



**INDIAN MARITIME UNIVERSITY**  
**(A Central University Govt. of India)**  
**East Coast Road, Uthandi, Chennai - 600 119**  
**Tel: (044) 2453 9020, Fax: 2453 0342**

**NOTICE INVITING TENDER**

Sealed tenders are invited for **Supply of 03 Nos Ship's Engine Room Simulators** under Two cover system:

Bidders are advised to study the Tender Document (including all Sections, Schedules and Annexure etc.,) carefully. Submission of Tender shall deem to have been done after careful study and examination of the Tender Document with full understanding of its implications.

The Tender Document can be downloaded at free of cost from IMU website [www.imu.edu.in](http://www.imu.edu.in) from 27.06.2018 onwards. The last date for receiving tender at IMU HQ is 03:00 PM on 25.07.2018.

**REGISTRAR**

## Tender Abstract

1	<b>Title</b>	:	Supply of 03 Nos Ship's Engine Room Simulators
2	<b>Notice Inviting Tender No.</b>	:	IMU-HQ/R/71/63/1/2018-PUR dated 27.06.2018
3	<b>Tender document download date</b>	:	27.06.2018
4	<b>Last date and time for receipt of bids</b>	:	03:00 PM on 25.07.2018
5	<b>Date and time for opening of Technical bid</b>	:	04:00 PM on 25.07.2018
6	<b>Date and time for opening of Financial bid (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.15,00,000/-) (Rs.Fifteen Lakhs only) in the form of Demand Draft/ Bank Guarantee from any scheduled commercial bank
11	<b>Security Deposit (for finalized bidder only )</b>	:	10% of the contract value in the form of Bank Guarantee of any nationalized /Scheduled Bank having branch at Chennai.
12	<b>Address for Submission of Tender</b>	:	The Registrar, Headquarters Indian Maritime University, East Coast Road, Uthandi, Sholinganallur Post, Chennai - 600 119.

**INDIAN MARITIME UNIVERSITY**  
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## 1. About Indian Maritime University:

The birth of Indian Maritime University is a long cherished dream of the maritime community of India. The Indian Maritime University, established through an Act of Parliament (Act 22) in November 2008 as a Central University and headquartered at Chennai, is poised to play a key role in the development of trained human resource for the maritime sector.

### The following are the objectives of the University:

- (i) To facilitate and promote maritime studies, training, research and extension work with focus on emerging areas of studies like oceanography, maritime history, maritime laws, maritime security, search and rescue, transportation of dangerous cargo, environmental studies and other related fields, and also to achieve excellence in these and connected fields and other matters connected therewith or incidental thereto.
- (ii) To promote advanced knowledge by providing institutional and research facilities in such branches of learning as it may deem fit and to make provisions for integrated courses in Science and other key and frontier areas of Technology and allied disciplines in the educational programmes of the University;
- (iii) To take appropriate measures for promoting innovations in teaching-learning process, inter-disciplinary studies and research; and to pay special attention to the promotion of educational and economic interests and welfare of the people of India;
- (iv) To promote freedom, secularism, equality and social justice as enshrined in the Constitution of India and to act as catalyst in socio-economic transformation by promoting basic attitudes and values of essence to national development; and
- (v) To extend the benefits of knowledge and skills for development of individuals and society by associating the University closely with local, regional and national issues of development.

## 2. Invitation for Bids:

The Indian Maritime University (hereinafter referred to as the Buyer or IMU) invites sealed tenders for Supply of 03 Nos Ship's Engine Room Simulators (hereinafter referred to as the "Supply") under Two cover system.

Type of Tender	Two cover system 1. Cover-I-Technical Bid 2. Cover-II- Price Bid
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Overall Scope and objective of this Tender is to select a successful bidder for supply, installation, commissioning, training & Annual Maintenance Contract.

## 2.1. EMD and Tender Fees:

Sl.No.	Particulars	Supporting document
1	Tender documents can be downloaded at free of cost from <a href="http://www.imu.edu.in">www.imu.edu.in</a>	Nil
2	Bidder must have submitted EMD for Rs.15,00,000/- (Rupees Fifteen Lakhs only)	Demand Draft/ Bank Guarantee from any scheduled commercial bank.

## 2.2. 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 be considered for cover-II evaluation. The offer will be rejected if the bidder does not fulfil any one of the mandatory qualification criteria.

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. 2012 – 13 or earlier. OEM experience is acceptable to fulfil the eligibility criteria (However a declaration has to be submitted that both the bidder and OEM are individually and collectively responsible for contractual obligation)	ESI / PF / Service Tax 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 2012-13 or earlier to be enclosed.
2	The Bidder should have satisfactorily completed "Similar Supply" involving values as listed below during the last 5 financial years i.e. since 2012-13 a) at least 1 Similar Supply with a minimum value of i.e. Rs.80 Lakh [OR] b) at least 2 Similar Supply with a minimum value of Rs.60 Lakh each [OR] c) at least 3 Similar Supply with a minimum value of Rs.50 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.10.00 Crores during the past 3 financial years i.e. 2014-15, 2015-16 & 2016-17.	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 him in providing required support during the Warranty Period.	OEM Authorization / Certification as per the Annexure III/ OEM experience is acceptable to fulfil the eligibility criteria(However a declaration has to be submitted that both the bidder and OEM are individually and collectively responsible for contractual obligation)/ In case of participation by OEM, self-declaration.
6	The Bidder should not have been debarred so far.	Self-declaration to this effect.

2.2.1. '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.

2.2.2. 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.

2.2.3. 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 may insist for notarized copy or ask to produce originals to ascertain the veracity of the documents. IMU also reserves the right to ask more proof to corroborate the eligibility declarations.

### 2.3. Response to queries and issue of amendments:

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

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

2.3.3. Any such amendments will be informed to all the participants in the pre-bid meeting besides hosting on IMU website. All the bidders who had downloaded the Bid Document shall verify, whether any such amendments have been issued by IMU, 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.

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

2.3.5. In order to provide prospective bidders reasonable time for taking the Corrigendum/modifications into account, IMU may, at its discretion, extend the last date for the receipt of Bids. However, no such request in this regard shall be binding on IMU.

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

#### **2.4. Language of Proposal & Correspondence:**

The tender, and all correspondence and documents, related to the tender, exchanged between the bidder and IMU 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.

#### **2.5. Tender Validity:**

2.5.1. 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 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.

2.5.2. In exceptional circumstances, prior to the expiry of the original tender validity period, the IMU 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 IMU 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.

#### **2.6. Proposal prices:**

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

2.6.1. The **price of the equipment** shall be inclusive of basic price, freight and insurance up to delivery (IMU designated Campuses), Installation, Commissioning, training for 2 days including incidental charges, and upgradation of software hardware excluding applicable GST.

2.6.2. Rate for Comprehensive onsite Annual Maintenance should be given year wise for 3 years separately for each designated Campuses of IMU excluding GST immediately after expiry of 2 years warranty at IMU's indicated Campuses. GST of corresponding column should be entered in GST row in Price bid.

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

2.6.4. 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.

- 2.6.5. 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.

## **2.7. Earnest Money Deposit (EMD):**

- 2.7.1. Tender should be accompanied by an Earnest Money Deposit (EMD) for an amount of Rs.15,00,000/- (Rs.Fifteen lakhs only) in the form of Demand draft/ Bank Guarantee from any Scheduled Commercial Bank drawn in favour of "Indian Maritime University", Payable at Chennai. 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. However, exemption from EMD may be considered by IMU only upon written request enclosed with the technical bid duly enclosing the relevant and valid exemption certificates from MSME/NSIC. No exemption from payment of EMD is available to any bidder for any other reason whatsoever.
- 2.7.2. The EMD of all unsuccessful bidders would be refunded by IMU within 90 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.
- 2.7.3. In case EMD is in the form of Bank Guarantee the same has to be as per Annexure VI.
- 2.7.4. Where a person whose tender has been received by IMU 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 (or) fails to furnish the Security Deposit within the prescribed time, the IMU shall without prejudice to IMU's any other right or remedy, be at liberty to forfeit the Earnest Money deposited by such person absolutely.

## **2.8. 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.

### **2.8.1. Cover-I (Technical Bid):**

The Cover-I should comprise of following;

#### **2.8.1.1. Earnest Money Deposit.**

- 2.8.1.2. 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.



- 2.8.1.3. 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/annexures etc. stated in the tender document.
- 2.8.1.4. Bidder Memorandum (Annexure IV) duly signed by the bidder.
- 2.8.1.5. 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.
- 2.8.1.6. The Cover I shall be addressed to "The Registrar, Indian Maritime University" and should be duly super scribed as "Cover-I-Technical Bid for Supply of Ship's Engine Room Simulators" and sealed properly. Name and Address of the bidder shall also be written/ printed on the cover.

#### 2.8.2. **Cover-II (Price Bid)**

- 2.8.2.1. 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.
- 2.8.2.2. The Cover II shall be addressed to "The Registrar, Indian Maritime University" and should be duly super scribed as "Cover-II-Price Bid for Supply of Ship's Engine Room Simulators" and sealed properly. Name and Address of the bidder shall also be written/ printed on the cover.
- 2.8.2.3. The Rate 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.

#### 2.8.3. **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 03 Nos Ship's Engine Room Simulators**" and to be submitted in the following address which should reach on or before 03:30 p.m. on 07.06.2018.

**Address:**

**The Registrar,  
Indian Maritime University,  
Headquarters,  
East Coast Road, Uthandi,  
Sholinganallur Post,  
Chennai-600 119.**

- 2.8.4. 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.
- 2.8.5. Bidder who submits more than one tender will be disqualified.

## **2.9. 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).

## **2.10. 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.

## **2.11. Deadline for Submission of Proposals:**

Tenders must reach the Registrar's office through speed post/ courier or to be dropped in to the box placed in the Registrar's Office, IMU, prior to the last date & time for submission, specified in the abstract. IMU 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.

## **2.12. Late Proposal:**

Any proposal received by IMU after the deadline for submission of proposals prescribed by IMU, will be rejected and kept as an unopened Tender.

## **2.13. Modification and withdrawal of bids:**

- 2.13.1. The bidder may be allowed to modify or to submit revised bid due to corrigendum, addendum, etc., issued by IMU, any time prior to the last date prescribed for receipt of bids, by giving a written notice to the IMU.
- 2.13.2. The bidder's modification or withdrawal notice shall be prepared, sealed, marked and dispatched in a manner similar to the original Proposal.
- 2.13.3. Subsequent to the last date for receipt of bids, no modification of bids shall be allowed. No bid may be withdrawn in the interval 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 Bidder's forfeiture of bid security/EMD.

## **2.14. 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.

### **2.15. Rejection of Bids:**

The bids will be rejected on following grounds:

- 2.15.1. If any of the eligibility criteria as per the qualification criteria is not met
- 2.15.2. EMD not submitted
- 2.15.3. If tender terms and conditions are not met
- 2.15.4. If bidder gives wrong information in the bid
- 2.15.5. Canvassing in any form in connection with the bids
- 2.15.6. If the bid is incomplete /partial bid/ conditional/unclear in any form
- 2.15.7. Bids submitted after due date and time
- 2.15.8. Bids are submitted through Telex/Fax/ e-mail (i.e. modes other than by way of speed post/ courier/ dropping in the box provided)
- 2.15.9. Erasure and/or overwriting (if not countersigned by authorized person)
- 2.15.10. Bids not signed by authorized signatory

### **2.16. Evaluation Process:**

- 2.16.1. 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.
- 2.16.2. 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.
- 2.16.3. IMU may ask for meetings with the bidders to seek clarifications on their bids.
- 2.16.4. IMU reserves the right to reject any or all bids on the basis of any deviations.
- 2.16.5. Each of the responses shall be evaluated as per the criteria and requirements specified in this Notice Inviting Tender (NIT).

### **2.17. Tender Evaluation:**

- 2.17.1. Technical bids will be opened at the IMU Headquarters, Chennai 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 (maximum one personnel on production of authorization letter), be present at the venue and witness the tender opening.
- 2.17.2. 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.

- 2.17.3. Technical bid (Cover-I) of each bidder shall fulfil the minimum eligibility criteria prescribed in Notice Inviting Tender (NIT).
- 2.17.4. The information furnished by the bidder in Cover - I 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 Notice Inviting Tender (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 IMU’s decision is final and binding, with regard to technical evaluation.
- 2.17.5. 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 Cover II – Price Bids will be fixed and those bidder(s) who are technically qualified will be intimated through email about the opening of Cover - II – Price Bids or alternatively, the date may be published in IMU website. Other procedures for opening the cover II including the witnessing (by only the technical qualified bidders) the tender opening event, no. of participants etc., will be similar as those for cover-I explained in the earlier para(s).
- 2.17.6. Price bid evaluation will be made based on adding price of the equipment, comprehensive onsite Maintenance charges for 03 years (immediately after expiry of 2 years warranty) at IMU’s indicated campuses and applicable GST. i.e. Grand total of Column 6 in Price bid. Please refer to Para 2.6 also in this connection. IMU also reserves right to change quantities before issuing the order, due to exigencies, if any.
- 2.17.7. After evaluating the price bids received under Cover II, the bidder who quoted the overall lowest (L-1) Price will be awarded the work.

**2.18. Consignee Details:**

The destination point for delivery of materials will be as follows:

Quantity in Nos	Consignee
01	The Director, IMU Kolkata Campus, P-19, Taratala Road. Kolkata: 700 088. West Bengal, India.
01	The Director, IMU Mumbai Port Campus, MERI Mumbai, Hay Bunder Road, Mumbai - 400 033, India.
01	The Director, IMU Chennai Campus,

	East Coast Road, Uthandi, Chennai – 600 119, India.
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### **3. General Conditions of Contract:**

#### **3.1. Execution of Contract:**

The successful bidder has to enter in to an agreement with IMU 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/-.

#### **3.2. Termination Clause:**

- 3.2.1. In the event of the breach of any of the provisions of contract by the supplier, IMU shall have the right to terminate the tender summarily, at any stage.
- 3.2.2. In the event of IMU 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.
- 3.2.3. In the event of the insolvency/bankruptcy 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 be liable for any excess in the price paid, for any such purchases over the tender price.

#### **3.3. Security Deposit:**

- 3.3.1. 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 10% of the Purchase Order value within 7 working 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.
- 3.3.2. Security Deposit will be refunded / returned without any interest only 90 days after successful completion of AMC period. The refund or return of Security Deposit is subject to the complete fulfilment of the contract obligation by the supplier to the satisfaction of IMU and after adjustment of dues to IMU or penalty imposed by IMU.

#### **3.4. Delivery Period:**

The bidder is required to deliver, installation, testing, Commissioning and starting of operation of the Simulators in all aspects within **120 days** from the date of work order at designated IMU Campuses. However, supply of all the equipment should be ensured within 90 days of the receipt of the Work Order failing on which shall attract provisions of para 3.6.

#### **3.5. 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 IMU. The supply may be subject to inspection as per this clause and also points mentioned under clause 4.3.5.

### **3.6. 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.

### **3.7. Comprehensive Onsite warranty:**

- 3.7.1. A comprehensive onsite warranty for the supplied equipment shall be provided by the supplier for a minimum of two year 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 of IMU Campuses.
- 3.7.2. If the supplier having been notified fails to remedy the defect immediately as per 3.8.2, 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 which will be adjusted from the Security Deposit or any other dues to the supplier).

### **3.8. Comprehensive On-site AMC:**

- 3.8.1. Comprehensive maintenance for 3 years is to commence immediately after the expiry of the comprehensive Two years warranty period.
- 3.8.2. The supplier shall provide necessary comprehensive preventive and corrective maintenance on site i.e., by sending the engineer to the IMU Campuses for attending the maintenance requirements of the supplied equipment. In case of intimation of breakdown, the successful bidder should respond within 48 hours of reporting 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 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.

- 3.8.3. 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.

### **3.9. Payment Terms:**

- 3.9.1. No advance payment will be made.
- 3.9.2. The Supplier shall be paid 100% of payment against Supply, Installation, Commissioning, Acceptance Testing, Training and putting in to operation of Simulators at designated IMU Campuses against the invoice. IMU will, after verification of the claim for its correctness, make payment within Thirty days after the date of receipt of the claim, complete and correct in all respects, from the supplier.
- 3.9.3. In respect of AMC, AMC charges will be paid at the beginning of each AMC period.
- 3.9.4. 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 Headquarters GST Registration no. 33AAAI2610K2Z3**. 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.
- 3.9.5. **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.

### **3.10. Anti-Profiteering Rules of GST:**

The bidder should strictly adhere to Anti-Profiteering Rules of GST.

### **3.11. 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.

### **3.12. 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.

### **3.13. Force Majeure:**

- 3.13.1. 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.
- 3.13.2. 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.
- 3.13.3. 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.

### **3.14. 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:

- 3.14.1. 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; or
- 3.14.2. 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.
- 3.14.3. Bidder (the "Indemnifying Party") undertakes to indemnify the client (the "Indemnified Party") from and against all losses, claims for damages including losses, claims for damages on account of bodily injury, death or damage to tangible.
- 3.14.4. The indemnity shall be to the extent of 100% of project cost in favour of the IMU.

### **3.15. 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 HQ. 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 Chennai. In case the Arbitration award is not acceptable to either of the parties, they may approach courts having jurisdiction at Chennai only.



### **3.16. 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 Chennai Courts only.

## **4. Special Conditions of the Tender:**

### **4.1. 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 the IMU Campuses 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. Necessary site plan for all the three Campuses appended as part of Technical Specification. The operating environment is Tropical condition.

### **4.2. 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)

### **4.3. Installation, Demonstration and User Acceptance Testing:**

- 4.3.1. The supplier is required to do the installation and demonstration of the equipment within 30 days of the arrival of materials at the IMU's site of installation; otherwise the penalty clause will be the same as per the supply of materials.
- 4.3.2. 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 respective IMU Campus. IMU 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.
- 4.3.3. 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.
- 4.3.4. 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.

#### **4.3.5. 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.

- 4.3.6. The above tests shall demonstrate the satisfactory operation of integrated system covering the full range of facilities of the equipment.
- 4.3.7. The acceptance tests for supplied goods shall be carried out at IMU by the supplier with the participation of concerned personnel from IMU.
- 4.3.8. 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.
- 4.3.9. 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.
- 4.3.10. The supplier shall provide necessary consumables till the completion of acceptance testing, without any additional cost.
- 4.3.11. The All parts and equipment should be brand new and unused. Refurbished items shall not be provided.
- 4.3.12. The equipment shall be robust for academic use and shall have to produce results with accuracy, as determined reasonable by IMU.

#### **4.4. Availability of Spare Parts:**

The Supplier may be required to provide any or all the notifications, and information pertaining to spare parts manufactured or distributed by the Supplier:

- 4.4.1. Such spare parts as the Purchaser may elect to purchase from the Supplier, providing that this election shall not relieve the Supplier of any warranty obligations under the Contract; and
- 4.4.2. In the event of termination of production of the spare parts:

- 4.4.3. Advance notification to the Purchaser of the pending termination, in sufficient time to permit the Purchaser to procure needed requirements; and
- 4.4.4. Following such termination, furnishing at no cost to the Purchaser, the blueprints, drawings and specifications of the spare parts, if requested.
- 4.4.5. 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.
- 4.4.6. The Successful Bidder shall stand guarantee for the supply of spares of all the equipment under the scope of supply for a minimum period of 10 years from the date of awarding the contract and also guarantee that discontinuity of production of any item offered as a part of the system shall not affect the maintainability of the system for a period of 10 years from the start date of operation.

#### **4.5. 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.

#### **4.6. Supply of Manuals & Drawings:**

- 4.6.1. Two Sets of operation and maintenance instruction manuals for each Simulator shall be supplied designated Campuses of IMU.
- 4.6.2. 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.
- 4.6.3. Complete engineering details of each system as required for the purpose (experiments and research) the equipment's are bought.
- 4.6.4. Complete system wiring details, input, output, wiring details as applicable to the scope of supply.
- 4.6.5. 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)
- 4.6.6. 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 anti software policy norms.

- 4.6.7. One set of service agents and depots lists shall be supplied along with the equipment.
- 4.6.8. In addition to the Manuals given by the Manufacturers, the successful Bidder shall prepare full documentation.

#### **4.7. Documentation:**

- 4.7.1. The successful bidder shall provide IMU with necessary documents including the following:
  - 4.7.1.1. Operational and Maintenance Manuals of equipment.
  - 4.7.1.2. Equipment serial numbers and models.
  - 4.7.1.3. Test Certificates, Licenses if any.
  - 4.7.1.4. Acceptance test results and acceptance status.
  - 4.7.1.5. Training Material.
  - 4.7.1.6. Full documentation with the software.
- 4.7.2. Four 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.
- 4.7.3. Manuals for the instruments are to be supplied with respect to operation, maintenance, ordering spares / technical services.

#### **4.8. Power Tolerance:**

The equipment or its battery charger shall operate correctly from a 220 or 440 Volts (+/- 15%) and 50 Hz (+/-6%) power supply 1Ph/3Ph. It should be capable of withstanding permissible voltage and frequency variations without any damage to the equipment or loss of the information.

#### **4.9. 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.

#### **4.10. Training and Support:**

- 4.10.1. The supplier shall impart training to four persons at each IMU Campus on operation of the Simulators. The training shall be imparted in a phased manner without disrupting the working of the each Campus. 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.
- 4.10.2. The supplier shall make his own arrangements for supplying training material, equipment required for training etc.
- 4.10.3. IMU Campuses will provide necessary space, infrastructure free of cost for conducting the training.

- 4.10.4. The training provided by the supplier shall cover:
- a) Operation of the equipment along with course/reference material for each individual.
  - b) Operational level training along with course/reference material for each individual.
- 4.10.5. On completion of training, the supplier shall submit an evaluation report on the participants along with course details.
- 4.10.6. Completion of training is a pre-requisite for acceptance of the equipment.
- 4.10.7. All charges pertaining to the training shall be part of the price bid.
- 4.10.8. Support the operators (all campuses of IMU as applicable) through help desk (online plus telephonic support) and four visits to the sites per year up to AMC period (at his own cost).
- 4.10.9. Indicate willingness to arrange for visit by a team from IMU to any of the existing installations and share the contact details of the key personnel of that institution.

#### **4.11. Acceptance of Equipment:**

- 4.11.1. The activity shall deem to have been completed with the completion of Supply, Installation, Commissioning, Training and putting in to operation of Simulators at designated IMU Campuses. However, the supply shall be complete only upon certification to this effect issued by IMU's Consignees i.e. the Director of designated IMU Campuses.
- 4.11.2. 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 have 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 separately for each Campus.

#### **4.12. Bidder's Representations And Warranties:**

The selected bidder has to confirm to the IMU that:

- 4.12.1. He has the capability to duly perform its obligations in accordance with the terms of the tender and to the satisfaction of the IMU. However, that the IMU's decision in this regard shall be final and binding on the Bidder.
- 4.12.2. The execution of the Supply, Installation, Commissioning, Training and putting in to operation of Simulators at designated 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.
- 4.12.3. 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.
- 4.12.4. Provide the software updates free of charge under AMC.

#### **4.13. Bidder's Covenants:**

- 4.13.1. 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.
- 4.13.2. Supply, Installation, Commissioning, Training and putting in to operation of Simulators at designated IMU Campuses are to be completed, free of delivery charges as per specified time on Door delivery basis.
- 4.13.3. 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.
- 4.13.4. 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.
- 4.13.5. In these conditions unless there is something in the subject or context is inconsistent there with words importing the singular shall include the plural and vice-versa words importing the masculine gender shall include the feminine and the words importing persons shall include bodies corporate/firms etc.

**Sd/-  
Registrar**

## Technical Specification

The Indian Maritime University (hereinafter called “IMU”) is seeking proposals from reputed OEMs and Authorized resellers to deliver, install and commission Ship’s Engine Room Simulator for training undergraduates of B.Tech (Marine Engineering) at their campuses.

The campuses where IMU intends to establish simulators for training are:

1. IMU Kolkata Campus
2. IMU Mumbai Port Campus
3. IMU Chennai Campus

To achieve this, IMU hereby requests the submittal of bids or proposals from qualified vendors of maritime simulators.

The general description of the simulator type:

Class A (DNV GL Type) <sup>1</sup> – Capable of simulating all machinery operations in engine control room and machinery spaces, by the use of operational panels in machinery spaces.

No. of Installations – THREE, (One set each at IMU Kolkata Campus, IMU Mumbai Port Campus and IMU Chennai Campus)

Type Approval: The simulator should comply with the STCW 2010 Convention (with Manila Amendments)

Certifying body: The type approval should be issued by a classification society that is a member of IACS

Certification by DG Shipping is required.

The Engine Room Simulator should be capable of training students on various present day propulsion systems and must at least include:

Sl. NO.	Description	Campus 1	Campus 2	Campus 3
1	Low Speed Engine with Modern Electronically Controlled Main Engine-Fixed Pitch Propeller solution (FPP)	Yes	Yes	Yes
2	Low Speed traditional engine with camshaft.	Yes	Yes	Yes
3	Medium Speed Engine installation, based on multiple main engines two reduction gears and two controllable pitch propellers.	Yes	Yes	Yes

4	Medium Speed Engine installation based on one main engine one reduction gear and controllable pitch propeller.	Yes	Yes	Yes
5	Diesel Electric High Voltage installation based on at least four Diesel Generators, two Azimuthing thrusters and one bow thruster.	Yes	Yes	Yes
6	Diesel Electric LNG fuelled Engine installation with twin azimuth propellers/FPP.	Yes	Yes	Yes
7	Combustion gas simulator functionality in maritime training application as approved by DGS for Diesel Engine Combustion gas monitor simulator course for MEO Class I.	Yes	Yes	No

<sup>1</sup> STANDARD FOR CERTIFICATION No. 2.14, MARITIME SIMULATOR SYSTEMS, JANUARY 2011

## Layout Specification:

### NOTE:

*IMU can change the requirements at any time with intimation to all parties prior opening technical bids. IMU's decision in these matters is final and should be met.*

1. Engine Control Room for training students on hands on maneuvering stand with instrumentation and alarm panels provided as realistic as possible. The hardware, if any provided should be real components as used on ships and by reputed manufacturer such as ABB, Siemens or equivalent.
2. Main Switch Board with Lighting distribution panel, Synchronizing panel, Power distribution panel and emergency generator bus link i.e., 440 / 220 VAC 50/60 Hz 3Ph or appropriate to the type of module or installation. The panels should resemble ships installation as closely as possible. It should facilitate the normal & emergency operations onboard ship with these components. All the panels and its components should be realistic equipment as found on ships and should be of a reputed manufacturer such as ABB, Siemens or equivalent.
3. 3D display and interaction for virtual walk through, operation of virtual equipment. The displays should be at least HD1080 quality on 42" (inch) LED display monitors or larger for panels and for individual students terminals should have at least 22" (inch) LED seamless display of engine room in a panorama vision of at least. At least 3 Nos, 42" LED HD quality display with touch interactive capabilities for operation of equipment in 3D virtual view.
4. Digital display on at least 22" LED display of desktop PC for interaction to the PROCESS AND INSTRUMENT DRAWING of ship's systems. Quantity of these interactive class room type PCs is campus dependent. The requirement for IMU Kolkata campus and IMU Chennai campus is 20



student with two instructor terminals and IMU Mumbai Port is 10 student with one instructor terminals. All the PCs hardware requirements should be such that the high quality graphics should be displayed smoothly without any bad performance and should smoothly conduct the interactive operations. Each station/terminal should have one display for 3D visualization and another for input parameters.

5. Engine room alarm system with audio – visual indication, additional specific alarm fittings such as a CO2 release alarm, Ship’s general alarm, talk back system, Engine side – maneuvering stand.
6. Surround sound system for the engine room virtual environment that should reproduce engine room noises as realistic as possible. The audio system should be of high quality of a reputed brand such as JBL, Yamaha, Bose etc.,
7. The simulators should provide a world class experience of ships engine room training to undergraduates in Marine Engineering program.

### Objectives:

Each installation should comply with relevant STCW code sections as specified below and should provide for training undergraduates in marine engineering program by simulation as described under competence:

STCW reference	Competence
Table A-III/1.1	Maintain a safe engineering watch
Table A-III/1.3	Use internal communication systems
Table A-III/1.4	Operate main and auxiliary machinery and associated control systems
Table A-III/1.5	Operate fuel, lubrication, ballast and other pumping systems and associated control systems
Table A-III/1.6	Operate electrical, electronic and control systems
Table A-III/1.11	Maintain seaworthiness of the ship
Table A-III/2.1	Manage the operation of propulsion plant machinery
Table A-III/2.1	Manage the operation of propulsion plant machinery
Table A-III/2.2	Plan and schedule operations
Table A-III/2.3	Operation, surveillance, performance assessment and maintaining safety of
Table A-III/2.4	Manage fuel, lubrication and ballast operations
Table A-III/2.5	Manage operation of electrical and electronic control equipment
Table A-III/2.6	Manage troubleshooting restoration of electrical and electronic control
Table A-III/2.8	Detect and identify the cause of machinery malfunctions and correct faults
Table A-III/2.10	Control trim, stability and stress
Table A-III/2.11	Monitor and control compliance with legislative requirements and
Table A-III/2.14	Use leadership and managerial skills
Table A-III/4.2	For keeping a boiler watch:
Table A-III/6.1	Monitor the operation of electrical, electronic and control systems
Table A-III/6.2	Monitor the operation of automatic control systems of propulsion and
Table A-III/6.3	Operate generators and distribution systems
Table A-III/6.4	Operate and maintain power systems in excess of 1,000 Volts
Table A-III/6.5	Operate computers and computer networks on ships
Table A-III/6.6	Use internal communication systems

## Description of the System:

### General

1. The simulator should provide a realistic ship like environment employing real hardware consoles and high quality 3D visualization.
2. The simulator introduces a 3D model of the Engine Room, based on real equipment. The 3D model includes very realistic, animated, virtual controls like switches, gauges and lamps.
3. The systems key components such as (not exhaustive) main engine local and remote control console, engine telegraphs, engine room local panels, engine automation and engine room alarm integrated system
4. Each piece of equipment installed in the simulator shall have a similar functionality to corresponding real equipment used.
5. The simulator should provide for allowing for an easy and quick access to basic engine room operations such as opening of a valve, switching on breakers, etc.,
6. The 3D visualization of systems should include illustration by a 2D PROCESS AND INSTRUMENT DRAWING with schematic diagram. The PROCESS AND INSTRUMENT DRAWING diagrams should be capable of zooming to get a clear view of the circuit. The 3D virtual reality should include active valves, tank level indicators etc., for engine room operations and monitoring.
7. The power management console should be suitably displayed with the capability of automatic control of generators according to load. Provision for manual/semi-automatic synchronizing two or more generators should also be facilitated.
8. If any piece of equipment does not correspond to a specific make, the applicable IMO (International Maritime Organization) performance standard (functionality requirements only) for such equipment shall be followed. If such a performance standard does not exist, then the functionality of the equipment shall, as a minimum, be the same as for any recognized genuine equipment of that type, in use.
9. Each piece of equipment shall resemble the behavioral characteristics, e.g. accuracy, reaction time and other limitations, related to corresponding equipment in use.
10. User manuals for the simulator equipment and operational controls shall be available to the learners for use during exercises.
11. The simulator should be capable to simulate the operating capabilities of real equipment concerned and includes the capabilities, limitations and possible errors of such equipment.
12. The correct function of individual equipment packages, together with establishment of correct parameters for alarm, control and safety (time constants, set points, etc.) should be provided.
13. When one or more simulators are interconnected, the integration protocol used together with a description of which functions that are interfaced shall be documented.
14. Multichannel digitized sound provides a very realistic engine room feel. The sound effects include: engine sound correlated with engine speed, sound of a diesel generator starting and running, open indicator valve sound, alarm and machine telegraph buzzers.

15. The simulator should be capable of producing a variety of conditions, which may include emergency, hazardous or unusual situations relevant to the simulation objectives. Also emergency procedure training including fire simulations should be facilitated.
16. If emulated instrumentation is used the following requirements apply:
  - a. Digital and analogue instrumentation shall be grouped and positioned into realistic function areas.
  - b. The visual proportion of the emulated instruments shall be close to real instrumentation.
  - c. Scale and range shall be in accordance with real instrumentation.
  - d. It shall be possible to dim indication lamps and digital readings where applicable.
  - e. When computer generated sound indicators, buzzers and sirens are used, it shall have adequate loudness and similar tone and repetition frequency as for real instrumentation.
17. The simulator should be capable of preparing a trainee for engine room operation with regard to
  - a. Familiarization with the basic engine room installations such as the cooling fresh water systems, sea water systems, lubricating oil, fuel oil systems etc.,
  - b. Working with Main Engine and Auxiliary equipment
  - c. Propulsion system such as in maneuvering (with all types of plants specified).
18. The main engine's starting and stopping procedure should be effected on hardware type control consoles and other switch board panels provided.
19. The simulator shall include instructor and assessor facilities where exercises may be controlled
20. The simulator should consist of the main elements of ships engine room such as
  - a. Engine Control Room (ECR) with main engine control console
  - b. Main Switch Board – (Synchronizing, Power and Lighting distribution panels)
  - c. Emergency Generator with Switch Board
  - d. Engine room with PC projectors and control console for 3D visualization
  - e. Instructor room
  - f. Assessment and printing of the assessed result of the trainee
21. The related piping systems should be presented on the computer display by a proper PROCESS AND INSTRUMENT DRAWING nomenclature and possibility of taking the piping diagram print out from the computer printer should be possible. This should assist the trainee in pipe line tracing and understanding the system in a 3D walk through visualization.
22. The basic operation with auxiliary systems can be performed by clicking on the computer display on the PROCESS AND INSTRUMENT DRAWING suitably identified as a clickable items
23. The computer display should mimic in functions to a realistic setup in ship's engine room such as master and slave or the second one taking over the systems in case of a failure in the other etc.,
24. The instructor and the assessor shall be able to:
  - a. Start, pause, reset in time and place, and restart an exercise.
  - b. Change the operating environment during an exercise.

- c. Communicate with the trainees (i.e. simulate the outside world) on relevant communication channels.
  - d. Follow the conversations of the trainees.
  - e. Visually follow the proceedings of an exercise by any method.
  - f. Record, log and print the entire scenario and sequence of operations carried out by each trainee and possibility of archiving and storage in an external storage drive such as USB device.
  - g. The logs for training programmes carried out in each session along with the details of trainees, instructors and assessors should be maintained and should be able to be retrieved at any given time with the option to print.
  - h. Activate simulation of relevant failures in all equipment used.
25. The instructor and the assessor shall have access to an operation manual or equivalent.
26. All operating procedures which are necessary to be performed in engine rooms, outside of engine control room, to be effected by display screens.
27. It shall be possible to replay a full exercise showing the actions performed by the trainees. The replay shall be possible in time other than real time (i.e. slow motion and rapid speed). The purpose is to trace and replay sequences of special interest in the exercise.
28. The instructor and assessor facilities shall include possibilities to set up a scoring or grading method to assess performance of the learner.
29. A scoring and grading possibility shall include:
- a. Monitoring of selected parameters, continuous or at selected stages.
  - b. Comparing these with norm values, weighing and counting the deviation.
  - c. Presenting these values and deviations in an understandable manner upon completion of the exercise.
30. The instructor and assessor facilities should include possibilities to set the exercise to any position in the replay and let the learner start over from the set time.
31. In cases where instrumentation is accessed through a PC monitor and/or touch screen, these general measures to user displays and limitation of functionality may apply:
- a. The related application(s) shall start up automatically with no user interactions upon start-up.
  - b. Other applications (e.g. Program Manager, File Manager, Notepad or other word processors, etc.) shall be disabled.
  - c. Hot keys normally giving access to other functions (Alt+Tab, Ctrl+Esc, Alt+Esc, double-clicking in background, etc.) shall be disabled.
  - d. Quitting of main application shall be disabled (e.g. Alt+F4, File Exit, etc.).
  - e. For applications where main window is meant to be present at all times, control buttons in header (minimize, resize and control normally including restore, minimize, exit and switch) and moving and resizing by drag-and-drop of banners and borders, etc., shall be disabled.
  - f. The learner should not have access to configuration and system files (e.g. autoexec.bat, config.sys, system.ini, etc.).

## **User interface description**

The user interface between the simulator and the learner(s), the instructor and the assessor shall be documented by:

- a. A drawing showing the physical layout and dimensions of each module.
- b. A description of the functions allocated to each keyboard and screen.
- c. A description of individual screen views (schematics, color prints, etc.).
- d. A description of how menus are operated.
- e. A list of all alarms and operator messages. When the alarms or messages are not self-explanatory additional explanations shall be included.
- f. A description of software “help” systems.

When recognized real maritime equipment or operational controls are used, it is sufficient to identify such products.

## **Instrument and equipment list**

A list stating for each key component as applicable:

- a. System.
- b. Name of manufacturer.
- c. Type etc., necessary to identify the component.

## **Descriptions of functions covered by software**

- a. A list of all main software modules installed per hardware unit stating names and version numbers.
- b. Description of application software (not program listings) with detail level sufficient to understand its function.
- c. Tools for system set-up and process equipment configuration.

## **Operation manual**

- a. A document intended for regular use at the simulator center, providing information as applicable to, but not limited to:
- b. operational mode of all modules, for normal system performance (baseline starting point)
- c. Operating instructions for normal operating mode.

## **Simulator performance description**

It shall be documented that the simulator can be used for all of the defined simulation objectives.

The documentation may include one or more of the following:

- a. Cross reference between the STCW Convention competence requirements and simulation scenarios.

- b. Description of training exercises, including learning objectives, for each element of competence.
- c. Specification of the training type such as: emergency; optimization; procedures; maintenance; troubleshooting; decision-making; teamwork; operator; part-tasking; component etc.
- d. Outline of how each element of competence can be assessed.

## Simulator requirements

**Detailed requirements** (should also include any additional items specified in the general description of the simulators).

The machinery operation simulator shall, fulfil the requirements given in Tables below:

Physical realism	
Item	Requirement
1.1.1	<p>The simulated engine room shall as a minimum reflect a typical machinery found on merchant ships. The following main components shall be simulated and all necessary sub-systems included for a low speed engine:</p> <ol style="list-style-type: none"> <li>1. main engine including turbocharger system</li> <li>2. 2 auxiliary diesel generators</li> <li>3. lubrication oil separator</li> <li>4. steering gear system</li> <li>5. fire pump</li> <li>6. shaft generator</li> <li>7. cooling water system including freshwater generation system</li> <li>8. turbo generator</li> <li>9. fuel oil Bunkering system</li> <li>10. fuel oil Settling and Service systems</li> <li>11. 2 heavy fuel oil separators</li> <li>12. 1 diesel oil separator</li> <li>13. steam generation plant including exhaust and oil-fired boilers</li> <li>14. 2 starting air compressors</li> <li>15. diesel oil and heavy fuel oil supply to main and auxiliary engines</li> <li>16. main engine operation from engine room, engine control room and bridge</li> <li>17. turbocharger system</li> <li>18. air ventilation system for engine and control room</li> <li>19. bilge water system including oily water treatment systems</li> <li>20. stern tube system</li> <li>21. deck machinery applicable to the ship model</li> <li>22. ballast system</li> <li>23. Sewage treatment system</li> </ol>

	24. Emergency Generator system.
1.1.2	<p>The simulated engine room shall consist of typical machinery found on merchant ships. The following main components shall be simulated and all necessary sub-systems included for a medium and high speed engine:</p> <p>one or more main engines</p> <ol style="list-style-type: none"> <li>1. main SW system</li> <li>2. 2 auxiliary engines</li> <li>3. fuel oil tanks</li> <li>4. fuel oil separator</li> <li>5. lubrication oil separator</li> <li>6. main engine(s), including: <ol style="list-style-type: none"> <li>a. fresh water system</li> <li>b. lubrication system</li> <li>c. turbocharger system</li> <li>d. Main Engine SW system.</li> </ol> </li> <li>7. reduction gear system</li> <li>8. controllable propeller pitch where applicable</li> <li>9. steam generation system as applicable</li> <li>10. freshwater generator</li> <li>11. bilge wells and bilge separation system</li> <li>12. 2 air compressors</li> <li>13. steering gear system</li> <li>14. fire pump</li> <li>15. electrical power plant</li> <li>16. deck machinery applicable to the ship model</li> <li>17. ballast system</li> <li>18. Sewage treatment system.</li> </ol>
1.1.3	Deleted
1.1.4	<p>The simulated engine room shall reflect typical machinery found on merchant or passenger ships. The following main components shall, as a minimum be simulated and all necessary sub-systems included for a diesel and/or gas turbine electric propulsion plant:</p> <ol style="list-style-type: none"> <li>1. propulsion electric motor(s)</li> <li>2. 2 or more high voltage generators</li> <li>3. 2 or more prime movers (diesel engines or gas-turbines)</li> <li>4. cooling water system including freshwater generation system</li> <li>5. fuel oil Bunkering system</li> <li>6. fuel oil Settling and Service systems</li> <li>7. fuel oil separator system</li> <li>8. lubrication oil separator system</li> <li>9. steam generation plant as applicable</li> <li>10. starting air and service air system</li> </ol>

	<ul style="list-style-type: none"> <li>11. main engine operation from engine room, engine control room and bridge</li> <li>12. bilge water system including oily water treatment systems.</li> <li>13. ballast system</li> <li>14. stern tube system</li> <li>15. steering gear system</li> <li>16. deck machinery applicable to the ship model</li> <li>17. fire pump.</li> </ul>
1.1.5	<p>The simulated main engine shall replicate a system, working according to one of the following principles: diesel combustion</p> <ul style="list-style-type: none"> <li>1. steam turbine</li> <li>2. gas turbine</li> <li>3. propulsion electric motor.</li> </ul>
1.1.6	Equipment and consoles shall be installed, mounted, and arranged in a ship-like manner.
1.1.7	The control room consoles shall include control and monitoring of the main engine, auxiliary engines and electrical power generation, steam boiler, pumps, compressors and all other alarms.
1.1.8	The remote monitoring and control systems shall be in compliance with the functional requirements of the classification societies for periodically unattended machinery spaces (UMS).
1.1.9	The main engine remote control console shall include command functions and status indication normally found on board ships.
1.1.10	The electric power generation shall be under automatic or manual control. Such system should be able to constantly monitor demand and supply. When deviation from pre-set limits arises, the system should be able to act in order to normalize the situation. The system shall also perform continuous control of the frequency and load sharing.
1.1.11	<p>The electric power supply system shall be operated either from the main switchboard or the power management system.</p> <p>The following commands shall be available:</p> <ul style="list-style-type: none"> <li>a. remote start/stop of auxiliary diesel generators</li> <li>b. operations for shaft generator</li> <li>c. connect/disconnect of all generators</li> <li>d. automatic and priority selection</li> <li>e. non essential systems trip</li> <li>f. constant frequency mode</li> <li>g. different control modes of load sharing.</li> </ul>
1.1.12	The main switchboard shall be a full scale model of a typical switchboard, and comprise the necessary controls and indicators usually available on real generators.
1.1.13	<p>The main switchboard shall include:</p> <ul style="list-style-type: none"> <li>a. two separate auxiliary diesel generators</li> <li>b. synchronizing section</li> </ul>



	<ul style="list-style-type: none"> <li>c. shaft and turbo generator section</li> <li>d. separate emergency generator section</li> <li>e. one separate section for miscellaneous consumers.</li> </ul>
1.1.14	<p>The remote control and automation system must include control of the following equipment:</p> <ul style="list-style-type: none"> <li>a. Main Engine lubricating oil pumps</li> <li>b. Main Engine fresh water cooling pumps</li> <li>c. Main Engine sea water cooling pumps</li> <li>d. Main Engine auxiliary blowers</li> <li>e. fuel oil system and pumps</li> <li>f. air compressors</li> <li>g. steering gear pumps</li> <li>h. fire pump.</li> </ul> <p>Each of the above individual units shall allow manual start and stop from the control room console. It shall also be possible to use automatic start and stop where applicable.</p>
1.1.15	The alarm monitoring system shall consist of a typical shipboard alarm system.
1.1.16	An alarm shall be announced by sound and by flashing light in the control room.
1.1.17	A printer or a computer in the engine control room shall be used as an alarm log and event log.
1.1.18	“Dead man’s alarm system”

Physical realism (Continued)	
1.2 Special Hardware and SW functions in Engine control room for Electric Propulsion motors	
Item	Requirement
1.2.1	The control room consoles shall include control and monitoring of the propulsion electric motor(s), auxiliary engines and electrical power generation, steam boiler, pumps, compressors and all other alarms applicable for medium and high speed
1.2.2	The switchboard shall be a full scale model of a typical switchboard, and comprise, in addition to switchgear to control 440V equipment, remote control to control the high
1.2.3	The main switchboard may be represented graphically.

1.2.4	<p>The remote control and automation system shall include control of the following equipment:</p> <ul style="list-style-type: none"> <li>a. fuel oil system</li> <li>b. fresh water cooling system</li> <li>c. central cooling sea water system</li> <li>d. propulsion electric motor cooling</li> <li>e. air compressors</li> <li>f. fire main and sprinkler</li> <li>g. steering gear</li> <li>h. boiler</li> <li>i. lubrication oil system</li> <li>j. ballast water system</li> </ul> <p>Each of the above individual units shall allow manual start and stop from the control room console. It shall also be possible to use automatic start and stop where applicable.</p>
1.3 Machinery spaces	
1.3.1	<p>The simulated machinery spaces shall at least include one dedicated room for this purpose.(Respective Campus of IMU shall arrange for the same)</p>
1.3.2	<p>At least the following main components of the machinery spaces shall be graphically presented or represented by mock-ups or in realistic visualization (to illustrate physical presence) in the simulated machinery spaces:</p> <ul style="list-style-type: none"> <li>a. main engine</li> <li>b. auxiliary diesel generators</li> <li>c. steam boiler</li> <li>d. fire pump.</li> </ul>
1.3.3	<p>The facilities for local operation in the simulated machinery spaces shall consist of local operating stations for each system. Each station shall be furnished with start/stop (open/closed) buttons and status lights, various numbers of pressure - , temperature indicators, etc. The local operating stations shall at least give means to operate the following:</p> <ul style="list-style-type: none"> <li>a. main engine</li> <li>b. Main Engine lubricating oil systems including separator</li> <li>c. Main Engine fresh water cooling system</li> <li>d. Main Engine sea water cooling system</li> <li>e. Main Engine auxiliary blowers</li> <li>f. 2 auxiliary diesel generators</li> <li>g. steam boiler</li> <li>h. fuel oil system (diesel and heavy fuel oil) including separator</li> <li>i. 2 air compressors</li> <li>j. steering gear system</li> <li>k. bilge water system</li> <li>l. fire pump</li> </ul>

	<p>m. all valves typically associated with the operation of above machinery may be operated at the computer screen in a 3D visual form.</p>
1.3.4	<p>The facilities for local operation in the simulated machinery spaces shall consist of one or more operating stations. The local operating station(s) shall at least give means to operate the following:</p> <ul style="list-style-type: none"> <li>a. main engine</li> <li>b. Main Engine lubricating oil systems including separator</li> <li>c. Main Engine fresh water cooling system</li> <li>d. Main Engine sea water cooling system</li> <li>e. Main Engine auxiliary blowers</li> <li>f. 2 auxiliary diesel generators</li> <li>g. steam boiler</li> <li>h. fuel oil system (diesel and heavy fuel oil) including separator</li> </ul>
1.3.5	<p>An alarm shall be announced by sound and by flashing light in the machinery spaces.</p>
1.3.6	<p>Internal communication system.</p>
<p>1.4 Special Machinery spaces for Electric Propulsion motors</p>	
1.4.1	<p>The simulated machinery spaces shall facilitate local operation for each system. Each system shall be furnished with start/stop (open/closed) buttons and status lights, various numbers of pressure -, temperature indicators, etc. Local operation shall at least be possible for the following:</p> <ul style="list-style-type: none"> <li>a. propulsion electric motor(s)</li> <li>b. lubricating oil systems including separator</li> <li>c. fresh water cooling system</li> <li>d. sea water cooling system</li> <li>e. diesel and or gas turbines</li> <li>f. high voltage switchboard</li> <li>g. high voltage generators</li> <li>h. steam boiler</li> <li>i. fuel oil system (diesel and heavy fuel oil) including separator</li> <li>j. air compressors</li> <li>k. steering gear system</li> <li>l. bilge water system</li> <li>m. ballast system</li> <li>n. fire pump.</li> </ul> <p>The concept to meet this requirement may vary, as long as the end user will have the impression of moving around to enable operating of the equipment.</p>

1.4.2	<p>The facilities for local operation in the simulated machinery spaces shall consist of one or more operating stations. The local operating station(s) shall at least give means to operate the following:</p> <ol style="list-style-type: none"> <li>a. propulsion electric motor(s)</li> <li>b. lubricating oil systems including separator</li> <li>c. fresh water cooling system</li> <li>d. sea water cooling system</li> <li>e. diesel and or gas turbines</li> <li>f. high voltage switchboard</li> <li>g. high voltage generators</li> <li>h. steam boiler</li> <li>i. fuel oil system (diesel and heavy fuel oil) including separator</li> <li>j. air compressors</li> <li>k. steering gear system</li> <li>l. bilge water system</li> <li>m. ballast system</li> <li>n. fire pump.</li> </ol>
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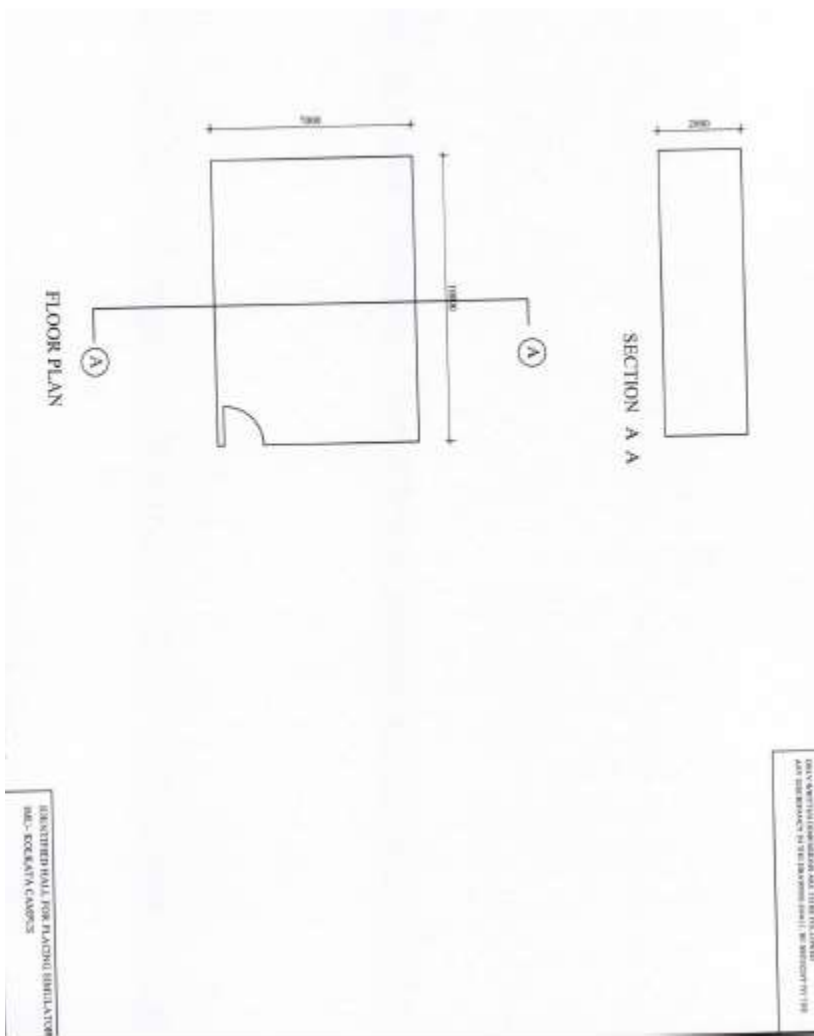
**Behavioral Realism**

Item	Requirement
2.1.1	The simulation models shall be able to replicate the dynamic behaviour of the machinery systems and all its vital parameters as well as the interactions between the
2.1.2	The simulation models shall simulate the engine room components with their processes, as well as modelled controller systems (sensors, controllers, actuators, and valves) connected to the processes.
2.1.3	When simulating real equipment the behaviour of such simulated equipment should behave as identical as possible as the original. Critical parameters of the behaviour
2.1.4	The simulator shall make applicable controllers available and adjustable with regards to PID (proportional-integral-derivative controller) parameters.
2.1.5	The simulation model shall provide facilities to allow the injection and resetting of malfunctions at appropriate times during operation as necessary.
2.1.6	It shall be possible to simulate change in seawater temperature and demonstrate how this affects the complete simulation model.
2.1.7	It shall be possible to simulate a change in air temperature and demonstrate how this affects the complete simulation model.
2.1.8	It shall be possible to simulate the effect of variation of fuel oil quality and demonstrate how this affects the complete simulation model.

2.1.9	<p>The simulator shall have all heat exchangers available and adjustable with regards to their parameters (heat-transfer factor, heat dissipation area etc.).</p> <p>The simulator shall make all pumps available and adjustable with regards to their</p>
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<b>Operating environment</b>	
Item	Requirement
3.1.1	It shall be possible to adjust the noise level in the simulated machinery spaces infinite from no added noise up to minimum 100 dB(A). The noise shall have a frequency distribution typical for machinery spaces.
3.1.2	It shall be possible to simulate the sea water temperature at least infinite in between +1°C and +30°C.

The indicative layout plan are as follows:



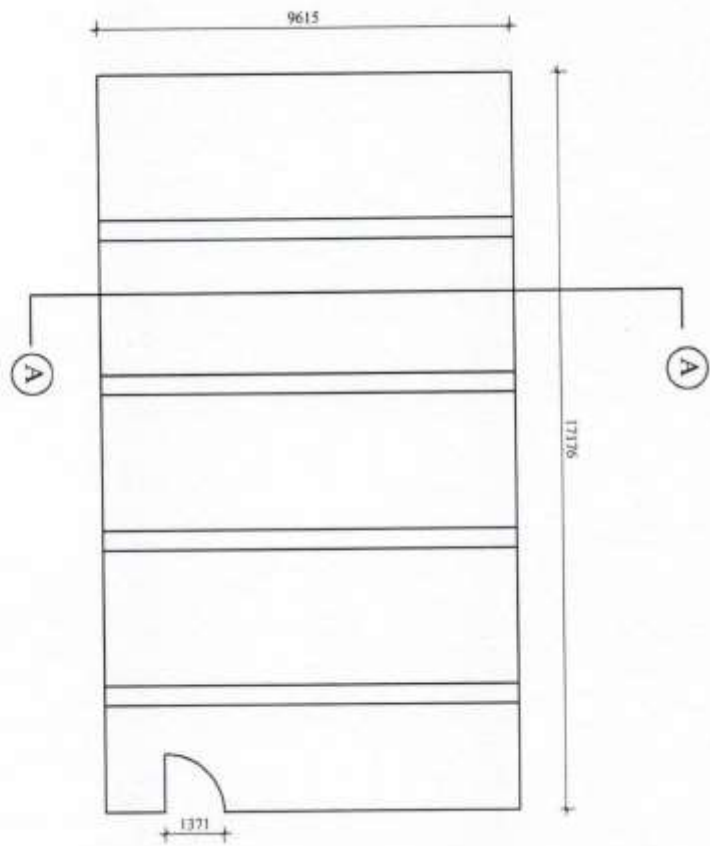


NOTES

ALL DIMENSIONS GIVEN ARE IN MM  
ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED  
ANY DISCREPANCY IN THE DRAWING SHALL BE RESOLVED TO THE



SECTION A A



FLOOR PLAN

IDENTIFIED HALL FOR PLACING SIMULATOR  
MUL-MUMBAI PORT CAMPUS

## 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 of 03 Nos Ship’s Engine Room Simulators” at designated Campuses of Indian Maritime University.

Ref: IMU-HQ/R/71/63/1/2018-PUR dated 27.06.2018

From  
Name & Address of the Bidder

Ph:

Email:

To  
The Registrar,  
Indian Maritime University,  
East Coast Road,  
Uthandi,  
Chennai – 600 119.

Dear Sir,

We hereby submit our Technical Bid for “Supply of 03 Nos Ship’s Engine Room Simulators” at designated Campuses of Indian Maritime University.

#### 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 Notice Inviting Tender (NIT)	

#### 2. Experience in the business of providing Similar Supply Since 2012-2013 or earlier:

Sl	Eligibility Criteria details	Bidders Confirmation
1	Whether in the business of Providing Similar Supply Since 2012-	



	2013 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 (2012-13 to 2016-17):**

Sl. No	Eligibility Criteria details	Bidders Confirmation
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 2012-2013 to 2016-17 & thereby meet this eligibility criteria (Yes / No)	
a)	At least one similar supply with a minimum value of Rs.80 lakhs: (Yes / No)	
b)	At least two Similar Supply with a minimum value of Rs.60 lakhs each (Yes / No)	
c)	At least three Similar Supply with a minimum value of Rs.50 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 (2012-13 to 2016-17) [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)	Whether the bidder has an average annual turnover of at least Rs.10.00 Crores during the past 3 financial years i.e. 2014-15, 2015-16 & 2016-17. (Yes / No)	

	Year / Proof enclosed	Turnover	Page No.
(ii)	2014-15 /		
(iii)	2015-16 /		
(iv)	2016-17 /		

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

Sl. No.	<u>Particulars</u>	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.	Whether the Bidder has attached EMD for an amount of Rs.5,00,000 from Nationalized or scheduled bank [YES/NO]		Original DD No. _____ enclosed with technical bid	
8.	OEM Authorisation certificate – Annexure –III		Yes / No	
(c)	Other Modes of Proof enclosed			
	<u>Name, Designation, Address and Telephone No. of Authorized 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.	
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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:

**OEM’S AUTHORISATION CERTIFICATE TO THE BIDDER**

To  
 The Registrar,  
 Indian Maritime University,  
 East Coast Road,  
 Uthandi,  
 Chennai – 600 119.

Ref: Tender No. IMU-HQ/R/71/63/1/2018-PUR dated 27.06.2018

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 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.**

**BIDDER MEMORANDUM & UNDERTAKING**

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

1. General Description:  
Tender for “Supply of 03 Nos Ship’s Engine Room Simulators” at designated Campuses of Indian Maritime University.  
Tender No IMU-HQ/R/71/63/1/2018-PUR dated 27.06.2018
2. Period of Contract:  
  
Outright supply with two year warranty and Comprehensive Annual Maintenance Contract for subsequent 3 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.
  - 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.
  - 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 bidder, duly filled in, signed & sealed and enclosed along with the Tender.

To  
The Registrar,  
Indian Maritime University,  
East Coast Road,  
Uthandi,  
Chennai – 600 119.

Ref: Tender No. IMU-HQ/R/71/63/1/2018-PUR dated 27.06.2018

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 03 Nos Ship’s Engine Room Simulator” at Indian Maritime University designated 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 03 Nos Ship's Engine Room Simulator at Indian Maritime University designated 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-HQ/R/71/63/1/2018-PUR dated 27.06.2018**

Sl. No	Description and Specifications of the items.	Make & Model	Qty	Price of the equipment	Comprehensive Onsite Maintenance for 1st yr immediately after warranty (Amount)	Comprehensive Onsite Maintenance for 2nd yr immediately after warranty (Amount)	Comprehensive Onsite Maintenance for 3rd yr immediately after warranty (Amount)	Total
			<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6=2+3+4+5</b>
<b>1</b>	Ship's Engine Room Simulator for IMU Kolkata Campus(Terminals for 20 students and two instructors)		<b>1</b>					
<b>2</b>	Ship's Engine Room Simulator for IMU Chennai Campus(Terminals for 20 students and two instructor)		<b>1</b>					
<b>3</b>	Ship's Engine Room Simulator for IMU Mumbai Port Campus(Terminals for 10 students and one instructor)		<b>1</b>					
	<b>GST</b>							
<b>Total Amount in Figures including GST</b>								
<b>Total Amount in Words including GST</b>								

Note:

Para 2.6 may be kept in view while filling up the details

Authorized Signature with seal

## FORM OF BANK GUARANTEE

Bank Guarantee No: \_\_\_\_\_ Date: \_\_\_\_\_ Valid up to \_\_\_\_\_

To  
The Registrar,  
Indian Maritime University,  
East Coast Road,  
Uthandi,  
Chennai – 600 119.

Sir,

In consideration of Indian Maritime University Headquarters, \_\_\_\_\_ and having its Office at East Coast Road, Uthandi, Chennai – 600 119, Tamilnadu (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 Headquarters, 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 , Chennai 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 forbear 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 so relieving us.

The Bank further agrees that the guarantee herein contained shall remain in full force until \_\_\_\_\_ and all dues of IMU Headquarters, Chennai 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 Headquarters, Chennai'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 and stamp on this \_\_\_\_\_ Day of \_\_\_\_\_ 2018 at \_\_\_\_\_.

Date:

Authorized Signatory of the bank

(with Bank Seal)

Place:

Witness No.1

Witness No.2