

INDIAN INSTITUTE OF MANAGEMENT SHILLONG
Umsawli, Shillong-793018

Website: www.iimshillong.ac.in

Tender No: K1-1105/6/2022-ENGG/

Dated 06 /Dec/2022



Notice Inviting e-Tender (NIeT)

For

**APPOINTMENT OF THIRD-PARTY QUALITY CONTROL
ASSURANCE AGENCY FOR CONSTRUCTION WORKS AT IIM
SHILLONG**

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Dated : 06/Dec/2022

DETAILED NOTICE INVITING e-TENDER

Online tenders, in two bid system are invited on behalf of Director, IIM Shillong from eligible, experienced agencies /vendors for **“Appointment of Third-Party Quality Control Assurance Agency For Construction Works at IIM Shillong”**

NIT No	K1-1105/6/2022-ENGG
Name and Location of Work	Appointment of Third-Party Quality Control Assurance Agency For Construction Works at IIM Shillong
Estimated Cost:	Rs 1.13 Cr
EMD (Ernest Money Deposit) Refundable	Rs. 2,26,000/- to be paid via following Payment link Online:- https://erp.iimshillong.ac.in/fee/PaymentPortal/GeneralPayment.aspx?p=unPpDMmNMgyLM9LLfrXUhXoSTjyLVw6DxTjCWVtMbdUcKbkE3r0UFLkPPJBynvMDXRqO%2fzeI4vkmz6F%2bzlyKinmZQKaoalkpZoN2UnUggIq%2fB2bIwL8v4TnBhXAypZBLyOLzMUv7h5z%2f3vMHCXRbwcEfSX5UZFWb0HG7xL4FUpM%2f%2bO%2f9BGXAIPFqX1pvCLi a1sgwYN8RTik%3d
Date of Completion of the Work	As per the work completion schedule (original as well as revised) of existing construction works/ upcoming construction work as per Section No 4.4.12 of Scope of Work
Date of Issue/e-Publishing at CPPP website https://eprocure.gov.in/eprocure/app	06 Dec 2022 at 19:00 Hrs
Document Download Start Date and time at CPPP website https://eprocure.gov.in/eprocure/app	06 Dec 2022 at 19:00 Hrs
Document Download End Date and Time at CPPP website https://eprocure.gov.in/eprocure/app	28 Dec 2022 at 15:00 Hrs
Tender Queries should reach by	Latest by 12 Dec 2022 till 17:00 Hrs. Tender queries received later than the date and time as mentioned above shall not be entertained. Pre-Bid queries should only be emailed to spo@iimshillong.ac.in .
Pre Bid Meeting	A pre-bid meeting shall be held at IIM Shillong on 15 Dec 2022 at 2:30 PM , for clarifications relating to the work or bid document, if any.
Last Date and Time for receipts of Tender online at CPPP website	28 Dec 2022 till 15:00 Hrs

https://eprocure.gov.in/eprocure/app	
Date and Time for opening of Tender at CPPP website https://eprocure.gov.in/eprocure/app	29 Dec 2022 at 16:00 Hrs
Date and Time for Financial Evaluation at CPPP website https://eprocure.gov.in/eprocure/app	To be declared after successful evaluation of technical bid documents.
No. of Bids	02 (Two bids) {Technical and Financial}
Bid Validity days	90 days (From the date of opening of financial bid)
Address for correspondence	Store and Purchase Office, IIM Shillong, Umsawli, East Khasi Hills, Shillong-793018, Meghalaya Office Contact No : 0364-2308012/2308070 Email: spo@iimshillong.ac.in

Sd/-

Chief Administrative Officer
IIM Shillong

1.0 INSTRUCTIONS FOR ONLINE BID SUBMISSION:

- 1.1. Bidders would be required to register on the Central Public Procurement Portal at <https://eprocure.gov.in/eprocure/app> using a valid Digital Signature Certificate (DSC) and valid email address to be able to participate in the bidding process. On registration with the Portal they will be provided with a user id and password by the system through which they can submit their bids online.
- 1.2. Digital Signature Certificate (DSC) may be obtained from any authorized agencies registered with the Certifying Authority (CA), through National Informatics Center (NIC) in India.
- 1.3. Bidders can download the bid document from Central Public Procurement Portal website at <https://eprocure.gov.in/eprocure/app> and required to submit the bid online by scanning and uploading all the relevant documents through the online Portal only.
- 1.4. Tender information is also available in the Institute's website at <https://www.iimshillong.ac.in/tender-notices/>. Any further detail regarding Amendment /Addendum /Extension/ Corrigendum (if any) will be upload online only at both the given websites.
- 1.5. Earnest Money Deposit (EMD)(Refundable) as mentioned at **Detailed Notice Inviting e-Tender** above, has to be deposited as per online link provided. Bidders are required to upload the transaction receipts. A copy of the same has to be mailed spo@iimshillong.ac.in and accountsofficer@iimshillong.ac.in clearly mentioning the firm's name and Tender ID no. along with tender description, **No other mode of EMD payment will be accepted.**
- 1.6. The bid submitted shall become invalid if-
 - 1.6.1 The bidder doesn't pay EMD to the Institute on or before the last date and time of online submission of the tender document.
 - 1.6.2 The bidder doesn't upload all the relevant testimonials as mentioned in this tender document.
 - 1.6.3 The Bidders will be required to produce the original copies of the eligibility criteria documents along with other document mentioned in the tender whenever needed at the various stages of tendering {if required}. Any discrepancy is noticed in the uploaded documents with reference to the original documents, the bid will be treated as invalid.
- 1.7. The tender document shall be uploaded in two parts as follows:
 - 1.7.1. **"TECHNICAL BID"**: This stage shall contain the Techno-Commercial Bids comprising along with list of the documents.
 - 1.7.2. **"FINANCIAL BID"**: This stage shall contain only the Price Bids
- 1.8. Payment to the vendor for supply of items/services at IIM SHILLONG shall be made through E-payment.

Sd/-
Chief Administrative Officer
IIM Shillong

2.0 GENERAL TERMS & CONDITIONS:

2.1 INSTRUCTIONS TO BIDDERS

General Conditions of Tendering

2.1.1 **Tender document:** One set of tender documents along with one set of BOQ are uploaded in the CPPP portal along with the drawings/ specifications/brochures etc (if any). Bidder shall download the tender documents and are advised to read the instructions carefully to ensure that his response complies fully before participating in the CPPP portal along with their offer letter.

2.1.2 **Tender validity:** Tender shall remain valid for a period of 90 **days** from the date of opening of the financial bid. The bidder shall not be entitled during the said period to revoke or cancel his tender or to vary the tender given. In case of bidder revoking or cancelling his tender, the Institute will forfeit the earnest money paid by him along with the tender. Bids shall be revalidated for extended period as required by Institute and will be published in CPP Portal and Institute's website.

2.1.3 Tender submission:

2.1.3.1 Bidders must upload their documents by the time and date mentioned in the Notice Inviting e-Tender in the CPP Portal (www.eprocure.gov.in), within stipulated time. Bidder may go through the given special instruction before participation in e-Tendering.

2.1.3.2 The tender and all details submitted subsequent to the tender shall be e-signed by any one, legally authorized to enter into commitment on behalf of the bidder.

2.1.3.3 If bidder have a relative or relatives or in the case of a firm or a company, one or more of its shareholders or a relative or relatives of the shareholder(s) employed in IIM SHILLONG, the authority inviting tenders shall be informed of the fact at the time of submission of the tender, failing which the tender may be disqualified or, if such fact subsequently comes to light, the Institute reserves the right to take any other action as it deems fit in accordance with any applicable law, rules, regulations or the like in force for the time being.

2.2 Bidder's responsibility for bid & Clarification:

2.2.1 The details presented in this tender document consisting of conditions of works/ supply/ service contract, scope of work, technical specifications/ requirements have been compiled with due understanding of the requirement, it is also the bidder's responsibility to ensure that the information provided are clearly understood.

2.2.2 The bidder shall be deemed to have inspected, examined and understood the site of / supply/ service and including surroundings and other information in connection therewith and to have satisfied himself before submitting his/her tender as to all the prevailing conditions and deemed to have obtained all necessary information as to the risks, contingencies and other circumstances which may influence or effect his/her tender. Bidder's quote is the responsibility of bidder and no relief or consideration can be given for errors and omissions.

2.2.3 Bidder may request clarification at any time up to the mentioned last date of seeking Clarification. Such clarification requests shall be addressed to the **Store & Purchase Officer, IIM Shillong (Email: spo@iimshillong.ac.in)**

2.3 Pre-Bid Meeting:

Techno-commercial discussion with the Bidders will be arranged {if required}. The bidder shall depute his representative(s) with authority for attending the discussion.

2.4 Amendments.

Institute may issue clarifications/ amendments in the form of addendum/ corrigendum during the tendering period. For the addendum/ corrigendum issued during the tendering period, bidders are required to check CPP Portal (<https://eprocure.gov.in/eprocure/app>) and the Institute's website (www.iimshillong.ac.in) for details. No other mode of notice will be given.

2.5 Scope of Tender

The complete scope of works/ supply/ service has been defined in the tender document. Only those Bidders who undertake total responsibility for the complete scope of works/ supply/ service in line with basic scheme and scope as defined in the tender document shall be considered.

2.6 Deviations in terms and condition

Bidders are required to submit offers strictly as per the terms and conditions and specifications given in the tender document and not to stipulate any deviations/ exceptions. **Conditional tenders are liable to be summarily rejected.**

2.7 Institute's right

Institute reserves the right to accept a tender other than the lowest and to accept or reject any tender in whole or in part, or to reject all tenders with or without notice or reasons. Such decisions by Institute will bear no liability whatsoever consequent upon such decisions.

2.8 Earnest money

2.8.1 The tender is to be accompanied by Earnest Money (interest free) for the amount indicated in NleT.

2.8.2 **The intending bidder registered with the competent government authorities as a Micro or Small Enterprises under MSME Scheme (having Valid Registration) shall be exempted from payment of EMD as per the existing government policies.** Such intending bidder shall furnish valid registration certificate issued by the competent government authorities and the registration certificate must cover the item/work/service tendered to get EMD exemptions. If the bidder fails to submit valid registration certificate his claim for EMD exemptions shall not be entertained.

2.8.3 If the bidder, after submitting his/her tender, revokes his/her offer or modifies the terms and conditions thereof during the validity of his/her offer except where the Institute has given opportunity to do so, the earnest money shall be liable to be forfeited.

2.8.4 After placement of Work Order/ Supply Order on successful bidder, the earnest money will be refunded to the unsuccessful Bidders. For successful bidder, the EMD will be converted to Security Deposit without any interest and will be refunded after one month of successful completion of Defect Liability Period.

2.8.5 In case of cancellation/ withdrawal of this 'NleT' i.e. Notice Invitation to e-Tender by the Institute, which it shall have the right to do at any time, the earnest money paid with the tender will be refunded to Bidders without any interest.

2.9 Tender requirement

2.9.1 Technical and Price Bid

2.9.1.1 The technical bids will be opened online by a committee duly constituted for the purpose at the time and date as specified in the tender document. All required documents against Notice Inviting e-Tendering documents need to be uploaded at CPP Portal as per checklist at Annexure II by the bidders and verified by the Digital Signature Certificate (DSC). The same will be downloaded for technical evaluation and the result of technical bid evaluation will be displayed on <https://eprocure.gov.in/eprocure/app> in which can be seen by all bidders who participated in the tender.

2.9.1.2 It is important that bidder clearly demonstrates his ability, giving to Institute a high level of confidence that the bidder will be able to perform the works/ supply/ service within the schedule and meeting the other requirements listed in the tender document. Failure to do so may result in disqualification of the tender.

2.9.1.3 Priced bid of Technically qualified bidders will be opened on designated date.

2.10 PERFORMANCE GUARANTEE:

As Performance Security, EMD of the successful bidder shall be retained by the Institute as a Performance Guarantee. At the successful completion of contract/ supply/ work/ service the Performance Guarantee will be refunded to the bidder. MSME registered firms who have sought exemption for submission of EMD will require to furnish a Performance Bank Guarantee (PBG) to the amount of 3% of the contract/ supply/ service value within 2 weeks of receipt of work/supply order.

2.11 Completion Certificate:

Upon satisfactory completion of contract/supply/work, a Completion Certificate will be issued by the Institute.

2.12 Jurisdiction

Any dispute or difference which may arise shall be referred to the Director IIM Shillong for settlement whose decision shall be final and binding. Any dispute is subject to Shillong court's jurisdiction only.

3.0 ELIGIBILITY CRITERIA

3.1 Technical Bid (Part-1):

3.1.1 Initial Criteria for Eligibility: Consultant(s) who fulfill the following requirements shall be eligible for bidding: **Joint ventures are not accepted.**

3.1.1.1 The consultants should have satisfactorily completed consultancy services related to TPQA (Third Party Quality Assurance) during the last **Five years** ending March 2022.

3.1.1.2 Three similar works of TPQA Consultancy at least **Rs. 45.20 lakhs** of each.

OR

3.1.1.3 Two similar works of TPQA Consultancy at least **Rs. 67.80 lakhs** each.

OR

3.1.1.4 One similar work of TPQA Consultancy at least **Rs. 90.40 lakhs**.

“Similar work” shall mean “TPQA for Institutional buildings campus / Commercial buildings campus”.

“Satisfactorily Completed Consultancy work” shall mean completion of TPQA assignment.

3.1.1.5 **Bidder should not have been debarred/ blacklisted by any Government department/organization/PSU till the last date of submission of bids.**

3.1.1.6 The bidder should have an average annual Financial Turnover (Gross) on consultancy works of minimum **Rs 3.0 Cr** during Five consecutive years ending March 2022. At the time of submission of bid consultant/ firm must upload certificate from CA mentioning financial turnover of last 5 years.

3.1.1.7 PAN and GST Registration Certificate.

4.0 SCOPE OF WORKS/ SUPPLY/SERVICE & TECHNICAL SPECIFICATIONS/ REQUIREMENT

4.1 Background

4.1.1 IIM Shillong is carrying out various construction works at its campus at Umsawli covering areas listed in Appendix I. The Project Management Consultant of the project is M/s RITES Ltd, State PWD (B) Govt of Meghalaya and the building design works are being carried out by M/s Jacobs. CES engaged by IIM Shillong.

4.1.2 IIM Shillong desires to engage a professional organization to take up third party quality assurance (TPQA).

4.2 Aim & Objectives of TPQA

The main aim of the TPQA firm will be to act as an onsite representative of IIM Shillong during construction to ensure adherence to technical specifications, monitor quality of material, quality of workmanship as per their respective tender documents.

4.3 Objectives of TPQA.

- 4.3.1. To monitor that construction is carried out as per the standard IS Codes, CPWD Specifications and relevant agreement between M/s RITES Ltd, State PWD (B) Govt of Meghalaya, etc (hereafter referred as PMC) and the contractor and programme schedule submitted by Contractor to PMC.
- 4.3.2. To inspect the site, generate reports and highlight areas of concern w.r.t timely completion of the works, quality of materials, workmanship and finishing at all stages of construction.
- 4.3.3. To inspect, that construction is carried out as per drawings & specifications issued by the Architect.
- 4.3.4. To monitor dimensional and geometrical integrity, material and system integrity, performance and constructional integrity and visual and textural integrity, etc.

4.4 Scope of Work

The scope of the work and expected quality assurance and suggested activities are as under:

- 4.4.1 Study the processes, sequencing, and quality control measures as per Standard IS codes, CPWD specifications and relevant agreement between PMC and contractor, and programme schedule submitted by Contractors to PMC. Offer suggestions / comments, if any, for corrective measures.
- 4.4.2 Develop operating procedures & protocols for Inspection and monitoring workmanship and finishes: The consultant shall develop operating procedures, protocols and formats including hold and witness points that would be used for meeting the objectives. These will include formats for monitoring and reporting; formats for carrying out quality audit including checklist of various components of works, frequency of quality audit at various level, scheduling of audit, reporting and follow up procedures etc.

- 4.4.3 During construction, inspect, document & report if the construction is not being carried out as per drawings & specifications issued by the Architect & other Consultants.
- 4.4.4 During construction, undertake inspection, document and submit periodic Quality Assurance reports. These reports should highlight any non-conformity, deviation & shortfalls in the processes, sequencing, and method statements w.r.t workmanship & quality control measures.
- 4.4.5 Recommend / advising stopping the work to PMC, Contractor & IIM Shillong if there are any instance of deviations from accepted quality of construction materials, workmanship and general quality of works at appropriate stages of construction.
- 4.4.6 At every stage of construction IIM Shillong shall be kept informed of the progress of the work.
- 4.4.7 Check Labour law compliances of the Contractor and PMC.
- 4.4.8 To highlight works that need to be rejected w.r.t quality of workmanship and finishing at all stages of construction. This includes but not limited to inspection of:
- 4.4.8.1 **Dimensional and geometrical integrity:** Works that are dimensionally inaccurate or out of line and level
 - 4.4.8.2 **Material and system integrity:** Inspecting performance standards as applicable for materials, components (such as window-systems/door systems, tiling, fixing protocol for fittings etc.)
 - 4.4.8.3 **Performance and constructional integrity at junctions where two different materials meet:** Junctions between two elements (Ex: Expansion joints, false ceiling / frame meets wall etc.
 - 4.4.8.4 **Visual and textural integrity of each material and surfaces:** Any foreign materials deposit, defacement of surfaces, blemishes on any surface/component/material (Cement on tile/paint on window frame/scratches on window/blemish on stone etc.).
- 4.4.9 Recommend independent Lab testing of any specific lot of materials to PMC according to their respected agreements.
- 4.4.10 Periodically inspect and report the adequacy and competence of PMC Contractor's site engineers, skilled labor and constructions tools and recommend changes for improvements.
- 4.4.11 Track if the construction is going on as per pre-decided time schedules, and work program. Highlight any deviation in time schedule in the weekly reports.

4.4.12 The works includes:

A. Ongoing Construction Works

Appendix-I

Sl No	Name of the Building	Area in Sq.M	Estimate Cost (Rs in Cr)	Completed Physically (in%)	Balance
					Physically (in %)
1	Annexe Building	6910.00	50.75	64%	36%
2	Hostel II – 216 capacity	5440.44	26.05	64%	36%
3	Student Hostel -III– 210 Capacity	5510.00	27.02	38%	62%
4	Construction of Retaining wall and Approach road to Hostel-2&3 and Annexe building	-	32.21	36%	64%
5	External services like Water Supply, Fire Fighting, Roads and pathways, Sewage and Drainage for Hostel 2&3 and Annexe building.	-	11.12	15%	85%
6	a. Construction of Admin building for Dr. APJ Abdul Kalam Centre for Policy Research & Analysis.	699.90	5.43	20%	80%
	b. Land Development including land development, drainage etc		4.12	20%	80%
7	Construction of Guest House.	1292.94	7.27	0%	100%
8	Construction of Gymnasium	481.72	1.92	0%	100%

Tentative Estimated cost for balance work (A), for quote purpose is **Rs 91.30 CR**

B. Upcoming Construction Works

Sl No	Name of the Building	Area in Sq.M	Preliminary Estimate Cost (Rs in Cr)
1	Hostel- 250 capacity	7195.3	50.16
2	Type V Quarters – 30 no 3BHK	6015	43.61
3	Covered Shed – 600 capacity	900	5.00
4	Horticulture and landscaping Works	-	29.94
5	Repairing and Black Topping of existing roads	-	3.00
6	Providing Power Supply internal and external including street lights	-	3.00

Tentative Estimated cost for work (B), for quote purpose is **Rs 134.71 CR**

Total indicative estimated cost of Work for quote purpose is Rs 226.01 CR

4.4.13. For ensuring good quality of construction and improving efficiency, The Consultant should set up an Office at IIM Shillong campus.

Note: The above broad scope of the work is mentioned to give the applicants only an idea of the type of work IIM Shillong may undertake.

4.4.14. During the course of construction, undertake unannounced visits to the site to check the quality of Construction at various stages of the work such as:

4.4.14.1 Earthwork

4.4.14.2 Surface dressing and site clearance to be done for proper layout

- 4.4.14.3 Disposal of the excavated earth as specified and spread
- 4.4.14.4 Stacking of good earth for refill
- 4.4.14.5 Back fill to be in layers, watered and rammed before subsequent layers.
- 4.4.15 Foundation stage**
 - 4.4.15.1 Undergrowth and roots encountered to be removed.
 - 4.4.15.2 Dimensional verification of footings
 - 4.4.15.3 Checking the layout marking and centre lines, at random
 - 4.4.15.4 Checking the reinforcement before concreting
 - 4.4.15.5 Checking the concreting arrangements and witnessing concreting of adequate footings, at random
- 4.4.16. Plinth stage**
 - 4.4.16.1 Checking the production (mix etc.), w/c ratio of the concrete, slump etc.
 - 4.4.16.2 Checking the quality of masonry
 - 4.4.16.3 Checking the formwork, verticality of sides, its alignment etc.
 - 4.4.16.4 Checking the reinforcement fabrication and placement of reinforcement in plinth beams
 - 4.4.16.5 Checking the placement compaction of concrete in plinth beams
 - 4.4.16.6 Checking adequacy and compaction of floor filling.
- 4.4.17. Lintel stage**
 - 4.4.17.1 Checking the quality of bricks and masonry with emphasis to joints, joint mortar, **curing**, etc.
 - 4.4.17.2 Checking the quality of column concrete
 - 4.4.17.3 Checking the formwork, verticality of sides, its alignment etc.
 - 4.4.17.4 Checking the reinforcement fabrication of lintels, at random
 - 4.4.17.5 Checking the placement and compaction of concrete in lintels
- 4.4.18. Roof stage/ slab stage**
 - 4.4.18.1 Checking the quality of shuttering and formwork, with emphasis on lines and levels
 - 4.4.18.2 Checking the reinforcement fabrication / placement w.r.t structural drawings
 - 4.4.18.3 Checking the concrete while concreting, with respect to mix, proportion, W/C ratio and compaction
 - 4.4.18.4 Checking steel sheet fabrication for roof, roofing sheets and its fixing, etc.
- 4.4.19. Finishing stage**
 - 4.4.19.1 Checking the quality of flooring with respect to levels and smoothness at random
 - 4.4.19.2 Checking the quality of flooring material (tiles / stones) before laying
 - 4.4.19.3 Checking the final floor finish, in respect of jointing, level and overall finish
 - 4.4.19.4 Checking the door and window joinery, door frames etc. with respect to Architectural drawings workmanship and fixtures, at random
 - 4.4.19.5 Checking the plaster on walls and ceiling with regard to proportions, line and level and curing
 - 4.4.19.6 Checking the finishing works at random such as painting, polishing etc.

4.4.19.7 Checking the plumbing, sanitary and drainage fixtures including their placement etc.

4.4.19.8 Checking for leakages, dampness etc.

4.4.20. Quality monitoring during construction of services & other infrastructure at construction stage

4.4.20.1 Checking pipe work excavation levels, randomly

4.4.20.2 Checking effectiveness of pipe joints

4.4.20.3 Inspection of manholes, chambers and other structures

4.4.21. Exposed brick work (if executed)

4.4.21.1 Check sizes, shape, texture, color in general and compressive strength, waterabsorption, efflorescence of the bricks at random.

4.4.21.2 Checks on joint thickness, verticality of masonry wall, filling of horizontal and vertical joints in courses, frog filling.

4.4.21.3 Report on sample workmanship.

4.4.21.4 Check on curing.

4.4.21.5 Check on raking of joints and pointing

4.4.22. Exposed concrete work (if executed)

4.4.22.1 Check the centering and shuttering pattern as given in the GFC

4.4.22.2 Check if the cement used is from the same batch and of single manufacturer to maintain the uniform color.

4.4.22.3 No gaps between the shuttering panels

4.4.23. Fabrication of grills and gates & other structural steel works

4.4.23.1 Check on steel elements fabricated to the dimensions and in accordance with GFC drawings.

4.4.23.2 Check on quality of welding and its visual appearance.

4.4.23.3 Check on grinding of welding and preparation of surfaces before the application of primer and paint.

4.5 Check List for Electrical Systems

All materials, Fittings & Equipments are need to be checked as per approved Makes & Specification

4.6 During Construction:

4.6.1 Internal EI:

4.6.1.1 Conduit laying – Check quality of material, diameter of conduits, jointing of conduit, fish wires to be drawn in the conduits, to clear any obstructions.

4.6.1.2 Wiring – Check quality and size of wires *as per approved make & specification*. Check termination (lugging) of wires. Ensure that there are no joints in the wiring.

4.6.1.3 Check for insulation at random.

4.6.1.4 Check earth electrode laying, as per specifications. Check earth resistance etc.

4.6.1.5 Check switch boards fixing/ alignment. Marking of circuit on Switch boards.

4.6.2 DBs:

4.6.2.1 Check alignment

4.6.2.2 Check termination of Incoming and Outgoing wires/ cables.

4.6.2.3 Specifications of DBs and components.

4.6.2.4 Check earthing.

4.6.2.5 Marking of all circuits and DBs.

4.6.3 Panels:

4.6.3.1 Check components and their makes.

4.6.3.2 Check layout and alignment.

4.6.3.3 Check termination of cables, placing of Glands etc..

4.6.3.4 Marking of feeders.

4.6.3.5 Check test certificates of manufacturers. Test certificates of CPRI.

4.6.3.6 Earthing connections

4.6.3.7 Measure Insulation and earth resistance values.

4.6.4 Rising Mains:

4.6.4.1 Check layout/ dimensions/ alignments.

4.6.4.2 Check test certificates.

4.6.4.3 Check Bus bar sections. Insulator fixing. Tightness of joints. Connections.

4.6.4.4 Check earth conductor size and connections.

4.6.4.5 Check insulation and earth resistance measurements.

4.7 Sub Station:

4.7.1 General:

4.7.1.1 Layout of the substation, SLD, Interlocking Schedule, UG cable, Earthing, LA Layout etc

4.7.1.2 Check for mandatory fire fighting, shock treatment charts, Danger notice plates, rubber mats.

4.7.1.3 Cable trench covers.

4.7.1.4 Cable/ Bus trunking layout/ alignment.

4.7.1.5 Ventilation.

4.7.1.6 Fire Protection

4.7.2 Transformers:

4.7.2.1 Check Test certificates, OEM Drawings & Documents etc

4.7.2.2 Tap changing devices.

4.7.2.3 Bucholtz Relays, if any.

4.7.2.4 Ensure oil quantity, filtration/ di-electric test before charging.

4.7.2.5 Neutral and body earthing. Test earth resistance.

4.7.2.6 Cross section of earth conductor.

4.7.2.7 Insulation Resistance test of the system.

4.7.3 Panels:

4.7.3.1 HT/ LT Panel layout/ alignment, Panel drawings, Specification etc.

4.7.3.2 Test Certificates of all the Circuit Breakers.

4.7.3.3 Calibration of all the protective relays.

4.7.3.4 Test Certificates of all the relays.

4.7.3.5 Insulation/ Earth resistance.

4.7.3.6 CT/ PT unit test certificates.

4.7.3.7 Testing of Electrical/ Mechanical interlocking arrangement.

4.7.3.8 Danger Notice Plates.

4.7.3.9 Checking of Meters. Test certificates.

4.7.4 DG Sets:

- 4.7.4.1 Layout and erection of the set.
- 4.7.4.2 Test Certificates & all OEM documentations.
- 4.7.4.3 Commissioning of the sets.
- 4.7.4.4 Neutral/ Body earthing.
- 4.7.4.5 Measurement of Insulation and earth tests.
- 4.7.4.6 Full Load Test.
- 4.7.4.7 Checking of Protection relays. Calibration of all the relays/ Meters.
- 4.7.4.8 Fuel Storage arrangement. Fuelling arrangement.
- 4.7.4.9 Check Panel meters/ calibration.
- 4.7.4.10 Check interlock with Transformers.
- 4.7.4.11 All AMF Panel details, Changeover arrangement, Protection Settings, Interlocking etc.

4.8 Pumping Stations

- 4.8.1 Check layouts (including E&M and Piping), Stand-by arrangement
- 4.8.2 Check test certificates & OEM Documentations
- 4.8.3 Check all the instruments like Pressure Gauges, Automation Voltmeters, Ampere meters.
- 4.8.4 Check control circuits. Starter circuits. Ferrules should tally with control circuits.
- 4.8.5 Check performance like discharge, head, energy consumption with respect to the charts.
- 4.8.6 Check earthing connections.
- 4.8.7 Check Cable sizes.

4.9 HVAC:

- 4.9.1 Check layout of all the sub-assemblies like Indoor and outdoor units, pipe lines, Control Panels, cables control & power Cables, Ducting etc).
- 4.9.2 Check test certificates of all the Equipments & components
- 4.9.3 Check commissioning tests, Seasonal Test of all the sub-assemblies:
- 4.9.4 Pressure tests of all the pipe lines / systems.
- 4.9.5 Performance tests of Chillers, Pumps. (if installed)
- 4.9.6 Insulation tests of electric control panels.

4.10 Ventilation System:

- 4.10.1 Check layout/ installation as per drawings.
- 4.10.2 All pre-commissioning tests to be carried out before starting.
- 4.10.3 Duct gauge to be checked, duct supports, isolation of vibration from structural members is to be ensured.
- 4.10.4 Capacity and pressure head of fans is to be measured.
- 4.10.5 Ensure no mechanical noise is emanating from bearings.
- 4.10.6 Ensure that the vibrations of the fan are within acceptable limits.
- 4.10.7 All test certificates to be checked.
- 4.10.8 Diffuser selection & installation to be checked.

4.11 Water Coolers:

4.11.1 Performance of water cooler to be checked.

4.11.2 Warrantee cards be checked.

4.12 Fire Alarm:

4.12.1 Check layout of control panels. Ensure proper Mimic diagram/ Display diagrams are provided.

4.12.2 All functional tests to be carried out.

4.12.3 Battery backup/ UPS be checked.

4.12.4 Zoning should be convenient for locating source of alarm.

4.12.5 Panel Drawings, manuals need to be checked.

4.13 Firefighting:

4.13.1 Check quality of pipes and fittings

4.13.2 Ensure that the firefighting arrangement is strictly as per drawings. All GVs, NRVs etc. to be appropriately made & marked as per Layout drawings.

4.13.3 All performance tests are to be carried out.

4.13.4 Inspection from Fire Brigade authorities is to be got done and certificates obtained.

4.13.5 Capacities of various components are to be checked with reference to the contract and local bye-laws.

4.13.6 The mandatory signage of the equipment is to be checked.

4.14 Post Construction Tests

4.14.1 Sub Station

4.14.1.1 Single Line Diagram (Containing details of voltage, Ampere, sizes, cable capacities and rating of equipment) of HT – the drawing will be framed and displayed in HT room.

4.14.1.2 Single Line Diagram (Containing details of voltage, Ampere, sizes, cable capacities and rating of equipment) for Substation including LT Panels will be framed and displayed in the LT room.

4.14.1.3 Single Line Diagram (Containing details of voltage, Ampere, sizes, cable capacities and rating of equipment) of DG Set–the drawing will be framed and displayed in DG room.

4.14.1.4 Single Line Diagram (Containing details of voltage, Ampere, sizes, cable capacities and rating of equipment) of Ring Main Units – the drawing will be framed and displayed in HT room.

4.14.1.5 Operation manuals/Instructions of DG set and ring main units and CT PT Units if any.

4.14.1.6 Protection System - Details of trip system and power source of tripping arrangement to be provided.

4.14.1.7 Inter locking arrangement between transformers and DG sets may be exhibited.

4.14.1.8 Trip settings to be checked. These settings should be properly graded withupstream/ downstream.

4.14.1.9 Alarm/Trip settings to be checked.

4.14.1.10 Fire protection- details of fire extinguisher, fire buckets, hand glows, safetyshoes, helmet, and safety goggles.

4.14.1.11 All the trenches should be covered with checker plates with suitable handles.

- 4.14.1.12 Capacitor Bank- APFC relay- Confirm they have been tested/checked for exact set points.
- 4.14.1.13 Parallel operation of transformers - It is hoped the transformers are suitable for parallel operations. Confirm they have been sequenced rightly for parallel operation. Whether they have been check for parallel operation.
- 4.14.1.14 Layout drawings of all the sub stations will be framed and displayed in the Sub Station Rooms.
- 4.14.1.15 Operation Manuals, Test Results for all parameters, as laid down in the contracts will be furnished.
- 4.14.1.16 Efficiency charts/ curves on full load/ partial loads will be furnished.

4.15 Switch room

- 4.15.1 **Panels**– SLD, GA diagrams (Containing details of voltage, Ampere, sizes, cable capacities and rating of equipment) – the drawing will be framed and displayed in switch room.
- 4.15.2 Control circuit of instruments – the drawing will be framed and displayed in switch room.
- 4.15.3 UPS System - SLD, GA diagrams (Containing details of voltage, Ampere, sizes, cable capacities and rating of equipment) – the drawing will be framed and displayed in switch room.

4.16 Distribution Boards

- 4.16.1 Circuit locations to be duly marked on the inside of the cover of DB.
- 4.16.2 Switch boxes/Plates – Circuit details of respective DB to be marked.

4.17 Earthing

- 4.17.1 Schematic diagram indicating earth conductor sizes and location/ type of earth electrode will be displayed.
- 4.17.2 Earth resistance tests of all the earthing stations to be furnished.

4.18 DG Set

- 4.18.1 Storage arrangement of fuel for DG set to be communicated. Whether fuel transferpumps available?
- 4.18.2 Operation Manuals, Warrantee Cards, Test Results for all the parameters, as laiddown in the contracts will be furnished.
- 4.18.3 Layout drawings, Electrical panel GA/ SLD/ Control Circuit drawings will be framedand displayed in the DG Room.

4.19 Insulation Tests

- 4.19.1 Insulation test results of all the circuits to be furnished.

4.20 Pumping Stations

- 4.20.1 Layout Drawings, Schematic drawings, Electric Panel GA drawings, SLD drawings, Control Circuit drawings will be framed and displayed in the Pump House.
- 4.20.2 Operation Manuals, Performance Curves, Test Certificates will be furnished.
- 4.20.3 Test Results for operations, as laid down in the respective contracts will be carried out and results furnished. The test results will clearly indicate Discharge/ Head

parameters and results

4.20.4 Efficiency charts/ curves on full load/ partial loads will be furnished

4.21 Lifts

4.21.1 Lift License will be framed and prominently displayed in the Lift Cars

4.21.2 Operation Manuals, Results of all the tests, as provided in the contract will be furnished.

4.21.3 Control Circuit Drawing will be framed and displayed in the machine room. Electrical Schematic Drawing also will be framed and displayed in the Machine Room.

4.22 HVAC

4.22.1 All Operation Manuals, Parts Catalogues, Test Certificates, Performance charts, Warrantee Cards to be furnished.

4.22.2 Test Results for operations, as laid down in the respective contracts will be carried out and results furnished. The test results will clearly indicate Discharge/ Head parameters and results

4.22.3 Efficiency charts/ curves on full load/ partial loads will be furnished.

4.22.4 Season Test, Capacity tests on various components viz. Compressors, Cooling Towers, AHUs etc., as per contract be conducted and results recorded and furnished to IIM Shillong

4.22.5 Layout Drawings, Schematic drawings, Electric Panel GA drawings, SLD drawings, Control Circuit drawings will be framed and displayed in the Plant Room and AHU rooms.

4.22.6 Since operation and maintenance is covered under contract. Names along with qualifications and contact Nos. be furnished. Names and contact Nos. be displayed prominently so that in case of necessity, they can be easily contacted.

4.23 Ventilation System

4.23.1 All Operation Manuals, Parts Catalogues, Test Certificates, Performance charts, Warrantee Cards to be furnished.

4.23.2 Test Results for operations, as laid down in the respective contracts will be carried out and results furnished. The test results will clearly indicate Discharge/ Head parameters and results

4.23.3 Efficiency charts/ curves on full load/ partial loads will be furnished.

4.23.4 Layout Drawings, Schematic drawings, Electric Panel GA drawings, SLD drawings, Control Circuit drawings will be framed and displayed in the Plant Room and AHU rooms.

4.23.5 Since operation and maintenance is covered under contract. Names along with qualifications and contact Nos. be furnished. Names and contact Nos. be displayed prominently so that in case of necessity, they can be easily contacted.

4.24 Water Coolers

4.24.1 Inventory along with location be furnished. Warrantee cards be furnished.

4.25 Fire Fighting System

4.25.1 All Operation Manuals test Certificates, Performance charts, Warrantee Cards to be furnished.

4.25.2 Test Results for operations, as laid down in the respective contracts will be carried out

and results furnished. The test results will clearly indicate Discharge/ Head parameters and results

- 4.25.3 Layout Drawings, Schematic drawings, Electric Panel GA drawings, SLD drawings, Control Circuit drawings will be framed and displayed in the respective locations.
- 4.25.4 Since operation and maintenance is covered under contract. Names along with qualifications and contact Nos. be furnished. Names and contact Nos. be displayed prominently so that in case of necessity, they can be easily contacted.
- 4.25.5 A training programme will be organised by the contractor to impart training to the concerned personnel, responsible for firefighting.
- 4.25.6 Copy of approval from competent local body authority, as per local regulations, be framed and displayed.

4.26 Fire Alarm System

- 4.26.1 All Operation Manuals, test Certificates, Performance charts, Warrantee Cards to be furnished.
- 4.26.2 Test Results for operations, as laid down in the respective contracts will be carried out and results furnished. The test results will clearly indicate Discharge/ Head parameters and results.
- 4.26.3 Layout Drawings, Schematic drawings, Electric Panel GA drawings, SLD drawings, Control Circuit drawings will be framed and displayed in the respective locations.
- 4.26.4 Layout drawings indicating location of all smoke detectors, control panels will be framed and located prominently so that in event of unfortunate incident an appropriate action can be taken.
- 4.26.5 Since operation and maintenance is covered under contract. Names along with qualifications and contact Nos. be furnished. Names and contact Nos. be displayed prominently so that in case of necessity, they can be easily contacted.
- 4.26.6 A training program me will be organized by the contractor to impart training to the concerned personnel, responsible for fire-fighting. Copy of approval from competent local body authority, as per local regulations, be framed and displayed.

Note: *The above stages of the works, activities, check lists etc. are indicative only and the consultants may suggest and adopt any additional stage or checks including innovative approach for achieving optimum quality with zero tolerance to defect.*

4.27 Deliverables & Schedule

- 4.27.1 Adequate Technical Personnel should be stationed at IIM Shillong campus 24x7. The team leader of the consultant shall inspect the site every week and submit his report. If required he may need to visit more frequently
- 4.27.2 Develop and prepare all inspection, documenting & reporting formats including transmittal methodology and follow the same for the entire period of contract.
- 4.27.3 The inspection reports in case of non-compliances of serious nature having consequential effects on quality of work should be submitted to IIM Shillong within 3 days of the visit without waiting for weekly reporting.
- 4.27.4 To attend the meetings as and when required and to present the periodical report and discussions.
- 4.27.5 Post construction completion: Undertake final inspection and declare the construction of the building / services fit for use with the intended level of workmanship and finishing.

4.28 Schedule of Completion of Tasks:

Consultant will prepare and submit an inspection report within 15 days of mobilization, submit periodic reports (mentioning the stages at which these will be shared) and post project completion report. The consultant shall also make final inspection and declare the construction of the building / services fit for occupation, ensuring that the intended level of workmanship and finishing has been achieved.

4.29 Data and services to be provided by the client:

IIM Shillong will provide all information related to the work such as contract documents between PMC and contractors, GFC drawings issued by the consultant and project documents agreed between PMC and IIM Shillong. PMC will provide access to all work sites under the project.

4.30 Review and monitoring of consultants' work:

Consultants will be monitored at various stages by IIM Shillong through periodic reviews. The project implementation period is envisaged to be the same as the contract period/ extended contract period of the contractor for execution. In case of extension of contract period, no extra costs shall be paid to the consultant. The consultant through the periodic performance reports, would point out delays observed, if any and suggest measures to adhere to the time schedule. In case, performance of the consultant is assessed as unsatisfactory, the contract would be deemed closed. In such case the consultant would get a chance to explain and defend himself in front of a review committee and the decision taken by the review committee shall be final and binding on both the parties. The review committee would consist of IIM Shillong representatives and / or external members as appointed by the Director, IIM Shillong.

5.0 SPECIAL TERMS & CONDITIONS AND PAYMENT TERMS/ SCHEDULE:

5.1 Evaluation Criteria, Preparation of Proposal, Submission and Receipt of Proposal, its evaluation and award of contract

5.1.1 Evaluation Criteria

Sl. No.	Particulars	Marks	Criteria
1	Write-up on Firm's understanding of the project requirements and Approach & Methodology	10	Marks shall be awarded based on the quality of approach and methodology proposed by the Applicant and their understanding of the project requirements and its credentials.
2.	Assignments on providing Quality Assurance services and should have successfully completed such similar assignments in last 5 years	20	1. Each completed works Rs45.20 to 67.80 Lakhs will carry 4 Marks each . 2. Each completed works Rs 67.80 to 90.40 Lakhs will carry 7 Marks each . 3. Each completed works Rs90.40 Lakhs and above will carry 10 Marks each
3.	Overall turnover of the firm from Quality Assurance Business in any one year in last five years	15	1. Rs.3 Crore to 5 Crore= 5 (Five) marks 2. Rs. 5to10 Crores = 10 (Ten) marks 3. Above 10 Crores = 15 (Fifteen) marks.
4	Relevant Experience of the Key Personnel		Key Personnel having desired Educational qualification and No. of years' experience shall be considered. Each Key Personnel will be eligible for marking (as below) only if each of them is existing employee of the Applicant firm (Permanent employee) and meets the Minimum Specific Experience for Eligibility.
4.a	Team Leader with a Professional Experience of 15-20 years and relevant Quality Assurance of 5-8 years	15	Having the following nos of Persons experience in quality Assurance 1. 1-2 Nos= 5 Marks 2. 3-5 Nos=10 Marks 3. Above 5 Nos =15 Marks
4.b	Structural Engineer with a Professional Experience of 8-10 years and relevant Quality Assurance of 3-5 years	10	Having the following nos of Structural Engineers 1. 1-5 nos= 3 Marks 2. 6-10 nos= 6 Marks 3. Above 10 nos = 10 Marks
4.c	Electrical Engineer with a Professional Experience of 8-10 years and relevant Quality Assurance of 3-5 years	10	Having the following nos of Electrical Engineers 1. 1-5 nos= 3 Marks 2. 6-10 nos= 6 Marks 3. Above 10 nos = 10 Marks
4.d	Quality Control Engineer with a Professional Experience of 8-10 years and relevant Quality Assurance of 3-5 years	10	Having the following nos of Quality control Engineers 1. 1-5 nos= 3 Marks 2. 6-10 nos= 6 Marks 3. Above 10 nos = 10 Marks
4.e	Support Engineers with a Professional Experience of 2-3 years and relevant Quality Assurance of minimum 2 years	10	Having the following nos of support Engineers 1. 1-10 nos= 3 Marks 2. 10-20 nos= 6 Marks 3. Above 20 nos = 10 Marks

5.1.2 Preparation of Proposal

- 5.1.2.1 Intending consultant shall submit Approach Paper for the proposed TPQA in demonstration of their understanding of the work involved, expertise in the field and also efficiently and effectively discharging their contractual obligations and responsibilities in achieving the intended purpose of engaging TPQA consultant. The approach paper may include the checklists for Third Party Inspections, Important stages of checks / verification, monitoring of compliances of suggested corrective measures, reports and formats etc.
- 5.1.2.2 Write-up on Firm's understanding of the project requirements and Approach & Methodology. The write up should include proposed activities, the tentative deployment of various personnel and their qualifications at different stages of the work, Proposed check list to ensure quality workmanship at each stage of construction, Proposed key materials' testing and its extent (As part or percentage of that specified in the relevant Standard IS codes), total quality assurance plan including innovative approach for achieving optimum quality with zero tolerance to defects.
- 5.1.2.3 Assignments on providing Quality Assurance services and should have successfully completed such similar assignments in last 5 years: Copy of Completion Certificate issued by the Organization along with the relevant work order to be enclosed.
- 5.1.2.4 Chartered Accountant certificate certifying turnover of the firm for last five years ending 31 March 2022.
- 5.1.2.5 List of personnel's, their qualification and professional experience duly supported by relevant documents.

5.1.3 Evaluation & Award of Contract

5.1.3.1 OPENING OF FINANCIAL BIDS, FINAL SELECTION, AND AWARD OF WORK:

- 5.1.3.1.1 The final selection will be done based on Cost Evaluation under Combined Quality Cum Cost Based System (CQCCBS), the technical evaluation shall be allotted weightage of 60% while the financial proposals will be allotted weightages of 40%. Proposal with the lowest bid may be given a financial score of 40 and other proposals may be given financial score that is proportional to lowest bid. Total score, both technical (60 marks maximum) and financial (40marks maximum), shall be obtained by weighing the quality and cost scores and adding them up. **THE BIDDER WITH HIGHEST COMBINED SCORE SHALL BE SELECTED.**

Overall Score=	$\frac{\text{Score of Technical Bid} \times 60}{\text{Highest Score in Technical Bid}}$	+	$\frac{\text{Lowest Financial Bid (\% Quote)} \times 40}{\text{Price of Financial Bid (\% Quote)}}$
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NOTE : In case of a tie at the top position between two or more applicants, preference shall be given to the applicant who has a higher Technical Evaluation Score, and this applicant will be required to match the lowest price bid amongst those in the tie.

5.2 Fee for Providing TPQA Services:

- 5.2.1 The cost of work for calculation of consultancy fee payable to TPQA agency will be the gross value of the work done by the contractor plus GST.
- 5.2.2 70% of the total fees shall be paid during execution of work, quarterly on pro-rata basis of the financial progress of the work.
- 5.2.3 Balance 30% shall be paid after actual completion of executed work, and final report submitted by Third Party Quality Assurance Consultant.
- 5.2.4 70% of payment of following calculated amount will be released as mentioned at 5.2.2. above, and balance will be paid as per 5.2.3 above, on actual value of executed work.

$$\frac{\text{Amount Quoted by TPQA (on estimated value)}}{\text{Total Contract Value of all Capital Works}} \times \text{Quarterly billed amount of all Capital Works done by Contractors}$$

The calculation for payment to be done separately for works mentioned at sub-clause A & B of Clause 4.4.12.

5.3 Agreement

The successful bidder shall enter into an agreement with IIM Shillong consisting of this RFP and letter of award on a Non-judicial stamp paper of ₹100/-.

5.4 Other Requirements:

- 5.4.1 Consultants shall have/arrange all the minor testing equipment such as but not limited to: sieves and weight, moisture meter, soil density meter, temperature recorder, surface finish recording instruments such as straight edges, measuring tapes, calipers, etc. at site locations for 'on spot field testing' of material and workmanship.
- 5.4.2 In addition to the above specific quality testing required by IIM Shillong for any of the work or material shall be carried out the next working day of requisition and report shall be furnished as soon as possible preferably the next working day of completion of the requisitioned test.
- 5.4.3 The Contract Documents are the basis of all works to be undertaken. All documents refer to relevant standard IS Codes/CPWD specifications/works manual. In cases, where specific specifications are not available or provided in the contract documents, general good engineering practices shall be followed in consultation with IIM Shillong.
- 5.4.4 The Consultant shall make unscheduled visits to ensure random/surprise checks from time to time of the works under construction and submit report on the same day and in no case later than the following day to IIM Shillong. These points shall be checked for compliance in subsequent visits and reported.
- 5.4.5 It should be remembered that time is of the essence and that considerable judgment is required to see that the progress is achieved in the work as per milestone mentioned in the contract document between PMC and contractor.
- 5.4.6 Apart from the specific activities as described above the Consultants shall also advise IIM Shillong on the implementation and compliance of the of accepted environment friendly sound practices on control of dust, noise, water, air and soil pollution due to

construction activities, and general safety and security on the construction sites etc.

- 5.4.7 The consultant shall also inspect, review and report the adequacy and competence of PMC contractor's site engineers, supervisors, skilled labour and available constructions tools and machinery and adoption of adequate safety measures.
- 5.4.8 Review contractor's work program and advised on corrective measures. Develop and prepare all the reporting formats including transmittal methodology and follow the same for the entire period of contract.
- 5.4.9 Random/ independent tests of materials brought at site shall be carried out for samples at 2% of the sampling specified in the BIS/ PMC contract from NABL accredited labs. Payment for the same will be reimbursed on submission of the vouchers/receipts.
- 5.4.10 The consultant shall attend meetings as and when required to review the progress quality and standard of the works and bring out specific points of improvements.

5.5 Termination

- 5.5.1 The consultancy services can be terminated by either party by giving 30 days prior notice and listing out the reasons for doing so.

5.6 Arbitration

- 5.6.1 Arbitrations will be governed by Indian arbitration and conciliation act 1996.

5.7 Insurance

- 5.7.1 The bidder shall take insurance to cover their employees, equipments and their office premises from any accident or accidents of nature, against any damages /loss/ injury to property or person or loss of life within the premises of IIM Shillong during the complete period of the contract. IIM Shillong will not be responsible and not compensate for any such losses.

5.8 Indemnity

- 5.8.1 The bidder shall indemnify and keep indemnified the institute against all losses and claims for injuries and or damages to any person or property.

5.9 Liquidated Damages for delayed completion/ supply:

- 5.9.1 If the successful bidder fails to perform within the stipulated time then penalty at the rate of 0.5% per week or part thereof subject to a maximum of 10% of the Work/ contract/ supply order value will be levied and deducted from the payment due to the firm.

5.10 Work/ Purchase at Risk and Cost

- 5.10.1 The institute reserves the right to get the whole or part of the work/ purchase executed by some other agency at the risk and cost of the bidder to whom the contract has been awarded if it is found that the quality and/or the progress in respect of whole or part of the Work/ contract/ supply is not satisfactory.

6.0 CHECKLIST FOR SUBMITTED DOCUMENTS AS PER ELIGIBILITY CRITERIA & TECHNICAL SPECIFICATIONS

NOTE: Copies of all supporting documents by the bidder in support of below particulars must be attached along with this checklist

Sr. No.	Particulars	Details/ Compliance (Y/N)	If Submitted, Mention Page No.	Remarks
1.	Proforma for submission of offer letter of e-tender document, declaration and bidder details As per Annexure – I			
2.	Copy of Permanent Account Number (PAN)			
3.	Copy of GST Registration Certificate			
4.	Bidder's Annual Average Turnover Rs. 3.0 cr during five years ending March 2022. (Copy of Chartered accountant certificate to be attached)			
5.	List of major clients from Government Dept./Public Sector Undertaking /Autonomous Body and reputed commercial organizations. (Copies of Work orders and Completion certificates to be attached)			

7.0 FINANCIAL BID

1. The bidders should download the BOQ.xls from CPP Portal and fill in the blank spaces provided for mentioning the name of bidder and rates. Bidders need not modify any other text or background shown in the BOQ template or replace it with any other copy of same BOQ in .xls format. The Central Public Procurement Portal (<https://eprocure.gov.in/eprocure/app>) will accept the BOQ template only and hence the rate should not be quoted in any other place except BOQ template.
2. A sample BOQ is placed herewith in excel sheet format.
3. If any column is not applicable, keep the sheet as it is or quote '0'. The BOQ is in excel sheet, as such only number will be taken calculable.
4. **TPQA Consultancy fee should be quoted in % (percentage) of Estimated Project Cost i.e. 226.01 Cr. The format as attached at para 7.0**

Sample Financial Bid

Tender Inviting Authority: Director, IIM Shillong					
Name of Work: Appointment of Third-Party Quality Control Assurance Agency For Construction Works at IIM Shillong					
Contract No:					
Name of the Bidder/ Bidding Firm / Company :					
PRICE SCHEDULE (This BOQ template must not be modified/replaced by the bidder and the same should be uploaded after filling the relevent columns, else the bidder is liable to be rejected for this tender. Bidders are allowed to enter the Bidder Name and Values only)					
NUMBER #	TEXT #	NUMBER #	TEXT #	NUMBER #	NUMBER #
Sl. No.	Item Description	Quantity	Units	Percentage Consultancy fees on estimated value of project i.e R 226.01 Cr to be quoted in figures to be entered by the bidder	TOTAL AMOUNT Without Taxes in Rs. P
1	2	4	5	13	
1	Consultancy Fee for Third-Party Quality Control Assurance Agency For Construction Works at IIM Shillong				
1.01	Fee to be quoted in terms of percentage on estimated value of Project i.e. Rs 226.01 Cr	1.000	Set of work		
	Total in Figures				
	Quoted Rate in Words				

**8.0 PROFORMA FOR SUBMISSION OF OFFER LETTER OF E -TENDER DOCUMENT, DECLARATION
AND BIDDER DETAILS**

(THIS "OFFER LETTER" TO BE SUBMITTED IN BIDDER'S LETTER HEAD)

Ref no. **K1-1105/6/2022-ENGG/**

Dated ____ /Dec/2022

To
The Chief Administrative Officer
IIM SHILLONG
Umsawli, Shillong – 793 018.

**Sub: "Appointment of Third-Party Quality Control Assurance Agency For Construction Works at
IIM Shillong." against Tender No: K1-1105/6/2022-ENGG/ Dated ____ /Dec/2022**

1. In reference to above, I/We are enclosing our irrevocable tender for execution of the work **"Appointment of Third-Party Quality Control Assurance Agency For Construction Works at IIM Shillong."** as per tender document within the time schedule mentioned therein and accepted by me/us, at the value quoted by me/us for the whole works/ supply/ service in accordance with terms and conditions, specifications as detailed in the tender document. Having examined the detail given in Tender Notice and Bid Document for the above works/supply/service, I/We hereby submit the relevant information.
2. I/We had paid the EMD or I/ We are exempted being MSME registered firm. A valid certificate is enclosed.
3. I/ We had read entire tender documents and unconditionally accept all the terms and conditions laid down in the Tender document.
4. I/We enclose herewith documentary evidence of my/our experience of execution of work/ supply/ service of similar nature and magnitude carried out by me/us as per the eligibility criteria along with the other documents mentioned in the tender document.
5. I/ We confirm and declare that we are not blacklisted/ debarred/ de-registered by any Government department/ Public Sector Undertaking/ Autonomous bodies or any other agency for which we have executed/ undertaken the works/ supply /services during the last 5 years.
6. It is certified that all the information given hereby as well as in the enclosed eligibility bid documents are correct to the best of my knowledge and believe. It is also understood that I/We shall be liable to be debarred, disqualified in case any information furnished by me/us found to be incorrect.

Date.....day of/Dec/2022

Name of the Bidder with Address:

Name:

Address:

Signature of Bidder(s), with the seal of Firm

9.0 BIDDER's DETAILS

1.	Name of the Firm/Agency	
2.	Full address with Pin code, Telephone No/Mobile No. E-mail. Address Telephone/ Mobile no.: Email id:	
3.	Name & Designation of Contact Persons Name Designation Telephone/ Mobile no.: Email id:	
4	Registration Details for Constitution of the Firm/ Agency (if any) (Attached copy)	
5	Nature of Business:	
6	a. GSTIN: b. PAN:	
7	Bank Account Particulars: Name of the Beneficiary Bank Account Number Bank's Branch IFS code: Account type (SB/ CA) Name of the Bank Branch name & Address (Please attached a copy of cancelled cheque)	
8	Details of EMD paid: EMD Amount: Rs. Receipt No.	

Signature of the bidder with seal

10.0 TESTS TO BE CONDUCTED AS PER RELEVANT IS CODE SPECIFICATIONS / CPWD SPECIFICATIONS / DSR SPECIFICATIONS /CTE GUIDELINES BUT NOT LIMITED TO THE FOLLOWING

10.1 Road materials

10.1.1 Test for bitumen and aggregates

- Bitumen Penetration test
Softening point test Ductility test,
Water content test
- Soils Dry density/ protector compaction
CBR value
- WBM Camber
Thickness of layer and grading Width of metal layer
- BT surface Camber
Thickness
- Width of BT layer BT content (Bitumen extraction test) Stripping value

10.2 Building works

Structural steel	Tensile testBend test
Cube Test	Compressive strength test
Bricks	Compressive strength test
	Water absorption test
	Efflorescence test
	Dimensional tolerance
Blocks	Compressive strength test
	Water absorption test
	Density test
Tiles	Water absorption test
	Wet transverse strength test
	Abrasion/ wear resistance test
Ceramic tiles	Water absorption test
	Wet transverse strength test
	Abrasion / wear resistance test
	Crazing test
Galvanised sheeting	Thickness of sheets
	Thickness of galvanising
Water proofing Compound	Tests for permeability and compatibility
Paints	Performance tests
	Thickness
Plumbing and sanitary	Dimensional verification, physical examination fixtures and relevant tests.

10.3 Mechanical and Electrical works:

10.3.1 List of mechanical and electrical items required to be inspected by the consultant

10.3.1.1 Mechanical
Pumps by type

10.3.1.2 Electrical
Motors by type

- Electrical starters
- Electrical panels
- Switchboards
- Motor control panels
- DC distribution panels
- Induction cum enunciation panels
- Bus ducts,
- Battery chargers etc.
- Transformers HV/ MV/ LV
- Power voltage Current
- Capacitors
- Level switches Electrical cables

10.3.1.3 Miscellaneous

- Earthing equipment
- Lightning arrestors and essential fittings
- Cable trays
- Any other items as specified in the contract documents

10.3.1.4 Inspections
The main headings for these works are as follows:

- Pumps
- Motors
- Electrical panels (HT & LT)
Transformers
- Underground Cables
- Diesel Generators

10.4 Items for third party inspection at site:

Pumps	1.	Review of material test certificate for pump casing, bowls, shaft, impeller bearings, column pip etc.
	2.	Review of factory test results.
	3.	Performance test at site for Head, Discharge, Power Input
	4.	Witnessing performance test at 49 Hz and 50 Hz frequency including vibration measurement covering following tests.
Motors	1.	Visual examination of motor assembly
	2.	Review of test certificate for conductor, starter coil, shaft bearing etc.
	3.	Witnessing routine test at site no load and load test vibration measurement as per IS
	4.	Verification of type test report

	5.	Visual and dimensional check
LT & HT Panel	1	CPRI Certified Panel manufacturer
	2	IR Test report of all HT & LT Breakers
	3	Relevant Test Report of Metering, Relays and CT & PTs.
Transformer	1.	Visual inspection, dimensional check and verification of bill of materials.
	2.	Review of factory test reports
	3.	Witnessing insulation resistance voltage test at HV side and LV side
	4.	Routine tests as per IS:2026
	5.	Verification of type results, temperature rise test, impulse test, insulating oil test (if applicable) etc.
	6.	Witnessing all routine and type test as per IS:2834 such as sealing test, test for output/ capacitance, insulation resistance test between terminals. Containers and loss angle measurement, test for efficiency of discharge device, test for dielectric loss angle, thermal stability test, self-healing test, voltage test between terminals
	7.	Visual and dimensional check
	8.	Witnessing routine test as per IS:1554
	9.	Witnessing insulating test, resistance test, current rating test, star reactance test, star capacitance test, short circuit current test, voltage drop test
	10.	Earth resistance test for Body and Neutral
Pipe and specials	1.	Visual and dimensional check
	2.	Review of chemical and physical test certificates as per the relevant Indian Standard specifications.
	3.	Witnessing hydrostatic pressure test as per the relevant Indian Standard specifications
	4.	Checking the integrity of epoxy lining for MS pipes at joints after laying and jointing pipes
Valves	1.	Visual and dimensional check
	2.	Review of material test certificates for valve body and internals
	3.	Operational smoothness
	4.	Witnessing hydrostatic test/ leakage test as per applicable code
UG Cables	1	Hi Pot & IR Test Report
	2	Joint Testing & Cable layout & Depth Records
Diesel generating sets	1.	Review of tests as specified in relevant IS or Special Specifications
	2.	Full load test for 6 hours
	3.	Over load test as per OEM schedule.
	4.	Insulation test
	5.	Earth Resistance test

10.5 Mechanical and electrical work

The standard and special specifications shall be referred, to determine the scope of the work to be undertaken. Test of earthing and lightning protection systems shall be included.

10.6 Quality monitoring during construction of pipelines

- Checking pipe work excavation levels, randomly Checking effectiveness of pipe joints
- Inspection of manholes, chambers and other structures
 - Base levels and concrete thickness
 - Walls
 - Roof slabs and covers
- Checking sewers for water tightness

10.7 Quality monitoring of buildings works

The total quality monitoring of various works will be included but not be limited to the following

- Quality of materials
- Quality of construction of various works w.r.t. strength, performance, functionality etc. during different stages of construction
- Workmanship & Finishes
- Performance of mechanical and electrical equipment and systems

10.8 Quality of materials

The checking of quality of materials includes

- Physical examination
- Review of tests reports
- Collecting representatives samples wherever possible and conducting necessary tests for confirmation
- Informing the concerned agencies regarding the acceptance of material or otherwise
- Witnessing the performance tests on machinery carried out by the manufacturer at his factory, before dispatching to site.

10.9 Quality monitoring during construction

During the course of construction, undertake unannounced visits to check the quality of construction at various stages of the work such as:

10.9.1 Foundation stage

- Dimensional verification of selected footings
- Checking the layout marking and centre lines, at random
- Checking the reinforcement fabrication, at random
- Checking the concreting arrangements and witnessing concreting of a few footings at random.

10.9.2 Plinth stage

- Checking the quality of masonry
- Checking the reinforcement fabrication of plinth beams at random
- Checking the quality of concrete in plinth beams, at random
- Checking adequacy and compaction of floor filling, at random

10.9.3 Lintel stage

- Checking the quality of masonry with emphasis to joints, joint mortar, curing, etc.
- Checking the quality of column concrete
- Checking the reinforcement fabrication of lintels, at random
- Checking the quality of concrete in lintels

10.9.4 Roof stage/ slab stage

- Checking the quality of shuttering and formwork, with emphasis on lines and levels. Checking the reinforcement fabrication of selected panels
- Checking the arrangements for concreting, vibration and curing
- Checking the concrete while concreting, with respect to mix proportion, W/C ratio and compaction
- Checking steel sheet fabrication for roof, roofing sheets and fencing and fixings

10.9.5 Finishing stage

- Checking the quality of flooring with respect to levels and smoothness at random
- Checking the door and window joinery with respect to workmanship and fixtures, at random
- Checking the plaster in walls and ceiling with regard to proportions, line and level and curing at random

- Checking the finishing works at random such as painting, fixing of tiles, sanitary fixtures, and steel grill works, etc.
- Observation for dampness

10.9.6 Quality monitoring during services & Infrastructure construction stage

- Checking pipe work excavation levels, randomly
- Checking effectiveness of pipe joints
- Inspection of manholes, chambers and other structures
- Checking of other work in filling for consolidation / OMC.

10.10 Quality monitoring during construction of landfills

- Checking the level of excavation, plan dimensions and side slopes
Checking the type of soil available and its uniformity in the site
- Verifying the soil with respect to its suitability for mixing with bentonite / binding material in achieving required permeability
- Mixing of bentonite / binding material and compaction of layers through testing on compacted layers
- Checking the thickness of mixed liner through physical measurement at representative locations
- Checking the thickness of HDPE / Geosynthetic liner
- Checking the efficiency of jointing through appropriate tests
Checking the laying of HDPE / Geosynthetic liner.

10.11 GENERAL TESTS ON MATERIALS:

10.11.1 Test on Cement

- Standard consistency
- Fineness
- Initial and Final setting times
- Soundness
- Compressive strength
- Specific gravity
- Tests on fine aggregate
- Tests on coarse aggregate
- Compressive strength of Concrete (Cubes)
- Tension test on steel rods
- Tests on bricks
- Concrete Mix Design
- Sieve Analysis of fine coarse aggregates

10.11.2 Tests on Coarse Aggregates

- Impact value
- Crushing value
- Loss Angles abrasion
- Flakiness/Elongation Index
- Water absorption
- Specific gravity
- Stripping value

10.11.3 Test on Fine Aggregates

- Specific gravity

- Bulking
- Density
- Soundness tests 5 cycles.

10.11.4 Mix Design

- Job mix formulae for anyone of BM, DBM, BC Mix seal etc.
- Pavement Quality Concrete (PQC), RCC, PCC.
- Marshal Stability testing on bituminous.
- Mixes or hardness test for mastic asphalt on prepared sample

10.11.5 Field test

- Pavement design of sub grade by CBR method, GSB tests
- WBM tests
- Laying jointing and pipe line test
- Other tests like electrical works as per IS specifications for cables and materials agreement, specifications of contractors.

The above is an indicative list only, and the Consultant shall be conducting all reasonable test as per best industry practice and professional techniques and technology to provide the quality as envisaged in the terms of Contract. The indicative list of Equipments for conducting various Test is at Annexure III

In addition, the consultant need to check the manufactures test certificates for the materials like pipes & fittings, electrical items Steel, Cement, Bitumen (for Grade) etc. The contractor will have to provide these certificates, to the consultants at the time of inspection. The indicative Reporting requirements and field studies/ tests to be submitted by the consultant at Annexure IV

The consultant shall faithfully conduct tests/checks and sampling required to be executed as per CTE guidelines/IS Codes/CPWD Manual/NBC Standard specifications/IRC specifications/MORTH/1st PH & MED specifications by the contractors.

The consultant will be fully responsible for the authenticity of the test results and submit test results in original to the General Manager (QC) without hindrance of work.

Assessment about the process involved in the construction, like curing, pitting etc.

Above all, the Consultant must ensure that energy efficiency and environment• friendliness of all constructions and interventions are maintained and also ensure the same about the performance of the equipment procured.

11.0 INDICATIVE LIST OF EQUIPMENTS:

- 11.1 Survey instruments including total station.
- 11.2 Equipment for condition survey on road and bridges
- 11.3 Sieves of all sizes i/c sieve shaker and balances of requires capacity
- 11.4 Cube strength testing machine
- 11.5 Core cutting machine
- 11.6 Equipment for cement testing
- 11.7 USPV (Ultra Sonic Pulse Velocity) Meter
- 11.8 Moisture meter
- 11.9 Hammer of all sizes requires to be used in building work
- 11.10 Rebound hammer
- 11.11 Leak Detection Equipments
- 11.12 Other miscellaneous equipment such as Screw Driver, Plumb Bob, Ovens, Slump Cone, graduated Measuring Cylinders of required capacity, Gauge Tape, Vernier Calliper, Magnifying Glass, Sprit Level, Vibration Table, Dial Gauge etc
- 11.13 Project specific instrument, if any, required
- 11.14 For E&M Works-
 - 11.14.1 Megger for IR Testing of UG Cables & Equipments.
 - 11.14.2 Hi-Pot Tester for HT UG Cables.
 - 11.14.3 Temperature (WB & DB) measuring Instruments.
 - 11.14.4 Digital MultiMeter.
 - 11.14.5 Portable Weighing Instruments.
 - 11.14.6 Earth Tester.
 - 11.14.7 Any other specialized Instruments.

12.0 REPORTING REQUIREMENTS AND FIELD STUDIES/ TESTS

Name of Report	Contents	Frequency
Field Quality Audit Report	Field / laboratory test report, observations, analysis and recommendations for further action etc.	Immediately upon completion of field visit/ lab test
Periodic / Fortnightly Reports (as outlined in stages)	Abstract of Field Test Reports, General Contract Summary, Issues for follow up and compliance, special recommendations on any modification required.	Within one week of the completion of the stage
End of Project Report	Contract summary, brief description of services, special events.	One month before contract completion
Day to Day inspection report	Field tests /observations analysis of processes and recommendations	Immediately upon observation of non-standard engineering process

Availability of Statutory Compliance & Reconciliation Records:

- 1. Compliance of Structural Vetting.**
- 2. Compliance of Building Energy Efficiency Standards (GRIHA/ LEEDs etc.)**
- 3. Compliance of Pollution Control Authority.**
- 4. Forest Clearance.**
- 5. Fire Safety Clearance.**
- 6. Electrical Safety Clearance from CEA and State Electricity Safety Regulatory Body.**
- 7. Lift Safety regulatory Body.**
- 8. Checking of Marked up GFC drawings and As built drawings submitted by PMC & Architect.**