving any notice to the tenderer(s) in this regard. The decision of EPI in the matter of disqualification shall be final and binding on the tenderers.

5.2 The set of tender documents shall contain tender drawings (one set of hardcopy). The original hard copy of tender drawings shall be returned along with the tender documents duly signed and stamped by the tenderer & shall form part of agreement.

6.0 SPECIFICATIONS

6.1 The work in general shall be carried out as per latest CPWD/ WB PWD specifications, for Civil Works, Internal Electrical works (updated with correction slips issued up to last date of submission of tender) and latest CPWD specification, New Delhi for electrical works (updated with correction slips issued up to last date of submission of tender) unless otherwise specified in the nomenclature of the individual item of the particular specifications of concerned items of works.

6.2 For items not covered under latest CPWD specification for Civil Works/ latest CPWD specification for Electrical Works, Fire fighting works and in particular specification or nomenclature of the individual item as above, the work shall be done as per latest relevant BIS codes of practice.

6.3 In case any specification is not covered under para 6.1 & 6.2 above the work shall be carried out as per the provisions of technical specification attached with this tender.

6.4 In case of non availability of any specification in the above paras or any overlapping provisions, non-clarity of any issue, applicability of particular provision out of above shall be decided by Engineer-in-charge whose decision shall be final & binding on the contractor.

6.5 Thermo Mechanically Treated bars conforming to IS: 1786, Fe 500 grade as required, from approved manufacturers viz SAIL/RINL/TISCO shall be used. Incase of non
availability of steel of these makes, TMT bars of other manufacturers as per IS 1786, Fe 500 grade as required, may be allowed to be used with the prior approval of Engineer-in-charge. In case TMT bars from manufacturer other than SAIL/RINL/TISCO is allowed to be used, a deduction of Rs. 2 (two) per Kg shall be made from the bills of the contractor. The other provisions of clause 45.2 of GCC remains unchanged.

6.6 Ordinary Portland Cement (OPC) as per IS:8112 shall be used on the works. In case of non-availability of ordinary Portland cement, the Portland Pozzolona Cement (PPC) as per IS:1489-1991 can be used. However, in case of using Portland Pozzolona Cement prior approval is to be taken from Engineer-in-charge. The other provisions of clause 45.1 of GCC remain unchanged.

7.0 **CLAUSE NO 69.1 OF GCC STANDS MODIFIED AS UNDER:**

If the rates of the altered, additional or substituted work cannot be determined in the manner specified in sub-clauses (i) to (iii) above, then the Contractor shall, within 7 days of the date of receipt of the order inform the Engineer-in-Charge the rates which he intends to charge for such class of work, supported by analysis of the rate or rates claimed, and the Engineer-in-Charge shall determine the rate or rates on the basis of prevailing market rates of the material, labour, T& P etc. plus 10% (Ten percent) to cover the Contractors supervision, overheads and profit and pay the Contractor accordingly. The opinion of the Engineer-in-Charge as to the current market rates of materials and quantum of labour involved per unit of measurements will be final and binding on the contractor. However, the Engineer-in-Charge, by notice in writing, will be at liberty to cancel his order to carry out such class of work and arrange to carry it out in such manner, as he may consider advisable. But under no circumstances, the Contractor shall suspend the work on the plea of non-settlement of rates of items falling under the clause.

8.0 **THE CLAUSE NO. 72.1 OF GCC SHALL BE REPLACED AS UNDER:**

The contractor shall ensure satisfactory progress during the execution of work according to the detailed Bar Chart/PERT chart so that the activities are completed in the period allowed in the completion schedule as given at Sl. No.11.0 of Additional Conditions of Contract (ACC). The contractor should submit the weekly progress report as per format approved by Engineer-in-charge. However, the Contractor shall also maintain monthly progress strictly in accordance with bar chart and / or detailed time schedule that will be worked out on the basis of completion schedule for various stages mentioned at Sl. No. 9.0 of ACC. If the Contractor fails to maintain the required progress in terms of clause no 72.4 of GCC or relevant clause of additional conditions of contract to complete the work and clear the site on or before the completion date or extended date of completion, he shall without prejudice to any other right or remedy available under the law to EPI on account of such breach, pay compensation the amount calculated at the rate of 1% per week or part there of subject to 10% of the total contract value as awarded.
9.0 CLAUSE NO. 72.4.1 OF GCC STANDS MODIFIED AS UNDER:
Within 10 (Ten) days of date of Letter of Intent, the contractor shall submit a Time and Progress Chart (CPM/PERT/Quantified Bar Chart) and get it approved by the Engineer-in-Charge. The chart shall be prepared in direct relation to the time stated in the contract documents for completion of items/ scope of the works. It shall indicate the forecast (mile stones) of the dates of commencement and completion of various items trades, sections of the work and may be amended as necessary by agreement between the Engineer-in-Charge and the Contractor within the limitations of time imposed in the contract documents, to ensure good progress during the execution of the work. The physical report including photographs shall be submitted by the contractor on the prescribed format & the intervals (not later than a month) as decided by the Engineer-in-Charge. The compensation for delay as per clause 72.1 (revised as per ACC) shall be leviable at intermediate stages also, in case the required progress is not achieved to meet the time deadlines of the completion period and /or milestones of time and progress chart provided always that the total amount of compensation for delay to be paid under this condition shall not exceed 10% of the tendered value of work.

10.0 ARBITRATION:

10.1 Clause no. 76.1 along with note of GCC - Deleted

10.2 Clause no. 76.2 of GCC - ARBITRATION BETWEEN CENTRAL PUBLIC SECTOR ENTERPRISES INTER SE / GOVERNMENT OF INDIA DEPARTMENTS / MINISTRIES

i) In the event of any dispute or difference relating to the interpretation and application of the provisions of the contract, such dispute or difference shall be referred by either party to the arbitration as per the instructions (Office Memorandum / Circulars) issued by Govt. of India from time to time with regard to arbitration between one Government Department and another, one Government Department and a Public Sector Enterprise and Public Sector Enterprise inter se.

   ii) Subject to any amendment that may be carried out by the Government of India from time to time, the procedure to be followed in the arbitration shall be as is contained in D.O. No.DPE/4/(10/2001-PMA-GL-1 dated 22.01.2004 of Department of Public Enterprises, Ministry of Heavy Industries and Public Enterprises, Government of India or any modification issued in this regard.

10.3 Clause No. 76.3 of GCC, stands modified as under:

   JURISDICTION:
The courts in Kolkata alone will have jurisdiction to deal with matters arising from the contract, to the exclusion of all matters.

11.0 COMPLETION PERIOD

The completion period for the total work is 4 (Four) months to be reckoned from the 10th day from the date of issue of LOI/ Work Order

12.0 PLANT & MACHINERY

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Description</th>
<th>Minimum numbers required</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Concrete Batch Mixer (Min 4 Bag capacity)</td>
<td>One</td>
</tr>
<tr>
<td>2.</td>
<td>Leveling Instruments</td>
<td>One</td>
</tr>
<tr>
<td>3.</td>
<td>Vibrators (Petrol / Electrical)</td>
<td>Two</td>
</tr>
<tr>
<td>4.</td>
<td>Needles of Vibrator</td>
<td>Six</td>
</tr>
<tr>
<td>5.</td>
<td>Concrete Mixers alongwith weigh batcher</td>
<td>Two</td>
</tr>
<tr>
<td>6.</td>
<td>Lighting Equipment</td>
<td>As per Requirement</td>
</tr>
<tr>
<td>7.</td>
<td>Electrically operated Concrete Cube Testing Machine with Digital Indication</td>
<td>One</td>
</tr>
<tr>
<td>8.</td>
<td>Tools and tackles for Electrical Installation works</td>
<td>As per Requirement</td>
</tr>
</tbody>
</table>

Note:

a) Any other equipment for site test as outlined in CPWD/BIS specification and as directed by the Engineer-in-Charge.

b) The quantities of equipments indicated are tentative and can be increased as per the requirement of work OR as per the direction of Engineer-in-Charge. The above equipment list is indicative and not complete. The contractor has to deploy all the required equipment to complete all the works within stipulated specifications & time period as contract documents.

c) The contractor will not be allowed to take out equipments from the site without the written permission of Engineer-in-Charge.

13.0 TECHNICAL MANPOWER REQUIREMENT

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Description</th>
<th>Minimum numbers required</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Site-in-Charge, Engineering graduate with eight years of experience / DCE with ten years of</td>
<td>One</td>
</tr>
</tbody>
</table>
2. Site Engineer, BE (Electrical) and BE (Civil) with five years of experience  One Each

3. Billing Engineer, DCE with five years of experience  One

4. Quality control and Survey Engineer, DCE with five years of experience  One

5. Safety Officer (with 5 year Experience)  One

Rate of Recovery in case of non-compliance of above manpower are as follows:

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Qualification</th>
<th>Experience (Years)</th>
<th>Rate of Recovery</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Site-in-Charge, Engineering graduate with eight years of experience / DCE with ten years of experience</td>
<td>10</td>
<td>Rs.60,000/- per month</td>
</tr>
<tr>
<td>2.</td>
<td>Site Engineer, BE (Electrical) and BE (Civil) with five years of experience</td>
<td>5</td>
<td>Rs.40,000/- per month</td>
</tr>
<tr>
<td>3.</td>
<td>Billing Engineer, DCE with five years of experience</td>
<td>5</td>
<td>Rs.25,000/- per month</td>
</tr>
<tr>
<td>4.</td>
<td>Quality control and Survey Engineer, DCE with five years of experience</td>
<td>5</td>
<td>Rs.25,000/- per month</td>
</tr>
<tr>
<td>5.</td>
<td>Safety Officer (with 5 year Experience)</td>
<td>5</td>
<td>Rs.25,000/- per month</td>
</tr>
</tbody>
</table>

If the contractor fails to deploy the technical manpower stated above, EPI reserves the right to deploy the technical manpower and the cost of the same shall be recovered from the contractor.

14.0 FINAL BILL

The final bill will be submitted by the contractor within 90 days from the date of acceptance of completion of work accompanied by the following documents:

a) Completion certificate issue by the Engineer-in-Charge specifying the handing over of the work including list of inventories (fittings & fixtures).
b) Computerized stage wise payment schedule.

c) No claim certificate by the contactor.

d) No claim certificate from the sub-agencies / vendors engaged by the contractor.

e) ‘As built’ drawings.

f) Periodical services and measurement books.

g) Drawings for layout of underground cables and details showing location of electric cable joints etc.

h) All operation and maintenance manuals.

i) All statutory approvals from various state / central govt. local bodies, if required for completion & handing over of the work as included in scope of Contractor.

j) Manufacturer’s guarantee of various machines / equipments installed as part of works.

15.0 CONCRETING

15.1 The concreting shall be machine mixed with equipment as approved by Engineer-in-Charge. The contractor may opt to use Ready Mixed Concrete of repute make after obtaining prior approval from the Engineer-in-Charge.

15.2 The contractor shall provide construction joints only at the specified positions and as per BIS codes for columns. In case the concreting is to be done in two lifts the minimum height of first lift of columns shall be 1.5 meters.

15.3 The stone aggregate and sand of required zone shall be from the quarries as approved by Engineer-in-Charge. The samples of the materials shall be got approved along with the mix design.

15.4 Plasticizers of the required specification and make shall only be permitted as per approved mix design. The cost of plasticizers / additives is deemed to be included in the rates of concrete & nothing extra shall be payable on this account.

15.5 Ready mix concrete brought from outside sources or produced at site shall have minimum quantity of cement as specified in BIS specifications and as per approved design mix.

15.6 The contractor shall provide all cut outs in RCC work in Co-ordination with other agencies and as per instructions of Engineer-in-Charge and nothing extra shall
be payable. In case the same is not provided by the Contractor the same shall be got done at their risk & cost.

16.0 BRICK WORK.

16.1 The brick should be minimum class designation 75 conforming to IS 1077:1992.

16.2 The brick work for all external wall should be done from outside. The rigid scaffolding of MS pipe and the supports shall be sound and strong, with horizontal MS pipe. The contractor shall be responsible for providing and maintaining sufficiently strong scaffolding so as to withstand all loads likely to come upon it. Due care shall be taken by the contractor to ensure the execution sufficient quantity of scaffolding foe this purpose so as to complete the project within stipulated time.

16.3 Fly ash brick works shall be with the bricks of specified grade & source as approved by Engineer-in-Charge and no efflorescence die to salt peter shall be allowed. The contractor shall have to give proper treatment in any such case and nothing extra shall be payable and the rates quoted shall be all inclusive.

17.0 CENTERING & SHUTTERING

17.1 Centering & shuttering works for columns shall be made out of laminated shuttering plywood of minimum 12mm thickness as per BIS, with angle iron frame. The centering, shuttering and staging system shall be got approved from the Engineer-in-charge.

17.2 The shuttering used for beam shall be of laminated shuttering plywood as per BIS. The support system shall be integrated with the slab. For slabs in case plywood shutters is not used, welded steel plates will be allowed to be placed in uniform pattern. The thickness of plates and pattern to be got approved from the Engineer-in-charge.

17.3 All joints in the shuttering i.e. plate to plate etc shall have to be sealed with adhesive / foam, to ensure water tightness of the form work.

17.4 All shuttering work for Architect features shall be with fiber glass mould sand the rate quoted by the contractor in the schedule of rate shall be inclusive of same.

17.5 All shuttering joints the slab, beams and lintels etc shall be treated with tape or required width to make it water tight and the rates quoted for centering shuttering work shall be all inclusive and nothing extra whatsoever shall be payable over and above the quoted price.

17.6 The shuttering shall be tightened by using runners, tie rods and bracing etc. Supports shall be adequate and proper.
18.0 GENERAL

18.1 Flooring works shall be executed as per the approved drawings / design & specifications. The pattern shown in the tender drawings, if any, and be modified as per the site requirements by Engineer-in-charge within the proportions of the flooring materials to be provided and nothing extra whatsoever shall be payable over and above the rate quoted.

18.2 The water proofing for the terraces, underground tanks / toilet floor etc., shall begot executed only through the authorized applicators of the manufacturers and the guarantee for the same shall be in the name of EPI / owner for a period of ten years after the expiry of defect period liability on the prescribed format given in the GCC.

18.3 Plumbing & Sanitary work to be executed by licensed plumber and the plumbing scheme / drawing to be got approved from statutory authorities through the appointed licensed plumber without any extra cost. The agency shall have to submit the valid license of plumbers before starting the work.

18.4 CI pipes for sanitary and GI pipes for water supply if fixed in RCC members like columns, beams etc. shall be fixed with scrub plugs.

18.5 The contractor shall be responsible for all protection of sanitary, water supply electrical fittings & fixture against pilferage, breakage during period of installation until the completion of work and handed over to EPI.

18.6 Welding wherever required in the work like in grill, railing etc. shall be done in full length of the contract area and grinding shall be done properly to get an even surface, SGRC covers for manholes etc. if provided, shall have name of owner / client and year of manufacturer as engraved.

18.7 The electrical works shall be executed only through licensed electrician and the agency shall have to submit the valid license of electricians before starting the work.

18.8 It will be the sole responsibility of contractor to obtain all statutory approvals / compliance required for construction / implementation of the project including right of way Forest clearance and completion clearance from the all relevant statutory bodies for plumbing, sewerage, sanitary and PHE work, fire department for fire protection, fire fighting, fire fighting installation, electrical works etc. and for all other services as included in the scope of contract etc. From the concerned department as required within the stipulated time frame. Liaison work on behalf of EPI / owner with the local bodies will also have to be done by the contractor. Nothing extra shall be payable to contractor on this account.
18.9 The contractor shall make necessary safety arrangements at site including as mentioned in GCC and indemnity EPI against any consequence of accident at site.

18.10 The tenderer shall engage specialized agency having adequate technical Capability & experience of having executed Fire Fighting & Fire Alarm works. The specialized agency for the work shall be got approved by Engineer-in-charge well before actual commencement of the respective items of work.

18.11 The contractor shall erect GI sheet fencing along the periphery of the site as per drawing of EPI with proper colour as directed by the Engineer-in-charge and name/logo, safety slogan etc. written at appropriate places within ten days of issue of LOI. The contractor shall be responsible for daily cleaning of this fencing with water etc. to keep the fencing in neat & clean condition at all times. The damaged fencing should be replaced immediately by the contractor. The cost of MS sheet fencing, its maintenance etc. is deemed to be included in the quoted rates. The contractor shall engage sufficient number of security guards at his cost to ensure controlled entry to site and not to allow unauthorized personnel at site.

18.12 The contractor shall have to execute the work in pace and in such a way to facilitate agencies engaged simultaneously for execution of other works required for completion of the Building. No claim shall be entertained due to work being executed in the above circumstances.

18.13 Unless otherwise specified in the schedule of quantities, the rates tendered by the Contractor shall be all inclusive and shall apply to all heights, floors including Terrance, leads and depths and nothing extra shall be payable on this account.

18.14 On completion of work, the tenderer shall submit at no extra payment four prints of “as built” drawings to Engineer-in-Charge.

19.0 QUALITY ASSURANCE PROGRAMME

The following paragraph shall be added to clause no 81.0 of General Conditions of Contract (GCC) as under: I

The quality testing of materials are to be done as per the frequency of sampling & testing prescribed in relevant code of different items of works, all mandatory tests of materials shall be conducted at site laboratory and the tests not possible at site shall be tested outside through reputed laboratories like Regional Engineering College (NIT)/Government Engineering College / National Test House / IIT/ M/s Shriram Test lab. Private Engineering College & polytechnic college are not allowed for testing.
20.0 MOBILIZATION ADVANCE:-

Clause 8.0 of General Conditions of Contract is deleted.

21.0 FACILITIES

The sub-clause 28.3 of the clause no. 28 of General Conditions of Contract (GCC) for Furnished Office Accommodation & Mobility and Communication to be provided by the Contractor to EPI shall be replaced and read as under:-

The contractor shall make his rates in Bill of Quantities sufficiently comprehensive to cover the cost of the facilities as per details shown below and the contractor shall not be entitled for any extra payment for the same.

<table>
<thead>
<tr>
<th>Description</th>
<th>Unit</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. OFFICE WITH FACILITIES – The contractor is to provide Office with following facilities till defect liability period.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A (i) OFFICE ACCOMODATION</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Furnished office accommodation at one or more locations as per direction of Engineer-in-Charge with basic amenities like toilets, drinking water arrangement, lights, other facilities for winter and summer season etc. for exclusively EPI’s Engineer &amp; Staff and maintenance of the same till Defect Liability Period</td>
<td>Sq.Ft</td>
<td>200</td>
</tr>
<tr>
<td>(ii) FURNITURE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Office Tables</td>
<td>Nos.</td>
<td>2</td>
</tr>
<tr>
<td>Office Chairs</td>
<td>Nos.</td>
<td>4</td>
</tr>
<tr>
<td>Executive Table &amp; Chair Set</td>
<td>Nos.</td>
<td>2</td>
</tr>
<tr>
<td>Steel Almirah (Big)</td>
<td>Nos.</td>
<td>1</td>
</tr>
<tr>
<td>b) Office Boy on full time basis only for EPI.</td>
<td>No.</td>
<td>01</td>
</tr>
</tbody>
</table>

In case the above facilities are not provided by the tenderer within 10 (ten) days of award of work or replacement is not provided within the specified period, EPI shall arrange the same at the risk and cost of the tenderer and make the recoveries from the bills of the tenderer for the same. The decision of EPI shall be final and binding on the tenderer in this regard.
22.0 SITE LABORATORY

22.1 As part of the contract the contractor shall establish and maintain a site laboratory for the testing of construction material under the direction and general supervision of Engineer-in-charge. The laboratory room shall be constructed and installed with the required and appropriate facilities. Temperature and humidity controls shall be made available wherever necessary during the testing of samples.

All equipment as required shall be provided by the contractor so as to be compatible with the testing requirements specified. The contractor shall maintain the equipment in good working conditions for the duration of the contract. The Contractor shall provide approved qualified personnel to run the laboratory for the duration of the contract. The number of staff and equipment available must at all times be sufficient to keep pace with the sampling and testing program as required by Engineer-in-charge. The contractor shall fully service the site laboratory and shall supply everything necessary for its proper functioning including all transport needed to move equipment and samples to and from sampling points on the site etc. The contractor shall re-calibrate all measuring devices whenever so required by the Engineer-in-charge and shall submit the results of such measurements without delay.

23.0 ALTERATION IN SPECIFICATION, DESIGN AND DRAWING

The Engineer-In-Charge shall have power to make any alterations in, omissions from, additions to or substitutions for, the original Specifications, Drawings, Designs and Instructions that may appear to him to be necessary during the progress of the work, and the contractor shall carry out the work in accordance with any instructions which may be given to him in writing signed by the Engineer-In-Charge and such alterations, omissions, additions or substitutions shall not invalidate the contract and any altered, additional or substituted work which the contractor may be directed to do in the manner above specified as part of the work shall be carried out by the contractor on the same conditions in all respects on which he agreed to do the main work. The rates for such additional, altered or substituted work under this clause shall be worked out in accordance with the provisions stipulated in the clause no. 69.0 of the General Conditions of Contract.