

**DESIGN, FABRICATION, SUPPLY, INSTALLATION  
AND  
TESTING OF ROTATING DRUM TEST FACILITY**

**TENDER NO: IMUV/2014-2015/Rotating Drum Test  
Facility/003/RP-012 Dated 05-06-2014**

**INDIAN MARITIME UNIVERSITY  
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GANDHIGRAM  
VISA KHAPATNAM - 530 005  
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**SECTION 1**  
**NOTICE INVITING TENDER**

- 1.1 Indian Maritime University, Visakhapatnam Campus invites tender for “Supply, Installation & Testing of Rotating Test drum facility”
- 1.2 The Cost of Tender document is **Rs.250-00 (Rupees Two Hundred and Fifty)** payable by way of Demand Draft drawn on any Nationalized/Scheduled Bank in favour of Indian Maritime University, Visakhapatnam Campus Payable at Visakhapatnam. The tender document can also be downloaded from the web site **www.nsdr.com** (or) **www.nsdr.res.in**. In such case the cost of tender document shall be submitted along with the Tender
- 1.3 Tenderers are advised to study the Tender Document (including all Sections, Schedules and Annexures etc) carefully. Submission of Tender shall deem to have been done after careful study and examination of the Tender Document with full understanding of its implications.
- 1.4 Sealed tender prepared in accordance with the conditions enumerated in **Section-3** should be submitted to the Director, Indian Maritime University, Visakhapatnam Campus, Gandhigram, Visakhapatnam 530005, not later than the date and time mentioned, at the address given in this section.
- 1.5 All tenders must be accompanied by an Earnest Money Deposit (EMD) of **Rs.6000-00** (Rupees Six Thousand)
- 1.6 This Tender Document is not transferable.
- 1.7 Schedule for Invitation to Tender
- a) **Name of the Purchaser**  
Indian Maritime University  
Visakhapatnam Campus  
Gandhigram  
**Visakhapatnam-530005**  
Andhra Pradesh  
**Phone: 0891-2578360-64**  
**Fax : 0891-2577754**
- b) **Location where the Equipment to be supplied, Installed and Tested**  
Indian Maritime University  
Visakhapatnam Campus  
Gandhigram  
**Visakhapatnam-530005**  
Andhra Pradesh

- c) **Addressee and Address at which Tenders are to be submitted**  
Director  
Indian Maritime University  
Visakhapatnam Campus  
Gandhigram  
**Visakhapatnam-530005**  
Andhra Pradesh
- d) **Date from which the Tender document is issued**  
From **5<sup>th</sup> June 2014** on all working day of the University till the date of closure of the tender
- e) **Place of issue of Tender document**  
Indian Maritime University  
Visakhapatnam Campus  
Gandhigram  
**Visakhapatnam-530005**  
Andhra Pradesh
- f) **Last Date for submission of the Tender**  
On or before 1500 Hours on **30th June 2014**
- g) **Place of submission of Tender (Technical and Price Bid)**  
Indian Maritime University  
Visakhapatnam Campus  
Gandhigram  
**Visakhapatnam-530005**  
Andhra Pradesh
- h) **Date of opening of Technical Bid**  
At 1600 Hours on **30<sup>th</sup> June 2014**
- i) **Place of opening of Technical Bid**  
Indian Maritime University  
Visakhapatnam Campus  
Gandhigram  
**Visakhapatnam-530005**  
Andhra Pradesh, India
- j) **Validity of Tender**  
90 days from the date of opening of the Technical Bid
- k) The date of opening of price bid will be intimated after technical evaluation of the tenders.

l) **Date by which the supply to be completed**

Within **Three weeks** from the date of signing of the agreement.

1.8 **Pre-Bid meeting and Clarifications**

- a) Pre-Bid meeting will be held at 1000 Hours on 13<sup>th</sup> June 2014 at Indian Maritime University, Visakhapatnam Campus.
- b) The queries of the Tenderers will be discussed and suitable responses will be given at the time of the pre-bid meeting.
- c) Queries and IMU replies will be uploaded in the website **www.nsdrc.res.in** (or) **www.nsdrc.com** within one week from the date of pre-bid meeting.
- d) It is to be noted that no queries / requisition / clarifications will be entertained after the pre-bid meeting.
- e) At any time prior to the last date for receipt of the bids, IMU (V) may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective tenderer, modify the Tender Document by an amendment.
- f) The amendment will be notified by issuing a suitable corrigendum and will be uploaded on the website **www.nsdrc.res.in** (or) **www.nsdrc.com**.
- g) In order to afford prospective Tenderers, reasonable time in which to take the amendment into account in preparing their bids, IMU (V) may or at its own discretion, extend the last date for receipt of bids.

**SECTION - 2**  
**DEFINITIONS**

- 2.1 Tenderer: Refers to the Person or the Firm or the Company to whom this Tender is issued.
- 2.2 Vendor: Refers to the person or the firm or the Company with whom the order for the Supply, Installation and Commissioning of the Equipment is placed and shall be deemed to include the Vendor's successors, their representatives (approved by the Purchaser), heirs, executors, administrators and permitted assigns, as the case may be, unless excluded by the terms of the Contract. Also referred to as the successful Tenderer.
- 2.3 Purchaser: Refers to IMU, Visakhapatnam Campus
- 2.4 The Consignee of all the items shall be IMU, Visakhapatnam Campus
- 2.5 IMU: Refers to Indian Maritime University, Visakhapatnam Campus.
- 2.6 Goods: Refers to all equipment, other accessories, which the successful Tenderer is required to supply to IMU, Visakhapatnam Campus under the Contract as indicated in this Tender.
- 2.7 Services: Refers to various Services indicated in this Tender and shall include services ancillary to the supply of the Goods, transportation, insurance and any other incidental services, such as installation, warranty, maintenance for one year. Service as specified in this tender including the provision of technical assistance for integration of the supplied items and training and any other such obligations of the Tenderer as covered under the tender.
- 2.8 Items: Refers to all Goods and Services indicated in this Tender and shall include all accessories which are essential to meet the requirements specified.
- 2.9 Start Date: Refers the date on which the order is placed on the successful tenderer and accepted by the successful tenderer.
- 2.10 Acceptance/Completion Date: Refers to the date on which all the items along with accessories (as specified in the tender) are supplied, installed & testing is completed and acceptance of the Equipment by IMU.
- 2.11 RST, RSP : RST refers to Respons Sheet Technical (RST) and RSP refers to Response Sheet Price (RSP)

### **SECTION - 3**

#### **GENERAL CONDITIONS AND DIRECTIONS FOR THE GUIDANCE OF TENDERER**

- 3.1 Tenders in sealed cover should be submitted as per the 'Schedule of Requirements' as indicated in **Section-6** in this tender and in accordance with instructions to Tenderers i.e. as per general conditions and directions for the guidance of Tenderer are to be submitted in duplicate to The Director, Indian Maritime University, Visakhapatnam Campus, Visakhapatnam.
- 3.2 Tender must be submitted in one sealed main cover containing Cover-1 and Cover-2 separately and the main cover shall be super scribed as for "**Design, Fabrication, Supply, Installation and Testing of Rotating Drum test facility**". All the covers shall be addressed to the Director, Indian Maritime University, Visakhapatnam Campus, Visakhapatnam -530 005. Name and address of the Tenderer shall also be written on all covers.
- 3.3 The Tenderer shall clearly write on Cover-1 as "**Technical Bid - Design, Fabrication, Supply, Installation and Testing of Rotating Test Drum Facility**" and on Cover-2 as "**Price Bid - Design, Fabrication, Supply, Installation and Testing of Rotating Test Drum Facility**"
- 3.4 The contents of Technical bid is placed at **Annexure 1** and contents of Price bid is placed at **Annexure 2**
- 3.5 All the contents of Cover- 1 shall be submitted in duplicate; and in Cover-2 only one price bid shall be submitted.
- 3.6 On the date of opening of technical bid, only the Main Cover and Cover-I (Technical Bid) alone will be opened. Cover-II of various Tenderers will be put in a sealed cover in the presence of the Tenderers or their authorized representatives, who are present on the date of opening of Technical bid.
- 3.7 The price information should only be furnished in Price Bid (Cover-2).
- 3.8 Tender documents are not transferable.
- 3.9 The Tenderer shall offer and quote for all items and services indicated in the Tender. Tender responses that do not cover all items shall be summarily rejected.
- 3.10 The Tenderer should enclose in the technical bid, full details of the items offered with full documentation, descriptive literature/leaflets supplementing the description to meet the specification as indicated in the tender. Models and Brands offered shall be clearly indicated including all accessories. All documentation required is to be in English Language. The Tenderer shall clearly indicate OEM part/identification numbers for all the equipment and services supplied inclusive of warranty in technical bid.

- 3.11 The Tender should be complete in all respects and if the Tender is incomplete the same may be rejected.
- 3.12 The Tenderer shall sign and affix stamp on all pages of the tender documents and a person, holding a power of attorney authorizing him to do so, shall make such signature. The letter of authorization is to be enclosed along with the covering letter of the technical and price bids.
- 3.13 The Tenderer shall offer the items specified in the Tender document, as the sole agency.
- 3.14 Amendment to Tender Document
- 3.14.1 At any time prior to the last date for receipt of the bids, IMU, may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective Tenderer, modify the Tender Document by an amendment.
- 3.14.2 The amendment will be notified by Post or Fax or E-mail to all the Tenderers who have received the Tender Document and will be binding on them. An amendment notice sent by Fax or a signed confirmation copy through Post will follow E-mail.
- 3.14.3 In order to afford prospective Tenderers, reasonable time in which to take the amendment into account in preparing their bids, IMU may or at its own discretion, extend the last date for receipt of bids.
- 3.15 The amount of Earnest Money Deposit is 6000-00 (Rupees Six thousand) and shall deposit in the form of Demand Draft drawn on any Nationalized/Scheduled Bank in favour of Indian Maritime University, Visakhapatnam Campus payable at Visakhapatnam. The Demand Draft should be enclosed to the Technical Bid and should not be sent separately.
- 3.16 The Earnest Money deposited by the unsuccessful Tenderer will be refunded without any interest on placement of Order on the successful Tenderer. The EMD for the successful Tenderer shall be refunded on submission of Security Deposit equivalent to 10% of the order value (final accepted tender value) in the form of Bank Guarantee. Firms registered with NSIC are exempted from submission of EMD, subject to submission of copy of the certificate along with the technical bid.
- 3.17 All the taxes and duties, etc., applicable shall be indicated clearly in price bid. The offers that contain the prices in the technical bid will be invalid and such Tenders will be summarily rejected.
- 3.18 The prices quoted should be on Indian Rupee basis and should include the base price (inclusive of freight, forwarding, Insurance coverage till acceptance and delivery at IMU Visakhapatnam), installation, testing along with applicable taxes and duties. The taxes and duties, if any, shall be indicated clearly in the Tender and the same shall be taken into account to arrive at the total price for delivery at IMU,



Visakhapatnam Campus at Visakhapatnam. IMU does not bind itself to accept claims for extra payment for items not included in the Tender. Any revision in Statutory levies during the period between placement of Order and successful commissioning of the equipment would be paid by IMU on receiving documentary evidence for such revisions against the information furnished in the Tender.

- 3.19 The Tenderer shall abide by the specifications and terms and conditions as mentioned in this tender.
- 3.20 The successful Tenderer on receipt of the Order shall furnish Security Deposit for 10% of the total value of the order (Final accepted tender value) by way of unconditional irrevocable Bank Guarantee from a Nationalized/Scheduled Bank in the form hereto annexed (**Annexure 3**) within 7(Seven) days from the date of issue of the Order, failing which the Order may be cancelled. Under such event the purchaser shall have the right to procure the items at his discretion. On receipt and acceptance of the Bank Guarantee by IMU, Earnest Money Deposit submitted with the Tender will be refunded. No interest will be allowed on the Earnest Money Deposit from the date of its receipt until it is refunded.
- 3.21 EMD of the Tenderer would be forfeited if -
- a) The tenderer is not willing to abide by the terms of conditions after submission of tender.
  - b) The tenderer does not honour the clarifications provided to IMU.
  - c) Withdraws or amends or impairs or derogates from the tender in any respect within the period of validity of its tender before receipt of final acceptance.
  - d) Fails to submit Bank Guarantee as indicated in this tender within the stipulated time. (This is applicable to tenderer whose tender has been accepted)
- 3.22 Tenders will be opened on the day and time as indicated in this document. Eligible Tenderers as above should send letter of authorization with attested specimen signatures of their representatives who are deputed to attend at the time of opening of Tenders. Representative without such authorization letters may not be permitted to be present to witness the opening. (Only one person is authorized to attend on behalf of each Tenderer for Bid Opening).
- 3.23 Offers received through Telegraphic/Fax/E-Mail will be treated as defective, invalid and rejected.
- 3.24 The Specifications of equipment to be supplied refer to the minimum requirements that the Tenderer is required to meet. Tenders in non-compliance of the minimum specifications would be summarily rejected. **The tenderer is required to quote for any accessories etc., which are required to make the Equipment fully operational and functional.**

3.25 Only detailed complete offers received prior to closing time and date of the Tenders will be taken as valid.

3.26 Eligibility Criteria for Tenderers

3.26.1 The Tenderer should have a minimum of 3 Years of experience in carrying out Fabrications Works.

3.26.2 The Tenderer should submit the copies of the orders in respect of Fabrication Works for the years 2011-2012, 2012-2013 and 2013-2014.

3.26.3 The Tenderer should have a turnover of Rs.5.00 Lakhs for the last three years. The annual reports including audited reports shall be enclosed with the technical bid of the tender.

3.26.4 The Tenderer should submit copies of the Audited Balance Sheet and Profit and Loss Account and Income Tax Returns for the years 2010-2011, 2011-2012 and 2012-2013

3.26.5 The Tenderer should submit copy of the PAN Card issued by the Income Tax Department

3.26.6 The Tender should submit copies of registration certificates like VAT/Service Tax.

3.27 Methodology: (RST- 03)

3.27.1 The Tenderer shall furnish a clear methodology in meeting various requirements of this tender including -

- Fabrication of the Test facility
- Acceptance Testing

3.28 Placement of Order:

3.28.1 After evaluation and finalization of bids received, IMU would place the Order on the successful Tenderer. The tender will be awarded to the tenderer who is technically qualified and whose value is the lowest. .

3.28.2 The date on which the order is placed on the successful tenderer and accepted and accepted by the successful tenderer would be treated as the start date. Prior to issue of the Order, IMU reserves the right to include/modify/exclude specific terms and conditions of Tender.

3.28.3 The successful tenderer is required to submit a Bank Guarantee within stipulated period as per the pro-forma attached in Annexure 3, for 10% of the Order value (Final accepted value) towards Security Deposit / Performance guarantee. The Bank

Guarantee should remain valid for a period of 60 days beyond the date of completion of all obligation of the Supplier, including warranty obligations.

3.28.4 IMU reserves right to modify the terms and conditions to the Order, so as to meet contingency situations, which can arise from time to time. Such modifications would be discussed and agreed upon by the successful Tenderer taking into consideration the cost, time and other implications. After finalization of modification, the Order may be suitably amended, if required.

3.28.5 IMU reserves right to change quantities or withdraw some of the items from bill of materials before issuing the order.

3.29 IMU reserves the right to amend any of the requirements, terms and conditions of this Tender.

3.30 Terms of Payment

3.30.1 75% Payment shall be released upon supply & installation of the Test facility at IMU, Visakhapatnam Campus

3.30.2 25% payment shall be released upon conducting tests to the satisfaction of IMU.

**Note: However payment shall be released up on receipt of Performance bank guarantee against 10% of Purchase order value.**

## **SECTION - 4**

### **SPECIAL CONDITIONS OF TENDER**

- 4.1 Successful Tenderer shall be responsible for the insurance, safe delivery and installation of the goods at IMU. The successful Tenderer is responsible for all the supplies of goods and services till the acceptance date after which the ownership is transferred to IMU.
- 4.2 In the event of the placement of the Order, the consignment shall be booked in the name of Indian Maritime University, Visakhapatnam Campus, Visakhapatnam-530005. Any demurrage charges that may become payable on account of the Successful Tenderers failure to consign the materials duly, shall be to the successful Tenderer Account.
- 4.3 The prices offered for the goods and services offered, except for any statutory duties and levies, shall be firm and not subject to any variation at any stage till the completion of the contract in all respects. This must be clearly stated in the covering letter for Technical and price bids.
- 4.4 The time of delivery is important and must be clearly stated in the Tender and strictly adhered to in the event of a tender being awarded. The delivery time would commence from the start date.
- 4.5 In case of delay in the supply, IMU shall issue to the successful Tenderer; a memo in writing, pointing out the delay in the supply and calling upon the successful Tenderer to explain the cause for the delay within 3 days of the receipt of the memo.
- 4.6 If IMU is not satisfied with the explanation offered, the successful Tenderers security deposit may be forfeited and or IMU may withhold payment of pending bills in whole or in part. If the security deposit or any part thereof is forfeited by an order of IMU and such order becomes final, the successful Tenderer shall make good the security deposit or part of such deposit so forfeited within a fortnight thereafter.
- 4.7 If the successful tenderer fails to execute the Supply/Works in all respects within the period specified or within such extended period as may be allowed, the successful tenderer shall pay a sum equivalent to 1% of the value of the total tender price per week (Seven days) or part thereof subject to a maximum limit of 10% of the value of the each of the item tender as liquidated and ascertained damages.
- 4.8 The supply shall be subject to inspection by IMU and IMU's decision as to the acceptance or rejection of any goods as not conforming to specification, shall be final and binding on the successful tenderer. Such of the goods which are rejected shall be removed by the successful tenderer their own expense and replaced by fresh ones within a reasonable time.
- 4.9 Bank guarantee will be returned only after successful completion of warranty period of one year from the date of acceptance of the equipment.

- 4.10 It must be clearly understood that the prices quoted in the tender are to include everything required to be done as per the specification and the conditions of tender and supply for the proper execution of supply/works although special mention thereof may have been omitted in the specification. The specifications indicated are for minimum and shall include accessories etc required to make the system fully operational.
- 4.11 The purchaser has the right to change/ withdraw the quantities of any items in the tender prior to signing of contract. The successful tenderer shall agree to supply the additional quantities for the same price and comprehensive warranty in the event the purchaser places a repeat order for some of the items within next six months.

## **SECTION - 5**

### **OTHER GENERAL CONDITIONS**

- 5.1 The Goods/Services to be supplied by the tenderer shall be of the quality or sort specified and in every respect equal and answerable to the specifications sent with the tender and shall be subject to the approval of the IMU.
- 5.2 The Goods/Services are to be delivered at specified place in IMU premises in Visakhapatnam, free of delivery charges as per specified time.
- 5.3 Delivery of Goods/Services will not be considered complete until such goods or materials have been inspected and passed at the place specified for delivery by IMU. The detailed list of components (Equipment and Service) supplied by the tenderer and Bill of Materials shall be provided well in advance for facilitating inspection by IMU.
- 5.4 Rejected Goods/Services shall be removed by and at the expenses of the tenderer within seven days after notice. If not so taken away, the IMU may seize the goods or materials to be removed and charge the tenderer with all expenses incurred in such removal.
- 5.5 The tender or any part share or interest in it shall not be transferred directly or indirectly to any person whomsoever without the written consent of IMU.
- 5.6 It shall be lawful for IMU, without giving any notice to the contractor, to purchase in the open market any goods or materials covered by the tender and if such goods or materials are not available to purchase suitable substitute, as to which, the decision of the IMU shall be final and binding on the Contractor, in the event of the Contractor;
  - (a) Having delivered goods or materials not of the contracted quality.
  - (b) Having failed to supply goods or materials within the time specified.
  - (c) Having refused or being unable to supply goods or materials covered by tender either in whole or in part.
- 5.7 In the event of the breach of any of the provisions of contract by the contractor, IMU shall have the right to terminate the tender summarily.
- 5.8 In the event of IMU terminating the contract for breach by the contractor of any of the provisions thereof, the contractor shall be liable for any loss suffered by IMU up to the time of the termination of the contract and for any further loss which the IMU may suffer during the remainder of the period originally covered by the contract.
- 5.9 In the event of the death, insanity or insolvency of the contractor, IMU shall have the right to terminate the contract summarily and to purchase in the open market any Goods/ Services covered by the contract. In this case, the contractor shall not be liable for any excess in the price paid, for any such purchases over the tender price.

In case of consortium the lead partner should nominate any other consortium member to bear the liabilities, and in case of individual organization the responsibility shall be taken up by the organization itself or by the legal successor.

- 5.10 With every delivery of goods or materials under this contract, invoices in triplicate shall be sent by the contractor to the IMU receiving officer who will retain the original and duplicate copy with him, and return the triplicate copy to the contractor with the actual quantities weights and/or number duly acknowledged thereon after the goods or materials have been inspected and passed as per clause therein before mentioned.
- 5.11 Any notice to the tenderer shall deemed to be sufficiently served, if given or left in writing at his usual or latest known place of abode or business.
- 5.12 Upon the complete fulfilment of the contract by the contractor to the satisfaction of IMU the amount deposited by the contractor, as security for the due fulfilment of the contract will be returned to him less the amount if any due by the contractor, not later than a month.
- 5.13 If however, the security is made up by a Bank Guarantee executed by a Bank, on behalf of the contractor it will be discharged and returned to the Bank, after collecting amount if any due by the contractor, not later than a month.
- 5.14 In these conditions unless there is something in the subject or context inconsistent there with words importing the singular shall include the plural and vice-versa words importing the masculine gender shall include the feminine and the words importing persons shall include bodies corporate.

## **SECTION - 6**

### **SCHEDULE OF REQUIREMENTS** **(DESIGN, FABRICATION, SUPPLY, INSTALLATION** **AND TESTING OF ROTATING DRUM TEST FACILITY)**

#### 6. Purpose

6.1 Test plates painted with antifouling paint are fixed to the test drum as shown in the drawing (Annexure-A) and rotated at different speeds. This operation is repeated at defined time intervals and hence the release rate of the paint under the specified laboratory conditions can be calculated.

#### 6.2 Scope

6.2.1 This specification covers the requirements regarding design, procurement, fabrication, supply, installation and testing of the test facility for marine paints along with accessories, spares, etc. complete.

6.2.2 The vendor shall be responsible for supplying all equipment/accessories and properly installing them as described in this specification. Other details and requirements which are not covered under this specification, but may be necessary to complete the work and/or to fulfill the operation/performance requirement shall be provided by the vendor, who will be responsible for the construction of the complete appliance to the full satisfaction of the owner

#### 6.3 General

6.3.1 The test facility including all accessories shall be fabricated, tested etc. as per relevant Indian, International Standards, and these specifications wherever applicable and as per sound engineering practice.

6.3.2 All the equipment and accessories shall be fixed on the appliance in a compact and neat manner and shall be so placed that each part is easily and readily accessible for use and maintenance.

#### 6.4 Description of the Test Facility

6.4.1 The test facility is used to determine the peel off rate of the paints at various conditions.

6.4.2 Guidance layout of Experimental setup is shown at **Annexure-A**.

6.4.3 The experimental set up consists of -

- a) Stand made of rigid channel with a base plate. Bidders need to choose suitable sizes and material.



- b) A suitable Motor of 1200/1500 RPM, 3-Phase, 440 Volts, 50 hz, AC, will be mounted on the above stand vertically. Pointing shaft down wards.
- c) A stainless steel shaft with a suitable coupling will be connected to the motor shaft, on which the rotating drum will be fixed. Suitable coupling should be selected for SS shaft and test drum.
- d) The extended shaft from motor will be mounted on a thrust bearing and radial bearing to take the weight of drum and downwards thrust and radial bearing to avoid wobbling of the drum. Suitable bearing sizes to be chosen by the bidders.
- e) The motor will be supplied power through VFD (Variable frequency drive) by which the speed can be varied from 0 – 1200/1500 RPM smoothly (step less variation) with an accuracy of +/- 1% RPM.
- f) A digital Speedo meter with an electronic sensor shall be provided. The control panel will consists of the following.
  - i) R, Y, B supply indication
  - ii) ON / OFF Push Button switch
  - iii) ON/OFF indication lamps
  - iv) Speed control unit
  - v) Digital Tacho Meter
  - vi) Voltmeter and Selector Switch
  - vii) Ammeter and Selector Switch
  - viii) Hour counter
- g) A 100 Liters capacity PVC drum to hold sea water
- h) The **rotating drum** should be a hollow one and made out of FRP, on which the paint plates can be attached. The drum should accommodate minimum Eight (8) numbers of test plates and should be fixed row wise on it.
- i) **Test Plates** should be made of **MS** and the size of the plates should be **100 X 150 X 5 mm** and finished to **SA 2.5**. The plates should be bent such that, they have to follow the shape of the rotating drum. The test plates should be firmly fixed to the FRP drum by means of SS bolts (suitable sizes may be selected by the bidders). Apart from 08 number of test plates, vendor has to supply 24 number of spare test plates.

***Note: Please note that the the experimental setup description given above & drawing shown at Annexure-A, are not final. Those are provided for bidders understanding only. Bidders need to submit detailed experimental setup description & drawing along with technical bid for IMU's approval.***

6.4 Inspection and Testing

- 6.1 After receipt of the equipment at IMU campus, vendor shall arrange all facilities to carry out inspection & testing at IMU premises. Acceptance shall be given only after full satisfaction of the owner, after conducting the below inspection and testing of the equipment.
- a) Physical verification of the test facility.
  - b) Vendors must submit **Manufacturers Test Certificates (MTC)** and **Calibration Certificates** wherever applicable, along with the supply of equipment.
  - c) Water will be filled in the PVC drum and Motor will be given power supply. Test drum will be rotated at 25%, 50%, 75% and 100% of the rated rpm of the motor for one hour at each speed. Motor performance parameters at each speed will be compared with MTC values.

**CONTENTS OF TECHNICAL BID**

1. Covering letter containing
  - a) Tenderer Name & Address
  - b) Letter of authorisation to sign the tender document on behalf of the Firm
  - c) Bid validity
  - d) Confirmation to all clauses of the tender
  - e) Adherence to Prices quoted throughout the tender.
2. EMD in the form of Demand Draft
3. Eligibility Criteria
  - a) Bidders Particulars (**RST-01**)
  - b) Methodology (**RST-02**)
  - c) Copies of the Audited Balance Sheet and Profit and Loss Account and Income Tax Returns for the years 2010-2011, 2011-2012 and 2012-2013
  - d) Copies of the orders in respect of Fabrication Works for the years 2011-2012, 2012-2013 and 2013-2014
  - e) Signed copy of the Tender Document
4. Compliance Statement to specifications (**RST-03**)
5. Specifications, Brochures, Model, Leaflets etc., of all the equipment supplied along with OEM's Compliance
6. Items quoted by the Tenderer (**RST-04**)

**CONTENTS OF PRICE BID**

1. Covering Letter containing:
  - a. Tenderer Name & Address
  - b. Bid validity
  - c. Letter of authorisation to sign the tender document on behalf of the Firm
  - d. Adherence to Prices quoted throughout the tender
  
2. Price Bid (**RSP-01**)

**ANNEXURE - 3**

**RST- 01:**

**RESPONSE SHEET FOR TECHNICAL BID**

**BID PARTICULARS FOR TENDER No:**

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1. Name of the Bidder \_\_\_\_\_
2. Address of the Bidder \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
3. Bidder's proposal number and date \_\_\_\_\_

Signature of the Tenderer with Seal

Date :

Place :

**RST-02:**

**METHODOLOGY**

Sl No	Item Description	Methodology Adopted along with time plan
1	Design, Fabrication, Supply, Installation & Testing of Rotating drum test facility	

Signature of the Tenderer with Seal

Dated:

Place:

**RST-03:**

**COMPLIANCE STATEMENT**

Sl. No	Item Description	Compliance to Specification Yes/No
1	DESIGN, FABRICATION, SUPPLY, INSTALLATION AND TESTING OF ROTATING DURM TEST FACILITY	

Date :

Signature of the Tenderer with Seal

Place :

**RST-04**

**ITEMS QUOTED BY THE TENDERER**  
**(Item wise Details)**

Sl. No	Item Description	Make & Model	Specifications	Qty quoted for
Design, Fabrication, Supply, Installation, and Testing of Rotating Drum Test Facility				
1	Electrical Motor with VFD			
2	Lovejoy Coupling			
3	Thrust Bearing			
4	Radial Bearing			
5	SS shaft			
6	PVC drum (100 Liters)			
7	Rotating Cylinder (FRP)			
8	Test Specimens			
9	Base Frame & Angles			
10	Electrical Panel Board with necessary fittings			

**Note:** The taxes and duties applicable should be clearly specified by the Tenderer in the Price Bid and charges such as Insurance, Freight and forwarding shall be borne by the Tenderer.

Signature of the Tenderer with Seal

Date :

Place :



**ANNEXURE - 4**

**RSP-01**

**RESPONSE SHEET FOR PRICE BID**

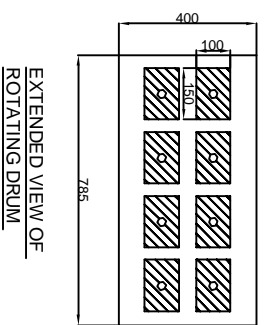
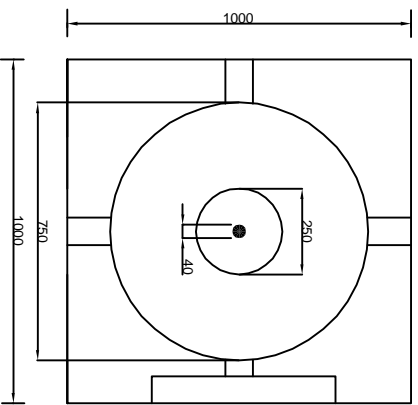
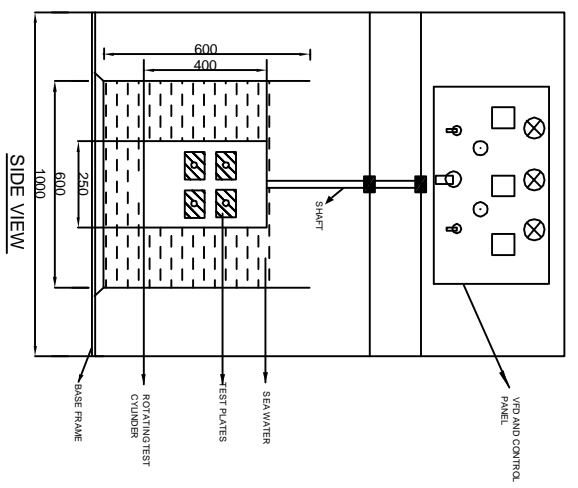
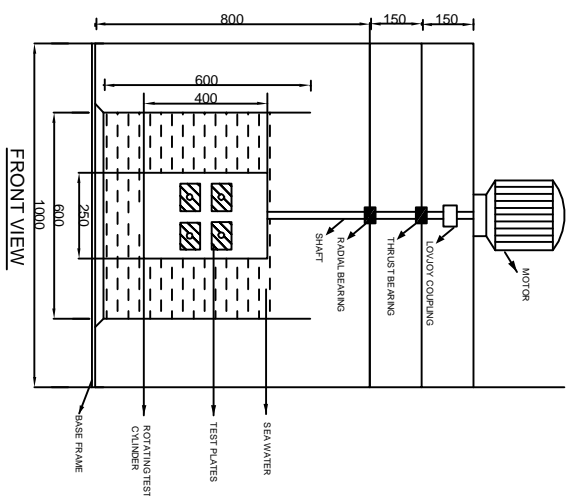
Sl. No	Item Description	Qty	Rate per Unit (In Figures and Words)	All applicable Taxes and Duties in %	Amount of all applicable taxes (in Figures and Words)	Total Amount inclusive of all taxes and duties (in Figures and Words)
Design, Fabrication, Supply, Installation and Testing of Rotating Drum Test Facility						
1	Electrical Motor with VFD	1No.				
2	Lovejoy Coupling	1No.				
3	Thrust Bearing	1No.				
4	Radial Bearing	1No.				
5	S S Shaft	1No.				
6	PVC Drum (100 Ltrs)	1No.				
7	Rotating Cylinder (FRP)	1No.				
8	Test Specimens	32				
9	Base Frame and Angles	1 Unit				
10	Electrical Panel Board with necessary fittings	1 Unit				
Total Amount in Figures						
Total Amount in Words						

**Note:** The taxes and duties applicable should be clearly specified by the Tenderer in the Price Bid and charges such as Insurance, Freight and forwarding shall be borne by the Tenderer.

Signature of the Tenderer with Seal

Date :

Place :



ALL DIMENSIONS ARE IN MM

FOR TENDER PURPOSE ONLY

TITLE	TEST FACILITY FOR MARINE PAINTS
OWNER	INDIAN MARITIME UNIVERSITY VISAKHAPATNAM CAMPUS.

DWG. NO. IMUV/TD/14-01

**INDIAN MARITIME UNIVERSITY-VISAKHAPATNAM CAMPUS  
GANDHIGRAM - VISAKHAPATNAM-530005**

**DESIGN, FABRICATION, SUPPLY, INSTALLATION AND TESTING OF ROTATING  
DRUM TEST FACILITY**

**TENDER NO: IMUV/2024-2015/Rotating Drum Test Facility/003/RP-012**

**Dated 05-06-2014**

**Queries and IMU Replies as discussed in the pre-bid meeting held on 13-06-2014**

Tender Clause No	Clause as per Tender	Clause as modified
1.7 (l)	Within Three weeks from the date of signing of the agreement	Within two months from the date of placement of Firm Order
3.30.1 & 3.30.2	75% Payment shall be released upon supply & installation of the Test facility at IMU, Visakhapatnam Campus  25% payment shall be released upon conducting tests to the satisfaction of IMU.	25% on submission proof of procurement of materials  50% on Inspection of Test Facility at the premises of the Contractor  25% on conducting tests after installation to the satisfaction of IMU, Visakhapatnam Campus.
6.4.3 (i)	Test Plates should be made of MS and the size of the plates should be 100 X 150 X 5 mm and finished to SA 2.5. The plates should be bent such that, they have to follow shape of the rotating drum. The test plates should be firmly fixed to the FRP drum by means of SS bolts (suitable sizes may be selected by the bidders). Apart from 08 number of test plates, vendor has to supply 24 number of spare test plates.	Test Plates should be made of MS and the size of the plates should be 100 X 150 X 2 mm and finished to SA 2.5. The plates should be bent such that, they have to follow shape of the rotating drum. The test plates should be firmly fixed to the FRP drum by means of SS bolts (suitable sizes may be selected by the bidders). Apart from 08 number of test plates, vendor has to supply 24 number of spare test plates.

**Director I/c**