



INDIAN MARITIME UNIVERSITY
Training Ship Chanakya
(A Central University, Ministry of
Shipping, Government of India)
Navi Mumbai Campus, Nerul, Navi
Mumbai-400706
(Tel: 27703876/20871976 Ext.294)

Tender No. IMU-NMC/OOW Simulator/2021/0019

17.06.2021

NOTICE INVITING TENDER (NIT)

Sealed tenders are invited for **Supply of 01 Number Officer Of the Watch (OOW) Simulator** to IMU Navi Mumbai Campus under Two bid system.

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 & www.imunavimumbai.ac.in from 17.06.2021 onwards. The last date for receiving tender at IMU – Navi Mumbai Campus is 1300 Hrs on 16.07.2021.

DEPUTY REGISTRAR
IMU Navi Mumbai Campus

Tender Abstract

1	Title	Supply of 01 Number - Officer of the Watch (OOW) Simulator @ IMU Navi Mumbai Campus
2	Notice Inviting Tender No.	IMU-NMC/OOW Simulator/2021/0019 Dated 17.06.2021
3	Tender document download time & date	1500 hrs on 17.06.2021
4	Pre bid meeting time & date	14:30 PM on 29.06.2021 at Indian Maritime University, Navi Mumbai Campus (T S Chanakya), Karave, Nerul, Navi Mumbai- 400076. Due to COVID Pandemic situation the Pre Bid meeting and Other meetings would be conducted online The Pre Bid meeting procedure is covered at para 1.3
5	Last date and time of submission of the Tender	1300 hrs on 16.07.2021
6	Date and time for opening of Technical bid	1500 hrs on 16.07.2021
7	Tentative Date and time for opening of Financial bid (for technically qualified bidders)	Will be uploaded on the website and email will be sent to the Technically qualified bidder
8	Proposal currency	Prices shall be quoted in Indian Rupees (INR)
9	Language of the proposal	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 a translation of the same in English language, attested by the bidder should be attached.
10	Validity of tender offers	180 days from date of opening of Technical bid
11	EMD Amount	Undertaking to be provided by the bidder as mentioned in the document at page 4 under para 1.1 subsequently.
12	Security Deposit (for finalized bidder only)	3% of the contract value in the form of Bank Guarantee of any nationalized/Scheduled Bank having branch at Navi Mumbai.
13	Address for Submission of Tender	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 NMC) invites sealed tenders for Supply of 01 Number – Officer of the Watch (OOW) Simulator (hereinafter referred to as the Simulator) under Two bid system.

Type of Tender	Two Bid System: 1. Technical Bid: “With superscrib as “TECHNICAL BID- SUPPLY OF OOW SIMULATOR – NMC ” 2. Financial Bid: “With superscrib as “ PRICE BID- SUPPLY OF OOW SIMULATOR – NMC ” 3. Main Cover: To include Technical Bid Cover and Price Bid Cover (both separately sealed) “With superscrib as “TENDER FOR SUPPLY OF – OFFICER OF THE WATCH (OOW) SIMULATOR TO IMU NMC ”
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Overall Scope and objective of this Tender is to select a successful bidder for supply, install the system complete with UPS, commissioning, training, subsequent Up-gradation during the Warranty if any & Annual Maintenance Contract.

1.1 EMD and Tender Fees:

Sl. No.	Particulars	Supporting document
1	Tender documents can be downloaded free of cost from www.imu.edu.in under the section TENDERS	Nil
2	EMD has been suspended based on the Government guidelines during the pandemic period. The Bidder is to submit a Certificate in-lieu of EMD	Due to COVID-19 pandemic situation Bidders in lieu of Bid security shall submit the following certificate in their letter head duly signed by authorized signatory. “I/we, hereby state and understand that if I/we withdraw/modify our bid during the period of validity of the tender, the administration would suspend the Bidder from participation in any future tenders of IMU for a period of 6 months”.

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 also.

Sl. No.	Qualification Criteria	Supporting documents
1	The Bidder should be in the Business of Providing ‘Similar Supply’ for a period not less than 5 years i.e. 2016 or earlier	ESI/PF /GST Registration Certification/ Certificate of Incorporation/ Registered/ partnership deed/IT Returns/ Copies of the Work order, Agreement and Work Completion certificate for the Completed or ongoing supply – Proof for providing similar supply during past 5 years
2	The Bidder should have satisfactorily completed “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 (2016- 17 to 2020-21) a) at least 1 Similar Supply with a minimum value of i.e. Rs. 44 Lakhs [OR] b) at least 2 Similar Supply with a minimum value of Rs.33 Lakh each [OR] c) at least 3 Similar Supply with a minimum value of Rs.22 Lakh each.	Copies of the supply order, Payment advice, Certification from buyer entity.
3	The Bidder should have a positive net worth and an average annual turnover of at least Rs.5.00 Crores during the past 3 financial years i.e. 2018-19, 2019-20& 2020-21.	Annual accounts duly certified by a Chartered Accountant / Income tax Returns.
4	The Bidder should have a valid PAN and GST Registration Certificate.	Copy of the PAN Card and GST registration certificate.

5	The Bidder shall be the reputed Original Equipment Manufacturer (OEM) / their authorized / certified partner or authorized reseller. He shall furnish necessary authorization from the OEM and 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.
6	The Bidder should not have been debarred or blacklisted from bidding for any government or central government autonomous organisation.	Self-declaration to this effect.
7	The OOW Simulator proposed to be supplied should be approved by DGS or one of the Association of Classification Societies (IACS).	Copy of certificate to be attached
8	Live demonstration, of a similar simulator in at least one of the Maritime Institute (other than IMU Campuses) where it has been installed and is in operational condition.	Live demonstration to the committee and Self attested copy of the document giving detail of the features of Proposed OOW simulator for which rate is quoted.

1.2.1 ‘Supply of OOW Simulator’ means supply of Simulator Equipment simulating the functions of OOW console on board a ship or 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, NMC may insist for notarized copy or ask to produce originals to ascertain the veracity of the documents. NMC also reserves the right to ask more proof to corroborate the eligibility declarations.

1.3 Pre-bid Meetings Clarification. NMC shall organize a pre bid meeting at 1430 hrs on 29.06.2021. All interested suppliers 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 dradmin.navimumbai@imu.ac.in three days prior to the pre-bid meeting and the same shall be clarified during the pre-bid meeting.

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

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 NMC regarding acceptability of any suggestion shall be final in this regard and shall not be called upon to question under any circumstances.

In view of prevailing pandemic situation the Pre Bid meeting would be conducted online through `Video conferencing`. The video conferencing is recorded. All the prospective bidders desirous of attending the Pre Bid meeting must send their details by email to DR(Admin) on drdmin.navimumbai@imu.ac.in providing company name, person authorised to attend the Pre Bid meeting, his email ID and Mobile No. So that meet link can be sent.

1.4 Response to Queries and Issue of Amendments.

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

1.4.2 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 NMC website. All the bidders who had downloaded the Bid Document shall verify, whether any such amendments have been issued by 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 In order to provide prospective bidders reasonable time for taking the Corrigendum/modifications into account, NMC may, at its discretion, extend the last date for

the receipt of Bids. Minimum 5 working days would be allowed on publication of the corrigendum/addendum. However, no request for further postponement would be entertained. Decision of NMC in this regard would be final

1.4.6 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 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 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 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. 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 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.

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 NMC, Installation, Commissioning, training the trainers including incidental charges, and up-gradation of software & hardware (after commissioning whenever required due to change in IMO/DGS norms during the warranty period) excluding applicable GST. The bidder would clearly indicate cost break down for all the major hardware assemblies and software (excluding commercially licensed software such as Windows/Unix/Linux etc).

1.7.2 Rate for Comprehensive Onsite Annual Maintenance for entire simulator system supplied is to be quoted as one cost and should be given year wise for 3 years separately excluding GST immediately after expiry of 2 years warranty. GST of corresponding column should be entered in GST row in Price bid.

1.7.3 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. The Simulator room civil work such as lighting, false ceiling, painting, air conditioning and seating for trainees is not included in the scope of supply.

1.7.4 IMU 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. IMU also has the right to increase the quantity of supply on prorate basis.

1.7.5 **Indigenous Content.** The system supplied must have at least 20% indigenous content. The Indigenous content should comply with Ministry of Commerce & Industry (Public Procurement Section) notification P- 45021/2/2017-PP(BE-II) dt 16 Sep 2020. The Class I supplier would be given price advantage as per the said government guidelines.

1.8 **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.

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

1.9.1 **Earnest Money Deposit:** Nil.

(The undertaken is to be provided in letter head of bidder as “I/We, hereby state and understand that if I/we withdraw/modify our bid during the period of validity of the tender, the administration would suspend the Bidder from participation in any future tenders of IMU for a period of 6 months”.)

1.9.2 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, corrigenda / addenda issued by IMU 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.

1.9.3 Certificate in lieu of EMD on the company letterhead duly signed by the authorised signatory as mentioned under para 1.1 (page 4)

1.9.4 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.

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

1.9.6 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.

1.9.7 **Technical Bid 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 SIMULATOR – NMC” and sealed properly. Name and Address of the bidder shall also be written/ printed on the cover.

1.10 **Price Bid Cover-II.**

1.10.1 The Cover II shall only contain the Price Bid formats given in Annexure– V. It has to be duly filled in, signed and sealed. 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 SIMULATOR – NMC” and sealed properly. Name and Address of the bidder shall also be written/ printed on the cover.

1.10.2 The Rates shall be filled in either typed or written in indelible ink and shall be 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 even one value shall be rejected during the price bid opening. The Net Final price should be written in figures and words.

1.11. The cost breakdown must indicate cost of each major assembly, software, installation cosy (to include any site preparation work which forms part of simulator installation such a preparing projection screens, routing of system cables etc).

1.12 **Main Cover.**

1.12.1 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 – OFFICER OF THE WATCH (OOW) SIMULATOR TO IMU NMC**” and to be submitted in the following address which should reach on or before 1300 hrs on 16.07.2021.

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

1.12.2 The bidder shall note that no alternative or counter or qualifying tender conditions by the bidder will be acceptable to IMU. 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.

1.12.3 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 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, due to any reason whatsoever and at any stage of the tender (IMU 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 deliverables 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 into the box placed in the IMU – Navi Mumbai Campus prior to the last date & time for submission, specified in the abstract. 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 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 a revised bid due to corrigendum, addendum, etc., issued by NMC, any time prior to the last date prescribed for receipt of bids, by giving a written notice to the 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 debarring the bidder for 6 months in lieu of forfeiture EMD (para1.1 Page 4)

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 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 Bids.** The 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 If tender terms and conditions are not met.
- 1.19.3 If bidder gives wrong information in the bid.
- 1.19.4 Canvassing in any form in connection with the bids.
- 1.19.5 If the bid is incomplete /partial bid/ conditional/unclear in any form.
- 1.19.6 Bids submitted after due date and time.
- 1.19.7 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).
- 1.19.8 Erasure and/or overwriting (if not countersigned by authorised person).
- 1.19.9 Bids not signed by authorized signatory.

1.20 **Evaluation Process.**

1.20.1 IMU 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.

1.20.3 IMU has the right to seek clarifications 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. Any verbal agreement arrived would not be entertained.

1.20.4 IMU 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.

1.21 **Tender Evaluation.**

1.21.1 Technical bids will be opened at the Navi Mumbai Campus (TS Chanakya) located at the address stated in tender abstract. The bidders are permitted to participate in the Technical and Price Bid opening process. The dates for bid opening meeting would be communicated to all the bidders. In view of prevailing pandemic situation the Technical and Price Bid opening meeting would be conducted online through 'Video conferencing'. The video conferencing is recorded. All the prospective bidders desirous of attending the Technical meeting must send their details by email to DR(Admin) on drdmin.navimumbai@imu.ac.in providing company name, person authorised to attend the Pre Bid meeting, his email ID and Mobile No. On receipt of the intimation so that meet link can be sent. The intimation for price bid opening would be communicated to the technically qualified bidders only.

1.21.2 The bidder or his authorised 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. In exceptional cases IMU, Navi Mumbai Campus or his representative reserves the right to obtain the additional documents / clarifications from any of the bidder without vitiating the Tendering process. If, in the opinion of the IMU, Navi Mumbai Campus, information and documents supplied in support of the Tender do not indicate meeting the requirements of the Tender specifications, the Tender may be determined as non-responsive and may be rejected by the IMU, Navi Mumbai Campus.

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 will form the basis for the technical evaluation. In exceptional cases, IMU reserves the right to obtain any clarifications from any of the bidder. If, in the opinion of the IMU, 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, the tender /

product offering will be treated as non-responsive and rejected by the IMU and their Cover II – Price bid shall not be opened for evaluation. The 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 adding price of the equipment, installation, commissioning, training and comprehensive onsite Maintenance charges for 03 years (immediately after expiry of 2 years warranty) at NMC i.e. Grand total of Column 6 in Price bid. NMC also reserves right to change quantities before issuing the order, due to exigencies, if any.

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

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

Quantity in Nos	Consignee
01	The Director Indian Maritime University, Navi Mumbai Campus (T. S. Chanakya) Karave Village, Plam Beach Road Nerul, Navi Mumbai- 400706

2. **General Conditions of the Contract.**

2.1 **Execution of Contract.** The successful bidder has to enter in to an agreement with 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.200/-.

2.1. **Termination Clause:**

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

2.1.2. In the event of 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. The bidder would be liable for bearing any additional cost incurred by IMU due to termination of the contract.

2.1.3. In the event of the death, insanity or insolvency of the supplier 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 supplier shall not be liable for any excess in the price paid, for any such purchases over the tender price.

2.2. **Security Deposit.**

2.2.1. The supplier shall be required to submit the security deposit in the form of irrevocable bank guarantee issued by any Indian Nationalized Bank for an amount of 3 % of the Purchase Order value within 7 days from the date of receipt of the purchase order and should be kept valid for a period of 90 days beyond the date of completion of AMC period.

2.2.2. Security Deposit will be refunded / returned without any interest only 15 days after successful completion of AMC 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 and after adjustment of dues to IMU or penalty imposed by 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 **60days** from the date of work order at 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 organisation 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 NMC.

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 shall be provided by the supplier for a minimum of two years from the date of final acceptance of the equipment by IMU Navi Mumbai Campus. The supplier will be notified of any defect or claim arising under this warranty and the warranty support shall be provided at site of IMU – Navi Mumbai Campus.

2.6.2 If the supplier having been notified fails to remedy the defect immediately as per 3.8.2, NMC 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. **Comprehensive On-site AMC.**

2.7.1. Comprehensive maintenance for 3 years is to commence immediately after the expiry of the comprehensive Two 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 NMC 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 payment against Supply, Installation, Commissioning, Acceptance Testing, Training and putting in to operation of Simulators at NMC against the invoice. IMU will, after verification of the claim for its correctness, make payment within **Ten 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 **NMC GST 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.

2.9 **Anti-Profiteering Rules of GST.** The bidder should strictly adhere to Anti-Profiteering 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 Navi Mumbai Campus. All documents and reports prepared or obtained in performing the Simulator shall become and remain the property of IMU Navi Mumbai Campus.

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, 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.

2.12.4 The conditions of COVID pandemic are known and Government has not inhibited any business activity, therefore COVID would not be a reason for force majeure unless Government imposes a total lockdown.

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 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 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 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 within 45 days from the date of work order and do the installation and demonstration of the equipment within 15 days from the arrival of materials at the IMU’s site; otherwise the penalty clause will be applied.

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 in every possible configuration and demonstrate every function to the satisfaction of the acceptance committee constituted by IMU - Navi Mumbai Campus after installation. The committee may also ask to for verification of the results either by theoretical or other practical means.

3.3.3 In case of any mis-happening /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. 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.

3.4.6 The All parts and equipment should be brand new and unused. Refurbished items shall not be provided.

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.** The Supplier would be required to provide details of all the hardware used in the system. For Commercially off the Shelf (COTS) item name of manufacturer and distributor needs to be provided with the documentation. For customised or manufactured items the supplier will have to intimate basic technical information without affecting his IPR rights.

3.5.1 The Successful Bidder shall stand guarantee for the supply of spares of all the equipment under the scope of supply (including third party hardware/software) for a minimum period of 10 years from the date of commissioning the system. He is also to guarantee that in the event of discontinuation of a part by the manufacturer the system maintainability would not be affected for a period of 10 years from the start date of operation.

3.5.2 The purchaser may elect to purchase COTS items from the manufacturer/dealer providing that this selection shall not relieve the Supplier of any warranty obligations under the Contract.

3.5.3 In the event of termination of production of the spare parts the company has to give advance notification to the Purchaser of the pending termination, in sufficient time to permit the Purchaser to procure needed requirements.

3.5.4 Following such termination, furnishing at no cost to the Purchaser, the blueprints, drawings and specifications of the spare parts, if requested.

3.5.5 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 Four Sets of operation and maintenance instruction manuals for the Simulator shall be supplied to NMC.

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

3.7.4 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).

3.7.5 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.

3.7.6 One set of service agents and depots lists shall be supplied along with the equipment.

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

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

3.8 **Equipment Inventory.**

3.8.1 The successful bidder shall provide IMU Navi Mumbai Campus with necessary documents including the following.

3.8.1.1 Equipment serial numbers and models.

3.8.1.2 Test Certificates, Licenses if any.

3.8.1.3 Acceptance test results and acceptance status.

3.8.1.4 Training Material.

3.8.1.5 Manuals for the instruments are to be supplied with respect to operation, maintenance, ordering spares / technical services.

3.8.1.6 Back up CDs for all the installable software including the simulation software.

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 for at least 60 minutes 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 stored into a computer. 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 IMU - Navi Mumbai 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:-

3.12.1.1 Completion of Supply, Installation and Commissioning of the full system.

3.12.1.2 Training of designated personnel and putting in to operation of Simulators.

3.12.1.3 The supplier on completion of supply, installation, commissioning would submit a written report listing all the equipment and documentation supplied.

3.12.1.4 A designated acceptance team would check complete functioning of the system in each of the mode possible and check the range of adjustable parameters. The trial team would also check the composition of the system and confirm completeness of the system.

3.12.2 Upon completion of Supply / Installation/Commissioning/Training and testing by the acceptance team a work completion certificate shall be issued. The warranty period for the supplied system would commence from the date of Acceptance by IMU - Navi Mumbai Campus.

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. He has to furnish a certificate that the equipment supplied would comply with all the technical and functional requirements stipulated in the tender document, and in case he fails in this obligation the equipment is liable to be rejected even after installation.

3.13.2 The execution of the Supply, Installation, Commissioning, Training and putting in to operation of Simulator at NMC 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 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 NMC 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**

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 areal ship.The simulation models shall be based on real- time programming and thereby beable to replicatetheoperationalbehaviorofbridgeinstallations 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 Societies (IACS members only).

(e) Provisions for scalability for instructor stations and Student stations to be provided.

(f) In the event there is up gradation in software and/or hardware of the simulator within the warranty period, The upgraded software/ hardware should be supplied and incorporated free of cost for simulator to be functional. These up gradation and changes shall include IMO requirements, DGS requirements, or general changes in Officer of the Watch Navigation Simulator Technology.

(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 3to 5 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 2 years followed by three years of 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 ship board 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 set up the exercise and 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.
- (d)

DETAILED SPECIFICATION

6.Visualization.

- (a) At least 3 channel visualization of high resolution full HD graphics, covering about 60 degree horizontal field of view in each channel.
- (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 Ships 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 in the 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

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 manoeuvre
- (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 3000-5000 T
- (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° to $+40^{\circ}\text{C}$
 - (ii) Humidity Working - up to 80% RH
 - (iii) Storage Condition - Room Tem. Up to $+40^{\circ}\text{C}$ and Relative humidity 90% non condensing.
 - (iv) The Simulator cabinet be provided with anti condensation heater with auto cut off when system is powered.

(Technical Bid-Cover 1)

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

Tender for “Supply of one number of Officer of the Watch (OOW) Simulator” at IMU–Navi Mumbai Campus.

Ref: IMU-NMC/

dated

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 of one number of Officer Of the Watch (OOW) Simulator” at IMU – Navi Mumbai Campus.

1. Compliance Statement.

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

2. Experience in the business of providing Similar Supply Since 2016-2017 or earlier.

Sl.No	Eligibility Criteria Details	Bidder Conformation Yes / No
1	Whether in the business of Providing Ship navigation and maneuvering simulators . Since 2016-2017 to 2020-2021 or more to meet this eligibility criteria	

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 (2016-17 to 2020-21):

Sl.No	Eligibility Criteria Details	Bidder Conformation Yes / No
A	Whether carried out similar supply with minimum value specified in any one of the three set of minimum value of contract (a or b or c) during 2016-2017 to 2020-21 & thereby meet this eligibility criteria (Yes / No)	
a)	At least one similar supply with a minimum value of Rs.44 lakhs: (Yes / No)	
b)	At least two Similar Supply with a minimum value of Rs.33 lakhs each (Yes / No)	
c)	At least three Similar Supply with a minimum value of Rs.22 lakhs each (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 (2016-17 to 2020-21) [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	Bidder Conformation Yes / No	
		Turnover	Page No.
(i)	Whether the bidder has an average annual turnover of at least Rs.5.00 Crores during the past 3 financial years i.e. 2018-19, 2019-20 &2020-21. (Yes / No)		
	Year / Proof enclosed		
(ii)	2018-19		
(iii)	2019-20		
(iv)	2020-21		

Other Eligibility Criteria & Essential requirements and details.

Sl.No	Particulars	Bidders Confirmation / Details	Details of Proof Enclosed	Page No.
5	Whether the Bidder have a valid PAN and GST Registration [YES/ NO]		Copy of PAN & GST Registration Certificate enclosed	
6	Whether the Bidder has been debarred or blacklisted by any Government department / agency so far on account of fraudulent or corrupt practices or inefficient / ineffective performance [YES/NO]		Declaration to this effect	
7	OEM Authorisation certificate – Annexure –III		Yes / No	
8	The OOW Simulator proposed to be supplied should be approved by DGS or one of the Association of Classification Societies (IACS) and fulfil all the technical requirements contained in this tender			
9	Other Modes of Proof enclosed			
	<u>Name, Designation, Address and Telephone No. of Authorised person(s) of Firm / Agency:</u>			
	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, Security Deposit etc.

Date:

Signature with Seal of Authorized Signatory

Place:

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: Tender IMU-NMC

dated:

Sir,

WHEREAS _____ are original Equipment Manufacturer or M/S _____ our authorised Sales and Service dealers, of simulator produced by us do hereby authorize _____ 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 OEM , must be signed by a person competent and having the power of attorney to bind the OEM in supporting the supplier. This letter must be included by the Bidder in its bid whether bidder is OEM or Authorised reseller/service agent.

BIDDER MEMORANDUM & UNDERTAKING

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

1. General Description:
Tender for “Supply of 01 Number of Officer on watch simulator” at Indian Maritime University – Navi Mumbai Campus.
Tender IMU-NMC dated

2. Period of Contract.Outright supply with two-year warranty and Comprehensive Annual Maintenance Contract for subsequent 3 years.

3. Forfeiture of 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 we are liable to be debarred from participating in the tendering process as specified at para1.1 of this tender(Page 4)

 - 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.....

**PRICE BID (Cover II)
FORM OF TENDER**

Note: This Memorandum forms part of the Tender must be on the letterhead of the OEM, 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

dated

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 annual maintenance contract period from the date of submission of the tender.

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

PRICE BID

“Supply of 01 Number of Officer on watch simulator” at Indian Maritime University– Navi Mumbai Campus 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

Yours faithfully,

Date:

Place:

Signature with Seal of Authorized Signatory

PRICE BID SCHEDULE - 1

Supply of 01 Number of Officer on watch simulator” at Indian Maritime University– Navi Mumbai Campus 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/OOW Simulator/2021/0019

dated 17.06.2021

Price Bid for main Equipment Supply, Installation, Commissioning and Training.

Sl. No	Description and Specifications of the items.	Make & Model	Qty	Unit Price	Total Price	Applicable GST
			1			
1	Officer on watch simulator(Terminals for10students and Oneinstructor) consisting of following components		1			
1.a	Simulator Hardware Give itemised cost for each main assembly. Lines may be added as necessary e.g. the displays, projection system, the workstations etc					
1b	Simulator Software					
2	Transportation Charges including transit insurance					
3	Installation Commissioning Charges					
4	Training Cost					
	Total Price in Figures				-----	

Total Price in Words(-----) excluding GST

Total Price inclusive of GST:

Authorized Signature with seal

Comprehensive Onsite Maintenance for Three Years Immediately after completion of Warranty

S No	Year of AMC	Lump-Sum Price	Applicable GST	Total cost
1	First Year			
2	Second Year			
3	Third Year			
	Total Price of AMC for Three Years in Figures			

Total Price of AMC for three years in Words.

Authorized Signature with seal

Annexure VI

Bank Guarantee No _____ Date: _____ Valid upto _____

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

Sir,

In consideration of Indian Maritime University, Navi Mumbai Campus having its Office at Karave, Nerul, Navi Mumbai-400 706 (hereinafter referred to as "IMU") which expression shall mean and include its successors and assignees and having an Order No. _____ dated _____ for _____ (hereinafter called "The Contract") which expression shall include all the amendments thereto with _____ having its Registered Office at _____ (hereinafter referred to as "The Supplier"), which expression shall unless repugnant to the context or meaning thereof, shall include all its successors, administrators, executors and assignees and IMU, having agreed that the Supplier shall furnish the IMU, a Bank Guarantee for of _____ (Rupees _____ only) as per the terms of Tender document No _____ dated _____ and Order dated _____.

We, _____ registered under the laws of India having its registered / head office at _____, (hereinafter referred to as the Bank) which expression shall unless repugnant to the context of meaning thereof, include all its successors, administrators, executors and permitted assignees do hereby guarantee and undertake to pay immediately on first demand in writing and any/all monies to the extent of Rs. _____ (Rupees _____ only) without any demur, reservation, contest or protest and/or without any reference to the Supplier. Any such demand made by the IMU, on the Bank by serving return notice shall be conclusive and binding, without any proof, on the bank as regards the amount due and payable, notwithstanding any dispute pending before any Court, Tribunal, Arbitrators or any other Authority and/or any other matter or things whatsoever, as liability under these presents being absolute and unequivocal. We agree that Guarantee herein contained shall be irrevocable and shall continue to be enforceable until it is discharged by IMU, in writing. This guarantee shall not be determined, discharged or affected by liquidation, winding up, dissolution or insolvency of the Supplier and shall remain valid, binding and operating against the Bank.

The Bank also agrees that IMU, of its option shall be entitled to enforce this Guarantee against the bank as a principal debtor, in the first instance, without proceeding against the Supplier and notwithstanding any security or other guarantee that IMU, Navi Mumbai may have in relation to the Supplier's liabilities.

The Bank, further agrees that IMU, shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Contract or to extent time of performance by the said Supplier from time to time or to

postpone for any time or from time to time exercise of any of the powers vested in IMU , against the said the Supplier and forebear or enforce any of the terms and conditions relating to the said contract and we shall not be relieved from our liability by reason of any such variation or extension being granted to the said Supplier or for any forbearance, act or omission on the part of IMU , or any indulgence by IMU , to the said Supplier or any such matter or thing whatsoever which under the laws relating to the sureties would, but for this provision have effect of sorelieving us.

The Bank further agrees that the guarantee herein contained shall remain in full force until _____ and all dues of IMU Navi Mumbai under or by virtue of this contract have been fully paid and its claim satisfied or discharged or till IMU, discharges the guarantee in writing, whichever is earlier.

This guarantee shall not be discharged by any change in our constitution, in the constitution of IMU, of that of the Supplier.

The Bank confirms that this Guarantee has been issued with observance of the appropriate laws of the country of issue.

The Bank also agrees that this Guarantee shall be governed and construed in accordance with Indian Laws and subject to the exclusive jurisdiction of Indian Court of the place from where tenders have been invited.

We further agree that as between us and IMU, for the purpose of this Guarantee any notice given to us by IMU, that the money is payable by the Supplier and any amount claimed in such notice by IMU, shall be conclusive and binding on us notwithstanding any difference between IMU, and the Supplier or any dispute pending before any Court, Tribunal Arbitrator or any other authority. We further agree that this Guarantee shall not be affected by any change in our constitution or that of Supplier. We also undertake not to revoke this Guarantee during its currency.

Notwithstanding anything contained herein above, our liability under this Guarantee is limited to Rs.____/- (Rupees _____only) and Guarantee shall remain in force until.

We must receive any claim under this Guarantee before the expiry of this Bank Guarantee. If we have received no such claim by the said date, the rights of IMU, under this Guarantee will cease. However, if such a claim has been received by us within the said date, all the IMU, Navi Mumbai’s right under this Guarantee shall be valid and shall not cease until we have satisfied that claim.

In witness whereof, the Bank through its authorized officer has set its hand andstamp on this _____ Day of _____ 2019 at _____.

Date: Authorized Signatory of the bank (with Bank Seal)

Place:

Witness No.1
Witness No.2