EOI for selection of agency for debottlenecking of TSP & RECL section at REEP, OSCOM.



EXPRESSION OF INTEREST (EOI)

FOR

SELECTION OF AGENCY FOR

DEBOTTLENECKING OF TSP & RECL SECTION AT REEP PLANT, ODISHA



IREL (India) Limited, OSCOM (A Govt. of India Undertaking – Dept. of Atomic Energy)

CONTENTS

1.	Disclaimer	3
2.	Bid Data Sheet	4
3.	Bidding Schedule	4
4.	Definitions	5
5.	Introduction and Background	6
6.	Objective of IREL	6
7.	Process Description	7
9.	Scope of Work	7
10.	Route for Participation	. 19
11.	Instructions to Bidders	. 19
13.	Bid Forms and Annexures	. 23
14.	Instructions for Online Bid Submission	. 32

1. Disclaimer

- 1.1. This Expression of Interest (EOI) Document is neither an agreement nor an offer by the IREL (India) Limited to the prospective Bidders or any other person. The purpose of this EOI Document is to provide interested parties with information that may be useful to them in making their Proposal pursuant to this EOI Document. This EOI Document includes statements which reflect various assumptions and assessments arrived at by IREL (India) Limited in relation to its De-Bottlenecking Project at REEP, OSCOM. Such assumptions, assessments and statements do not purport to contain all the information that each Bidder may require. This EOI may not be appropriate for all persons, and it is not possible for IREL (India) Limited, its employees or advisors to consider the investment objectives, financial situation and particular needs of each party who reads or uses this EOI Document may not be complete, accurate, adequate or correct. Each Bidder should, therefore, conduct its own investigations and analysis and should check the accuracy, adequacy, correctness, reliability and completeness of the assumptions, assessments, statements and information contained in this EOI Document and obtain independent advice from appropriate sources.
- 1.2. Information provided in this EOI Document to the Bidder(s) has been collated from several sources and may not be complete in all respect. IREL (India) Limited, its employees or advisors accept no responsibility for the accuracy or otherwise for any statement contained in this EOI Document.
- 1.3. IREL (India) Limited may in its absolute discretion, but without being under any obligation to do so, update, amend or supplement the information, assessment or assumptions contained in this EOI Document.
- 1.4. The issue of this EOI Document does not imply that the IREL (India) Limited is bound to select a Bidder or to appoint the Bidder as Successful Bidder for the De-Bottlenecking Project.

2. Bid Data Sheet

SI. No.	Particulars	Information
1.	Name of Work	EOI for selection of agency for debottlenecking of TSP & RECL section at REEP, Odisha
2.	Eol Reference Number	2025_IREL_234137_1
3.	Tye of bidding	Open Tender
4.	Eol Publishing date	02-05-2025
5.	Pre Eol meeting date & time	The pre-bid meeting shall be held at 14:30 Hrs on 10-05-2025 through video conference via link shared by IREL prior to pre-bid meeting.(Interested bidders have to send email to <u>purchase1-os@irel.co.in</u> latest by 11am of 10.05.2025 for sharing the VC link)
6.	Last date and time of submission of Eol	23-05-2025 14:00 Hrs
8.	Date and Time of opening of Eol	24-05-2025 14:30 Hrs
7.	Contact Person and Address of IREL for Communication	Shri R.S. Sabat GM-T(Purchase) & I/c Marketing IREL (India) Limited, OSCOM Email: <u>purchase1-os@irel.co.in</u> Phone 06811-257890-95 (Ext. No. 150) Mobile: +91 82804 02609

Eol, Corrigendum/Addendum if any, will be posted on the website: https://etenders.gov.in/eprocure/app. Tenderers are advised to complete all submission related work well before the time and date for submission of tender online. Any request for modification in the time/date of submission of tender due to tenderer's failure to submit his offer, will not be accepted.

3. Application submitting Schedule

Eol publication	То
Pre EOI meeting	10-05-2025 T0+8 days
Last date for submission of Eol	23-05-2025 T0+21 = T1
Technical presentations by EOI bidders	06-06-2025 Within T1+14 days
Scope and other RFP condition finalization for RFP towards debottlenecking of REEP	27-07-2025 Within T1+60 days
Floating of RFP (Public e-tender)	21-08-2025 Within T1+90 days

IREL shall endeavor to adhere to the schedule provided for under this clause. However, in case IREL in its sole discretion undertakes any modification in the schedule specified below, the same shall be notified from

time to time on the tendering/IREL website. Hence, bidders are requested to periodically visit tendering/IREL website for any notification.

4. Definitions

- 4.1.1. **REEP** shall mean RARE EARTH EXTRACTION PLANT
- 4.1.2. **TSP** shall mean Trisodium Phosphate
- 4.1.3. **RECL** shall mean Rare-Earth Chloride

5. Introduction and Background

IREL (India) Limited, a Mini Ratna-1 company, is a Govt. of India Undertaking under the Department of Atomic Energy and is operating mineral sand mining and mineral processing plants at Chavara (Kerala), Manavalakurichi (Tamilnadu) and Orissa Sands Complex (OSCOM), Chatrapur (Odisha). Processed minerals such as Ilmenite Rutile, Leucoxene, Zircon, Sillimanite, Garnet, etc. produced in the mineral processing plants. The Rare Earth Extraction Plant is located at Odisha with an installed capacity to produce about 11,220 ton Rare Earth Chloride and 13500t Tri sodium Phosphate (TSP) while the Rare Earth Refining Plant is located at Rare Earths Division, (RED) Aluva, Kerala which is associated with production of refined separated high pure Rare Earth compounds.

6. Objective of IREL

The Rare Earths Processing Plant (REEP) situated in OSCOM unit, Odisha produces TSP and mixed RECI. It consists of various sections comprising unit operations. During the operation of REEP, various issues in different unit operations are observed which results in reduced throughput of the plant to around 55%. Hence it requires complete debottlenecking of both TSP and RECL circuit to achieve minimum 90% capacity utilization in terms of product output.

In order to streamline the process, flexibility of operation, reduce downtime and improve productivity in the TSP circuit and RECL circuit, IREL intends to engage an agency for overall system study covering, adequacy of existing utility services, suggest improvement measures including optimal flow sheet and layout and implement the same through an implementation agency. The agency has to provide performance guarantee jointly with the implementation agency for its suggested schemes to achieve the intended objective, basically on the throughput parameters.

Accordingly applications are invited from experienced and reputed Indian agencies for understanding the scope of work as an consultant. Subsequent to receipt of EOI applications, bidders will be invited for technical presentations for finalizing the scope and other terms of the debottlenecking work. After finalization of scope, technical parameters, detailed RFP will be published for inviting bids(public tender) for engagement of agency.

Since the new/additional equipment installation requires designing to suit the process requirement, layout, seam less integration with existing circuit, balancing of steam and other utilities wrt the existing boiler capacity, agency will carryout detailed study of the existing set up, design and carry out engineering for effective utilization of existing utility capacities along with procurement and installation of state-of-the-art plant and machineries based on the testing of actual process sample, recommendation right size and MoC plant and machinery, preparation of cost estimation, draft tender for execution work, process integration and ensure performance guarantee of individual equipment and over all guarantee wrt through put and mutually agreed process parameters.

In this regard, IREL invites Expression of Interest application from experienced and resourceful agencies for debottlenecking of REEP.

7. PLANT AND PROCESS DESCRIPTION

Rare Earth Bearing Mineral is a naturally occurring mineral which is a phosphate of various rare earths. REEP has installed capacity to process 10000tpa to produce the following products, however because of various constraints explained above the plant capacity could not be achieved:-

S.N.	Products	Quantity
1	Tri-Sodium Phosphate	13500 tpa
2	Rare Earths Chloride	11220 tpa

7.1. **Process Description**

The brief process description is as under :

7.2.1. Attack Plant

Rare Earth Bearing Mineral sand is finely ground and reacted in batches with caustic lye at elevated temperature to break it into components of Rare Earths and Phosphate compounds. During the reaction, rare earths forms rare earths hydroxide. The phosphate part goes into solution as tri sodium phosphate (TSP). The attack mass is leached with water to remove TSP and hydroxide slurry transferred to active plant. TSP after crystallizer, centrifuge and drying, produced as TSP final product. Excess lye (mother liquor of TSP crystallization) passes through multistage evaporators to obtain evaporated lye which is being recycled to improve process economy.

RE Extraction

Mixed Hydroxide treated with Hydrochloric acid to extract Rare Earths as Rare earth chloride solution. The clear Rare Earths chloride filtrate is subjected to deactivation process for removal of activity and lead. The deactivated RECI solution is evaporated in Steam Jacketed glass lined vats for production of RE Chloride Flakes.

Issues and objectives of debottlenecking : The plant capacity is hovering at 50-55%. There is balancing issue of the circuits, the layout requires suitable modification for ease of maintenance, process efficiency needs to be improved for achieving the plant throughput, recovery, reliability of operation with plant spillages, operation and maintenance, waste reduction, optimisation of process parameters, resource optimisation, strengthening of plant structures, improvement in ergonomics, improving aesthetic look of plant, suggestion for suitable MoC, conducting suitable simulation study for better plant and machinery, civil and structural designing and estimation etc.

Tentative Scope of Work

9.1. Broad Scope of the Work for the agency

The scope of agency will be undertaken in two phases. The first phase will cover from system study till finalization of schemes, capital outlay, Detailed project report, cost benefit analysis, financial analysis implementation methodology (implementation agency or other models), submission of technical specification and tender packages. Subsequent to approval of capital outlay, the second phase agency will involve selection of implementation agency, project management and monitoring, demonstration of plant capacity jointly with the implementation agency and contract closure activity.

Implementation agency for execution of the Project shall broadly include but not limited to the following:

Phase I

- Overall system study covering feed handling, attack section, steam generation, chemical handling, acid handling, compressed air handling system, process water handling system, equipment layout study, RECI extraction system, deactivation system, TSP drying system, condensate recovery system, slurry handling and filtration system, RE flaker system, acid fume extraction system, spillage control system, ventilation and scrubbing system, product quality management system etc.
- 2) The Agency shall undertake the required site visits to REEP plant for debottlenecking TSP Circuit and RECL Circuit (attach schematic diagram) which inter alia includes auxiliary systems like steam, compressed and water etc. Agency should carryout detailed study of the Existing TSP & RECL Circuit and technical specifications for carrying out the activities. The Agency shall have discussions with IREL REEP team for understanding the teething issues and suggesting for improved plant layout and process modifications for achieving the targeted production.
- 3) The Agency shall collect TSP samples and RECI and other intermediate samples for simulation study & selection of different equipment's.
- 4) The Agency shall submit to IREL Layout plan, design basis report, technical specification of equipment and plant and other ancillary system i.e. electrical, civil, instrumentation, material handling system, draft tender document for implementation agency, Implementation Plan for execution of all the activities under scope of work.
- 5) The Agency shall undertake designing, detailed engineering, preparation and finalization of technical specifications, bills of quantities (BOQ), identification of functional requirements, design and sizing criteria, functional guarantees, requirement of spares, erection, commissioning and quality requirement, etc., for Project TSP & RECL Circuit de-bottlenecking and systems including all mechanical, electrical, instrumentation and control system, civil works and other related works as required to execute the Project.
- 6) The Agency shall undertake the preparation, review and finalization of the Civil and Structural Specifications, Standards and design Basis. Drawings of all structure and works for fabrication and installation with details of foundation while taking care that all civil works to be carried out in compliance with the applicable seismic zone design. The facility shall comply with the applicable building design Indian standard for stability taking into consideration of the cyclonic wind speed condition prevailing in the area. Stability analysis report to be submitted from a competent Civil engineering institute./organization who has given such report to any government organization in the past.
- 7) The Agency shall undertake the preparation of Process Design Basis, Process Description, Process Flow Diagram, Process Datasheet Equipment and Instrument, Heat and Material balance, water balance, Piping and Instrumentation Drawings (P&ID), , Effluent and Emission Summary, Cause and Effect Diagram, Utility Summary, etc. The Agency shall get all the designs, drawings, diagrams and datasheet reviewed and subsequently approved/accepted by IREL. Checking of steam balancing to existing and proposed system and find out adequacy of 18 tph boiler system. Suggestion to mitigate the steam related issues to be suggested. Line list with flow rate, pressure, temperature, materials of construction, etc. Equipment list and technical specification. Finalization / optimization of utility requirement like compressed air & water.

- 8) The Agency shall undertake the preparation of Mechanical equipment layout Drawings, technical specifications for plants, machinery, auxiliary systems, utilities, pumps, etc. Piping layout drawings, plans, sections, elevations isometrics where required for all utility and process pipelines. Material take off lists for valves, fittings, flanges, gaskets, hangers, supports and associated hardware, Design of implementation of corrosion protection measures, plant safety means, sewerage and drainage and effluent disposal system.
- 9) The Agency shall undertake the preparation System studies and calculation of fault level, preparation of electrical equipment list, load estimation etc. Design of power distribution scheme including preparation of single line diagram. Technical specifications of equipment to be procured for electrification work. Earthing with its latest amendments of the electrical installations like MCC room LT installations, all the newly installed drives and the area as well as the installed lighting installations including plate earthing, electrode earthing, earth pits and earthing flats of 25 x 4 mm, 50 x 6 mm, 100 x 10mm GI flat only as per IS 3043.
- 10) The Agency shall undertake the preparation of Scheme of instruments based on operating parameters and design philosophy. Finalization of operational procedures and preparation of control logic and alarm/annunciation system. Defining and specifying safety features, control devices, and panel details. Preparation of specification of all pneumatic and electronic instruments, tube layouts and hook-up diagram to the existing system. Preparation of instrumentation erection specification.
- 11) The Agency shall also undertake the preparation, review and finalization of the water supply and distribution system, steam distribution system, condensation recovery system, optimization of utility utilization and the required equipment, Microprocessor based intelligent addressable type automatic Fire detection and audio-visual alarm system for early warning in case of smoke, heat and/or fire in all fire sensitive locations, compressed air system, other allied activities required for TSP and RECL debottlenecking etc.
- 12) The Agency shall undertake the Preparation of technical specification of all the packages for tender for engaging implementation agency towards the supply, erection and successful commissioning of the TSP& RECL Circuit and other auxiliary facility required for its optimum operation to achieve minimum 90% capacity utilization wrt TSP& RECL production.
- 13) The Agency shall assist IREL in defining eligibility criteria, evaluation criteria, technical specifications, BOQ, drawings, etc., required for floating tenders for appointing suitable Contractor for undertaking procurement, Construction and commissioning activities.
- 14) The design capacity of the equipments and associated facilities as applicable should be 20% higher than the rated capacity.
- 15) Agency to do the hazop study and prepare safety assessment report.
- 16) Projcet report (DPR)covering executive summary, design basis report, layout, mass balance, steam balance, water balance, suggested modifications in process(if any)and plant amachinery, electrical, civil, piping, structural, architectural, plant and machinery dragwings, detail costing, phasing of expenditure, cost benefit analysis(IRR, Payback period), implementation schedule, technical specifications etc.
- 17) Study to cover adequacy of existing utility/facility/plant, suitable MoC for plant and machinery, based actual sample testing, agency has to design suitable equipments ,suggest for improved version or latest type plant and machinery which will be energy efficient and lead to higher recovery. Prepare technical specification of individual equipments, plant and machinery, plant layout drawings etc.
- 18) Soil study and based on seismic load data, agency has to design the civil constructions required for installation of plant and machineries.

- 19) Suggest improvement measures including optimal flow sheet and layout and implement the same through an implementation agency or other alternate implementation methodology for optimisation in the project implementation cost. The agency has to provide performance guarantee jointly with the implementation agency/Executing agency for its suggested schemes to achieve the intended objective i.e 90% of the installed capacity with the TSP and RECI production. The installed plant capacity is throughput of 10000tpa of feed material to produce 13500tpa of TSP and 11220 TPA of RECI.
- 20) Preparation of material balance of TSP and RECL circuit, testing of materials in NABL Lab/other approved laboratory,
- 21) Based on the above agency has to prepare the tender document for selection of Implementation agency/other alternate methodology for implementation of suggested schemes for debolltenecking TSP and RECL circuit. Agency will help IREL for floating of tender, technical evaluation, placement of order for selection of Implementation agency /executing agencies.

Phase II

- 1) Agency will help IREL for floating of tender, technical evaluation, placement of order for selection of Implementation agency / other implementation partners. After placement of order, agency shall coordinate with Implementation agency for selection of vendors for procurement of equipments.
- After receiving bids from the bidders, the Agency shall assist IREL in evaluation of the technical bids, issue of clarification letters, participate in detailed bid discussions with the Bidders for obtaining required clarification, etc.
- 3) The Agency shall review/vet any modifications/alterations suggested by the Contractor in Design & Engineering and other subsequent activities till the successful commissioning of TSP & RECL Circuit.
- 4) Agency will prepare the Quality Assurance Plan(QAP) for different equipments before its manufacturing in coordination with different parties and approve the same from IREL.
- 5) Follow up with the different vendors for getting the materials as per schedule.
- 6) Project monitoring and taking appropriate action in providing desired resources in case of deviation in execution schedule.
- 7) Carrying out civil construction work, painting of building in coordination with Implementation agency.
- 8) Fabrication and erection of steel structures and its painting in coordination with Implementation agency.
- 9) Installation of equipments, piping, electrical works and instrumentation work in coordination with Implementation agency.
- 10) Commissioning and performance testing of individual equipments and integration of all equipments of TSP and RECL circuit.
- 11) Preparation of fortnightly/ site progress reports covering current Construction status, deviations from approved schedules, critical areas and proposed remedial measures.
- 12) The Agency shall submit performance test certificate for each equipments.
- 13) Site Management Services

The Agency's obligations include, but is not limited to the following:

a. Supervision of Construction, inspection and approval of erection method, quality surveillance of execution of the Works as per approved Drawings, testing and commissioning of plant, equipment and facilities by the Contractor to ensure full compliance with regard to quality, safety and performance.

- b. Inspection of fabrication and supervision of installation of Plant & Machinery covered under the scope of work.
- c. Certifying placement of embedded parts and lineout of Plant & Machinery foundation, etc.
- d. Assistance to IREL in technical scrutiny of Contractors bills relating to the Scope of Work.
- e. Review of Construction schedules and monitoring site activities with respect to the latest approved schedule.
- f. Advise IREL regarding adequacy of special tools/equipment, manpower and resources of the Contractor.
- g. Review of the Contractor's work plans for ensuing week/month.
- h. Preparation of fortnightly/ site progress reports covering current Construction status, deviations from approved schedules, critical areas and proposed remedial measures.
- i. Providing advice to IREL regarding technical problems encountered at site.
- j. Proposing corrective actions to be taken in case of works that are not in line with approved designs / specifications.
- k. Review and advise IREL regarding field changes desired by the Contractor.
- I. Review and advise IREL regarding quality assurance plans and compliance.
- m. Advise on safety aspects during Construction and commissioning of the project and monitor the Contractor's and subcontractor's safety efforts.
- n. Reviewing of documents for testing, commissioning, performance testing for establishing guaranteed performance parameters and for operation and maintenance and training of personnel.
- o. Review of pre commissioning checklists prepared by Contractor for various equipment and systems.
- Interface and co-ordinate activities to monitor the plant testing from initial synchronization
 / Mechanical completion (erection in accordance with drawings, specifications, vendor instructions, applicable codes & regulations and IREL requirements) of the unit through all performance testing.
- q. Arrange through Implementation agency and ensure performance guarantee test at site on equipment / system, review and evaluation of test results, with comments / recommendations.
- r. Conduct independent calculations to verify test results.
- s. Follow up with vendors as required to check that scheduling and material take-off have commenced, that engineering work and drawing submission are underway and progress in accordance with the delivery schedule including pre-dispatch inspection whenever required.

- t. Obtaining copies of suborders from the Contractor and their verification against the Project schedule to ensure that delivery dates coordinate with the main production schedule.
- u. Ensuring timely submission from the Contractor of technical documentation such as manufacturing schedules, testing, procedures, erections and maintenance manuals.
- v. Identifying of incoming materials and co-relating with test certificates and advice on claims for damages/ short supply, etc. at Project site.
 - a. Monitoring and Supervision
- i. Inspection at site
 - a. Assist IREL to inspect and review the progress and quality of the Construction of Works and issue appropriate directions to the Contractor for taking remedial action in the event the Works are not in accordance with Specifications and Standards.
- ii. Plant related services

The Agency's scope of work under this includes:

- a. Ensuring demonstration of performance guarantee for the Integrated Plant Operation to achieve the desired TSP & RECL output of desired quality and quantity with the help of Implementation agency.
- b. Witnessing performance testing of the plant to be conducted by the Contractor at site prior to take-over.
- c. Scrutinizing the quality assurance plan by the contractor for various equipment including welding procedures and approval of vendors' performance qualification tests.
- d. Witnessing of non-destructive testing as and when required. Scheduling of pre dispatch inspections.
- e. Dimensional / alignment / tolerance checking as per approved fabrication Drawings.
- f. Witnessing and recording hydrostatic / pneumatic, and performance testing.
- g. Coordination with Contractor for issue of as built drawings
- h. Approval of test certificates and certifying acceptance of equipment for dispatch. (In case any equipment fails to meet the specific requirements fully, acceptance of the same with design concessions or rejection would be done in consultation with IREL).
- i. Assistance to IREL in interpretation and acceptance of the test results.
- j. Preparation of Defect and liability list.
- k. Preparation of Snag list for civil components
- I. Preparation of warranty and guarantee points for the Contractor.

- m. Review of the equipment running hour criteria, demonstration and acceptance of the same.
- n. Resolution of open points from erection / commissioning.
 - b. Other Obligations
- i. The Agency, in discharge of all its obligations under the Agreement, shall ensure the Contractor appointed for procurement, Construction and commissioning activities conforms with and adheres to Good Industry Practices up to Commissioning of the Plants in conformance to scope of work.
- ii. The Agency shall, at its own cost and expense, in addition to and not in derogation of its obligations elsewhere set out in the Agreement:
 - a. Make reasonable efforts to maintain harmony and good industrial relations among the personnel employed by it in connection with the performance of its obligations under the Agreement.
 - b. Ensure that its employees comply with all Applicable Permits in the performance by them of any of the Agency's obligations under the Agreement.
 - c. Always act in a manner consistent with the provisions of the Agreement and not cause or fail to do any act, deed or thing, whether intentionally or otherwise, which may in any manner be violate of any of the provisions of the Agreement.
 - d. Ensure that its employees comply with the safety and other measures in accordance with Applicable Laws and Good Industry Practices.
 - e. Keep on the Plant, a copy of the Agreement, publications named in the Agreement, the Drawings, documents relating to the Project, and Change of Scope Orders and other communications sent under the Agreement, and provide access to all these documents at all reasonable times to IREL and its authorized personnel.
 - f. cooperate with other contractors employed by IREL and personnel of any other public authority
 - g. Ensure the contract closure activity wrt the Implementation agency /Package contractors within the schedule.
- iii. Obligations relating to Agency's personnel
 - a. The Agency shall ensure that the personnel engaged by it for performance of its obligations under the Agreement are at all times appropriately qualified, skilled and experienced in their respective functions in conformity with Applicable Laws and Good Industry Practice.
 - b. Approval of Personnel

Professional Personnel listed in the bid submitted by the Agency shall be engaged for this Project. No other Professional Personnel shall be engaged without prior approval of IREL.

- iv. Obligations relating to advertisement on Project
 - a. The Agency shall not use the Project or any part thereof in any manner for branding or advertising purposes including for advertising any commercial product or services or companies.
- v. Agency shall ensure sound civil, structural, and electrical and mechanical engineering design, Construction, installation and commissioning of the Plant by Contractor, in line with various relevant Indian Standards, engineering code of practices and various other statutes including environmental and pollution statutes as applicable.
- vi. Documents prepared by the Agency to be property of IREL
 - a. All plans, Drawings, specifications, designs, reports and other documents (collectively referred to as "Works Documents") prepared by the Agency in performing the Works shall become and remain the property of IREL, and all intellectual property rights in such Works Documents shall vest with IREL. Any Works Document, of which the ownership or the intellectual property rights do not vest with IREL under law, shall automatically stand assigned to IREL as and when such Works Document is created and the Agency agrees to execute all papers and to perform such other acts as IREL may deem necessary to secure its rights herein assigned by the Agency.
 - b. The Agency shall, not later than termination or expiration of the Agreement, deliver all Works Documents to IREL, together with a detailed inventory thereof. The Agency will not retain a copy of such Works Documents.
 - c. The Agency shall hold IREL harmless and indemnified for any losses, claims, damages, expenses (including all legal expenses), awards, penalties or injuries (collectively referred to as "Claims") which may arise from or due to any unauthorized use of such Works Documents, or due to any breach or failure on part of the Agency or a Third Party to perform any of its duties or obligations in relation to securing the aforementioned rights of IREL.
- vii. Accuracy of Documents
 - a. The Agency shall be responsible for accuracy of the data collected by it directly or procured from other agencies/authorities, the designs, Drawings, estimates and all other details prepared by it as part of these services. Agency shall indemnify IREL against any inaccuracy in its work which might surface during implementation of the Works, if such inaccuracy is the result of any negligence or inadequate due diligence on part of the Agency or arises out of its failure to conform to Good Industry Practice, the Agency shall also be responsible for promptly correcting, at its own cost and risk, the drawings including any resurvey /investigations.

- viii. The Agency shall be fully responsible for the payment of any kind of dues/claim to the employee and any dispute with the employee shall be settled by the Agency. No claim whatsoever on this account shall be entertained by IREL.
- ix. Installation of quality control, pollution control and monitoring facilities shall be supervised by the Agency.
- x. Agency shall ensure procurement and installation of the electrical equipment by the Contractor that conforms to the relevant ISS/BIS/IEEE standards with respect to technical specifications, system configuration, reliability and safety aspects. The equipment shall conform to relevant Electricity Act/ Rules/ Regulation of the State and Central Government.
- xi. Agency to provide details of storage and circulation system for utilities such as Argon / compressed air, water, DM, etc., material handling system, auxiliary services such as laboratory, stores, warehouses, office complex, communication system, Effluent Treatment Plant(ETP), Sewage Treatment Plant(STP).
 - (i) The Agency shall undertake the required site visit to TSP & RECL Circuit (attached schematic diagram) at REEP including auxiliary systems like steam, compressed air and water etc for detailed study of the Existing TSP & RECL Circuit and technical specifications for carrying out the activities. The Agency shall have discussions with IREL, REEP team for debottlenecking the problems and project details of TSP, RECL & Utility circuit.
 - (ii) The Agency shall collect all the relevant samples for stimulation study & selection of different equipments. IREL will provide lab facility available in the unit and if any extra facility required will be arranged by external agency.
 - (iii) The Agency shall submit to IREL Layout plan, design basis report, technical specification of equipment and plant and other auxiliary system i.e. electrical, civil, instrumentation, material handling system, draft tender document, Implementation

Plan for execution of all the activities under scope of work. Party shall design the equipment considering 20% higher than the rated capacity.

- (iv) The Agency shall undertake designing, detailed engineering, preparation and finalization of technical specifications, bills of quantities (BOQ), identification of functional requirements, design and sizing criteria, functional guarantees, requirement of spares, erection, commissioning and quality requirement, etc., for Project TSP & RECL Circuit de-bottlenecking and systems including all mechanical, electrical, instrumentation and control system, civil works and other related works as required to execute the Project.
- (v) The Agency shall undertake the preparation, review and finalization of the Civil and Structural Specifications, Standards and design Basis.
- (vi) Drawings of all structure and works for fabrication and installation with details of foundation while taking care that all civil works to be carried out in compliance with the applicable seismic zone design. The facility shall comply with the applicable building design Indian standard for stability taking into consideration of the cyclonic wind speed condition prevailing in the area. Stability analysis report to be submitted from a competent Civil engineering institute /organization who has given such report to any government organization in the past.

- (vii) The Agency shall undertake the preparation of Process Design Basis, Process Description, Process Flow Diagram, Process Datasheet - Equipment and Instrument, Heat and Material balance, water balance, Piping and Instrumentation Drawings (P&ID), , Effluent and Emission Summary, Cause and Effect Diagram, Utility Summary, etc.
- (viii) The Agency shall get all the designs, drawings, diagrams and datasheet reviewed and subsequently approved/accepted by IREL. Checking of steam & condensate balancing to existing and proposed system and find out adequacy of 18 tph boiler system & subsequent action. Suggestion to mitigate the steam related issues to be suggested. Line list with flow rate, pressure, temperature, materials of construction, etc. Equipment list and technical specification. Finalization / optimization of utility requirement like compressed air & water.
- (ix) The Agency shall undertake the preparation of Mechanical equipment layout Drawings, technical specifications for plants, machinery, auxiliary systems, utilities, pumps, etc. Piping layout drawings, plans, sections, elevations isometrics where required for all utility and process pipelines. Material take off lists for valves, fittings, flanges, gaskets, hangers, supports and associated hardware, Design of implementation of corrosion protection measures, plant safety means, sewerage and drainage and effluent disposal system.
- (x) The Agency shall undertake the preparation System studies and calculation of fault level, preparation of electrical equipment list, load estimation etc. Design of power distribution scheme including preparation of single line diagram. Technical specifications of equipment to be procured for electrification work. Earthing with its latest amendments of the electrical installations like MCC room LT installations, all the newly installed drives and the area as well as the installed lighting installations including plate earthing, electrode earthing, earth pits and earthing flats of 25 x 4 mm, 50 x 6 mm, 100 x 10mm GI flat only.
- (xi) The Agency shall undertake the preparation of Scheme of instruments based on operating parameters and design philosophy. Finalization of operational procedures and preparation of control logic and alarm/annunciation system. Defining and specifying safety features, control devices, and panel details. Preparation of specification of all pneumatic and electronic instruments, tube layouts and hook-up diagram to the existing system. Preparation of instrumentation erection specification.
- (xii) The Agency shall also undertake the preparation, review and finalization of the water supply and distribution system, steam distribution system, condensation recovery system, optimization of utility utilization and the required equipment, Microprocessor based intelligent addressable type automatic Fire detection and audio-visual alarm system for early warning in case of smoke, heat and/or fire in all fire sensitive locations, compressed air system, etc.
- (xiii) The Agency shall undertake the Preparation of technical specification of all the packages for tender for engaging Implementation agency towards the supply, erection and successful commissioning of the TSP & RECL Circuit and other ancillary facility required for its optimum operation to achieve minimum 90% capacity utilisation wrt TSP & RECL production.
- (xiv) The Agency shall review/vet any modifications/alterations suggested by the Contractor in D&E and other subsequent activities till the successful commissioning of TSP & RECL Circuit.
- (xv) The Agency shall submit performance test certificate for each equipments.
- (xvi) Site Management Services

9.2. The indicative list of items are mentioned as below (subject to change based on detailed system study under phase I):

- Crystallizer for TSP
- Attack tanks.
- TSP reconditioning tank with agitator.
- Vacuum belt filter.
- Flash dryer.
- Ball mill, Cyclone separator, Screw conveyor & Bucket elevator
- Leaching tanks
- Concrete silo
- Wash water tank
- Mother liquor tank
- Caustic storage tank
- Caustic lye preheating tank
- Evaporated lye preheating tank
- Rare earths extraction tank
- Deactivation tank
- Mixed hydroxide filter pres
- Lead barium filter pres
- Slurry preparation tank
- Spillage collection tank
- HCl storage tank
- DALF storage tank
- RE evaporation feed tank
- Glass lined vats
- Flaker machine & bagging system
- Cooling tower
- Boiler
- Air Compressors
- DM water plant
- Coal preparation plant
- Civil structures modification & construction for new foundation for equipment.
- Pump, Piping and other accessories
- Erection & Commissioning.
- Instrumentation work.
- Electrical works
- Chiller system.
- Performance test.

9.3. Deliverables

The Agency shall deliver the following deliverables (the "**Deliverables**") during the course of the Assignment. Five hard copies and soft copy in CD/Pendrive of all the final reports including bottle necks in the present circuit and its mitigation plan, along with detailed technical specifications of all equipments.,

design basis reports, drawings, etc. shall be submitted to IREL. The deliverables to be submitted in two phases as mentioned below:-

Phase-1

- Inception report within 30 days of placement of order.
- Submission of draft debottlenecking project report within 135 days of placement of order.
- Submission of final debottlenecking project report and acceptance by IREL within 180 days of placement of order.
- Submission of technical specification of the tender packages within 180 days of placement of order.

Phase-2

- Release of Implementation agency order or orders for finalized tender packages as the case may be.
- Achieving min 90% of the capacity in terms of product output of TSP and RECL.
- In case the agency fails to achieve 90%, penalty upto 5% of the total basic value of the contract will be deducted.
- In no case the products output below 80% of installed capacity will be acceptable.

9.4. Reports

- Agency shall submit a Fortnightly Report of the preceding weeks by Monday of the succeeding week. Such reports shall include the historical background of the Project; a brief description of actual versus planned progress; problems encountered and resolutions; and comments on the quality of work and the Contractor's performance. The reports shall include graphs or charts showing physical progress of works. The reports shall also include colour photographs showing completed work and construction activities undertaken during the relevant reporting period. Fortnightly Report should also indicate item wise detail status of various procurement and status of statutory approvals. Fortnightly report will contain a section devoted entirely to an assessment of the impact of accumulated delays, if any, in the execution of works and a projected date for completing the delayed jobs without affecting the Project schedule. The progress report shall highlight the specific delays, impact of accumulated delays, reason for such delays, action plans proposed to bring back to original schedule, major bottlenecks and holdups. The format of the progress report shall be discussed and mutually agreed by IREL and the Agency.
- Agency shall submit to IREL any other reports/documents within the stipulated timelines required for fulfillment of its obligations under the Agreement.
- IREL may ask the Agency to prepare technical reports / studies as required for obtaining statutory clearances as the case may be.

10. Route for Participation

- (a) The Bidders may participate as a sole bidder (single entity)
- (b) The Bidders may also constitute a consortium for participation limited to two bidders.
- 10.1. During evaluation of Eol application, Bidders will be asked to present a detail about their organization, capability and resources etc. to execute the instant project

11. Instructions to Bidders

Interested bidders can download the EOI Document for free of cost from the following website <u>https://etenders.gov.in/eprocure.app</u> and <u>http://irel.co.in.</u>

11.1. Content of the Proposal

The Proposal submitted by the bidders shall comprise of the following:

- a) Covering letter in the format specified in Section 13.1.
- b) Details of the Bidder in the form enclosed in Section 13.2
- c) List of Similar Works Undertaken in the form enclosed in Section 13.3
- d) Suggestion/ Modifications in the Scope of Work in the form specified in Section 13.4
- e) Proposed methodology for implementation and schedule of implantation.
- f) Details of Key officials having relevant experience in debottlenecking /setting up of chemical plants as per format (minimum 5 officials details to be provided).
- g) Checklist of documents as in Section 13.5

11.2. Governing law

The EOI process shall be governed by, and construed in accordance with, the laws of India.

11.3. Acknowledgement

The receipt of this EOI document may kindly be acknowledged and IREL requests you to kindly inform whether you will be submitting a proposal or not.

11.4. Other Conditions

- (a) IREL reserves the right to withdraw this EOI without notifying the reason.
- (b) The Bidder shall be solely responsible and shall pay for all of the costs associated with the preparation of its EOI proposal and its participation in the Bidding Process.
- (c) IREL shall not be responsible in any way for such costs, regardless of the conduct or outcome of the Bidding Process.

(d) Subsequent to EoI evaluation and based on the inputs received from capable parties, detailed scope of work and RFP will be finalized and the same will be floated at a later stage for participation by bidders to execute the aforesaid work.

11.5. Pre-Eol Meeting

- a) A pre-bid meeting through VC/ physically would be held at time and an address specified in the schedule. For participation through VC, interested bidder has to send a mail for sharing the link latest by 11am of 10.05.2025.
- b) During the course of pre-Eol meeting, the Bidders will be free to seek clarifications and make suggestions for consideration of IREL. IREL shall endeavor to provide clarifications and such further information as it may, in its sole discretion, considered appropriate for facilitating a fair, transparent and competitive Bidding Process.
- c) Clarifications/responses shall be shared by uploading such responses online only at **CPP portal** if required in the form of an addendum and or corrigendum.
- d) Non-attendance at the pre-Eol conference shall not be a cause for disqualification of a Bidder. However, terms and conditions of the Addendum(s) shall be legally binding on all the Bidders irrespective of their attendance at the Pre-Eol Conference.

12. Time Period: Phase-I (tentative)

SI.	Project Milestone	Time Period(in months)#
No.		
1	Submission of Inception Report	T1+1
2	Submission of draft project report	T1+3.5
4	Submission of final project report and acceptance by IREL	T1+6
5	Submission of technical specification of the tender packages	T1+6
6	Go ahead by IREL for phase-2	T1+8^

^-Tentative and may change subject to receipt of IREL Board approval.

Intermediate Mile-stones (1 to 3) are indicative. Bidder has to complete the Phase-I assignment as per scope of work within 6 months. Any delay in providing data and clearance of reports on part of IREL will not be calculated for the above period and time period of submission will be accordingly extended without imposition of LD on the bidder.

Time Line :Phase-II (T2)

SI. NO.	Project Milestone	Time Period(in months)#
1	Bid floating, evaluation and finalisation of order for Major packages/ Implementation agency	T2+2
2	 Execution of Implementation agency / packages through execution agency/agencies 21. Submission/checking/approval of design information, design drawings, other drawings, specifications, documents, manuals of civil & structural, electrical & instrumentation, utilities & water system and other vendor drawings, etc. of the machinery/package/plant. 2.2 Successful commissioning of major equipment/individual packages of the plant/complex 2.3 Assistance for establishment of integrated operation, commissioning 2.4 Achievement of integrated performance guarantee parameters & indices of the entire project in association with Implementation agency / other agency. 2.5 Ensuring submission of of all final G. A, Detail drawings, Documents, Manual, As-built drawings by execution agency. 2.6 Issuance of Provisional acceptance certificate. 2.7 Issuance of Final Acceptance Certificate. 	T2+24

13. Eol application Forms & Annexures

13.1. Format for Cover Letter

(On letter head of the Bidding Company/Lead Member of Bidding Consortium)

From:

Bidder's Name and Address:

Sub: Proposal letter for participation in EOI for selection agency for debottlenecking of TSP & RECL section at REEP, OSCOM.

EOI Ref. No. and Date:

Dear Sir/ Madam,

With reference to your EOI Document dated [*date*], I/we, having examined the EOI Document and understood their contents, we would like to express our interest to carry out the activities for the said Project and are hereby submitting our Proposal. Pursuant to the same, we would like to acknowledge the following:

- a) I/We are participating as a single Bidder/ Consortium. (strike out whichever is not applicable)
- b) The proposal is unconditional.
- c) I/We have reviewed the terms and conditions of the EOI Document and hereby unconditionally and irrevocably accept, agree, and acknowledge the terms thereof.
- d) I/We acknowledge that the IREL will be relying on the information provided in the proposal and the documents accompanying the proposal for identification of the technology and subsequent selection of the technology provider through an separate bidding process and we certify that all information provided therein is true and correct to the best of our knowledge; nothing has been omitted which renders such information misleading; and all documents accompanying the proposal are true copies of their respective originals.
- e) This statement is made to express the purpose of our participation in the EOI process and provide necessary information for the EOI process.
- f) I/We/Our members/partners hereby acknowledge that if we submit or produce any document and it is discovered subsequently that such document was false or incorrect then we shall be liable under applicable law for the time being in force.
- g) I/We shall make available to the IREL any additional information it may find necessary or required to supplement/authenticate the proposal submitted.
- h) I/We have submitted only one bid/proposal for the De-Bottlenecking Project in accordance with the EOI Document.

In witness thereof, we submit this proposal letter forming part of our proposal under and in accordance with the terms of the EOI Document.

EOI for selection of agency for debottlenecking of TSP & RECL section at REEP, OSCOM.

Yours faithfully,

Signature, name, designation, and seal of the authorized signatory

Date:

Place:

Enclosed:

[list and description of documents enclosed]

13.2. Details of the Bidder/Consortium of Bidders

S No.	Parameters	Provided Yes/No	Details	Supporting Documents
1.	Name of the Bidder and name of constituting entities in case of a consortium.			Not Required
	(Whether firm/ private or public limited company/ others)			
	In case of consortium, tentative role of each party to be provided.			
2	Full postal address of the bidder/consortium of bidders along-with telephone no/email-id			Certificate of Incorporation or GST Registration certificate or any other certificate
3	Lines of business activities			Not Required
4	The name, designation, telephone no. and of the Authorized Signatory for this EOI Proposal			Power of Attorney Document
5	Any other general details which the bidder would like to provide			Not Required
Finan	ncial Details			
1.	Net worth of the bidder (Net worth means paid up share capital of the company plus free reserves minus accumulated losses and balance in miscellaneous expenditure) of last three years (Financial Year/Calendar Year) (in INR)		FY24 or FY 25	Statutory Auditor Certificate or Audited Financia Statement
2.	Annual Turnover		FY24	Statutory Auditor Certificate
	(in INR)		FY23 FY22	or Audited Financia Statement
3.	Net Profit		FY24	Statutory Auditor Certificate
	(in INR)		FY23 FY22	or Audited Financia Statement

Note:

13.3. List of Similar Works

C	Name of	Mode of	Name of	Departmention of	Draigat vala	Supporting
S.						
No.	Assignment	Execution	Organization for		of the work	Documents
	of Similar		which the work	undertaken	undertaken	
	Nature		was undertaken			[Work Order
						or Contract
						Agreement
						along with
						Completion
						Certificate]
						Certificatej
1.						
2.						
3.						
4.						
5.						
5.						
6.						
7.						
8.						
0.						
9.						
10.						

Note:

- I. The following works shall be considered as works of "Similar Nature":
 - (a) Works involving Debottlenecking/ Implementation agency work for chemical plant / process plant during last 10 years (i.e. on or after January 2015)

Yours faithfully,

Name:

Designation:

Signature & Company's Round Seal

NOTE:

13.4. Suggestion / Modification in the Scope of Work

S. No.	Existing Provision	Suggested modification	Rationale for modification
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

PROPOSED IMPLEMENATION METHODOLOGY AND SCHEDLUE OF IMPLEMENTAION

Write up covering Understanding of the scope of work, organization capability to undertake the work, methodology for implementation, schedule of implementation and other details to be submitted.

SI. No	Name	Designation	Qualification	Exp in Years	Detail work experience
			BE/ME/MBA/MTECH year of passing		

Details of key technical /professionals for undertaking the assessment:

13.5. CHECKLIST OF DOCUMENTS TO BE SUBMITTED BY THE BIDDER

SI. No.	Document	Reference	Compliance (Y/N)
1	EoI Application/Bid		
2	Undertaking by the bidder		
3	A self-certified letter that the bidder has not been blacklisted by an Authorized Signatory on the company's original letter head with signature and seal		
4	Filled in "Checklist of Documents to be provided by the bidder"		

GENERAL INSTRUCTIONS TO BIDDERS W.R.T PARTICIPATION IN

THE E-TENDERING EVENT

14. Instructions for Online Bid Submission

The bidders are required to submit soft copies of their bids electronically on the CPP Portal, using valid Digital Signature Certificates. The instructions given below are meant to assist the bidders in registering on the CPP Portal, prepare their bids in accordance with the requirements and submitting their bids online on the CPP Portal.

More information useful for submitting online bids on the CPP Portal may be obtained at <u>https://etenders.gov.in/eprocure/app</u>.

REGISTRATION

- 1) Bidders are required to enroll on the e-Procurement module of the Central Public Procurement Portal (URL: <u>https://etenders.gov.in/eprocure/app</u>) by clicking on the link "Online bidder Enrolment" on the CPP Portal which is free of charge.
- 2) As part of the enrolment process, the bidders will be required to choose a unique username and assign a password for their accounts.
- Bidders are advised to register their valid email address and mobile numbers as part of the registration process. These would be used for any communication from the CPP Portal.
- 4) Upon enrolment, the bidders will be required to register their valid Digital Signature Certificate (Class II or Class III Certificates with signing key usage) issued by any Certifying Authority recognized by CCA India (e.g. Sify / nCode / eMudhra etc.), with their profile.
- 5) Only one valid DSC should be registered by a bidder. Please note that the bidders are responsible to ensure that they do not lend their DSCs to others which may lead to misuse.
- 6) Bidder then logs in to the site through the secured log-in by entering their user ID / password and the password of the DSC / e-Token.

SEARCHING FOR TENDER DOCUMENTS

- 1) There are various search options built in the CPP Portal, to facilitate bidders to search active tenders by several parameters. These parameters could include Tender ID, Organization Name, Location, Date, Value, etc. There is also an option of advanced search for tenders, wherein the bidders may combine a number of search parameters such as Organization Name, Form of Contract, Location, Date, Other keywords etc. to search for a tender published on the CPP Portal.
- 2) Once the bidders have selected the tenders they are interested in, they may download the required documents / tender schedules. These tenders can be moved to the respective 'My Tenders' folder. This would enable the CPP Portal to intimate the bidders through SMS / e-mail in case there is any corrigendum issued to the tender document.

3) The bidder should make a note of the unique Tender ID assigned to each tender, in case they want to obtain any clarification / help from the Helpdesk.

PREPARATION OF Eol Application

- 1) Bidder should take into account any corrigendum published on the Eol before submitting their proposal.
- 2) Please go through the tender advertisement and the tender document carefully to understand the documents required to be submitted as part of the bid. Please note the number of covers in which the bid documents have to be submitted, the number of documents - including the names and content of each of the document that need to be submitted. Any deviations from these may lead to rejection of the bid.
- 3) Bidder, in advance, should get ready the bid documents to be submitted as indicated in the tender document / schedule and generally, they can be in PDF / XLS / RAR / DWF/JPG formats. Bid documents may be scanned with 100 dpi with black and white option which helps in reducing size of the scanned document.
- 4) To avoid the time and effort required in uploading the same set of standard documents which are required to be submitted as a part of every bid, a provision of uploading such standard documents (e.g. PAN card copy, annual reports, auditor certificates etc.) has been provided to the bidders. Bidders can use "My Space" or "Other Important Documents" area available to them to upload such documents. These documents may be directly submitted from the "My Space" area while submitting a bid and need not be uploaded again and again. This will lead to a reduction in the time required for bid submission process.

SUBMISSION OF Eol application/proposal

- 1) Bidder should log into the site well in advance for bid submission so that they can upload the bid in time i.e., on or before the bid submission time. Bidder will be responsible for any delay due to other issues.
- 2) The bidder has to digitally sign and upload the required bid documents one by one as indicated in the tender document.
- 3) Bidders are requested to note that they should necessarily submit their financial bid in the format provided and no other format is acceptable. If the price bid has been given as a standard BoQ format with the tender document, then the same is to be downloaded and to be filled by all the bidders. Bidders are required to download the BoQ file, open it and complete the white colored (unprotected) cells with their respective financial quotes and other details (such as name of the bidder). No other cells should be changed. Once the details have been completed, the bidder should save it and submit it online, without changing the filename. If the BoQ file is found to be modified by the bidder, the bid will be rejected.
- 4) The server time (which is displayed on the bidders' dashboard) will be considered as the standard time for referencing the deadlines for submission of the bids by the bidders, opening of bids etc. The bidders should follow this time during bid submission.

- 5) All the documents being submitted by the bidders would be encrypted using PKI encryption techniques to ensure the secrecy of the data. The data entered cannot be viewed by unauthorized persons until the time of bid opening. The confidentiality of the bids is maintained using the secured Socket Layer 128 bit encryption technology. Data storage encryption of sensitive fields is done. Any bid document that is uploaded to the server is subjected to symmetric encryption using a system generated symmetric key. Further this key is subjected to asymmetric encryption using buyers/bid openers public keys. Overall, the uploaded tender documents become readable only after the tender opening by the authorized bid openers.
- 6) The uploaded tender documents become readable only after the tender opening by the authorized bid openers.
- 7) Upon the successful and timely submission of bids (i.e. after Clicking "Freeze Bid Submission" in the portal), the portal will give a successful bid submission message & a bid summary will be displayed with the bid no. and the date & time of submission of the bid with all other relevant details.
- 8) The bid summary has to be printed and kept as an acknowledgement of the submission of the bid. This acknowledgement may be used as an entry pass for any bid opening meetings.

Contact person of Tendering Authority IREL (INDIA) LIMITED, Corporate Office, Mumbai

Name	email-id	Landline No.	Mobile No.
Shri R S Sabat, GM-T(Purchase) & I/c	purchase1-os@irel.co.in	06811-257890 – 95 Extn 150	+91 8280402609
Marketing	<u>rssabat@irel.co.in</u>		
Smt. S K Sinha, Manager,(Purchase)	<u>sksinha@irel.co.in</u>	06811-257890 – 95 Extn 150	+91 9692495746

A) Commercial Persons

B) Technical Persons

Name	email-id	Landline No.	Mobile No.
Shri R.K.Das, DGM-T(Maint. & In- Charge (REEP)	rajeshkdas@irel.co.in	_	+91 9437166570
Sri Girish D Babu, CM(Operation)	girishdbabu@irel.co.in	-	+91 9447912190
Sri D P Mohanty, Manager(Chem)	dpmohanty@irel.co.in		+91 98618 76290
Shri Manoj K. Sethy, Mgr-Tech(Mech.)	mksethy@irel.co.in	-	+91 8280035239

NB:

• Bidders may please note that they are required to upload all the documents as called for in the tender document.