

#### INTRODUCTION

National Institute of Ocean Technology (NIOT) is the technical arm of the Ministry of Earth Sciences, Government of India and is involved in developing technology for utilizing ocean resources in an eco-friendly manner.

#### **Notice Inviting Tender (NIT)**

National institute of Ocean Technology invites e-bids for the **Offshore Geotechnical Investigation off Nellore, Ennore and Chennai coasts** as per Technical specifications in the special condition of the contract (SCC) as Annexure – I, Appendix – I – IV.

# **General Conditions of the Contract (GCC)**

1. <u>Submission of bids</u>: Bidders are requested to submit their Bid/quotation in two parts containing Technical proposal as Part-1 and price bid (BOQ) as Part-2 should be submitted electronically through **GeM Portal https://gem.gov.in/.**The responsibility to ensure timely submission of bid lies with the bidder. Bids submitted through FAX or e-mail will not be considered. Bidders shall also attach scanned copies of all the requisite documents i.e. other certificates/documents specified in the tender documents. The bids are to be submitted (electronically) as per the bidding type indicated in the front page of the NIT. The bidders are advised to register with GeM portal. Bidders are advised to submit their quotationin two Parts, **no manual tender is acceptable**.

Part-1 should contain Techno-Commercial Bid and duly signed blank price bid (without indicating the cost). All documents to be submitted for tender to be uploaded in the portal only. The price/cost should not to be revealed in the technical bid, if the price/costis revealed, the tender will be treated as invalid.

The bids are to be submitted as per the bidding type indicated in the front page of the NIT. **Part-2** should contain only the price bid indicating the cost

The Part-1(Technical bid) and Part-2 (Price bid) should be uploaded separately, indicating the Tender No, Tender date, Tender due date and time. Please note that to participate in the tender. If you are a regular supplier of NIOT it is requested to register your company with portal and to procure if not owned already.

2. NIT: NIT shall form part of the work order

#### 3. Pre-Qualification criteria:

#### (a) Technical

1. The Bidder should have completed at least three similar works (geotechnical investigation work in marine/offshore environment) during the last seven years. They should attach necessary documents like work orders, work completion certificates for the above-mentioned projects. Only works completed before the last date of bid submission shall be considered.

- 2. The work order value of the completed similar projects during the last 7 years should be one of the following:
  - a. Three similar completed works costing not less than 29 lakhs each or
  - b. Two similar completed works costing not less than 36 lakhs each or
  - c. One similar completed work costing not less than 58 lakhs
- 3. Should provide a proposed detailed work plan and time schedule to complete the scope of work in the stipulated Time.

# **Technical Proposal**

While submitting the Technical Proposal as per APPENDIX -I, the Applicant shall, in particular, ensure that:

- a) A detailed work plan (APPENDIX II) for the preparation of the project schedule and project methodology is included.
- b) Details of technical expertise (APPENDIX III) (brochures, published articles, client reference, executed work orders) of the firm(s).
- c) Bid proposal letter in the prescribed format is attached along with the relevant supporting documents to establish the pre-qualification criteria.
- d) Technical compliance shall be furnished as per APPENDIX IV along with the offer, confirming compliance with all the terms and conditions of the tender document.

The Technical Proposal shall not include any financial information relating to the Financial Proposal. Failure to comply with the requirements spelt out in this section shall make the Bid liable to be rejected.

The proposed team shall be composed of experts and specialists (Professional Personnel) in their respective areas of expertise and managerial/support staff (Support Personnel) such that the contractor should be able to complete the consultancy within the specified time schedule. The key personnel shall be included in the proposed team of Professional Personnel. Other competent and experienced Professional Personnel in the relevant areas of expertise must be added as required for the successful completion of this work. The CV of each such Professional Personnel, if any, should also be submitted.

#### **Evaluation**

NIOT shall technically evaluate the Contractors based on their completed geotechnical investigation projects in marine environment (pre-qualification criteria) and the submitted technical proposal. Further only the technically qualified Contractors/Applicants will be considered for financial evaluation.

#### (b)- Financial -

(i) The average annual financial turnover of 'The bidder' during the recent three financial year ending 31.3.2023 should be at least **INR 22 lakh**, for the purpose of assessing the financial strength. The documents should, duly be authenticated by a Chartered Accountant/Cost Accountant in India.

- (ii) a) 'Doctrine of Substantial Compliance': The Pre-Qualification Bidding (PQB) and Pre-Qualification Criteria (PQC) are for short listing of sources who are competent to perform this contract to ensure best value for money from expenditure of Public Money. This process is neither intended to bestow any entitlement upon nor to create any rights or privileges for the Bidders, by way of overly hair-splitting or viciously legalistic interpretations of these criteria, disregarding the very rationale of the PQB and PQC. Keeping this caveat in view, interpretation by procuring entity would be based on common usage of terminologies and phrases in public procurement in accordance with the 'Doctrine of Substantial Compliance' and would be final.
- b) Along with all the necessary documents/certificates required as per the tender conditions, The bidder should furnish a brief write-up, backed with adequate data, explaining his available capacity (both technical and financial), for manufacture and supply of the required goods/equipment, within the specified time of completion, after meeting all their current commitments.
- c) Supporting documents submitted by the bidder must be certified as follows:
- (i) All copy of supply/work order; respective completion certificate and contact details of clients; documents issued by the relevant Industries Department/National Small Industries Corporation (NSIC)/manufacturing licence; annual report, etc., in support of experience, past performance and capacity/capability should be authenticated by the by the person authorized to sign the tender on behalf of the bidder. Original Documents must be submitted for inspection, if so demanded.
- (ii) All financial standing data should be certified by certified accountants, for example, Chartered Accountants/Cost Accountants or equivalent in relevant countries; and Indian bidder or Indian counterparts of foreign bidders should furnish their Permanent Account Number (PAN).

#### **INSTRUCTION TO BIDDERS:**

- **4.** <u>Security:</u> Any information /material/document uploaded along with this tender or after award of work order should not be disclosed or copied without written permission from NIOT.
- **5.** <u>Contacting NIOT:</u> No correspondence / discussion / visits whatsoever will be entertained on the subject unless specifically called by this office after opening the tender forclarifications in writing. Any violation of this will render the quotation invalid and the firm is liable to be removed from our approved vendor list. However, if bidder requires any clarification on the bid, the query may be mailed to the mail ID **hvt@niot.res.in**
- **6.** <u>Tender Opening:</u> All the tenderers can participate in the e-tender opening with proper authorization letter from the respective Company.

- **7. Default in Performance**: If any bidder is not successfully discharging their contract obligations against the awarded contract on them by NIOT within the agreed time limit, (OR) if there is any deficiency in performing such obligations, NIOT reserves the right to suspend such bidder from their participation in future tenders of NIOT for a period of one year. Even after revoking the suspension period the bidder's performance still continues to be the same without any improvement, NIOT reserves right to BAN such bidder permanently from participation in all the tenders of NIOT and organizations of MOES.
- **8.** <u>Services</u>: Services should be commence only after receipt of duly signed work order from NIOT
- **9.** <u>Work Order Acceptance</u>: The successful bidder should accept the WO within 15 days from the date of receipt of the WO, failing which it shall be presumed that the bidder is not interested, and the EMD submitted will be forfeited.
- **10.** Change of Name after award: Request / intimations with regard to change of name of the contracting company or constitution of the contractor after the tender opening or award of contract shall not be allowed as a matter of right. The bidders/ contractors are required to submit all relevant documents with regard to change of name or /and change of constitution and the circumstances leading to such change beforehand. It shall be the discretion of NIOT to proceed with the contract after such changes and in case, NIOT decides to proceed with the contract, it may require the contractor to execute further agreements with regard to execution/implementation of the contract.
- **11.** One Bid per Bidder: A firm shall submit only one bid either individually or as a partner of a joint venture. A firm that submits either individually or as a member of a joint venture, if a bidder submits more than one bid will result in rejection of all the bids.

#### **BIDDING CONDITION**

- **12.** <u>Deadline for Submission of Bids:</u> Bids must be received by NIOT at the GeM portal specified in the Invitation for Bids cover page on or before the due date/ extended due date thereof.
- **13.** <u>Due date Extension, Corrigendum to NIT:</u> Any corrigendum including due date extension for NIT, Pre-bid minutes of meeting will be notified in GeM portal and NIOT website. Hence bidders are requested to watch NIOT website/ GeM portal for such due date extension and corrigendum, if any.
- **14.** <u>In case of the unscheduled holiday in Chennai</u> being declared on the prescribed closing / opening day of the tender, the next working day will be treated as the scheduled prescribed day of closing/opening day of the tender.
- **15.** <u>Unsolicited correspondences:</u> NIOT will not entertain any unsolicited correspondence or queries on the status of offer against this tender.

- **16. Non-Receipt of Tender:** NIOT will not be responsible for the non-receipt of the tender due to any network problem.
- **17.** <u>Submission of tender by a tenderer</u> implies that he has read the Notice Inviting Tender and has made himself aware of the scope and specifications of the work to be done; conditions and rates at which stores, tools and plant etc. will be issued to him by NIOT; local conditions and other factors bearing on the execution of the works.
- **18.** EMD/Bid security: The EMD/Bid security is mandatory as indicated in the cover page and should be submitted along with the technical bid for the value indicated in the front page of this tender document. The EMD/Bid security is mandatory requirement as indicated in the cover page and should be submitted along with the technical bid for the value indicated in the front page of this tender document. Bids without EMD will be summarily rejected.

The EMD /bid security may be accepted in the following form

- (1) Insurance Surety Bonds,
- (2) Account Payee Demand Draft (drawn in favour of" NIOT other Receipt Account", Chennai in INR or in equivalent foreign currency),
- (3) Fixed Deposit Receipt,
- (4) Banker's Cheque or Bank Guarantee from any of the Commercial Banks. (Bank Guarantee as per prescribed format available in the NIOT web site at the link

https://www.niot.res.in/index.php/vendor/login

(5) Online payment in an acceptable form.

If the EMD (scanned copy of the instrument of EMD) is not submitted along with Technocommercial (Part-I). The bid will be summarily rejected. The original EMD should be submitted (or) reach NIOT on or before closing date the time of the tender.

# MSME Clause:

"Micro and Small Enterprises (MSEs) as defined in MSE Procurement Policy issued by Department of Micro, Small and Medium Enterprises (MSME)" are exempt from submission of EMD (Bid security). Bidders claiming exemption of EMD under this rule (170 of GFR) are however required to submit a signed bid securing declaration (format to be enclosed) along with the relevant and valid exemption certificate issue by the appropriate authorities. accepting that if they withdraw or modify their Bids during the period of validity, or if they are awarded the contract and they fail to sign the contract, or to submita performance security before the deadline defined in the request for bids document, they will be suspended for the period of one year from being eligible to submit Bids for tenders with NIOT and all the departments under MoES." The bid declaration format to be attached in the Annexure.

#### **MSME Conditions:**

- (a) The MSE's bidder who claim EMD request should submit the relevant document towards investment on equipment and machinery.
- (b) the MSE's bidder to note and ensure that nature of service and goods/items

manufactured mentioned in MSE's certificate matches with the nature of the service and goods/item to be supplied as per tender.

(c) Retail & Whole sale Traders : Any bidder who are retailer / Traders claim EMD / Bid security exemption shall refer Ministry OM 5/2(2)/2021-E/P&G/Policy dtd 02.07.2021 & 5/2(1)2020/E-P&G/Policy dtd 01.12.2020.

The MSME is classified as mentioned below; (Ref Ministry of MSME Notification dated 26.06.2020)

- (i) **Micro Enterprises:** Where the investment in plant and machinery or equipment does not exceed 1 crore rupees and turnover does not exceed 5 crore rupees,
- (ii) **Small Enterprises:** Where the investment in plant and machinery or equipment does not exceed 10 crore rupees and turnover does not exceed 50 crore rupees,
- (iii) **Medium Enterprises:** Where the investment in plant and machinery or equipment does not exceed 50 crore rupees and turnover does not exceed 250 crore rupees
- **19.** <u>Conditions for EMD / Bid Security</u>: EMD shall be returned / discharged to unsuccessful bidders within 15 days after the expiration of the period of bid validity or placement of work order whichever is later. EMD may be forfeited:
- **a.** If a bidder withdraws, modifies for provided unsolicited offer voluntarily revising the price in whatsoever aspect its bid during the period of bid validity specified by the bidder on the bid form or
- b. In case of a successful bidder, fails to furnish order acceptance within 15 days of the work order and / or fails to furnish Performance Security.

EMD for a successful bidder shall be adjusted against performance security payable if submitted in DD / refunded if / performance security is submitted.

- **20. Bid Validity:** Bids shall remain valid and open for acceptance for a minimum period of **90 days** from the date of opening of Un-priced Techno-commercial bids when fully compliant tender is submitted by the bidder without any requirement for NIOT to seek additional documents towards evaluation of pre-qualification and/or in ensuring conformance to the specification/requirements of the tender. In the event of any delay in evaluation attributable to the vendor, bidder shall extend the tender by such a time taken by them in addition to above minimum tender validity period. A bid valid for shorter validity period will be considered as a conditional tender and treated as invalid tender.
- **21. Bid validity extension:** While NIOT will finalize the tender within the bid validity sought as per this NIT, due to circumstances beyond the control of NIOT, prior to expiry of the original bid validity period, **NIOT may request the bidder for a specified extension of the bid validity without modifying RFP or Price.** The request and the responses thereto shall be made in writing. A bidder agreeing to the request will extend the validity of his bid correspondingly. When bid validity is extended EMD BG also deemed to have been extended automatically for which necessary action would be taken by the bidder to submit the extended BG well before the expiry of the current validity.
- **22.** Conditional offers: Conditional offer will not be accepted.

- **23.** <u>Signing of bids</u>: Each page of the tender document shall be digitally signed by the bidder and should be uploaded along with all other documents.
- **24.** <u>The broad configuration</u>: Specification of the proposed purchase /work are given. Bidders are required to keep their proposal strictly as per the specification prescribed.
- **25.** <u>Acceptance of bids</u>: NIOT may accept or reject any/all tenders including the lowest tender without assigning any reasons whatsoever. NIOT also reserves its right to accept any tender in part or parts only with such conditions as it may prescribe. NIOT is not bound to accept the lowest tender. NIOT expects full technical compliance and expectsfull scope of integrated supply as per tender specification and do not accept partial tenders.
- **26.** The compliance sheet with reference to the specifications should be furnished against each parameter while submitting the quotation, which is absolutely necessary. THE TENDERER SHALL SUBMIT TECHNICAL & COMMERCIAL COMPLIANCE SHEETS and BOQ (Price bid) separately ALONG WITH THEIR OFFER. TENDERS WITHOUT COMPLIANCE SHEETS WILL NOT BE EVALUATED. The Price bid should be unconditional.
- **27.** <u>Canvassing</u>: Exerting pressure and/or offering inducement in any form by the bidder or by any other person on behalf of the bidder shall disqualify the bid and lead to its rejection.
- **28. Award:** NIOT shall place the work order for each of the title.
- **29.** <u>Bid or modification</u> to bids received after closing date and time shall not be considered. Such modified bid together with original bid will be summarily rejected. Modification to the bid after opening the bid will not be considered unless specifically requested for by NIOT and only in case if there is an absolute necessity to revise the technical specifications after opening of bid.
- **30.** <u>Unrealistic bids</u> with either cost which is impossible to achieve or for bidders who show that they are completely inexperienced or have completely inappropriate equipment will be rejected.

# TERMS AND CONDITIONS GOVERNING THE CONTRACT

#### 31. Place of Ouotation:

**Local firms inside Chennai:** Quotations should indicate the cost with free delivery upto NIOT. If quote is for Ex-Godown rate delivery charges should be indicated separately and explicitly. The word "Extra" shall be avoided.

**Firms outside Chennai:** Quotations should be F.O.R, NIOT, Chennai. If F.O.R. consignment freight charges by passenger train / Road transport must be indicated. If EX- Godown, packing and forwarding and freight charges must be indicated separately. Goods should be supplied carriage paid and insured for Contractor godown to consignee warehouse Chennai.

**32. Price**: The price shall include but not limited to

- a) Costs of goods/ services covered in this work order.
- b) Taxes and duties
- c) Transportation.
- **33. GST**: The rates of taxes will be as per Indian government norms:

GST will be paid as per the applicable HSN code as applicable.

# **Deductibles:**

<u>a)</u> Deduction of Indian Income Tax Deduction at Source for the Indian bidders: TDS will be deducted as applicable for service portion at prevailing rates. Valid Permanent Account Number (PAN) is mandatory.

# b) GST-TDS:

GST-TDS is deductible on supply of goods or Service in respect of Intra – State supplies at the rate of 2% (CGST @1% and SGST @ 1%) and also in case of Inter-State supplies @ the rate of 2% from the payment made or credited to the supplier of taxable Service.

- **34.** <u>Guaranteed time of completion specific performance of contract:</u> The time of completion of the scope of the work is the essence of the contract and the progress should be effected as per schedule given in NIT. Willing to hand over the final process data, complete all accepts, within 75 days from the date of issue of the order.
- **35. Extension of delivery period:** If the completion of systems / components is delayed for reasons of force majeure such as acts of God, Acts of Public enemy, acts of Government, fires, floods, epidemics, quarantine restrictions, illegal strikes and freight embargoes, the Contractor shall within 3 days from the date of such occurrence, give notice to NIOT in writing of his claim for extension of delivery period. NIOT on receipt of such notice may agree to extend the Contract delivery date as may be reasonable but without prejudice to other terms and conditions of the contract. Unless the extended delivery period is agreed by NIOT in writing, contractor cannot claim the extension of delivery time as a matter of right. NIOT shall have the right to either cancel/extend the order validity/ levy LD as appropriate.
- **36.** <u>Delay in Completion/Liquidated Damage (LD)</u>: If the successful bidder fails to complete the entire scope of work as per the clause 34 of NIT, NIOT shall recover from the Contractor as liquidated damages a sum of 0.5% of the order value for each calendar weeks of delay. The total liquidated damages shall not exceed 5% (five percent) of the order value of the unit or units so delayed.
- 37. <u>Insurance</u>: The entire scope of work under the work order shall be fully insured

against loss or damage incidental to manufacture or acquisition, transportation, storage and delivery in the manner specified in the NIT. The cost of insurance shall be in the scope of the bidder.

**38.** <u>Risk Purchase:</u> If the Contractor fails to deliver the services or any installment thereof within the period fixed for such delivery or at any time repudiates the Contract before expiry of such period, NIOT is entitled to cancel the order and source remaining work items from any parties to complete the work at the risk and cost of the defaulting Contractor. No payment claimed for any part supplies made.

# 39. Risk and Insurance:

The Bidder/Contractor shall take out and keep in force the following adequate insurance to cover all risks including but not limited to third party risk coverage.

The Bidder/Contractor shall take out and keep in force, adequate insurance in respect of their own as well as hired equipments (to the extent of their insurable interest) tools, materials, marine spreads, vessels, barges, crafts ships and operational facilities used during the entire period of their engagement in connection with the Contractor to the insurable value of such constructional plant, equipment and other things. NIOT shall have no liability whatsoever in this regard. NIOT shall not consider any claim whatsoever, hence Bidder/Contractor shall assess all possible risks and take adequate all risk insurance cover including transit insurance. General terms and conditions for tender submission & evaluation.

NIOT reserves right to reject any or all of the bids received in response to this invitation to tender without assigning any reasons whatsoever.

Bidder shall note that NIOT will not entertain any correspondence or queries on the status of the offers received against this Tender Invitation.

Canvassing in any form by any bidder or by any other agency acting on behalf of the partner after submission of bid may disqualify the said partner. NIOT's decision in this regard shall be final and binding on the partner.

**40.** <u>Discounts:</u> Bidders are advised not to indicate separate discounts. Discounts, if any, should be duly considered and net rate should be quoted in the BOQ/Price Bid.

#### 41. Performance Security:

The successful bidders should deposit 5% of the contract value as Performance Security within two weeks from the date of issue of work order. The Performance security may be accepted in the following form

- (1) Insurance Surety Bonds,
- (2) Account Payee Demand Draft (drawn in favour of" The Director N.I.O.T", Chennai in INR or

in equivalent foreign currency).

- (3) Fixed Deposit Receipt from any Commercial Bank.
- (4) Bank Guarantee from any of the Commercial Banks.
- (5) Online payment in an acceptable form.

Performance security shall be forfeited in the event of breach of Contract by the Contract in terms of the Contract. If Performance Security is not paid within the specified time, NIOT reserves its right to cancel the order and forfeit the EMD /Bid security.

Bank Guarantee shall be as per prescribed format issued by a Commercial bank and valid for 60 days beyond the scheduled delivery / completion period as per work order. This format can be downloaded from the link https://www.niot.res.in/index.php/vendor/login. Performance security shall be forfeited in the event of breach of Contract by the Contract or in terms of the Contract.

# 42. Payment Schedule for the Deliverables

The total duration for Site investigations, laboratory tests and preparation of reports is 75 days from the date of work order excluding the time taken by the authority in conveying its comments on the draft report. The Time and payment schedule are given below:

S. No.	Specific Deliverables	Payment
i.	Completion of soil investigations at field and certification by NIOT	50%
ii.	Completion of all laboratory tests and submission of laboratory results and draft reports to NIOT	30%
iii.	Submission of final soil investigation results reports incorporating NIOT suggestions.	20%
	Total	100%

All the study outputs including primary data shall be compiled, classified and submitted by the Contractor to NIOT in soft form apart from the reports indicated in the deliverables. The study outputs shall remain the property of the NIOT. The consultancy shall stand completed on acceptance of all the deliverables of the contractor by NIOT.

**43.** <u>Force Majeure</u>: For purposes of this Clause, "Force Majeure" means an event beyond the control of the Contractor and not involving the Contractor's fault or negligence and not foreseeable. Such events may include, but are not limited to, acts of NIOT either in its sovereign or Contractual capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions and freight embargoes.

If a Force Majeure situation arises, the Contractor shall promptly notify NIOT in writing of

such conditions and the cause thereof. Unless otherwise directed by NIOT in writing, the Contractor shall continue to perform its obligations under the Contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.

# 44. <u>Arbitration / Disputes</u>:

In the event of any dispute, difference, interpretation or application relating to this agreement arises; the same shall be settled amicably by the parties. In case the dispute or differences could not be settled amicably, the same shall be referred for adjudication through arbitration by an arbitrator to be appointed by the Director, NIOT with mutual consent.

The Indian Arbitration shall be concluded in accordance with the provisions of Arbitration & Conciliation Act, 1996 or any statutory modifications or re-enactment thereof and the rules made there under and for the time being tin force shall apply to the arbitration proceedings. Venue of such arbitration shall be at Chennai in India. The language of arbitration proceedings shall be English. The Arbitrator shall make reasoned award (the "award"), which shall be final and binding on the parties. The cost of the arbitration shall be shared equally by the parties to the contract. However, expenses incurred by each party in connection with the preparation, presentation etc., shall be borne by each party.

- **45. SUBMISSION OF TECHNICAL DOCUMENT:** Specifications are basic essence of the product. The broad configuration / specification of the proposed service are given in NIT the Special Conditions of the contract (SCC). It must be ensured that the offers are strictly as per our specifications as mentioned in the Appendix I IV and Annxure I of NIT(SCC). At the same time, it must also be kept in mind that merely copying our specifications in their quotation shall not make firms eligible for consideration. Technically unsuitable offers and offers not confirming to tender schedule shall be rejected.
- a. The bidder is required to provide their comments item-by-item on the compliance sheet provided in the Appendix I IV and Annxure I of NIT (SCC). Wherever the specified parameter is required within a range, the calculated/ estimated value as per the vendor's design is to be provided in the "Remarks" column. Deviations/exceptions, if any, from the specifications to be recorded in the "Remarks" column.
- b. Offer must contain all relevant technical details. Relevant preliminary drawings (if any) pertaining to the quoted designs, duly signed by the authorized official shall be sent along with the quotation. Wherever mentioned, documentary evidence has to be enclosed in the quotation. Any erasures / over writing shall be counter signed by the person who is signing the bid. Any interlineations, erasures or overwriting shall be valid only if the person or

persons signing the bid sign them.

**c.** NIOT will not provide any test procedures. All relevant required tests as mentioned in the technical specification to conduct within the quote price.

**46. ASSIGNMENT AND SUBCONTRACTING** The Contract shall not assign the Contract or any part thereof, or any benefit or interest therein or hereunder, nor assume a fresh partner or partners nor dissolve the partnership at present subsisting between them in reference to this Contract without a formal written request and approval by NIOT. Also, the Contract shall not assign the Contract or any part thereof, or any benefit or interest therein or hereunder, nor assume a fresh partner or partners nor dissolve the partnership at present subsisting between them in reference to this Contract without a formal written request and approval by NIOT. Also, partnerships or third-party vendors during Tender should not be altered without a written approval.

### 47. Eligible Bidders

Bidders should not be associated, or have been associated in the past, directly or indirectly, with a firm or any of its affiliates which have been engaged by the Purchaser to provide consulting services for the preparation of the design, specifications, and other documents to beused for the procurement of the goods to be purchased under this Invitation of Bids.

The bidders who have been temporarily suspended or removed from the list of registered suppliers by the purchaser or banned from Ministry/country wide procurement shall be ineligible for participation in the bidding process.

**48. Pre Bid meeting:** Pre bid meeting will be held **11.07.2024 at 11:00 AM (through webex)** through video conference to clarify queries from all potential bidders. Potential bidders are advised to send their queries sufficiently in advance by email to <a href="htt@niot.res.in">htt@niot.res.in</a>. The meeting link will be uploaded as a corrigendum. A Corrigendum will be issued based on pre-bid meeting clarifications and shall form partof the NIT.

# 49. Termination of contract by NIOT:

- a) The contract shall become effective from the date of signing of contract and the contract shall automatically get terminated after successful completion of all contractual obligation and warranty obligation as per the terms of the contract.
- b)
- (i) Termination of the contract due to breach of contract by the contractor
- (ii) Termination of contract due to default,
- (iii) Termination of the contract due to insolvency,
- (iv) Termination of the contract for convenience.

If the termination of the contract happens due to the above factors, [(i), (ii) &(iv)] initially the written notice will be issued within 30 days to settle the issue on mutually agreed terms with mutual consent.

**50.INDEMNITIES:** The Contractor hereby agrees to indemnify and hold harmless NIOT and its Director, officers and employees, from and against any and all suits, losses, liabilities, damages, claims, settlements, costs and expenses, including reasonable attorneys' fees, based on or arising, directly or indirectly, from:

- i. Breach of this Contract/Agreement by the Contractor.
- **ii.** Not performing the Scope of Work or any other obligation under this Agreement or Tender in accordance with the provisions and schedules of this Agreement or the Tender.
- **iii.** Violation or contravention of any Legislation on the part of the Contractor.
- **iv.** Any negligence or wilful misconduct of Contractor, which violates any provision of this Agreement.
- v. Infringement of any intellectual property belonging to any third party by the Contractor.
- **vi.** Any breach of an agreement or misunderstanding between Contractor and any and all Third Parties due to which a liability arises on NIOT.
- **vii.** Any claim that any representations or warranties contained herein are not true or any breach thereof.
- viii. Any loss or damage caused by the Contractor to NIOT, its personnel or property.
- **ix.** Any loss or damage caused by the Contractor to any and all Third Parties for which a claim against NIOT has arisen.
- **x.** Breach, expiry, cancellation, revocation or invalidity of any and all licenses, permits, authorizations and registrations which the Contractor is required to obtain, keep valid and comply with under any Legislation in order to perform its obligations hereunder.
- **xi.** Any obligation of the Contractor performed by NIOT under this Agreement or under any Legislation.

# 51. Confidentiality

- 51.1. Information relating to the examination, evaluation, comparison, and post qualification of bids, and recommendation of purchase order award, shall not be disclosed to bidders or any other persons not officially concerned with such process until Award of the Purchase order. However, decisions taken during process of tender evaluation shall be hosted on e-wizard portal.
- 51.2. Any effort by a Bidder to influence the Purchaser in the examination, evaluation, comparison, and post qualification of the bids or purchase order award decisions may result in the rejection of its Bid.

# 52. Cost of Bidding

The Bidder shall bear all costs associated with the preparation and submission of its bid, and "the Purchaser", will in no case be responsible or liable for these costs, regardless of the conduct or outcome of the bidding process.

#### 53. Code of Integrity for Public Procurement

**53.1**. The purchaser requires that the bidders, suppliers and purchase orders observe the highest standard of ethics during the procurement and execution of such purchase orders. In pursuit of this policy, the following are defined:

Sr. No. Term Meaning

# (a) Corrupt practice

The offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence the action of a public official in the procurement process or in purchase order execution.

# (b) Fraudulent practice

A misrepresentation or omission of facts in order to influence a procurement process or the execution of a purchase order.

# (c) Collusive practice

Means a scheme or arrangement between two or more bidders, with or without the knowledge of the purchaser, designed to establish bid prices at artificial, non-competitive levels.

#### (d) Coercive practice

Means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the procurement process or affect the execution of a purchase order.

# (e) Anticompetitive practice

Any collusion, bid rigging or anti-competitive arrangement, or any other practice coming under the purview of the Competition Act, 2002, between two or more bidders, with or without the knowledge of the purchaser, that may impair the transparency, fairness and the progress of the procurement process or to establish bid prices at artificial, non-competitive levels

# (f) Conflict of interest

participation by a bidding firm or any of its affiliates that are either involved in the consultancy purchase order to which this procurement is linked; or if they are part of more than one bid in the procurement; or if the bidding firm or their personnel have relationships or financial or business transactions with any official of purchaser who are directly or indirectly related to tender or execution process of purchase order; or improper use of information obtained by the (prospective) bidder from the purchaser with an intent

to gain unfair advantage in the procurement process or for personal gain

# (g) Obstructive practice

materially impede the purchaser's investigation into allegations of one or more of the above mentioned prohibited practices either by deliberately destroying, falsifying, altering; or by concealing of evidence material to the investigation; or by making false statements to investigators and/or by threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation; or by impeding the purchaser's Entity's rights of audit or access to information

- 53.2. The Purchaser will reject a proposal for award if it determines that the Bidder recommended for award has, directly or through an agent, engaged in corrupt, fraudulent, collusive or coercive practices in competing for the Purchase order in question.
- 53.3. The bidders/suppliers should sign a declaration about abiding by the Code of Integrity for Public Procurement and submit it in the form as per Annexure-II along with bid documents. In case of any transgression of this code, the bidder is not only liable to be removed from the list of registered suppliers, but it would be liable for other punitive actions such as cancellation of purchase orders, banning and blacklisting or action by Competition Commission of India, and so on.
- 53.4. Obligations for Proactive disclosures
- a) The Purchaser as well as bidders, suppliers, purchase orders and consultants, are obliged under Code of Integrity for Public Procurement to sue-moto proactively declare any conflicts of interest (coming under the definition mentioned above pre-existing or as and as soon as these arise at any stage) in any procurement process or execution of purchase order. Failure to do so would amount to violation of this code of integrity.
- b) The bidder must declare, whether asked or not in a bid document, any previous transgressions of such a code of integrity with any entity in any country during the last three years or of being debarred by any other Procuring Entity. Failure to do so would amount to violation of this code of integrity.
- c) To encourage voluntary disclosures, such declarations would not mean automatic disqualification for the bidder making such declarations. The declared conflict of interest would be evaluated and mitigation steps, if possible, taken by the purchaser.

### 53.5. Punitive Provisions

Without prejudice to and in addition to the rights of the Purchaser to other penal provisions as per the bid documents or purchase order, if the Purchaser comes to a conclusion that a (prospective) bidder/supplier, directly or through an agent, has violated this code of integrity in competing for the purchase order or in executing a purchase order, the purchaser may take appropriate measures including one or more of the following:

- a) If his bids are under consideration in any procurement:
- i. Forfeiture or encashment of bid security;

- ii. Calling off of any pre-purchase order negotiations; and
- iii. Rejection and exclusion of the bidder from the procurement process.
- b) If a purchase order has already been awarded
- i. Cancellation of the relevant purchase order and recovery of compensation for loss incurred by the Purchaser;
- ii. Forfeiture or encashment of any other security or bond relating to the procurement;
- iii. Recovery of payments including advance payments, if any, made by the purchaser along with interest thereon at the prevailing rate.
- c) Provisions in addition to above:
- i. Removal from the list of registered suppliers and banning/debarment of the bidder from participation in future procurements of the purchaser for a period not less than one year;
- ii. In case of anti-competitive practices, information for further processing may be filed under a signature of the Joint Secretary level officer, with the Competition Commission of India:
- iii. Initiation of suitable disciplinary or criminal proceedings against any individual or staff found responsible.

# 54. Amendment to Bidding Documents

In order to allow prospective bidders reasonable time to take the amendment into account while formulating their bids, the Purchaser, at its discretion, may extend the due date for the submission of bids and host the changes on the GEM portal through a corrigendum

- **55. Documents Establishing Goods' Goods'** Eligibility and Conformity to Bidding Documents
- 55.1. To establish the goods' eligibility, the documentary evidence of the goods and services eligibility shall consist of a statement on the country of origin of the goods and services offered which shall be confirmed by a certificate of origin at the time of shipment.
- 55.2. To establish the conformity of the goods and services to the specifications and schedule of requirements of the bidding document, the documentary evidence of conformity of the goods and services to the bidding documents may be in the form of literature, drawings and data, and shall consist of:
- a) A detailed description of the essential technical and performance characteristics of the goods;
- b) A list giving full particulars, including available sources and current prices, of spare parts, special tools, etc., necessary for the proper and continuing functioning of the goods during the warranty period following commencement of the use of the goods by the Purchaser in the Price- bid; and
- c) An item-by-item commentary on the Purchaser's Technical Specifications demonstrating substantial responsiveness of the goods and services to those specifications or a statement of deviations and exceptions to the provisions of the Technical Specifications.

55.3. For purposes of the commentary to be furnished pursuant to above, the Bidder shall note that standards for workmanship, material and equipment, designated by the Purchaser in its Technical Specifications are intended to be descriptive only and not restrictive. The Bidder may substitute these in its bid, provided that it demonstrates to the Purchaser's satisfaction that the substitutions ensure substantial equivalence to those designated in the Technical Specifications.

# 56. Contacting the Purchaser

- **a)** No Bidder shall contact the Purchaser on any matter relating to its bid, from the time of the bidopening to the time the Contract is awarded.
- **b)** Any effort by a Bidder to influence the Purchaser in its decisions on bid evaluation, bidcomparison or Contract award may result in rejection of the Bidder's bid.

#### Post qualification

- **c)** In the absence of pre-qualification, the Purchaser will determine to its satisfaction whether the bidder that is selected as having submitted the lowest evaluated responsive bid is qualified to perform the Contract satisfactorily, in accordance with the criteria listed in the SCC of the NIT.
- **d)** The determination will take into account the Eligibility& Qualification criteria listed in the SCC ofthe NIT and it will be based upon an examination of the documentary evidence of the bidder's qualifications submitted by the bidder, as well as such other information as the Purchaser deems necessary and appropriate.
- **e)** An affirmative determination will be a prerequisite for award of the Contract to the Bidder. A negative determination will result in rejection of the Bidder's bid.

# 57. Bidder's right to question rejection

A Bidder shall have the right to be heard in case he feels that a proper procurement process is not being followed and/or his tender has been rejected wrongly. Only a directly affected bidder can represent in this regard as under:

- 57.1 Only a bidder who has participated in the concerned procurement process i.e. prequalification, bidder registration or bidding, as the case may be, can make such representation.
- 57.2 In case pre-qualification bid has been evaluated before the bidding of Technical bids, an application for review in relation to the technical bid may be filed only by a bidder who has qualified in prequalification bid.
- 57.3 In case technical bid has been evaluated before the opening of the financial bid, an application for review in relation to the financial bid may be filed only by a bidder whose technical bid is found to be acceptable.
- 57.4 In case a Bidder feels aggrieved by the decision of the purchaser, he may then send his representation in writing to the Purchaser's address as indicated in special conditions of Contract (SCC) within 05 working days from the date of communication of the purchaser intimating the rejection for reconsideration of the decision by the purchaser.

- 57.5 Following decisions of the purchaser in accordance with the provision of internal guidelines shall not be subject to review:
- (a) Determination of the need for procurement;
- (b) Selection of the mode of procurement or bidding system;
- (c) Choice of selection procedure;
- (d) Provisions limiting participation of bidders in the procurement process;
- (e) The decision to enter into negotiations with the L1 bidder;
- (f) Cancellation of the procurement process except where it is intended to subsequently re-tender the same requirements;
- (g) Issues related to ambiguity in purchase order terms may not be taken up after a purchase order has been signed, all such issues should be highlighted before consummation of the purchase order by the vendor/contractor; and
- (h) Complaints against specifications except under the premise that they are either vague or too specific so as to limit competition may be permissible.

**Commercial Terms Compliance sheet (To be filled by the bidder)** 

Sl.No	Particulars	Yes	No	Page Ref
1.	Whether Taxes and duties are shown separately in the quote. (Registration numbers for claiming the same to be strictly indicated)			
2.	Whether EMD for <b>Rs.1,44,000/-</b> is enclosedalong with the Technical bid			
3.	Whether accepted to submit the work order acceptance within 15 days from the date of receipt of work order?			
4	Whether submission of Performance Security 5% is acceptable?			
5.	Whether Quote is valid for <b>90 days</b> from the due date of tender or time specified in the tender document whichever is later?			
6.	Whether <b>payment terms</b> of the tender is complied with?			
7.	Whether price is <b>FOR</b> NIOT, Chennai			
8.	Whether the <b>delivery period</b> is acceptable as per tender? (i.e. 75 days from the date of receipt of work order)			
9.	Whether list of deliverables attached and comply as pertender?			
10.	Whether liquidated damage clause is acceptable in case of delayed supply?			
11.	Whether the tender is fully complying with tender specification/Adjustment if no, list out deviations very clearly along with the appropriate reason for the deviation?			
12.	Whether item-wise price is quoted as per price bid andquoted price is realistic?			
13.	Whether copy of duly signed (all pages) tender document NIT and Annexure (I to IV) & Appendix – I – IV are uploaded along with the quotation.			

**Attention:** This table shows the price bid format and shall not be filled. The price shall be filled during financial bid submission only. The price/cost should not be revealed along with techno-commercial bid. In case the price/cost is revealed in the techno-commercial bid, the bid is considered invalid and summarily rejected.

Sl. No	Item of work	Unit	Quantity*	Rate (Rs)	Total (Rs)
1.	Cost for mobilization and demobilization of equipment/ personnel to and from site	LS	1		
2.	Carry out bore holes through all types of overburden soil strata using 150 mm dia, including shifting of platform, 0-10 m from sea bed	m	90		
3.	Carry out bore holes through all types of overburden soil strata using 150 mm dia, including shifting of platform, 10-20 m from sea bed	m	90		
4.	Carry out bore holes through all types of overburden soil strata using 150 mm dia, including shifting of platform, 20-30 m from sea bed	m	90		
5.	Carry out boreholes through rock using a diamond bit with double tube NX size core barrel(maximum of 10m below rock bed). including shifting of platform, 0-30 m from sea bed	m	90		
6.	Conduct all the Field and Laboratory tests (All test as per IS) as specified in tender on soil strata/samples collected at an interval of 1.5m and conduct analysis such as.	Each	180		

	T .			
	1. Natural Moisture			
	Content (NMC),			
	2. Grain Size Analysis,			
	3. Atterberg limits &			
	soil classification,			
	4. Specific gravity,			
	5. Bulk density and dry			
	density,			
	6. Unconfined			
	compressive strength,			
	7. Standard Penetration			
	Test (SPT), Triaxial test			
	(Undisturbed Sample),			
	8. Field Vane Shear			
	Test (Disturbed &			
	Undisturbed Sample),			
	9. Consolidation Test			
	(Undisturbed Sample),			
	10. Free Swell Test,			
	11. Chemical analysis of			
	soil and water (Collected at			
	the bottom of the bore			
	hole),			
	12. Percolation Test etc.			
	Conduct all the field and			
	laboratory tests as specified in this tender on rock strata			
	/ samples collected at an			
	interval of 1.5m (All tests as			
	per IS) and conduct analysis			
	such as			
	1. Visual classification			
	2. Water absorption,			
7.	porosity and density	Each	70	
	3. Specific gravity			
	4. Hardness			
	5. Slake durability			
	6. Unconfined			
	compression test (both at			
	saturated and at in-situ			
	water content)			
	7. Point load strength			
	/ . I offictional strength			

	8. Deformability test (both on saturated and dry samples)			
8.	Preparation and submission of detailed report with necessary graphs and drawings with recommendations.  (Both hard & soft copy)	LS	1	
9.	Total amount for F O R, NIOT Chennai (Including GST)			
(Total V Rupees	Value in words			only)

- The final payment will be made based on the actual work done and accepted by NIOT for the exact length of soil/rock encountered at the site.
- Note: The basic price should be inclusive of all including GST.

Annexure \_I

**SPECIAL CONDITIONS OF THE CONTRACT (SCC)** 

# OFFSHORE GEOTECHNICAL INVESTIGATION OFF NELLORE, ENNORE AND CHENNAI COASTS

National Institute of Ocean Technology (NIOT) is an autonomous body under the Ministry of Earth Sciences and is involved in developing reliable indigenous technologies to solve the various engineering problems associated with harvesting of non-living and living resources in the Indian Exclusive Economic Zone (EEZ). Tenders are invited on behalf of the National Institute of Ocean Technology to conduct an **offshore geotechnical investigation for the proposed coastal observatories off Nellore, Ennore, and Chennai coasts as per the enclosed specifications and scope of work.** 

#### GENERAL

#### Introduction

The coastline is a national heritage, and to sustain it for future generations, proper coastal zone management is essential. Coastal Engineers and Planners require oceanographic data collection in the nearshore region to design structures and for coastal management. NIOT plans to construct coastal observatories in coastal waters to aid data collection throughout the year. The Observatories are proposed at 6–10 m water depths. The sea bed soil profile has to be identified for designing the foundation of the Observatory.

#### **Brief Description of Scope of Work**

The scope of the work includes Offshore Geotechnical Investigation at proposed Coastal Observatory locations along Nellore (off Tupilipalem beach), Ennore (off Ennore creek), and Chennai (off Marina Beach). The geotechnical investigation must be carried out at a water depth of about 6–8m off Nellore and 8-10m off Ennore and Chennai. Soil investigation (Total of Nine boreholes, ie. 3 boreholes each at three sites) must be carried out up to a maximum depth of 30 m or until 10 m in rock strata is reached, whichever is earlier. The soil investigation will consist of mobilizing and erecting a steel platform with sufficient clearance above the highest tide/wave, maintaining it in a stable position throughout the period of investigation, drilling the soil investigation borehole to the specified depth, conducting all required in-situ tests, collection of disturbed and undisturbed soil core samples from the boreholes as per approved technique/equipment and conducting relevant laboratory tests as specified herein. This investigation aims to ascertain the nature and properties of soil available at the proposed site at recommended depths for the design of the foundation of the proposed structure. All work shall be carried out per the relevant Indian Standard IS: 1892, unless specified in this document.

#### **Cost of Tendering**

The Bidder shall bear all costs associated with the preparation and submission of the Tender, and NIOT will in no case be responsible or liable for these costs, regardless of the outcome of the tendering process.

#### **Site Inspections & Tender Information**

Prior to the tender closing, it is strongly suggested that the Bidder visit and inspect the site and surrounding areas where the service is to be performed.

The Bidder shall be deemed to have satisfied themselves as to the form and nature of the site, the quantities and nature of the service and materials necessary for the completion of the service, and in general, to have obtained all necessary information as to the risks, contingencies and other circumstances which may influence or affect this tender.

Bidders shall make their own assessment of existing facilities, conditions and expected difficulties during the execution of the service called for by the proposed Contract, including local conditions, constraints due to maintenance of traffic, labour conditions, uncertainty of weather, difficulties with access, and all other reasonable contingencies. Bidders shall satisfy themselves by personal examination of the Site of the proposed Service and by such other means as they choose as to actual conditions and requirements and as to the quantities required.

No subsequent claim will be allowed or considered for any work that may be required for the proper execution and completion of the services due to failure by the contractor to examine the site and make proper allowances for the conditions to be encountered.

#### Schedule of Services

The contractor shall render the following services:

- a. Based on the working methodology approved by NIOT, soil investigation work shall be carried out as per the relevant IS code. The work shall be constantly supervised at the site by a qualified Site Engineer(Civil/Geotechnical)posted by the contractor. The contractor shall make all the arrangements to ensure the presence of the Supervising Engineer at the site throughout the soil investigation work.
- b. After the soil investigation is completed, testing shall be carried out in the laboratory as per the relevant IS code, and a detailed preliminary report shall be prepared and submitted to NIOT for approval. The laboratory tests shall be conducted and test report shall be prepared under the supervision of a Geotechnical Engineer (having a master's degree in Geotechnical Engineering or equivalent)
- c. Submission of Final report incorporating any comments from NIOT
- d. The submission shall be in the form of hard and soft copies.
- e. All drawings shall be made using AutoCAD.
- f. All soil analysis shall be carried out as per all relevant IS Codes.
- g. The contractor shall be solely responsible for the safety of their men/material/vessel/equipment.
- h. Necessary insurance policy shall be taken by the contractor for men/equipment/material and vessels as per the existing norms in India.
- i. The contractor shall make necessary and safe arrangements for the NIOT Engineer in charge or his representative to visit and inspect the work location from and to the nearest port/Harbour.
- j. The contractor shall make necessary and safe arrangements for the NIOT Engineer in charge or his representative to stay on board the vessel or platform if required.

k. The contractor shall obtain the necessary statutory permissions to operate their vessel /Jack-up barge/boats at the project location.

#### Note:

- 1. NIOT shall provide available input data/information such as layout plan, etc.
- 2. The contractor shall have to verify the data, and any doubt/ambiguity observed shall be clarified mutually.
- 3. The contractor shall have to carry out soil investigation in conformity with the provisions of all relevant prevailing Indian Standards, IRC etc.
- 4. The contractor shall have to clarify/explain the soil investigation concept they adopted to NIOT Engineers. The site Engineer posted by the contractor shall be well aware of this concept.
- 5. The contractor shall be accountable for soil investigation of the said structure of this particular project site as per NIOT / Govt. of India rules or as amended from Time to Time.
- 6. In case NIOT desires to cross-check/scrutinize the soil investigation by any other expert / technical institute, the contractor shall attend the meeting with the appointed expert and will comply with the remarks.
- 7. The soil investigation report shall be the property of NIOT.

#### **Term of Reference**

#### General

The Term of Reference covered under soil investigation includes setting out, conducting field investigation, laboratory testing and submission of soil investigation reports incorporating the observations made during the field investigation, results of laboratory tests, analysis of all results, with calculations and other related information along with necessary charts, curves and drawings. The investigation shall consist of sinking boreholes using an approved method of boring, standard penetration tests, collection of disturbed and undisturbed soil samples, collection of water samples, and conducting necessary laboratory tests at a recognized and approved soil laboratory.

# **Tender Drawing**

The Geotechnical Investigation Layout Drawing indicating the tentative location of the boreholes and field tests/areas to be investigated for locating the project shall be issued by NIOT at the Time of issuing the LOI before the commencement of work at the site. The location, extent and depth of bore holes & field tests/area(s) indicated in the drawing shall be subject to change that may be necessary during the actual execution of the work. The work shall be carried out as per the instructions of the NIOT Engineer-in-charge, and the contractor shall be paid for the actual work completed at the site.

The Bidder is to be acquainted with working conditions and the nature, type, scope of work and involvement. The rates quoted shall remain firm during the entire period of execution till completion of the work, and any additional claim for lack of knowledge shall not be

entertained.

# **Detailed Scope of Work**

Offshore Geotechnical Investigation shall be carried out at the proposed Coastal Observatory locations along **Nellore (off Tupilipalem beach)**, **Ennore (off Ennore creek)**, **and Chennai (off Marina Beach)**. The detailed scope of work for each bore includes the following activities.

- i) Mobilization of jack up barge/spud pontoon/tubular framed support platform, drilling rig, other drilling tools and accessories including personnel for carrying out Geotechnical investigation work.
- ii) De-mobilization of jackup barge/spud pontoon/tubular framed support platform, drilling rig, other drilling tools & accessories and personnel for carrying out Geotechnical investigation work.
- iii) Setting up of jack up barge/spud pontoon/tubular framed support platform at each borehole location as per the location coordinates provided by NIOT
- iv) Boring through soils of various strengths
- v) Collection of 100mm diameter, 450mm long undisturbed samples from bore holes and sealing the tube with molten wax at every 1.5 m.
- vi) Conducting standard penetration test (SPT) in soil at every 1.5 m
- vii) Laboratory Experiments and studies
- viii) Preparation and submission of factual reports during the progress of boring and testing in draft form for comments.
- ix) Preparation and submission of geotechnical investigation report, including detailed results of laboratory studies, recommendation for foundation design etc., for comments and final report submission incorporating the comments.

#### Location and depth of boreholes

The geotechnical investigation must be carried out at a water depth of about 6–8m off Nellore (3 boreholes) and 8-10m off Ennore (3 boreholes) and Chennai(3 boreholes).

Termination depth: The soil investigation has to be carried out up to a maximum depth of 30 m in soil or till 10 m in rock strata (having SPT > 100) is reached, whichever is earlier. If RQD>75% is achieved before reaching 10 m depth in rock strata, the bore hole may be terminated at that depth. For each borehole, the depth of termination shall be determined after consultation and certification from the NIOT Engineer-in-charge. The contractor shall arrange to mark these locations on-site and get approval by the NIOT Engineer-in-charge. If there are any site obstructions at a given location, the location may be shifted by a maximum of 10m to a convenient location. If it is necessary to shift by more than 10m, the contractor may do the same with the approval of NIOT Engineer-in-charge. Locations of the boreholes and bench mark shall be subsequently plotted in the layout plan, bore logs and other relevant field test data sheets/tables and is to be incorporated in the final report by the contractor.

#### Setting out of the works

The contractor shall be responsible for setting out the position of each borehole in

consultation with the representative of NIOT.

#### **Environmental Conditions**

The water depth at tentatively proposed locations in Nellore, Ennore and Chennai is around 6m-8m,8m-10m and 8m-10m,respectively. A maximum wave height of 4 m with a tidal range of 1.2 m and a current speed of 1 m/s are anticipated at these locations. However, the above details are indicative, and the contractor should assess and understand the actual site condition to familiarize themselves with the field conditions before the execution of the work. All the sampling and testing shall be done by mobilizing a Steel platform of suitable height to obtain proper undisturbed soil samples.

# **Drilling, Sampling & Testing**

Depending on water depth and met ocean conditions, geotechnical surveys may be conducted by mobilizing Steel platforms of suitable height. The activities comprise of borehole drilling, In-situ testing in borehole and Sampling and sample handling.

Boreholes of 150mm diameter boreholes in soil using open hole rotary drilling rig shall be undertaken. In case rock is encountered, rock core drilling using diamond bit with double tube NX size core barreland N type drill rod shall be undertaken. The measurements for core recovery, RQD, weathering index, fracture index shall be carried out at site.

Typical borehole drilling apparatus shall have the various components as minimum.

- a. Drilling equipment: Any equipment that provides a suitable clean open hole before insertion of down hole sampling and / or testing apparatus and ensures that sampling and / or testing is performed in undisturbed ground.
- b. Drill Rig: Machine capable of providing rotation, feed and retraction, to drill pipe casting and or auger. Drill fluid pumping capacity shall be as required to promote return of drilling fluid.
- c. Drill casing: a cylindrical pipe with one or more of the following purposes:
  - To support the sides of the boreholes.
  - To support drill pipe above ground surface in case of over water drilling
  - To promise return of drilling fluid.
- d. Drill pipe: Cylindrical pipe connecting drill rig and drill bit.
- e. Drill Bit: Device attached to drill pipe and used as cutting tool to drill into the ground.
  - Core drilling is a ground investigation technique comprising simultaneous drilling and sampling.
  - Core bit: Device attached to the core barrel and used as a cutting tool to drill the ground.
  - Core catcher: Device that assists retention of core in the core barrel.
  - Core Box: Box with longitudinal separators for the protection and storage of core.

# A. Conducting Standard Penetration Test (SPT) at 1.5 m interval

Standard Penetration Test shall be conducted in soil strata as per IS: 2131 at 1.5 m intervals or at every identifiable change of strata, whichever is met earlier. The test shall be

conducted after driving the casing to the bottom of the borehole and cleaning it. Field and corrected N values shall both be reported. SPT shall be terminated on recording 100 blows per 30cm or less penetration for three consecutive tests. The disturbed samples obtained from the split spoon sampler shall be visually classified, labelled for identification and preserved for laboratory testing.

# B. Collection of disturbed and undisturbed soil samples for laboratory testing

#### i. Disturbed Sample

Disturbed samples shall be taken from borehole cuttings, split spoon sampler and cutting edge of undisturbed sampler for classification tests at the site. The samples shall be taken at 1.5m intervals or at every identifiable change of strata, whichever is met earlier, to give a reliable record of the variations in the conditions of the soils. If required, the disturbed samples should be sent to the laboratory for testing or handed over to the NIOT Engineer-in-charge in an air-tight container for the purpose of record.

# ii. Undisturbed Samples

Undisturbed samples in cohesive soils shall be taken from the boreholes at 1.5 m intervals alternate with SPT or at every identifiable change of strata, whichever is met earlier. Sampling procedures and samplers for recovering undisturbed samples shall conform to IS: 2132 unless otherwise specified and directed by the NIOT Engineer-in-charge.

The samples shall be sealed, packed and properly labelled and transported to the laboratory as laid down in IS: 2132. The top and bottom of a sample must be indicated clearly on the sample tube to facilitate the laboratory testing in the proper orientation as specified by the NIOT Engineer-in-charge.

# C. Stabilization of Bore Hole

A casing pipe of 150 mm diameter and a minimum of 1.5 to 2 m length shall be provided at the top to prevent caving-in of the soil. The tip of the casing pipe shall always be kept ahead of the borehole bottom. The casing shall be driven or pushed under static force. If very stiff soil or cemented strata is encountered which is capable of maintaining the bore hole without casing pipe, boring can be done beyond the casing pipe with the prior approval of NIOT Engineer-in-charge.

# Bentonite Slurry:

With rotary drilling, the stabilization is to be achieved by Bentonite slurry of approved quality. During boring operation the level of Bentonite slurry shall be always maintained minimum 1 m above the sea-level.

#### D. Core Samples

i. Core samples shall be extracted by the application of continuous pressure at one end of the core with the barrel held horizontally without vibration. Cores shall be extracted from the barrel directly into a suitable sized half round plastic channel

- section. Care shall be taken to maintain the direction of extrusion of sample same as that while coring to avoid stress reversal.
- ii. Immediately after withdrawal from the core barrel, the cores shall be placed in a tray and transferred into boxes specially prepared for the purpose. The boxes shall be made from seasoned timber or any other durable material and shall be indexed on top of the lid as per IS:4078. The cores shall be numbered serially and arranged in the boxes in a sequential order. The description of the core samples shall be recorded as per IS: 4464. Where no core is recovered, it shall be recorded as specified in the continuous record of core recovery and RQD in the borelog as per IS:11315, Part-II.
- iii. The basic information for the description of rocks shall cover i) degree of weathering ii) discontinuity spacing iii) strength iv) color v) grain size vi) structural condition, the mineralogy of the grains and cementing material vii) rock name, special features like major joint planes, features/laminations, faults etc.

# E. Testing

Following field/laboratory tests are required to carry out on disturbed/undisturbed soil samples to know the different characteristics of the soil. Relevant IS codes shall be followed .Based on whether the soil sample is cohesive or non cohesive, Relevant laboratory tests shall only be conducted.

Table 1: Field/laboratory tests to be carried out on soil

S.	Test Designation
No	
i.	Natural Moisture Content (NMC)
ii.	Grain Size Analysis
iii.	Atterberg limits & soil classification
iv.	Specific gravity
v.	Bulk density and dry density
vi.	Unconfined compressive strength
vii.	Standard Penetration Test (SPT)
viii.	Triaxial test
ix.	Field Vane Shear Test
X.	Consolidation Test
xi.	Free Swell Test
xii.	Chemical analysis of soil and water samples for pH, sulphate, chloride and other
	organic content.
xiii.	Percolation Test, Porosity, C-Φ parameters for each and every strata, Spring
	constant

In case rock is encountered, tests for soil as stipulated need not be carried out. In that situation, the following tests on rocks shall be carried out at every 1.5 m interval.

Table 2: Tests to be carried out on rock

Sl.No	Test Designation
i.	Visual classification(core recovery, RQD, weathering index, fracture index)
ii.	Water absorption, porosity and density
iii.	Specific gravity
iv.	Hardness
v.	Slake durability
vi.	Unconfined compression test (both at saturated and at in-situ water content)
vii.	Point load strength index
viii.	Deformability test (both on saturated and dry samples)

#### F. Field Vane Shear Test

Field vane shear test shall be performed inside the borehole to determine the shear strength of cohesive soils, especially of soft and sensitive clays which are highly susceptible to sampling disturbance. This test shall be conducted by advancing a four winged vane of suitable size (75mm or 100mm diameter as per the soil condition) into the soil up to a desired depth and measuring the torque required to rotate the vane. The specification for equipment & accessories required, the test procedure and field observations etc. shall be as per IS: 4434. This test may also be conducted by direct penetration from the ground surface. If the cuttings at the test depth in the bore hole show any presence of gravel, sand, shells, decomposed wood, etc., which are likely to influence the test results substantially, the test at that particular depth may be omitted with the permission of the NIOT Engineer-in-Charge. However the test shall be conducted at a depth where these obstructions cease to occur. On completion of the test the results shall be reported in an approved proforma as specified in IS: 4434, Appendix-A.

# G. Triaxial test

Triaxial shear test shall be conducted on undisturbed soil samples saturated by the application of back pressure. Triaxial tests shall be performed on the specimens at natural moisture content. Each test shall be carried out on a set of three test specimens from one sample at cell pressures equal to 100, 200 and 300kN/sq.m. or as required depending on the soil conditions.

#### H. Consolidation test

Consolidation test shall have loading stages of 10, 25, 50, 75, 100, 200, 400 and 800 kN/sq.m. Rebound curve shall be recorded for all the samples by unloading the specimen at the in-situ stress of the specimen. Additional rebound curves shall also be recorded

whenever desired by the NIOT Engineer-in-Charge.

#### I. Chemical analysis

Chemical analysis of sub-soil shall include the determination of pH value, carbonate, sulphate (both  $SO_3$  and  $SO_4$ ), chloride and nitrate contents, organic matter, salinity and any other chemicals harmful to the foundation material. The contents in soil shall be indicated in percentage. Sub-soil water sample shall include the determination of the properties such as color, odor, turbidity, pH value and chemical contents such as carbonate, sulphate (both  $SO_3$  and  $SO_4$ ), chloride, nitrate, organic matter and any other chemicals harmful to the foundation material. The contents such as sulphate etc. shall be indicated as ppm per unit weight.

#### **Codes and Standards**

All standards, specifications and codes of practice referred to herein shall be the latest editions, including all applicable official amendments and revisions. In case of conflict between this specification and those (IS codes and standards etc.) referred to herein, the former shall prevail. All work shall be carried out as per the specifications in the following standards and codes.

# \* Wherever Indian Standards are mentioned, in lieu of the same, relevant International Standards like ASTM etc. may also be used.

IS: 1498 Classification and identification of soils for general Engineering purposes

IS: 1888 Method of load test on soils

IS: 1892 Code of practice for subsurface Investigation for Foundation

IS: 2131 Method of standard penetration test for soils

IS: 2132 Code of practice for thin walled tube sampling of soils

IS: 2470 Code of practice for design and construction of septic tanks Part-I

IS: 2720 Method of test for soils (Relevant parts)

IS: 2809 Glossary of terms and symbols relating to soil Engineering

IS: 2810 Glossary of terms relating to soil dynamics

IS: 3025 Methods of sampling and testing (Physical and chemical) for water used in Industry

IS: 3043 Code of practice for earthing

IS: 4078 Code of practice for indexing and storage of drill cores

IS: 4434 Code of practice for in-situ vane shear test for soils

IS: 4453 Code of practice for exploration by pits, trenches, drifts and shafts

IS: 4464 Code of practice for presentation of drilling information and core description in foundation investigation

IS: 5249 Method of test for determination of in-situ dynamic properties of soil

IS: 5313 Guide for core drilling observations

IS: 5529 Code of practice for in-situ permeability test – Test in Part-I overburden

IS: 5529 Code of practice for in-situ permeability test - Test in bed Part-II rock

IS: 6065 Recommendation for the preparation of geological and geotechnical maps for river valley project

IS: 6403 Code of practice for determination of allowable bearing pressure on shallow foundation

IS: 6926 Code of practice for diamond core drilling for Site investigation of river valley

projects

IS: 6935 Method of determination of water level in a bore hole

IS: 6955 Code of practice of subsurface exploration for earth and rockfill dams

IS: 7422 Symbols and abbreviations for use in geological maps, sections and subsurface exploratory logs (Relevant parts)

IS: 8763 Guide for undisturbed sampling of sands

IS: 8764 Method for determination of point load strength index of Rocks

IS: 9143 Method for the determination of unconfined compressive strength of rock materials

IS: 9179 Method for preparation of rock specimen for laboratory Testing

IS: 9198 Compaction rammer for soil testing

IS: 9214 Determination of modulus of sub-grade reaction in field

IS: 9259 Specifications for liquid limit apparatus

IS: 9640 Specifications for split spoon sampler

IS: 9669 Specifications for CBR mould and its accessories

IS: 10050 Method for determination of slake durability index of Rocks

IS: 10060 Code of practice for subsurface investigation for power house Sites

IS: 10074 Specification for compaction mould assembly for light and heavy compaction

IS: 10108 Code of practice for sampling by thin wall sampler with stationary piston

IS: 10589 Equipment for determination of subsurface sounding of Soils

IS: 10837 Specifications of moulds for determination of relative density and its accessories

IS: 11229 Specifications for shear box testing of soils

IS: 11315 Description of discontinuities in rock mass – Core Part-II recovery and rock quality

IS: 12070 Code of practice for design and construction of shallow foundations on rocks

IS: 13372 Seismic testing of rock mass – Code of practice (Part I & II)

# **Reports**

#### **Preliminary Report and Records**

On completion of each borehole, two copies of the preliminary bore log shall be submitted to the NIOT.

These preliminary bore logs shall show:

- i. Bed level referred to the CD
- ii. The locations of the boreholes on a plan
- iii. The preliminary description of each stratum
- iv. The thickness of each stratum
- v. The position, type and identification of each sample and in-situ test
- vi. Any in-situ test results available

All field records shall be submitted to the NIOT representative in duplicate during the investigation.

#### **Draft and Detailed Report**

On completion of all field and laboratory testing, the contractor shall submit two copies of the draft report to NIOT. The report shall include detailed bore logs, subsoil section, field test results, laboratory observations and test results both in tabular as well as graphical form, practical and theoretical considerations for the interpretation of test results, the supporting calculations for the conclusions drawn etc. The draft report shall also include the following:

- i. A plan showing the position of all boreholes.
- ii. A description of the procedures of investigation and testing employed and list of equipment used and the relevant IS codes used.
- iii. Detailed bore logs, subsoil sections, laboratory and field test results both in tabular as well as in graphical form, showing variations of each of the soil properties with depths for each borehole.
- iv. A true cross-section of all individual boreholes with reduced levels and coordinates showing the classification and thickness of individual stratum, the position of groundwater table, various in-situ tests conducted and samples collected at different depths and the rock stratum, if met with.
- v. Field and laboratory test results, along with graphs and tables used for computation.
- vi. Plot of SPT value (both field and corrected) with depth.
- vii. The stress-strain diagrams as well as Mohr circle envelopes for unconfined compression tests, triaxial tests and shear strength of rock sample.
- viii. 'e' vs' log p', compression vs. 'log t'or compression vs. 'square root t'plots depending upon the shape of the plot to determine the coefficient of consolidation ' $C_v$ ' and Time for 50% and 90% primary consolidation.
- ix. Coefficient of volume decrease and coefficients of permeability shall be determined and reported. Pre-consolidation pressure shall be determined for each test and shall be taken into consideration in recommending the anticipated settlement along with the Time to achieve the same.
- x. Recommendation regarding the allowable safe bearing capacity of soil, settlement analysis, ground improvement along with the depth of foundations.
- xi. Any other information of special significance encountered during the investigation and likely to have a bearing on the design and construction of foundations.
- xii. Photographs of field and laboratory activities and all the core boxes shall be included in each copy of the report.

If required, draft report shall be modified as suggested by NIOT. Thereafter, the contractor shall incorporate in his report the agreed modifications and after getting the amended draft report approved, six (6) copies of the detailed final report shall be submitted along with the graphs, tables etc. Electronic (soft) copies of the final report in MS word and MS Excel format shall also be submitted in CD. The graphs and drawings shall also be submitted in AutoCAD format.

**APPENDIX-I** 

TECHNICAL PROPOSAL

Letter of Proposal

# (On Applicant's letter head) (Date and Reference)

To.

Sub: Appointment of Contractor for Geotechnical Investigations for NIOT's Coastal Observatory Project

Dear Sir,

With reference to your tender Document dated ......, I/we, having examined all relevant documents and understood their contents, hereby submit our proposal to carry out the Offshore Geotechnical Investigation for proposed Coastal Observatories off Nellore, Ennore and Chennai coast. The proposal is unconditional.

All information provided in the proposal and in the appendices is true and correct and all documents accompanying such proposal are true copies of their respective originals. This statement is made to express the purpose of appointment as the contractor for the aforesaid project.

I/We shall make available to the NIOT any additional information it may deem necessary or require for supplementing or authenticating the proposal. I/We declare that we/any member of the consortium, are/is not a member of any other consortium applying for selection as a Contractor.

I/We declare that the consortium arrangement, if any, will remain firm for the whole duration of the project if the Contract is awarded. Upon award of Contract, I/We will provide full support to ensure the successful and timely completion of the work as described in the Tender.

I/We jointly assure NIOT that all Contractual obligations as per tender shall be honored until completion of the work mentioned in this tender. In witness thereof, I/we submit this proposal under and in accordance with the terms of the tender document. Yours faithfully,

(Signature, name and designation of the authorized signatory) (Name and seal of the Applicant /Contractor)

#### APPENDIX-II

Proposed Methodology and Work Plan

The proposed methodology and work plan shall be described as follows:

# 1. Understanding of Project

The applicant shall clearly state their understanding of the project and also highlight its important aspects. The applicant may supplement various requirements of the project and also make precise suggestions if it considers this would bring more clarity and assist in achieving the objectives laid down in the TENDER.

# 2. Methodology and Work Plan

The Applicant will submit its methodology for carrying out this assignment, outlining its approach toward achieving the objectives laid down in the TENDER. The applicant will submit a brief write-up on its proposed team and organization of personnel explaining how different areas of expertise needed for this assignment have been fully covered by its proposal. In case the applicant is a consortium, it should specify how the expertise of each firm is proposed to be utilized for this assignment. The applicant should specify the sequence and locations of important activities, and provide a quality assurance plan for carrying out the work.

# APPENDIX-III Abstract of Eligible/Completed Projects of the Firm

S.No.	Name of	Name of Client	Capital cost	Date of	Date of	Duration
	Project	(Address, phone	of project	Commencement	Completion	
		& email)	(in Rs.	of the Project	of the Project	
		-	lakhs)		-	
1						
2						
3						

**Note**: The Firm should attach separate sheets to provide brief particulars of other relevant experience. Only Projects/work completed before the Tender issue date should be mentioned. Sufficient documentary evidence of the work (Work Order and Completion Certificate) satisfying the condition shall be attached.

# APPENDIX-IV Technical Compliance sheet

No	Item	Yes/No
1.	Willing to provide sufficient manpower and equipment to carry out this project	
2.	Willing to carry out bore holes for all types of overburden soil strata (maximum of 30m below bed level) or until 10 m in rock strata is reached, whichever is earlier.	
3.	Willing to conduct all the field tests and laboratory tests as specified in the tender. (All test as per IS)	
4.	Willing to carry out the work as described in the attached specifications	
5.	A comprehensive test report as per the tender specifications will be submitted to NIOT	
6.	Willing to complete the work in all aspects within 75 days from the date of placement of the order	
7.	The contractor shall be solely responsible for the safety of their men/material/vessel/equipment.	
8.	Necessary insurance policy shall be taken for men/ equipment/ material and vessels as per the existing norms in India.	
9.	The contractor shall make necessary and safe arrangements for the NIOT Engineer in charge or his representative to visit and inspect the work location from and to the nearest port/Harbour.	
10.	The contractor shall make necessary and safe arrangements for the NIOT Engineer in charge or his representative to stay on board the vessel or platform if required.	
11.	Contractor's experience in similar work is provided along with bid (as per Pre-qualification criteria)	
12.	Provided the proof of qualification of the site engineer and qualified geotechnical engineer in the technical bid	

#### Annexure -II

# **Bid Securing Declaration Form**

<u>Date:</u>
E-Tender No:
E-Tender Title

NATIONAL INSTITUTE OF OCEAN TECHNOLOGY

VELACHERY TAMBARAM MAIN ROAD,

NARAYANAPURAM, CHENNAI 600 100

<u>I</u>/We. The undersigned, declare that:

I/We understand that, according to your conditions, bids must be supported by a bid Securing Declaration. I/We accept that I/We may be disqualified from bidding for any contract with you for a period of one year from the date of notification if I am/ We are in a breach of any obligation under the bid conditions, because I/We

- a) Have withdrawn/modified /amended impairs or derogates from the tender, my /our Bid during the period of bid validity specified in the form of Bid: or
- b) Having been notified of the acceptance of our Bid by the purchaser during the period of bid validity (i) fail or reuse to execute the contract, if required, or (ii) fail or refuse to furnish the performance Security, in accordance with the Instructions to Bidders.

I/We understand this Bid Securing Declaration shall cease to be valid if I am/we are not the successful Bidder, upon the earlier of (i) the receipt of your notification of the name of the successful Bidder: Signed:

(Insert signature of person whose name and capacity are shown) (insert legal capacity of person signing the Bid Security Declaration)

In the capacity of (insert legal capacity of person signing the Bid Security Declaration)

Name: (insert complete name of person signing the Bid Security Declaration)

Duly authorized to sign the bid for an on behalf of (insert complete name of Sole bidder/ Joint Venture /Leader of Consortium)

n . 1	1 6	<i>(</i> , , ) , <i>(</i> , , , , , , , , , , , , , , , , , , ,
Dated on	day of	(insert date of signing)
17a1EU 011	uav ui	THISCLE DATE OF SIGNING

Corporate Seal (where appropriate)

(Note: In case of a Joint Venture, the Bid Security Declaration must be in the name of all partners to the Joint Venture that submits the bid)

(Note: In case of a Consortium, the Bid Security Declaration to be signed by consortium lead partners that submits the bid)

# **ANNEXURE III**

# PERFORMANCE STATEMENT FORM

Details of similar equipment / systems supplied & installed during past 3 years in India & Abroad
Name of the Firm
Order Placed by (full address of Purchaser)
Order Number and date:
Description and Quantity of Ordered:
Equipment Value of Order:
Date of Completion of deliver as Per Contract:
Date of actual Completion of Delivery:
Remarks Indicating reasons for late delivery, if any:
Has the Equipment Been installed/Working Satisfactory (Attach a Certificate from The purchaser /
Consignee)
Name of Contact Person along with Telephone No., FAX No. and e-mail address
Signature and Seal of the manufacturer/Bidder
Place:
Date:

# Annexure - IV

# Format for declaration by the Bidder for Code of Integrity & conflict of interest(On the Letter Head of the Bidder)

No:DateTo,	
(Name & address of the Purchaser)	
Sir,	
With reference to your Tender NodatedI/We declare that we shall abide by the Code of Integrity for Public Procurement as mentioned Clause number 55	hereby under the
(a) of NIT of your Tender document and have no conflict of interest.  It is certified that we are not associated, or have been associated in the past, directly or indire a firm or any of its affiliates which have been engaged by the Purchaser to provide consulting for the preparation of the design, specifications, and other documents to be used for the proof the goods to be purchased under this Invitation of Bids / Tender. The details of any transgressions of the code of integrity with any entity in any country during the last three you being debarred by any other Procuring Entity are as under:  a b c	g services curement previous
We undertake that we shall be liable for any punitive action in case of transgression/ contrav thiscode.	ention of
Thanking you,	
Yours sincerely,	
Signature	
(Name of the Authorized Signatory)	
Company Seal	