



**INDIAN MARITIME UNIVERSITY – Navi Mumbai Campus  
(A Central University, Govt. of India)  
TENDER**

**NOTICE INVITING TENDER(NIT)**

Sealed tenders are invited for the following:

Product details	Qty	Location
Officer of the Watch (OOW) Simulator	02	IMU-Navi Mumbai Campus IMU- Kochi Campus

Bidders are advised to study the Tender Document (including all Sections, Schedules and Annexure etc.) carefully. On submission of Tender, it shall be deemed that a careful study and examination of the Tender Document with full understanding of its implications have been done.

The Tender Document can be downloaded free of cost from IMU website [www.imu.edu.in](http://www.imu.edu.in) from 07.02.2024 onwards. The last date for receiving tender at IMU – Navi Mumbai Campus is 1130 Hrs on 28.02.2024.

**DEPUTY REGISTRAR**  
IMU Navi Mumbai Campus

All bidders are requested to visit IMU Websites <https://www.imunavimumbai.ac.in> & <https://www.imu.edu.in> for regular updates.



### Tender Abstract

1	<b>Title</b>	:	Supply of OOW - 02 Numbers Simulators
2	<b>Notice Inviting Tender No.</b>	:	IMU-NMC/PUR/2023-24/0037 dated 07.02.2024
3	<b>Pre bid meeting</b>	:	14:30 PM on 16.02.2024 at Indian Maritime University, Navi Mumbai Campus (T S Chanakya), Karave, Nerul, Navi Mumbai-400076.
4	<b>Last date and time for receipt of bids</b>	:	13:00 on 28.02.2024
5	<b>Date and time for opening of Technical bid</b>	:	1430 Hrs on 28.02.2024
6	<b>Date and time for opening of Financialbid (for technically qualified bidders )</b>	:	To be intimated later
7	<b>Proposal currency</b>	:	Prices shall be quoted in Indian Rupees (INR)
8	<b>Language of the proposal</b>	:	This proposal should be filled in English language only. If any supporting documents are to be submitted, in any other language other than English, then translation of the same in English language, attested by the bidder should be attached.
9	<b>Validity of tender offers</b>	:	180 days from date of opening of Technical bid
10	<b>EMD Amount</b>	:	Rs.1,92,000/-in the form of Demand Draft.
11	<b>Security Deposit (for finalized bidder only )</b>	:	5 % of the contract value in the form of Bank Guarantee/DD of any nationalized bank.
12	<b>Address for Submission of Tender</b>	:	DEPUTY REGISTRAR (Admin), IMU, Navi Mumbai Campus, (T S Chanakya) Karave, Nerul, Navi Mumbai-400 706



**INDIAN MARITIME UNIVERSITY – NAVI MUMBAI CAMPUS**

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## 1. **Invitation for Bids.**

The Indian Maritime University – Navi Mumbai Campus (NMC) (hereinafter referred to as the Buyer or IMU- NMC invites sealed tenders for Supply of **02 Numbers of Officer of the Watch (OOW) Simulator** (hereinafter referred to as the Simulator) under Two bid system.

Overall Scope and objective of this Tender is to

- Select a successful bidder for supply, install the complete system with UPS, commissioning, training, subsequent Upgradation (including hardware & software). Technical Specification (Annexure I)
- Comprehensive onsite warranty for a period of 05 years.
- Comprehensive/non-comprehensive onsite maintenance for period of 5 years after expiry of 05 years warranty.

### 1.1 **EMD and Tender Fees:**

Sl.No.	Particulars	Supporting document
1	Tender document can be downloaded free of cost from <a href="http://www.imu.edu.in">www.imu.edu.in</a> under the section Tender or from <a href="http://www.imunavimumbai.ac.in">www.imunavimumbai.ac.in</a> under section tenders	Nil
2	Bidder must submit EMD of Rs.1,92,000/-in the form of Demand Draft for 02 OOW Simulators.	Demand Draft from nationalized / scheduled commercial bank in the name of Indian Maritime University – Navi Mumbai Campus payable at Navi Mumbai.

### 1.2 **Eligibility Criteria:**

The bidder should have mandatory qualification as per the following table. The proposal of the bidders who are fulfilling the mandatory qualification criteria shall only be considered for technical evaluation. The offer is liable to be rejected if non compliance to mandatory qualification criteria is detected during the technical evaluation.

Sl.No.	Qualification Criteria	Supporting documents
1	The Bidder should be in the Business of Providing 'Similar Supply & Installation of Simulators for a period not less than 3 years i.e. since FY. 2020-21, 2021-22 and 2022-23	Copies of the Work order or Agreement or Work Completion certificate for the each Completed or ongoing Supply and Installation of Simulator– Proof for providing similar Supply and Installation not less than 3 years



2	<p>The Bidder should have satisfactorily completed "Similar Supply and installation" with minimum value specified in any one of the three set of values (a or b or c) carried out during the last any one of the five financial years (2018-2019 to 2022-2023)</p> <p>a) At least 1 Similar Supply and Installation (OOW) with a minimum value of i.e. Rs. 76.8 Lakhs (80% of Bid value) [OR]</p> <p>b) At least 2 Similar Supply and Installation of (OOW) with a minimum value of i.e. Rs. 48 Lakhs (50 % of Bid value) each. [OR]</p> <p>c) At least 3 Similar Supply and Installation of (OOW) with a minimum value of i.e. Rs.38.4 Lakhs (40% of Bid value.) each.</p>	Copies of the Work order or Agreement or Work Completion certificate
3	The Bidder should have an average annual turnover of at least Rs. 02 Crores during the past 5 financial year's i.e.2018-19 to 2022-23.	Annual accounts duly certified by a Chartered Accountant.
4	The bidder should submit the copy of Income Tax return for last three financial years i.e. 2020-21, 2021-22& 2022-23 (Assessment year 2021-22, 2022-23&2023-24)	Copy Income tax Returns.
5	The Bidder should have a valid PAN and GST Registration Certificate.	Copy of the PAN Card and GST registration certificate.
6	The Bidder shall be the reputed Original Equipment Manufacturer (OEM) or their authorized/certified partner or authorized reseller from India. He shall furnish necessary authorization from the OEM authorizing him to provide all goods and services support indicated in this tender and confirming that necessary assistance would be provided to the firm in providing required support during the Warranty Period.	OEM Authorization / Certification as per the Annexure III. In case of participation by OEM, self-declaration.
7	The Bidder should not have been blacklisted or debarred from bidding for any government or central government autonomous organisation.	Self-declaration to this effect.

1.2.1 'Similar Supply' means supply of Simulator Equipment of the similar type as per the tender with Government / Semi- Government/ Public Sector organizations/ National level educational institutes like IIT, IIM, NIT and Central Universities/ State Universities / Public Limited Companies. / Reputed UGC/ AICTE Recognized or private Sector Universities / Maritime training institutes/Reputed Private Companies and Port Organizations.



1.2.2 With regard to the various proof/supporting documents produced by the bidders for establishing that they meet the various eligibility conditions, it shall be IMU's prerogative to decide whether the document produced is valid evidence or not and to call for additional proof, if required.

1.2.3 All the Mode of Proof Documents for meeting eligibility criteria enclosed with the tender are to be duly signed by the authorized signatory. If required, IMU-NMC may insist for notarized copy or ask to produce originals to ascertain the veracity of the documents. IMU-NMC also reserves the right to ask more proof to corroborate the eligibility declarations.

1.3 **Pre-bid Meetings Clarification.** IMU- NMC organizing a pre bid meeting at 1430 hrs on 16.02.2024. All interested suppliers/vender's are requested to participate in the pre-bid meeting regardless of their eligibility/acceptance of tender conditions as per the present form of the tender. The prospective bidders shall submit their queries in writing in prescribed format below in writing to the address mentioned in the invitation of tenders or E-Mail to [dadmin.navimumbai@imu.ac.in](mailto:dadmin.navimumbai@imu.ac.in) two days prior to the pre-bid meeting and the same shall be clarified during the pre-bid meeting.

Sl.No.	Clause No. & Page No.	Reference Clause Details	Clarification Sought

IMU-NMC may or may not incorporate any changes in the Tender document based on acceptable suggestions received during the Pre-Bid meeting. The decision of IMU-NMC regarding acceptability of any suggestion shall be final in this regard and shall not be called upon to question under any circumstances.



#### 1.4 **Response to queries and issue of amendments.**

1.4.1 IMU-NMC will respond to any valid request for clarification, received one week prior to the last date for submission of tender. IMU-NMC's decision is final and binding with regard to interpretation of terms used or other tender contents.

1.4.2 IMU-NMC may, for any reason, suo-moto or in response to a clarification by a prospective bidder or bidder, modify the tender documents by amendments (through addenda/corrigenda etc.)

1.4.3 Any such amendments will be informed to all the participants in the pre-bid meeting besides hosting on IMU website and IMU-NMC website. All the bidders who had downloaded the Bid Document shall verify, whether any such amendments have been issued by IMU-NMC, before submitting their bid and shall take cognizance of and include such amendment(s) in their submission. In any case, the amendment(s), if any, shall be binding on the Bidder.

1.4.4 Any such corrigendum/addendum shall be deemed to be part or incorporated into this Notice Inviting Tender (NIT).

1.4.5 It is the responsibility of the bidder to check the website of IMU time to time for any updates.

**1.5 Language of Proposal & Correspondence.** The tender, and all correspondence and documents, related to the tender, exchanged between the bidder and IMU-NMC should be in the English language only. If the bidder along with their offer furnish any printed literature written in any other language, such documents should be supplemented with their English translation also. The contents in the English translated version alone shall be taken into consideration.

#### 1.6 **Tender Validity.**

1.6.1 Tenders shall remain valid for 180 days from the last date for submission of tender. A proposal valid for a shorter period may be rejected by IMU-NMC as being non-responsive. During the period of validity of Proposals, the terms and condition mentioned shall not change and any such request may lead to denial of the award of work.

1.6.2. In exceptional circumstances, prior to the expiry of the original tender validity period, the IMU- NMC may request the bidder to extend the period of validity for a specified additional period. The request and the response thereof shall be made in writing through E-mail or Post or in person. A bidder agreeing to the request will not be required to nor permitted to modify his tender, but will be required to extend the validity of his tender for the period of extension. In case a bidder is not agreeing to the request of the IMU-NMC for extension of validity of the tender, then his tender will not be processed further and the portions of his tender which have not been opened will be returned to them unopened as the case may be. The EMD paid by them will also be refunded to them as in the case of other unsuccessful bidders.

**1.7. Proposal prices:** The prices indicated in the price schedule should be in INR only and shall be entered in the following manner.



1.7.1 The **price of the equipment** shall be inclusive of basic price, freight and insurance up to **delivery at IMU Campuses as mentioned above**, Installation, Commissioning, training the trainers including incidental charges, and upgradation of software & hardware (after commissioning whenever required) excluding applicable GST. The bidder should clearly indicate cost break down for all the major hardware assemblies and software (excluding commercially licensed softwares such as Windows/Unix/Linux etc) separately along with the price bid.

1.7.2 Rate for both Comprehensive (hardware and software) and Non-comprehensive (hardware and Software) Onsite Annual Maintenance should be given for 5 years separately excluding GST immediately after expiry of 5 years warranty. GST of corresponding column should be entered in GST row in Price bid.

1.7.3 Prices quoted as above shall be valid for a minimum period of 180 days from last date for submission of the tender.

1.7.4 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. to make the system fully operational. The bidders can inspect the site of installation to assess installation requirements.

1.7.5 IMU-NMC has the right to change /increase / withdraw the quantities of any items in the tender prior to acceptance by the supplier of the work order issued by IMU-NMC. IMU-NMC also has the right to increase the quantity of supply on pro-rata basis.

## 1.8 Earnest Money Deposit (EMD):

1.8.1 Tender should be accompanied by an Earnest Money Deposit (EMD) for an amount of Rs.1,92,000/- for OOW Simulators in the form of Demand draft from any Nationalized Bank drawn in favour of "Indian Maritime University – Navi Mumbai Campus", Payable at Mumbai. No other form/ mode of deposit towards Earnest Money shall be accepted. Tenders not accompanied by the Earnest Money Deposit in the manner prescribed by the IMU will be summarily rejected.

1.8.2 The EMD of all unsuccessful bidders would be refunded by IMU-NMC within 15 days on selection of successful bidder. No interest will be allowed on the Earnest Money. The EMD of the successful bidder will be refunded only after the remittance of Security Deposit. Alternatively, the successful bidder shall when his tender is accepted, furnish Security Deposit as specified in the clause elsewhere after adjusting the amount deposited by him as earnest money. The earnest money shall retain its character as earnest money deposit, till the successful bidder furnishes the Security Deposit in full with or without adjustment of EMD.

1.8.3 Where a person whose tender has been received by IMU-NMC intimates that he is withdrawing their tender before the validity period or makes any modification in the terms and conditions of the tender which are not acceptable to the IMU-NMC (or) fails to





furnish the Security Deposit within the prescribed time, the IMU-NMC shall without prejudice to IMU's any other right or remedy, be at liberty to forfeit the Earnest Money deposited by such person absolutely.

#### 1.9 **Submission of the Proposal:**

The tender submitted by the Bidder shall comprise the following and should be read in conjunction with any amendments issued at the time of submission of bid.

#### 1.10 **Technical Bid ( in Sealed cover-I). The Cover-I should comprise of following.**

1.10.1 - Earnest Money Deposit.

1.10.2 Tender Document downloaded from IMU Web site comprising Tender Notification, Abstract, General Rules and Directions for the Guidance of the bidder, General description of Supply and other terms and conditions, including the amendments, corrigendum / addenda issued by IMU-NMC which are duly signed by the authorized signatory of the bidder in each page with stamp signifying the acceptance of all the tender conditions / terms / contents.

1.10.3 Duly filled Technical Bid format (Annexure II) and Supplier's OEM Authorization Form (Annexure III) with all the documents stated in the technical bids and other supporting documents in evidence of the data filled in technical bids and any other documents/enclosures/schedules/annexure etc. stated in the tender document.

1.10.4 Bidder Memorandum (Annexure IV) duly signed by the bidder.

1.10.5 The duly authorized signatory (ies) of the entity should sign and seal in all the pages of the tender document including the annexure / schedules signifying the acceptance of all the terms and conditions, stated in the various parts of the tender. The person(s) authorized to sign the tender shall also sign in all the pages of the supporting documents with office seal submitted as proof of their eligibility, proof of technical compliance etc. In other words, every page of the bid submitted should have the signature of the duly authorized signatory of the bidder with rubber stamp.

1.10.6 The Cover I shall be addressed to **"The Deputy Registrar, Indian Maritime University – Navi Mumbai Campus"** and should be duly super scribed as **"TECHNICAL BID- SUPPLY OF OOW SIMULATORS"** and sealed properly. Name and Address of the bidder shall also be written/ printed on the cover.

#### 1.11 **Price Bid (in sealed Cover-II).**

1.11.1 The Cover II shall only contain the Price Bid formats given in Annexure-V& Schedule 1. It has to be duly filled in, signed and sealed.

1.11.2 The Cover II shall be addressed to **"The Deputy Registrar, Indian Maritime University – Navi Mumbai Campus"** and should be duly super scribed as **"PRICE BID- SUPPLY OF OOW SIMULATORS"** and sealed properly. Name and Address of the bidder shall also be written/ printed on the cover.



1.11.3 The Rate shall be typed and signed by the person or persons duly authorized to sign on behalf of the bidder. There should be no overwriting/scoring and rewriting. Any bid found to have overwriting or double entry or rewriting by scoring off one value shall be rejected during the price bid opening.

**1.12 Main Cover:**

Both the “Cover I” and “Cover II” shall be placed inside the main cover and sealed properly. The main cover should be duly super scribed as “**TENDER FOR SUPPLY OF OOW SIMULATORS**” and to be submitted in the following address which should reach on or before 13:00 a.m. on 28 Feb 2024.

**Address:**

**The Deputy Registrar,  
Indian Maritime University  
Navi Mumbai Campus (TS Chankya),  
Karave Village, Palm beach Road, Nerul,  
Navi Mumbai -400706**

1.12.1. The bidder shall note that no alternative or counter or qualifying tender conditions by the bidder will be acceptable to IMU-NMC. Tenders containing any qualifying conditions or even bidder's clarifications in any form may be treated as non-responsive and will run the risk of rejection. In general, printed terms & conditions shall not be accepted.

1.12.2. Bidder who submits more than one tender will be disqualified.

1.13 **Cost of Bidding:** The bidders shall bear all costs, efforts or their time associated with the preparation and submission of their bids and the IMU-NMC will in no case be responsible or liable for those costs / efforts / time, regardless of the conduct or outcome of the tendering process or the cancellation, if any, of tender by IMU-NMC, due to any reason whatsoever and at any stage of the tender (IMU-NMC is not responsible, if there is a cancellation even after price bid opening).

1.14 **Completeness of Tender:** The Bidder is expected to examine all instructions, forms, terms, conditions and deliverable in the tender document. Failure to furnish all information required by the tender documents or submission of a tender offer not substantially responsive in every respect to the tender documents will be at the bidder's risk and may result in rejection of its tender offer. The tender offer is liable to be rejected outright without any intimation to the bidder if complete Information as called for in the tender document is not given therein, or if particulars asked for in the forms / proforma in the tender are not fully furnished.

1.15 **Deadline for Submission of Proposals:** Tenders must reach the Deputy Registrar's office through speed post/ courier or to be dropped in to the box placed in the IMU – Navi Mumbai Campus prior to the last date & time for submission, specified in the abstract. IMU- NMC may, at its sole discretion extend the date and time for submission of tenders. Any updates with regard to such extension or any other communication intended for the bidders / prospective bidders will be made only through IMU's website stated above. Any tender received after the last date and time for submission of tenders prescribed will be rejected.



1.16 **Late Proposal:** Any proposal received by IMU-NMC after the deadline for submission will be rejected and kept as an unopened Tender.

1.17 **Modification and withdrawal of bids.**

1.17.1 The bidder may be allowed to modify or to submit revised bid due to corrigendum, addendum, etc., issued by IMU- NMC, any time prior to the last date prescribed for receipt of bids, by giving a written notice to the IMU-NMC.

1.17.2 The bidder's modification or withdrawal notice shall be prepared, sealed, marked and dispatched in a manner similar to the original Proposal.

1.17.3 Subsequent to the last date for receipt of bids, no modification of bids shall be allowed. No bid may be withdrawn in the intervening period between the deadline for submission of bids and expiration of the of bid validity period specified. Withdrawal of a bid during this period will result in forfeiture of EMD.

1.18 **IMU's Right to accept and to reject any or all proposals.**

Notwithstanding anything else contained to contrary in this Tender Document, IMU-NMC reserves the right to accept or reject any Bid or to annul the bidding process fully or partially or modifying the same and to reject all Proposals at any time prior to the award of work, without incurring any liabilities in this regard.

1.19 **Rejection of BidsThe bids will be rejected on following grounds:-**

1.19.1 If any of the eligibility criteria as per the qualification criteria is not met.

1.19.2 EMD not submitted.

1.19.3 If tender terms and conditions are not met.

1.19.4 If bidder gives wrong information in the bid.

1.19.5 Canvassing in any form in connection with the bids.

1.19.6 If the bid is incomplete /partial bid/ conditional/unclear in any form.

1.19.7 Bids submitted after due date and time.

1.19.8 Bids are submitted through Telex/Fax/ e-mail (i.e. modes other than by way of speed post/ courier/ dropping in the box in sealed covers as prescribed).

1.19.9 Erasure and/or overwriting (if not countersigned by authorized person).

1.19.10 Bids not signed by authorized signatory.

1.19.11 The Bid is found incomplete/ non compliance to tender terms.



## 1.20 Evaluation Process.

1.20.1 IMU-NMC shall evaluate the responses to the NIT and all supporting documents / documentary evidence. Inability to submit requisite supporting documents / documentary evidence, may lead to rejection.

1.20.2 The interpretation of the bids and the decision made by the IMU in the evaluation of responses to the NIT shall be final. No correspondence will be entertained outside the process of evaluation with IMU-NMC.

1.20.3 IMU-NMC has the right to seek clarifications/documents from the bidders during the technical evaluation process. All such clarifications would be recorded and signed by the bidders authorized rep and authorized officer of IMU-NMC. Any verbal agreement arrived would not be entertained.

1.20.4 IMU-NMC reserves the right to reject any or all bids on the basis of any deviations.

1.20.5 Each of the responses shall be evaluated as per the criteria and requirements specified in this NIT.

1.20.6 IMU may request the vendor/bidder for arranging site visit for verifying the similar installation.

## 1.21 Tender Evaluation.

1.21.1 Technical bids will be opened at the IMU-Navi Mumbai Campus (TS Chanakya) located at the address stated in tender abstract. Any bidder who is willing to observe the tender opening, may, in person or through his authorized representative (Only one personnel on production of authorization letter), be present at the venue and witness the tender opening.

1.21.2 The bidder or his authorized representative who are present shall sign a register evidencing their attendance. IMU reserves the right to reschedule the tender opening date (technical / financial bid opening) if the scheduled tender opening day is declared as a holiday for the IMU or due to any other administrative reasons which would be published in IMU website and such rescheduling may not be communicated individually in any other modes.

1.21.3 Technical bid (Cover-I) of each bidder shall fulfil the minimum eligibility criteria prescribed in NIT.

1.21.4 The information furnished by the bidder in the Technical Bid in the format(s) prescribed as part of the tender document by IMU-NMC will form the basis for the technical evaluation. In exceptional cases, IMU-NMC reserves the right to obtain any clarifications from any of the bidder. If, in the opinion of the IMU-NMC, information and documents supplied in support of the tender do not meet the minimum eligibility criteria as per NIT and the any or some of the technical specifications as per NIT, as



determined by IMU-NMC, the tender / product offering will be treated as non-responsive and rejected by the IMU-NMC and their Cover II – Price bid shall not be opened for evaluation. The IMU-NMC decision is final and binding, with regard to technical evaluation.

1.21.5 After satisfying that all / or some of the bidders have attained the minimum qualifying technical criteria as detailed above, bids of only such technically qualified bidders i.e. who fulfil all the qualification / eligibility criteria and also comply with the technical specifications, will be considered for further evaluation. A suitable date and time for opening of the **Price Bids** will be fixed and those bidder(s) who are technically qualified will be intimated through email about the opening of the Price Bids or alternatively, the date may be published in IMU website. Other procedures for opening the Price Bid including the witnessing (by only the technical qualified bidders) the tender opening event, no. of participants etc., will be similar as those for Technical Bid explained in the earlier para(s).

1.21.6 Price bid evaluation will be made based on price of the equipment, five year comprehensive warranty and 05 year comprehensive or non comprehensive onsite maintenance at IMU Campuses as the case may be i.e either by group A or B as mentioned in price bid.

1.21.7 After evaluating the price bids received under Cover II, the bidder who quoted the lowest individual price for OOW (L-1) will be awarded the work.

1.22 **Consignee Details.** The destination point for delivery of materials will be as follows:-

Srl No.	Consignee	Items & Qty
01	Director, Indian Maritime University, Navi Mumbai Campus (TS Chanakya) Krave Village, Palm Beach Road Nerul, Navi Mumbai - 400706	OOW - 01
03	Director, Indian Maritime University, Kochi Campus South End Reclamation Area, NH966B, Near Alexander Parambithara Bridge, Willingdon Island, Kochi, Kerala - 682029	OOW – 01



## 2. General Conditions of Contract.

2.1 **Execution of Contract.** The successful bidder has to enter in to an agreement with IMU-NMC incorporating all clauses of the Tender document and any other as may be agreed to by both the parties on a Non-Judicial Stamp Paper of Rs.500/-.

### 2.1. Termination Clause:-

2.1.1. In the event of the breach of any of the provisions of contract by the supplier, IMU-NMC shall have the right to terminate the tender summarily, at any stage.

2.1.2. In the event of IMU-NMC terminating the contract for breach by the supplier of any of the provisions thereof, the supplier shall be liable for any loss suffered by IMU up to the time of the termination of the contract.

2.1.3. In the event of the death, insanity or insolvency of the supplier, IMU-NMC shall have the right to terminate the contract summarily and to purchase in the open market any Goods/ Services covered by the contract.

### 2.2. Security Deposit.

2.2.1. The supplier shall be required to submit the security deposit in the form of DD issued by any Indian Nationalized Bank for an amount of 5% of the Purchase Order value within 07 days from the date of receipt of the purchase order.

2.2.2. 50% of the Security Deposit will be refunded / returned without any interest after 15 days of successful installation. Remaining amount of SD will be refunded/returned after the maintenance period. The refund or return of Security Deposit is subject to the complete fulfillment of the contract obligation by the supplier to the satisfaction of IMU.

2.3. **Delivery Period:** The bidder is required to deliver, installation, testing, Commissioning and starting of operation of the Simulators in all aspects within **30 days** from the date of issue of work order by IMU – Navi Mumbai Campus. However, supply of all the equipment should be ensured within 45 days of the receipt of the Work Order failing on which shall attract provisions of para 3.6.

2.4. **Inspection & Rejection:** The supply may be subject to inspection by a reputed external organization or by internal Committee with external participation appointed/nominated by IMU and IMU's decision on their report as to the acceptance of any equipment or rejection of any equipment/goods as not conforming to specification shall be final and binding on the successful bidder. Such of the equipment / goods which are rejected shall be removed by the successful bidder at their own expense and replaced by fresh ones within a time, as determined by IMU.

2.5. **Liquidated Damages:** If the successful bidder fails to execute the Supply/Works in all respects within the period specified or within such extended period as may be allowed, the successful bidder shall pay a sum equivalent to 0.5% 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. IMU shall have the right to determine what the “amount payable/corresponding payment” for any step/activity is, and while the Successful Bidder has a right to represent/clarify, IMU’s determination of the same shall be final without prejudice to the Successful Bidder’s rights to seek alternative remedy through arbitration/Courts.

## **2.6. Comprehensive Onsite warranty:**

2.6.1 A comprehensive onsite warranty for the supplied equipment (Hardware & Software) shall be provided by the supplier for a minimum of five years from the date of final acceptance of the equipment by IMU. The supplier will be notified of any defect or claim arising under this warranty and the warranty support shall be provided at site at the respective IMU Campuses.

2.6.2 If the supplier having been notified fails to remedy the defect immediately IMU may proceed to take such remedial action as may be necessary at the supplier’s expense. The period that the equipment is out of commission / operation as a result of supplier’s failure to remedy the defects notified shall result in extension of the warranty period correspondingly and imposition of penalty Rs. 20,000/- (Rupees Twenty Thousand only) per instance.

## **2.7. Either Comprehensive or Non Comprehensive On-site AMC.**

2.7.1. Either Comprehensive (hardware & software) or Non-Comprehensive maintenance (hardware & software) for 5 years is to commence immediately after the expiry of the comprehensive/non-comprehensive five years warranty period.

2.7.2. The supplier shall provide necessary comprehensive preventive and corrective maintenance on site i.e., by sending the engineer to the respective IMU campuses for attending the maintenance requirements of the supplied equipment. In case of intimation of break-down, the equipment should be attended immediately and restored to normal working condition within a maximum of 48 hours during the period of AMC. All spares which need replacement during the period of onsite maintenance are to be replaced without any additional cost. Any exception required with regard to the spares to be replaced to be intimated during the pre-bid meeting or by email within 15 days of notification of the tender to the above said email addresses. The conditions specified for warranty may also be applied by during AMC period and vice-versa.

2.7.3. In addition to above, support should also be available by phone, e-mail to solve the problem as soon as possible during the period of Warranty and Annual Maintenance Contract. He shall have facilities with sufficient service engineers trained to provide support services. The Bidder shall also have sufficient spares on hand for providing the uptime as indicated in this tender.

2.7.4. The AMC would include quarterly visit to clean the cabinets and devices internally to blow off any dust accumulated.



## 2.8. Payment Terms.

2.8.1. No advance payment will be made.

2.8.2. The Supplier shall be paid 100% of price of equipment with 5 year warranty against Supply, Installation, Commissioning, Acceptance Testing, Training and putting in to operation of Simulators at respective IMU Campuses against the invoice. IMU-NMC will, after verification of the claim for its correctness, make payment within **fifteen working days** after the date of receipt of the claim, complete and correct in all respects, from the supplier.

2.8.3 In respect of AMC, AMC charges will be paid at the end of each quarterly period.

2.8.4 The Tax Invoice raised by the supplier must be in compliance of relevant GST acts, rules & notifications made there under and should bear the IMU- NMCGST Registration no. 27AAAI2610K1ZX. The rate and amount of CGST, SGST, IGST and GST (Compensation to state) cess, related to supply of goods, shall be shown separately in tax invoice for each item of supply.

2.8.5 **Statutory Variation.** If there is any statutory change in CGST & SGST or IGST within contractual delivery period, the same shall be admissible and will be paid at actual based on the documentary evidence. However, no upward revision in the same beyond original delivery period shall be admissible.

2.8.6 Any other statutory compliance will be adhered accordingly.

2.9 **Anti-Profitteering Rules of GST.** The bidder should strictly adhere to Anti-Profitteering Rules of GST.

2.10 **Ownership of License:** Licenses for all the software including Anti-Virus supplied along with the equipment under the scope of supply shall be in the name of Indian Maritime University. All documents and reports prepared or obtained in performing the Simulator shall become and remain the property of IMU.

2.11 **Secrecy.** The Supplier shall not transfer any part or share of his responsibilities directly or indirectly to any person whomsoever without the written consent of IMU.

## 2.12 Force Majeure.

2.12.1 The Supplier shall not be liable for forfeiture of its performance security, liquidated damages or termination for default, if and to the extent that, it's delay in performance or other failure to perform its obligations under the Contract is the result of an event of Force Majeure.

2.12.2 For purposes of this Clause, "Force Majeure" means an event beyond the control of the Supplier and not involving the Supplier's fault or negligence and not foreseeable. Such events may include, but are not limited to, acts of the Purchaser either in its sovereign or contractual capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions and freight embargoes.





2.12.3 If a Force Majeure situation arises, the Supplier shall promptly notify the IMU in writing of such conditions and the cause thereof. Unless otherwise directed by the IMU in writing, the Supplier shall continue to perform its obligations under the Contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.

**2.13 Indemnity:** The selected bidder shall indemnify IMU from and against any costs, loss, damages, expense, claims including those from third parties or liabilities of any kind how-so-ever suffered including patent, copyright, trademark and trade secret, arising or incurred inter-alia during and after the Contract period out of:-

2.13.1 Negligence or wrongful act or omission by the Selected Bidder or its team or any Agency/ Third Party in connection with or incidental to this Contract;

2.13.2 Any breach of any of the terms the Selected Bidder's Proposal as agreed, the Tender and this contract by the Selected Bidder, its Team or any Agency/ Third Party.

2.13.3 The indemnity shall be to the extent of 100% of project cost in favour of the IMU.

**2.14 Arbitration & Jurisdiction.** In the event of disputes, differences, claims and questions arising between the parties hereto arising out of this Agreement or anyway relating hereto or any term, condition or provision herein mentioned or the construction or interpretation thereof or otherwise in relation hereto, the parties shall first endeavour to resolve such differences, disputes, claims or questions by mutual discussion and failing such settlement, the same shall be referred for arbitration by a sole Arbitrator appointed by IMU. Such arbitration shall be held in accordance with the provisions of the Arbitration and Conciliation Act 1996 or re-enactment thereof for the time being in force and shall be held in Navi Mumbai. In case the Arbitration award is not acceptable to either of the parties, they may approach courts having jurisdiction at Navi Mumbai only.

**2.15 Applicable Law.** The Contract shall be interpreted in accordance with the laws of the Union of India and all disputes shall be subject to place of jurisdiction of Mumbai courts only.

### 3. **Special Conditions of the Tender.**

**3.1 Site Preparation.** The supplier shall supply a layout plan in the Technical Bid taking all the requirements in to consideration for the performance as well as statutory (DG Shipping) requirements. The supplier must provide complete details regarding space and all the other infrastructural requirements needed for the equipment, which IMU should arrange before the arrival of the equipment to ensure its timely installation and smooth operation thereafter. The supplier shall visit IMU - Navi Mumbai Campus & IMU – Kochi Campus and see the site where the equipment is to be installed and may offer his advice and render assistance to the Institute in the preparation of the site and other pre-installation requirements. The operating environment is Tropical condition.

**3.2 Supply of Equipment.** The supply shall include complete set of equipment (including software, hardware and UPS) accessories and spares as described in the subsequent paragraphs of the "Technical Specification" (Annexure I)



### 3.3 Installation, Demonstration and User Acceptance Testing:

3.3.1 The supplier is required to supply the whole of equipment including installation and demonstration of the equipment **within 30 days** from the date of issue of work order.

3.3.2 The successful Bidder shall depute their Service Engineer for demonstration or calibration of the equipment. The Service Engineer shall demonstrate operation of equipment to the satisfaction of IMU Campuses. IMU Campuses may request to demonstrate the functioning of the equipment, after installation, by asking to perform a few experiments and verification of the results either by theoretical or other practical means.

3.3.3 In case of any mishappening /damage to equipment and supplies during the carriage of supplies from the origin of equipment to the installation site, the supplier has to replace it with new equipment/supplies immediately at his own risk. Supplier will settle his claim with the insurance company as per his convenience. IMU will not be liable to any type of losses in any form.

3.3.4 The demonstration proposed to be done by the bidder in proof of correct working of the entire set up both individually and as an integrated system has to be specified in the technical bid format in Annexure II. Such demonstration should be acceptable to IMU. If the demonstration proposed by the bidder is not acceptable to IMU, at its discretion either reject the tender or alternatively ask the bidder to do some other demonstration which found by IMU, to be more appropriate.

3.4 **Inspection and Tests.** The supply may be subject to inspection by a reputed external organisation or by internal Committee with external participation appointed/nominated by IMU. This clause should be read in conjunction with clause 3.5. The compliance of the equipment with the requirements mentioned in Technical specifications and elsewhere in Tender document should be verifiable with supporting documents like OEM's manual, Certification from OEM etc. the certificate should be valid.

3.4.1 The above tests shall demonstrate the satisfactory operation of integrated system covering the full range of facilities of the equipment.

3.4.2 The acceptance tests for supplied goods shall be carried out at IMU by the supplier with the participation of concerned personnel from IMU.

3.4.3 In case of the acceptance tests are not concluded to the satisfaction of IMU the supplier shall repair or replace, at the supplier's cost, the whole or any part of the equipment as may be necessary for conclusion of the acceptance tests to the satisfaction of IMU within the reasonable period agreed by IMU. Demonstration of performance of the equipment should be done after such repair / replacement for acceptance of IMU.

3.4.4 IMU reserves the right to accept the delivered items with deviations, provided the supplier agrees to rectify the deviations within an acceptable time period. Regarding the acceptance date, decision of IMU would be final.

3.4.5 The supplier shall provide necessary consumables till the completion of acceptance testing, without any additional cost at the sites.



3.4.6 All the parts and equipment's supplied should be brand new and unused. Refurbished items will not be accepted.

3.4.7 The equipment shall be robust for academic use and shall have to produce results with accuracy, as determined reasonable by IMU.

**3.5 Availability of spare parts.** Supplier shall carry sufficient inventories to assure ex-stock supply of consumable spares for the goods. Other spare parts and components shall be supplied as promptly as possible but in any case within one month of placement of order.

**3.6 Replacement of Defective Equipment.** If any of the equipment supplied by the supplier is found to be substandard, refurbished, un-merchantable or not in accordance with the description/specification or otherwise faulty, the IMU will have the right to reject the equipment or its part. The prices of such equipment shall be refunded by the supplier with 18% interest per annum if such payments for such equipment have already been made. All damaged or unapproved goods shall be returned at suppliers cost and risk and the incidental expenses incurred thereon shall be recovered from the supplier. Defective part in equipment, if found before installation and/or during warranty period, shall be replaced within 30 days on receipt of the intimation from this office at the cost and risk of supplier including all other charges. In case supplier fails to replace above item as per above terms & conditions, IMU may consider 'Banning' the supplier and any other remedies, as deemed fit by IMU.

**3.7 Supply of Manuals & Drawings.**

3.7.1 Two Sets of operation and maintenance instruction manuals for the Simulator shall be supplied to IMU Campuses.

3.7.2 Complete technical and functional specifications, operation and maintenance manual for each hardware/cards on the equipment with part numbers and model de-codification documents, to be supplied in original, photocopy is not acceptable.

3.7.3 Complete engineering details of each system as required for the purpose (experiments and research) the equipment's are bought.

3.7.4 Complete system wiring details, input, output, wiring details as applicable to the scope of supply.

3.7.5 Operation and maintenance manuals for the scope of supply including computers, Data Acquisition Units, interface devices etc. (to be supplied in original, photocopy is not acceptable).

3.7.6 The party shall supply all the software with proper license (including Windows, PC- Motherboard drivers (as applicable to the supplied electronic data acquisition units), and any other software as required. The supplied software should comply appropriate software policy norms.

3.7.7 In addition to the Manuals given by the Manufacturers, the successful Bidder shall prepare full documentation.



3.7.8 The Supplier shall provide soft copy of all the manuals, and all the software on CD in two sets.

### 3.8 **Documentation.**

3.7.1 The successful bidder shall provide IMU Campuses with necessary documents including the following.

- 3.8.1.1 Operational and Maintenance Manuals of equipment.
- 3.8.1.2 Equipment serial numbers and models.
- 3.8.1.3 Test Certificates, Licenses if any.
- 3.8.1.4 Acceptance test results and acceptance status.
- 3.8.1.5 Training Material.
- 3.8.1.6 Full documentation with the software on CDs.
- 3.8.1.7 Two sets of hardcopy of the above shall be handed over to nominated personnel of IMU. Soft copy of the documents shall also be provided where applicable. Handing over of documents to IMU by supplier is a pre-requisite for Acceptance.
- 3.8.1.8 Manuals for the instruments are to be supplied with respect to operation, maintenance, ordering spares / technical services.

3.9 **Power Tolerance.** The Primary power supply for the system shall be 220 V Single Phase or 440 Volts Three Phase, frequency 50 Hz. The input power supply tolerance should be +/- 15% for voltage variation and +/- 2 Hz. The Supply system for the simulator should have provision for online UPS to cater for full system load and should have surge protection plus EMI interference protection. It should be capable of withstanding permissible voltage and frequency variations without any damage to the equipment or loss of the information.

3.10 **Data Storage capability.** The equipment should be capable of storing sufficient measured data history in the equipment and should be able to transfer the data to stores devices. The scope of supply includes all means by way of drivers, software and interface cables and adapters to facilitate such transfer.

### 3.11 **Training and Support.**

3.11.1 The supplier shall impart training to four persons at each Campus on operation of the Simulators. The training will be conducted as and when software/hardware upgraded or any other parameters altered by the Manufacturer/Supplier. Periodical refresher training may need to be imparted.

3.11.2 The supplier shall make his own arrangements for supplying training material, equipment required for training etc. IMU Campuses will provide necessary space, infrastructure free of cost for conducting the training.

3.11.3 The training provided by the supplier shall cover operation of the equipment to exploit all the available features.

3.11.4 On completion of training, the supplier shall submit an evaluation report on the



participants along with course details.

3.11.5 Completion of training is a pre-requisite for acceptance of the equipment.

3.11.6 All charges pertaining to the training shall be part of the price bid.

3.11.7 Support the operators through help desk (online plus telephonic support) and visits to the sites (at his own cost) as may be required. The number of visits may be specified in the pre-bid meeting if any questions are raised on this.

### 3.12 **Acceptance of Equipment.**

3.12.1 The activity shall deem to have been completed with the completion of Supply, Installation, Commissioning, Training and putting in to operation of said Simulators at IMU-Campuses. However, the supply shall be complete only upon certification to this effect issued by IMU's Consignee i.e. the Director of respective Campuses.

3.12.2 Upon completion of Supply / work and after successful completion of other prerequisites like acceptance testing, Training etc., as prescribed in this document, IMU shall receive a written undertaking from the supplier that the supply / works has been completed and accordingly a certificate of completion would be issued in respect of the supply/works. The warranty period for the supplied system would commence from the date of Acceptance by IMU Campuses.

### 3.13 **Bidder's Representations and Warranties.**

The selected bidder has to confirm to the IMU that:-

3.13.1 He has the capability to duly perform its obligations in accordance with the terms of the tender and to the satisfaction of the IMU.

3.13.2 The execution of the Supply, Installation, Commissioning, Training and putting in to operation of Simulator at IMU Campuses by the Bidder who does not and will not violate, breach any covenants, stipulations or conditions of any Agreement, Deed entered into by the Bidder with any third parties.

3.13.3 Bidder shall abide by all laws of the land including, Companies Act, Taxation laws, and all other statutory and other obligations applicable to this contract for supply and IMU will not be responsible non-compliance, if any, by the supplier, in any way what-so-ever.

3.13.4 Provide the software updates free of charge during the period of Warranty and comprehensive and non-comprehensive AMC which is integral to this proposal.

3.14 **Bidder's Covenants.** The Goods/ Services to be supplied by the bidder 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.

3.14.1 Supply, Installation, Commissioning, Training and putting in to operation of Simulators at IMU Campuses are to be completed, free of delivery charges as per specified



time on Door delivery basis.

3.14.2 Rejected Goods shall be removed by and at the expenses of the bidder within seven days after notice. If not taken away so, the IMU may seize the goods or remove the materials on its own and charge the bidder with all expenses incurred on such removal.

3.14.3 Any notice to the successful bidder shall be deemed to be sufficiently served, if given or left in writing at his usual or latest known place of business or sent to the email address specified in the bid submitted.

3.14.4 In these conditions unless there is something in the subject or context is inconsistent there with words implying the singular shall include the plural and vice-versa words implying the masculine gender shall include the feminine and the words implying persons shall include bodies corporate/firms etc.

**Sd/- Deputy Registrar  
Indian Maritime University  
Navi Mumbai Campus**



# **ANNEXURE I**

## **TECHNICAL SPESIFICATIONS OF OOW SIMULATOR**

### **Objectives of Officer of the Watch (OOW)–Navigation Simulator** **(Reference DGS Training circular 03 of 2009)**

1. The objective of the Officer of the Watch –Navigation Simulator at IMU Navi Mumbai Campus (NMC) is to train the students in Ship-handling and conduct of Navigational operations, including the handling of navigational emergencies. This may be achieved by controlled training in a simulated environment, leading to a better understanding of navigational operations and by developing the associated skills. In order to fulfil these requirements, the simulator shall be capable of the following:-

- (a) The training recommended in latest IMO Model Course 1.22 (2002) as amended & as part applicable for training of Officer of the Watch & the training requirements for navigating officers by complying with latest DG Shipping, Govt. Of India circulars (currently Training Circular No.03 of 2009), STCW 2010 code with latest amendments as applicable concerning to manoeuvring and handling of a ship in various conditions and establishing good team work during bridge watch keeping.
- (b) Algorithms used to simulate various processes, functions and events should have the same effect/consequences as proper output, to converge towards real ship conditions and performance.
- (c) Ship type as well as the equipments should be simulated as that of a real ship. The simulation models shall be based on real-time programming and thereby be able to replicate the operational behaviour of bridge installations as well as the interactions between the sub-systems for all ship types in all specified areas for chosen exercises.
- (d) The Simulator hardware and software should be validated and certified to industry standards by an agency deputed to such works. Such agency includes Classification Society (IACS members only).
- (e) Provisions for scalability for instructor stations and Student stations to be provided.
- (f) In the event there is upgradation in software and/or hardware of the simulator within first two years of commissioning, it should be supplied and incorporated free of cost for simulator to be functional. These upgradation and changes shall include IMO requirements, DGS requirements, or general changes in Officer of the Watch–Navigation Simulator Technology. Subsequently simulator should be upgraded as and when needed incorporating these changes.
- (g) Training for Master Mariners after commissioning of the simulator and at each time after the up gradation of the simulator shall be provided to the satisfaction of IMU-NMC. Number of Master Mariners for training will be notified by IMU Navi Mumbai Campus and



the training schedule will be of 3 days or as appropriate, and certificates will be awarded to the Master Mariners after the company conducts the test and considers the trainee qualified in handling the simulator.

(h) The simulator shall have comprehensive warranty of 5 years followed by five years of comprehensive/non-comprehensive AMC. The time would be counted from the date system is completely installed and handed over to the customer post testing by the committee. The annual AMC post completion of warranty shall be quoted at the time of tendering and L1 would be determined based on total costing i.e. supply and installation of system plus AMC of three years.

(i) All maintenance issues shall be attended within one working day at IMU-NMC. Working hours at IMU Campus will be 0900 hrs to 1730 hrs on all official working days. This includes online and in-person maintenance.

### **Specific Objectives.**

2. The simulator shall be capable of creating situations ensuring appropriate operational training meeting following requirements.

(a) Simulating a realistic environment for all of the applicable STCW competence in requirements, IACS members Standard for certification of Maritime simulator systems or the latest standards approved by IMO/DGS.

(b) In knowledge and use of "International Regulations for preventing collisions at sea, 1972 as amended.

(c) To train the students by simulating at least 4 types of own ships and at least 10 different types of targets each equipped with mathematical models, which account for motion, drift and steering angle according to the forces induced by current wind and wave.

(d) The simulator shall be able to provide at least 4 international geographical visual areas for exercise which include open sea and high density areas.

(e) To train the cadets in IALA Buoyage system of Region 'A' & Region 'B'. To virtually create such channel for simulator training.

### **Standards of Simulation.**

3. The simulator should be suitable for the selected objectives and facilitating training tasks. It should be capable of:-

(a) Simulating the operating capabilities of shipboard equipment and include the capabilities, limitations and possible errors of such equipments.

(b) It should have sufficient behavioural realism to allow a trainee to acquire the skills set out by the training objectives.

(c) It should provide a controlled operating environment, capable of producing a variety





of conditions, which may include emergency, hazardous or unusual situations relevant to the training objectives.

(d) It should provide an interface through which a trainee/trainer can interact with equipments in the simulated environment.

(e) It should permit the Trainer to control, monitor and record exercises for the effective debriefing of the trainees. It should have facility to port the recording to any other networked PC in the classroom for mass debriefing.

#### **Simulator specifications.**

4. **Simulator specifications.** The simulator consisting of a ship station with instruments of navigation as listed below, as well as display of target ships and surroundings as seen from a wheel house of the ship.

(a) Equipment and consoles to be installed, mounted and arranged in a ship-like manner.

(b) A separate control for instructor with equipment necessary to monitor the activities in the wheel house effectively.

(c) The equipment installed in the simulator shall have a similar functionality to corresponding equipment used on board.

(d) If any equipment does not correspond to the specific make, the applicable IMO performance standard (functionality requirement) for such equipment shall be followed.

(e) If such a performance standard does not exist, then the functionality of equipment shall, as a minimum, be the same as for any recognized genuine equipment of that type, in use on board ships.

(f) Equipment as fitted shall resemble the behavioural characteristic for example; accuracy, reaction time and other limitations, related to corresponding equipment in use on board ships.

(g) User manuals for the simulator equipment and operational control shall be available to the learners for use during exercise.

#### 5. **Ship Types and Areas.**

(a) The simulator shall include mathematical models of at least 4 types of own ship. The model shall resemble accurately the behavioural characteristic of an actual ship of that size, power and type, and realistically behave as per the hydrodynamic effects of wind, current and swell.

(b) The simulator shall be able to present at least 10 different types of targets each equipped with mathematical models, which account for motion, drift and steering angle according to forces induced by current, wind and wave.



- (c) The simulator shall be able to provide at least 4 international geographical visual areas for exercise which include open sea and high density traffic areas.

## DETAILED SPECIFICATION

### 6. Visualisation.

- (a) At least 3 channel visualization of high resolution SVGA/XGA graphics, about 60 degree horizontal field of view on each side.
- (b) The visual screen should be projector type of at least 60 inches diagonal size on each screen. The visual system shall present all navigation marks as displayed on paper charts for that area. The Projector should be full HD /2K minimum.
- (c) The visual system shall show objects with sufficient realism (detailed enough to be recognized as in real life) The visual system shall replicate movements of all own ships according to 6 degrees of motion freedom.
- (d) The simulator shall provide a realistic visual scenario by day, twilight or night, changing with time. It shall be possible to create a range of visual conditions ranging from clear to partial [rain, haze] to restricted [dense fog]”.
- (e) It shall be possible to take reasonably accurate bearing of objects seen on the screen preferably using an azimuth mirror on the gyro compass mounted on post for relative bearings.
- (f) It shall be possible to use magnified views of the observation.
- (g) The visual system shall present at least a total of 20 degrees of vertical field view. The Ship Foxel should be visible to the cadet standing on OOW post.
- (h) There should be proper correlation between the visual picture and radar Picture.
- (i) Chart Table with paper chart and publications: Chart table will resemble a ships chart table with minimum dimension of 4 X 3 ft. Paper charts and publications provided shall be appropriate for the areas being simulated.
- (j) ECDIS of latest version to be supplied in addition to the requirement stipulated in the DGS order

### 7. Simulator Capabilities.

- (a) The model shall realistically simulate own ship hydrodynamics in open water conditions, including the effect of wind forces, wave forces, tidal stream and currents.
- (b) The model shall realistically simulate own ship hydrodynamics in restricted waterways including shallow water and bank affects and interaction with other ships.



- (c) The simulator shall provide an own ship engine sound reflecting the power output.
- (d) The target ships shall be equipped with navigational lights, shapes, and sound signals according to the "Rules of the Roads". The signal should be individually controlled by the instructor and the sound signal shall be directional and vary with range.
- (e) The simulator shall be able to present at least 10 target ships. At the same time, where the instructor shall be able to program routes (course and speed) for each target ship individually.
- (f) The simulator shall be capable of providing environmental sound (for example; wind) according to condition simulated.
- (g) The simulator shall include the depth according to chart used, indicating water depth according to tidal heights.
- (h) The simulator shall provide waves, variable in direction and strength.

7. **Own Ship Control Station.** The following shall be provided, installed, mounted and arranged in a manner that it would physically resemble the front panel of a ship's navigating bridge. The hardware panel should have operational resemblance to actual ship-board equipment.

- (a) **Propulsion control.** For controlling own ship's engine ahead and stern.
- (b) **Steering Control.** There shall be provision for the following, at or near the console:-
  - (i) Steering wheel
  - (ii) Steering motor
  - (iii) Hand steering
  - (iv) Compass repeater able to depict gyro heading
  - (v) Gyro failure alarm
  - (vi) Auto-pilot (Basic auto-pilot for setting headings)

(c) **Engine Alarms.** Giving audible and visual alarm in the case of:-

- (i) Start fail
- (ii) Shut-down

8. **Radar Set and Automatic Radar plotting aides (ARPA).**

- (a) ARPA.
  - (i) 250mm effective diameter of PPI screen with the facility to simulate Radar. The radar shall be capable of being operated in sea stabilized relative motion mode and sea and ground stabilized true motion modes.



(ii) The Radar Simulation Equipment shall be capable of generation of interface, noise, radar / ARPA failure, yawing, clutter, spurious echoes, blind sector, parallel index lines.

(iii) The ARPA simulation equipment shall incorporate the facilities for.

- Manual and automatic target acquisition
- Past track information
- Use of exclusion areas
- Vector / graphic time and data display
- Trial manoeuvres

9. **Chart Table.** Chart table will resemble a ship's chart table with minimum dimension of 4 X 3 ft. Paper chart and publications for areas used in simulation are to be provided.

#### 10 **Indicators and Simulated Equipment.**

(a) Own ship station shall have at least the following indicators:-

- (i) Wind direction and speed indicator
- (ii) Rudder angle indicators
- (iii) RPM indicator

(b) **Ship's Siren.** To be provided on the wheel house consol as a push button.

(c) **Electronic Navigation Aide.** GPS Simulation of all facilities of a standard GPS receiver shall be available. This shall include display in latitude, longitude, course and speed over ground by the own ship, UTC, normal navigational calculation functions such as; great circle, rhumb line sailing, way points, alarms for X-track error, etc.

(d) **Echo-Sounder.** Simulation of complete echo-sounder shall be provided. Facility to change gain adjustment, change over from depth below keel to total depth and vice versa etc., shall be provided. Alarm for shallow water depth shall be provided.

(e) **Sound Signal Generator.** Ship's whistle and fog signals. Facilities shall be provided to general fog signals manually or automatically operated by own ships independently, as well as for each target separately by the instructor console. The fog signals should be interactive and the intensity and the direction at own ship station shall correspond to relative range and position of the station generating the sound signal. The fog signal shall be capable of generating the sound signals of the following:-

- (i) vessel making way through water
- (ii) vessel making no way through water
- (iii) vessel restricted in her ability to maneuver
- (iv) vessel at anchor
- (v) vessel aground
- (vi) vessel not under command

(f) **Navigation Lights and Shapes Display.** Full set of navigation, Christmas tree



lights and shapes shall be made available, which the own ship can select for display depending upon the prevailing circumstances. Same feature should be settable on the target ship by the instructor.

11. **Instructor Console.** The instructor and the assessor shall be able to make following settings from their console:-

- (a) Start, halt, reset in time and place, and restart an exercise
- (b) Change the operating environment during the running of an exercise, viz. shall be able to alter the wind (direction and force), swell (direction and height), current (direction and rate), cloud cover, and state of visibility.
- (c) Observe and supervise the trainees.
- (d) A Display (27/32" monitor) providing a global view of the criteria simulation scenario. The display plots ship's tracks, target movements and also provides a tool for altering the parameters of the various target ships.
- (e) Activate simulation of failures in real time in the following equipment:-
  - (i) Navigation lights
  - (ii) Gyro compass including insertion of error
  - (iii) Speed log failure or insertion of error
  - (iv) Echo sounder
  - (v) Radar
  - (vi) ARPA
  - (vii) GPS (including degrading of signal quality)
  - (viii) Auto pilot
  - (ix) Engine
- (f) It shall be possible to replay a full exercise showing the actions performed by the trainees.
- (g) Instructor shall be able to create exercises where one or more own ship stations can be interactive within the exercise or to be able to run them independently and in differing areas, if so required.

12. The Simulator Would be required to simulate following types of own Ships:-

- (a) Container ship with 18000-20,000 TUE capacity
- (b) Bulk Carrier 40,000-60,000 DWT
- (c) Oil Tanker 125,000 -175,000 DWT
- (d) Gas Carrier 20,000-30,000DWT

13. The Simulator would simulate following types of targets

- (a) Container Ship 15,000- 20,000 TUE
- (b) Tanker 75,000 – 125000 DWT



- (c) Bulk Carrier 40,000 DWT
- (d) Fishing Vessel
- (e) Tug – 2 Nos
- (f) Bunker Barge
- (g) Tug with Towed platform
- (h) Pilot Craft
- (i) Passenger Vessel

14. The Simulator must be certified by any of the International Association of Classification Societies (IACS) for compliance to the performance standards stipulated by the DGS.

15. Hardware requirements.

(a) All the electronic components, computers, displays etc must comply with the Federal communication Commission and must have EU confirmatory marking (CE) to ensure it would not cause EMI interference and will be immune to external EMI.

(b) All the PCBs should have conformal coating to protect against moisture and high humidity.

(c) The Cabinets and frame of the simulator should be of made of aluminium sections and powder coated to guard against rusting prevalent in coastal areas. GI sections with powder coating can be accepted provided the supplier gives guarantee against rusting for a period of 10 Years.

(d) The signal Cables used should comply with EMI/ EMC norms and should have Low Fire Hazard insulation.

(e) The UPS should be able to meet the full load requirement for at least one hour.

(f) Appropriate surge protection device to be used for input power supply.

(g) **Environmental Conditions.** The equipment should be able to work in following environmental conditions.

- (i) Working Temperature - 0<sup>o</sup> to + 40<sup>o</sup> C
- (ii) Humidity Working - upto 80% RH
- (iii) Storage Condition - Room Tem. Up to +40<sup>o</sup> C and Relative humidity 90% non condensing
- (iv) The Simulator cabinet be provided with anti condensation heater with auto cut off when system is powered.



# **Annexure II**

(Technical Bid-Cover 1)

[On the Letter head of the Bidder and to be put in a separate sealed cover]

## **Tender for “Supply OOW – 02 Numbers Simulators at IMU”**

Ref: IMU-NMC/PUR/2023-24/0037 dated 07.02.2024

From  
Name & Address of the Bidder

Ph: Email:

To  
Deputy Registrar (Admin),  
IMU, Navi Mumbai Campus,  
(T S Chanakya)  
Karave, Nerul,  
Navi Mumbai-400 706

Dear Sir,

We hereby submit our Technical Bid for “Supply OOW– 02 Numbers Simulators at IMU”.

### **1. Compliance Statement.**

<b>Sl. No</b>	<b>Item Description</b>	<b>Compliance to Specification Yes/No</b>
1	Whether the bidder could supply the simulators as per the technical specification given in Annexure-I as per NIT	

### **2. Experience in the business of providing Similar Supply Since F.Y. 2020-21, 2021-22 and 2022-23 or earlier.**

<b>SI No</b>	<b>Eligibility Criteria Details</b>	<b>Bidders Confirmation</b>
1	Whether in the business of Providing Similar Supply Since F.Y. 2020-21, 2021-22 and 2022-23 or earlier & meet this eligibility criteria (Yes / No)	



a)	Since when	
b)	Mode of Proofs enclosed:	Page No.
(i)		
(ii)		
(iii)**		

\*\* - May add more rows as required

**3. A Similar Supply with minimum value specified in any one of the three set of values (a or b or c) carried out during the last five financial years (2018-19 to 2022-23):**

**(OOW Simulator) :**

Sl. No	Eligibility Criteria Details	Bidders Confirmation
A	The Bidder should have satisfactorily completed "Similar Supply and installation" with minimum value specified in any one of the three set of values (a or b or c) carried out during the last any one of the five financial years (2018-2019 to 2022-2023) (Yes / No)	
a)	At least one similar supply with a minimum value of Rs. 76 .8 Lakhs (80% of Bid value) : (Yes / No)	
b)	At least two Similar Supply with a minimum value of Rs. 48 Lakhs (50 % of Bid value) (Yes / No)	
c)	At least three Similar Supply with a minimum value of Rs.38.4 Lakhs (40% of Bid value.) (Yes / No)	

**3. B. Details of similar supply with minimum value specified in any one of the three set of values (a or b or c) carried out during the last five financial years (2018-2019 to 2022-2023) [in proof of sl. No. 3-A above):**

Sl. No.	Client-Name Address	Equipment Supplied & Commissioned	Work order ref	Value of supply (Rs. in Lakhs)	Date of Commissioning by Bidder	Present Operational Status

\*\* - May add more rows as required

**4. Minimum Average Annual turnover.**

Sl. No.	Eligibility Criteria Details	Bidders Confirmation





(i)	The Bidder should have an average annual turnover of at least Rs.2 Crores during past 5 financial year's i.e.2018-19 to 2022-23. (Yes / No)		
	Year / Proof enclosed	Turnover	Page No.
(ii)	2018-19		
(iii)	2019-20		
(iv)	2020-21		
(v)	2021-22		
(vi)	2022-23		

**Other Eligibility Criteria & Essential requirements and details.**

Sl. No.	Particulars	Bidders Confirmation / Details	Details of Proof Enclosed	Page No.
5.	The bidder should submit the copy of Income Tax return for last three financial years i.e. 2020-21, 2021-22& 2022-23 (Assessment year 2021-22, 2022-23&2023-24) [YES / NO]		Copy Income tax Returns.	
6.	Whether the Bidder have a valid PAN and GST Registration [YES / NO]		Copy of PAN & GST Registration Certificate enclosed	
7.	The Bidder shall be the reputed Original Equipment Manufacturer (OEM) or their authorized/certified partner or authorized re-seller from India. He shall furnish necessary authorization from the OEM authorizing him to provide all goods and services support indicated in this tender and confirming that necessary assistance would be provided to the firm in providing required support during the Warranty Period. [YES/NO]		OEM Authorization / Certification as per the Annexure III. In case of participation by OEM, self-declaration.	
8.	The Bidder should not have been blacklisted or debarred from bidding for any government or central government autonomous organisation. [YES/NO]		Self-declaration to this effect.	



9.	Whether the Bidder has attached an EMD for Rs.1,92,000/-in the form of Demand Draft  [YES/NO]		Original DD No. _____ enclosed with technical bid
	Name, Designation, Address and Telephone Number of Authorized person(s) of Agency/ Firm		
	Type of the Organisation (Sole Proprietorship / Partnership /Pvt Ltd Co / Public Ltd Co. etc.		
	Name of the Authorised Signatory with Designation		
	Address of the Bidders		
	Email Address		
	Contract Numbers		
	Any other Remarks from Bidders:		
	Specific site preparation / site infrastructure required for effective functioning of equipment required (Yes/ No). If yet to be detailed in this column or to be enclosed.		

I am also enclosing bidder memorandum and undertaking duly signed by me /us.

**Declaration**

I / We certify that all the particulars furnished above are true and correct and based on documentary evidence, and that I /we understand that if any of the above particulars is found to be false or misleading, our bid is liable to be summarily rejected at any stage and my /our firm is liable to be debarred by IMU for at least 3 years, in addition to any other right or remedy available to IMU including forfeiture of EMD, Security Deposit etc.

Date:

Signature with Seal of Authorized Signatory

Place:



# Annexure III

## OEM'S AUTHORISATION CERTIFICATE TO THE BIDDER

To  
Deputy Registrar (Admin),  
IMU, Navi Mumbai Campus,  
(T S Chanakya)  
Karave, Nerul,  
Navi Mumbai-400 706

Ref: IMU-NMC/PUR/2023-24/0037 dated 07.02.2024

Sir,

WHEREAS \_\_\_\_\_ who are official producers Authorized Sales and Service dealers of \_\_\_\_\_ do hereby authorised \_\_\_\_\_ located at \_\_\_\_\_ (to submit a bid and sign Tender with you for resale and support of the following Products supplied by us, for the quantities, specifications and delivery schedule called for by the technical specifications associated with the above Invitation for Bids:

Product Description	Type

We hereby extend to you a full guarantee and warranty and maintenance support, availability of spares for 10 years from the date of submission of the tender, in accordance with the Conditions of Tender along with the standard product warranty, and duly authorize the Bidder to act on our behalf in fulfilling all warranty and support obligations with respect to the above-listed products offered for resale by the Bidder in relation to this Invitation for Bids.

Name \_\_\_\_\_ in the capacity of \_\_\_\_\_ Signed Duly authorized to sign the authorization for and on behalf of \_\_\_\_\_ Dated on \_\_\_\_\_ day of \_\_\_\_\_

**Note: This letter of authorization must be on the letterhead of the supplier, must be signed by a person competent and having the power of attorney to bind the supplier, and must be included by the Bidder in its bid.**



# Annexure IV

## **BIDDER MEMORANDUM & UNDERTAKING**

[to be signed enclosed with technical bid by the bidder.]

1. General Description:  
Tender for “ Supply of **02 Numbers of Officer of the Watch (OOW) Simulator.**  
  
Tender:- IMU-NMC/PUR/2023-24/0037 dated 07.02.2024
2. Period of Contract.Outright supply with five-years warranty and Comprehensive/non-comprehensive Annual Maintenance Contract for subsequent 5 years.
3. Forfeiture of Earnest Money Deposit & Undertakings by the Bidder
  - a) Should this tender be accepted in whole or in Part, I / we here agree to terms and abide and fulfil all conditions annexed hereto and all the terms and provisions contained in the all parts of the tender documents so far as applicable and/or in default thereof the EMD paid by me will be forfeited in favour of IMU – Navi Mumbai Campus.
  - b) To execute all the supply and services referred to there in the tender documents upon the terms and conditions contained or referred to therein and carryout such deviations as may be ordered by IMU – Navi Mumbai Campus.
  - c) This is to certify that I/We before signing this bid have read and fully understood all the terms and conditions and instructions contained therein and undertake to abide by the all the terms and conditions laid down in the tender/bid documents.
4. I/We abide by all the laws and statutory provisions applicable to the contract.

SIGNATURE.....  
FOR AND ON BEHALF OF .....  
DATE.....



# Annexure V

## PRICE BID (Cover II) FORM OF TENDER

**Note: This Memorandum forms part of the Tender must be on the letterhead of the bidder, duly filled in, signed & sealed and enclosed along with the Tender.**

To  
Deputy Registrar (Admin),  
IMU, Navi Mumbai Campus,  
(T S Chanakya)  
Karave, Nerul,  
Navi Mumbai-400 706

Ref: Tender IMU-NMC/PUR/2023-24/0037 dated 07.02.2024

Sir,

WHEREAS \_\_\_\_\_ who are official producers /  
authorized Sales and Service dealers, of \_\_\_\_\_ do  
hereby authorize \_\_\_\_\_  
located at \_\_\_\_\_ to submit a bid and sign Tender with you for  
sale and support of the following Products supplied by us, for the quantities, specifications  
and delivery schedule called for by the technical specifications associated with the above  
Invitation for Bids:

We hereby extend to you a full guarantee and warranty and annual maintenance support,  
availability of spares for the period covering warranty and comprehensive/non-  
comprehensive annual maintenance contract period from the date of submission of the  
tender.

SIGNATURE.....  
FOR AND ON BEHALF OF .....  
DATE .....

### **PRICE BID**

“Supply of **02 Numbers of Officer of the Watch (OOW) Simulator**” at Indian  
Maritime University Campuses as per the tender document complying with all the  
conditions stipulated in various parts of the tender documents including its annexure and  
schedules.

Detailed Price Bid is enclosed as Schedule 1

Date:  
Place:

Yours faithfully,

Signature with Seal of Authorized Signatory



# PRICE BID

## SCHEDULE 1

**“Supply of 02 Numbers of –Officer of the Watch (OOW) Simulator” at Indian Maritime University –Campuses as per the tender document complying with all the conditions stipulated in various parts of the tender documents including its annexure and schedules.**

**Ref: Tender No. IMU-NMC/PUR/2023-24/ 0037 dated 07.02.2024**

<b>Sr. No.</b>	<b>Particular</b>	<b>Price (inclusive of GST)</b>
<b>1</b>	Price for 02 OOW simulators including 5 yrs warranty	
<b>2</b>	Price for comprehensive maintenance for 05 years immediately after warranty	
<b>3</b>	Price for non comprehensive maintenance for 05 years immediately after warranty	

The bids will be evaluated as below:

Group-A (1+2) : The price of the equipment + Comprehensive Maintenance (5 years)

Group-B (1+3): The price of the equipment + Non-Comprehensive Maintenance (5 years)

IMU will evaluate the bids either for Group A or Group B and L1 will be decided accordingly.

Authorized Signature with seal

