

**DEPARTMENT OF OCEAN ENGINEERING  
INDIAN INSTITUTE OF TECHNOLOGY MADRAS  
CHENNAI 600 036, INDIA**

Ref: OED/13/018/NSWB

Date: 10 July 2013

**Upgradation of New Shallow Water Wave Basin Control Hardware for the Development of  
Random wave function in a suitable operating environment**

**Due date:**

1. Submission of technical and commercial proposal: 3 pm 31 July 2013
2. Technical bid opening: 3.30pm 31 July 2013

1. Quotations are invited in duplicate for the item shown in enclosed list as Annexure 1.
2. The quotations must be clearly indicating a technical bid and financial bid. Both the bids should be enclosed in the *single envelop* in a sealed cover.
3. The Quotations duly sealed and super scribed on the envelope with the reference No. and due date, should be addressed to the undersigned so as to reach him on or before the due date stipulated above.
4. The Quotations shall be valid for 180 days from the due date and the period of delivery required, warranty terms etc. should also be clearly indicated. A minimum of one year warranty required.
5. Brochure detailing technical specifications and performance, list of industrial and educational establishments where the items enquired have been supplied must be provided.
6. Compliancy certificate is to be provided indicating conformity to the technical specifications.
7. If the item is under DGS&D Rate contract No. and the price must be mentioned. It may also please be indicated whether the supply can be made direct to us at the Rate contract price (Please note that we are not Direct Demanding Officers). If so please send copy of the RC.
8. Relevant literature pertaining to the items quoted with full specifications (and drawing, if any) should be sent along with the Quotations, wherever applicable. Samples / machine/ equipment if called for should be submitted / demonstrated at free of charges, and collected back at the supplier's expenses.
9. Packing and delivery charges must be clearly indicated.
10. The rate of sales / General Taxes and the percentage of such other taxes legally leviable and intended to be claimed should be distinctly shown along with the price quoted. Where this is not done, no claim for Sales / General Taxes will be admitted at any stage and on any ground whatsoever. The taxes leviable should take into consideration that we are entitled to have concessional Sales Tax applicable to non Government Educational Institutions run with no profit motive for which a concessional Sales Tax Certificate will be issued at the time of final settlement of the bill.
11. IIT Madras is exempt from payment of Excise Duty and is eligible for concessional rate of custom duty. Necessary certificate will be issued on demand. IIT Madras will make necessary arrangements for the clearance of imported goods at the Airport/Seaport. Hence the price should not include the above charges.
12. Goods should be supplied carriage paid and insured.
13. Goods shall not be supplied without an official supply order.
14. Payment: Every attempt will be made to make payment within 30 days from the date of receipt of bill / acceptance of goods, whichever is later.
15. Acceptance and Rejection:- I.I.T. Madras has the right to accept the whole or any part of the Tender or portion of the quantity offered or reject it in full without assigning any reason.

Yours faithfully,

  
10.7.13  
The Head, Ocean Engineering  
S.M. Mani  
Head, Department of Ocean Engineering  
भारतीय प्रौद्योगिकी संस्थान मद्रास  
Indian Institute of Technology Madras  
चेन्नै / Chennai - 600 036. भारत / India

## Annexure - 1

### DEPARTMENT OF OCEAN ENGINEERING IIT, MADRAS

**Ref: OED/NSWB**

#### **CALL FOR PROPOSALS FOR THE Upgradation of New Shallow Water Wave Basin Control Hardware for the Development of Random wave function in a suitable operating environment**

The Department of Ocean Engineering, Indian Institute of Technology Madras has unique wave generation facilities for the simulation of ocean waves in the laboratory. One such facility is the shallow water wave basin of size, 15m x 19m with a maximum water depth of 60cm. This wave basin has a wave paddle system that consists of 5 paddles that can operate in different phases to produce regular sinusoidal waves. At present, the wave generation using this paddle system is through a HMI Touch Screen control system. In the Upgradation process, it is intended to develop an integrated package to operate Random Waves. The integrated package which is provided by the supplier it may capable to support the existing HMI and the user input data given in HMI it converted as a digitalized signal that should be supported by new hardware as well as the existing compax drives.

#### **1.0 The scope of the work includes,**

- Identification, design and supply of suitable control (hardware) and Communication cards to support our HMI and Compax servo drive for a digital communication.
- Hardware implementation and testing with our required random time signal in ASCII format.
- Based on controller to develop the frond-end (GUI) in a desktop computer.

#### **2.0 Available resources:**

1. 5 paddle wave maker operated by Parker ETB 125 Actuators along with the servo motors.
2. The entire system is interfaced with control cabin.

It consists of,

- a) 5 no of Parker Compax servo drive model no. C3S150V4F10I21T40M10
- b) HMI Touch Screen Interface facility. model no. TS8010/00/00

#### **3.0 Other resources**

- a) Any additional requirement (such as temporary hardware or personal computers for testing purposes/ expected assistance during the testing phase) for the development, installation and testing **MUST** be spelt out in the technical part of the bid. IIT Madras may or may not accept to provide the additional requirements.
- b) Vendor can maximize the utilization of the existing system for the present development but without any constraint on its use by IITM. Any additional hardware or other items considered necessary can be proposed under this package.

#### **4.0 Warranty clause**

The vendor should provide the warranty clause for the supplied hardwares.

## **5.0 Prerequisite**

The vendor has to submit proof of documents for the installation of similar control system. In addition, the proof of documents for successful completion of at least two projects of similar nature should be submitted.

## **6.0 Payment terms**

Please specify the payment terms. IIT Madras reserve the right to negotiate the terms of payment as acceptable to the purchase procedures prevalent from time to time.

## **7.0 Terms and conditions**

Please quote the rate with the following details.

1. Quotation validity minimum 180 days.
2. Submission of Concept design/drawings, Delivery, installation and commissioning periods.  
Tax details.
3. Please note IIT Madras is exempted from Excise Duty.

## **8.0 Force majeure**

Neither the Agency nor the owner shall be considered in default in performance of its obligations hereunder if such performance is prevented or delayed for any causes beyond the reasonable control of the party affected, such as war, hostilities, revolution, riots, civil commotion, epidemic, major fires, explosions, floods, earthquakes or because of any law, order, proclamatory regulations or ordinance of Government, provided notice in writing of such cause with necessary evidence that the obligation under the Contract is thereby affected or prevented or delayed, is given within 14 days from the happening of the event and in any case it is not possible to serve the notice within the said 14 days period, then within the shortest possible period without delay.

As soon as the cause of Force Majeure has been removed, the party whose ability to perform its obligation has been affected shall notify the other party the actual delay occurred on account of such activities.

Although the time for completion of work shall be suitably extended (not exceeding the period during which the work was stopped on account of Force Majeure clause), such extension shall not result in any financial claim by the Agency against the Owner on any account of such a delay for any other reason whatsoever.