

KERALA SHIPPING AND INLAND NAVIGATION CORPORATION LTD

38/924 A, UDAYA NAGAR ROAD, GANCDHI NAGAR, KOCHI -682020.

TEL: 0484 2203614 / 2206840, 41

Fax: 0484 2206848

Tender No. C-677/2009

Dated: 26.10.2009

**TENDER DOCUMENT FOR RO-RO VESSEL TO BE CONSTRUCTED AT
KSINC SLIPWAY DUE ON 20.11.2009**

KERALA SHIPPING AND INLAND NAVIGATION CORPORATION LIMITED invites COMPETITIVE BIDS from those who have been selected on the basis of Expression of Interest and pre-bid meeting conducted on 21.10.2009 , in TWO BID SYSTEM (Part-I Techno Commercial Bid and Part-II Price Bid) for the following Scope of Work / Supplies, terms and conditions;

1. DESCRIPTION OF SUPPLY:

1.1. Design, Construction, Trials and Delivery of one ro-ro cum lo-lo Barge having 10 TEU container capacity utilizing the slipway facilities of the corporation at Thoppumpady, Kochi.

Cost of tender form : Rs.5000/ plus VAT

Date Of Submission Of Tender : 20.11.2006

2. BIDDERS' PRE-QUALIFICATION CRITERIA.

2.1 Bidders should submit the following documents alongwith their offer:-

- a) Bidders Company Profile and Shop & Establishment registration certificate.
- b) List of equipment held by them with model / year / working status alongwith details of their Shipyard facilities including water front and personnel with designation, qualification and experience to determine their capabilities.
- c) Bidder's average Audited Annual financial turnover during the last 3 years ending 31st March 2009.
- d) Bidder's experience of having successfully completed similar works during last 7 years ending 31st March 2009

2.2 It is clarified that the work executed by the contractors for their in-house or capital use will not be considered for the purpose of bidders' experience of completion of similar Works, unless the works itself is of same nature/capacity

3. Earnest Money Deposit (EMD) / Bid Bond:

Bidders shall furnish EMD Rs 2 Lacs (Rupees two Lacs) in the form of crossed DD/ Pay Order / Bank Guarantee drawn in favour of Kerala Shipping and Inland Navigation Corporation LIMITED. The bid bond / Bank Guarantee should be valid for 90 days and should essentially be enclosed in the in the Part-I viz. Techno Commercial Bid. Bids/Offer without EMD/Bid Bond alongwith Part-I bid will not be considered. EMD of unsuccessful bidders will be returned after finalization of the tender and shall be interest free.

4. Validity Period:

Bids / Offers shall have the validity period of **90 Days** from the tender closing date. A bid valid for a shorter period will be rejected by KSINC as non-responsive.

5. Submission of Offer in Two Bid System:

Offer must be submitted in two parts, each Offer securely closed (sealed) separately, in Two Envelopes Part - I & Part – II as stated below;

Part-I: The Technical Bid enclosed in an Envelope super scribing the Tender No, due date & Time should contain:

- i) The Bid submission Format duly filled.
- ii) EMD of Rs. 2.00 Lacs (Rupees two Lacs only) in the form of a Crossed Pay Order /Demand Draft /Bank Guarantee payable to Kerala Shipping and Inland Navigation Corporation LIMITED , issued by a Nationalized / Scheduled Bank only

Part-II : The Price Bid in Sealed Envelope super scribing “ Price Bid” against Tender Enquiry No., Due date & Time should contain only the PRICES for each of the listed items strictly in the prescribed format provided with the tender .

Both these securely closed Envelopes i.e. Part-I & Part-II should be put in a Third Bigger Envelope securely closed (Sealed), Super scribed with Tender No., Due date, time, and addressed To, the Managing Director , Kerala Shipping and Inland Navigation Corporation LIMITED, ,38/924 A,Udaya nagar Road, Gandhi Nagar, Kochi -682020, and should be Submitted or Deposited at the following designated place;

**The Managing Director,
Kerala Shipping and Inland Navigation Corporation LTD,
38/924 A, Udaya nagar Road, Gandhi Nagar, Kochi -682020.**

The bids may also be sent by Speed Post / Courier Service well in advance so as should reach the undersigned well before the due date and time. Timely submission of the Bids is responsibility of the bidders and no reasons / excuses in this regard will be entertained by KSINC

6. Bid Rejection Criteria;

- a. Following bids shall be categorically rejected;

- i. The Bids received after tender closing date and time.
 - ii. Validity period indicated by bidders is less than 90 days.
 - iii. Bidders not agreeing to furnish Security Deposit / Required Contract Performance Guarantee till completion of the Ro-Ro/Lo-Lo vessel. as per contract.
 - iv) Bidders not agreeing to furnish Performance Bank Guarantee for the Ro-Ro/Lo-Lo vessel supplied or not agreeing for retention of equivalent amount by KSINC upto the period till completion of contractual & Guarantee / Warranty obligations.
 - iv. Bids received without EMD as specified in the tender.
- b. Following bid general rejection criteria shall also render the bids Liable for Rejection.
- i) Bidder's failure to submit sufficient or complete details for evaluation of the bids within the given period.
 - ii) Incomplete / misleading / ambiguous bids considered in the opinion of Tender evaluation committee (TEC)
 - iii) Bids with technical requirements and or terms not acceptable to KSINC.
 - iv) Bids received without pre-qualification documents and proof where required as per the tender.
 - v) Bids not meeting the pre-qualification parameters stipulated in the tender enquiry.
 - vi) Bidders not agreeing to supply spares (on board spares, B & D Spares) / post sale product support / post work completion support for a period of 12 months.

7. Bid evaluation criteria.

- 7.1. Contract will be awarded to the bidder in each category who quotes the lowest total price as per Part-II (Price Bid). Quote to be made for barges and trolleys separately (total 30 nos Trolleys) The L1 bidder will have the option to match trolley L1 price and take both orders.
- 7.2. KSINC reserve the right to place the orders on two firms for construction of vessel and trolleys simultaneously.
- 7.3. Taxes & Duties: The bidder should indicate the Percentage of applicable Taxes and Duties separately.

8. Pricing.

- 8.1. The prices quoted shall be comprising of all expenses excluding taxes, duties and levies which shall be indicated separately ,but inclusive of all yard expenses discussed in the pre-bid meeting on 21.10.2009
- 8.2. The prices quoted shall remain firm & fixed during the currency of contract and no escalation of rates is allowed.
- 8.3. No other charges other than quoted on the Rate Sheet shall be payable to the contractor unless otherwise agreed by KSINC in writing.

9. Security Deposit.

The successful bidder shall submit a Security Deposit @ **5%** of the value of the Order as decided by KSINC in the form of Demand Draft /Pay Order /Bank Guarantee in the prescribed format in favour of KSINC within 15 days from date of LOI / Order / Contract whichever is earlier. The Security Deposit will be returned only after the successful execution of the order / contract. Refund of Security Deposit whenever considered admissible by the KSINC, shall be without interest only.

10. Delivery Period / Completion Schedule:

10.1. The contractor shall deliver the vessel complete in all respects after trials and registration with Cochin port under prevalent Harbour crafts Rules and Travancore Cochin Public Canals and Ferries Rules of the State. The delivery of the vessel and trolleys shall be made within 10 months from the date of placement of confirmed order.

11. Payment Terms:

11.1 KSINC does not pay any advance payment. However the first stage payment can be drawn as advance on production of Bank Guarantee for an equal amount from any nationalized banks/scheduled banks and all stage payments will be released based on the certificate of completion from classification society duly endorsed by Engineer in charge.

11.2 The payments to the Seller will be made as below:-

11.2.1 10% payment as advance along on signing of the contract and on production of unconditional, irrevocable Bank guarantee from a Nationalized /scheduled Banks for equal amount.

11.2.2. 20 % on production of proof of documentary evidence for having placed orders for the main equipments (other than shafting and propeller) and arrival of the required steel in the yard, finalization of build specifications and GA drawings, Submission of cardinal date programme/ production and submission of PERT

11.2.3. 20% on completion of hull.

11.2.4 30 % on launching of the vessel and after successful sea trials

11.2.5 10% on delivery of the vessel with all statutory certificates and class certificate. All documentation, including Registration, All Certificates in line with the class of vessels etc. Drawings, Manuals for the Vessel to be made available to the owner as per specifications

11.2.6 Balance 10% will be retained as security deposit against performance guarantee for a period of 12 months from the date of delivery.

11.3 The contractor will have the option to produce unconditional Bank Guarantee from a Nationalized Bank: for an equal amount in lieu of 10% withheld towards performance guarantee and get the amount released. Performance Guarantee is towards Guarantee for the satisfactory workmanship and use of the materials by the contractors while constructing the vessel and trolleys. All defects, deficiencies and contractors liabilities including guarantee repairs

12. Insurance:

12.1. The successful bidder shall of his own cost fully insure and keep insured in the names of KSINC the vessel and the machineries materials and things used or Intended for use in the construction and outfit thereof in the sum of not less than the total price and also to keep insured the value of any modifications and additions as may be agreed upon from time during the construction of the Ro-Ro vessel.

12.2. The policy/policies shall be effected with reputed insurance company approved by the Govt. and shall comprise insurance against fire, launching and all other risks, accidents and damages excluding war risks which for the time being can be covered by insurance during and after the construction of the vessel and whilst the remains in the Harbour or the yard of construction or when engaged on or in connection with any trials made under this contract as well as the perils of the sea and all other risk of every kind including war Risks so far as they are insurable or whilst lying therein or on a slipway or being tied near thereto previous to being accepted by KSINC and the contractor shall from time to time shall not be delivered to and accepted by KSINC during the term of such policies) renew the said insurance and pay and continue to pay all premium which shall become payable in respect of such insurance

13. Liquidated Damage:

13.1. Supplier / Contractor (Seller) will be liable to pay Liquidated Damages for late delivery of the vessel and trolleys complete in all respect after successful trials to the owner within the delivery period of 10 (ten) months agreed. The liquidated damages thus payable will be calculated @ **0.5%** value of the contract per fortnight with out any upper limit, for the whole period of delay.

13.2. The Contractor/seller will have the option to claim reverse Liquidated damages for any early delivery of the vessel and other accompaniments.

GENERAL TERMS & CONDITIONS (GT&C) FOR ITEMS & SERVICES

1. ACCEPTANCE OF ORDER / CONTRACT

- a) With the acceptance of the successful bidder's offer by the purchaser, which is as per the Terms & Conditions of the tender, by means of Order/Contract, the tender is concluded. The Supplier / Sub-contractor / Supplier shall, on receipt of the Order/Contract, communicate their unconditional acceptance to the purchaser within 10 days.
- b) If nothing to the contrary is heard by purchaser within 10 days from the date of placement of order, it will be understood that the order has been accepted by the Bidder/Supplier/Contractor.
- c) Any delay in acknowledging the receipt & acceptance of the Purchase Order/Contract from the specified time limit or any qualification or modification of the purchase order/Contract in its acknowledgement acceptance by the Supplier / Sub-contractor /Supplier shall be termed as breach and would be liable for forfeiture of EMD, Bid Bond, Security deposits etc.

2. SECURITY DEPOSIT.

The successful bidder shall submit a Security Deposit @ 5% of the value of the Order in the form of Demand Draft / Bank Guarantee in the prescribed format in favour of Purchaser within 15 days from date of Contract. The Security Deposit will be returned only after the successful execution of the order / contract. Refund of Security Deposit whenever considered admissible by the Purchaser, shall be without interest only.

3. FORFEITURE OF EMD / BID BOND.

In cases of withdrawal of bid during validity period or during any extension granted thereof, non acceptance of agreed conditions of Technical and or Commercial and or Price Negotiations, non-submission of the security deposit and / or non-acceptance of the order the EMD or bid security will be forfeited or encashed as the case may be.

4. FORFEITURE OF SECURITY DEPOSIT.

Non-performance of agreed terms and or default/breach by Bidder/Supplier/Contractor will result in forfeiture of security deposit with application of risk purchase provisions as felt appropriate by the Purchaser.

5. FORFEITURE OF PERFORMANCE GUARANTEE

In the event of Bidder/Supplier/Contractor failure to attend the Guarantee defects within a reasonable period of time, the Performance Bank Guarantee will be encashed by the Purchaser. The Purchaser's decision shall be final and binding on Bidder/Supplier/Contractor in this regard.

6. SUPPLIES

The equipment / products / items / Services to be supplied shall be strictly in accordance with the Drawings / Specifications / Requirements indicated in the Tender Enquiry / Order with deviations, if any, as mutually accepted.

7. **PROGRESS REPORTING & MONITORING**

Where so stipulated in the order, the Bidder / Supplier / Contractor shall render such reports from time to time as regards the progress of the contract and in such a form as may be called for by the Purchaser.

8. **CANCELLATION OF ORDER**

a) The Purchaser reserves the right to cancel an order forthwith without any financial implications on either side, if on completion of 50% of the scheduled delivery/Completion period the progress of manufacture/Supply is not to the satisfaction of Purchaser and failure on the part of the Bidder/Supplier/Contractor to comply with the delivery schedule is inevitable. In such an event the Bidder/Supplier/Contractor shall repay all the advances together with interest at prevailing bank rates from the date of receipt of such advances till date of repayment. The title of any property delivered to Purchaser will be reverted to the Bidder/Supplier/Contractor at his cost.

b) In case of breach / non-compliance of any of the agreed terms & conditions of order / contract. KSINC reserves the right to recover consequential damages from the Supplier / contractor on account of such premature termination of contract.

c) In case of delay beyond agreed period for liquidated damages or 10weeks from contractual delivery period whichever is earlier, KSINC reserves the right to cancel the order and procure the order items / services from any available source at KSINC's option & discretion and entirely at your risk and cost. Extra expenditure incurred by KSINC in doing will be recoverable from Bidder/Supplier/Contractor.

9. **PRESERVATION AND MAINTENANCE**

a) Should any material require any preservation till its final installation/fitment, the detailed procedure (Long term & short term) for the same as also the time of interval after which the state of preservation needs to be reviewed is to be stated by the Bidder/Supplier/Contractor.

b) Further the de-preservation prior to the material/equipment being commissioned and the maintenance procedure together with its periodicity is also to be indicated by the Bidder / Supplier / Contractor.

11. **TAXES & DUTIES / STATUTORY LEVIES.**

Bidder shall indicate separately the taxes and duties applicable in their offer. Tax deduction at source will be effected wherever applicable (e. g. Income tax, Service Tax, Works Contract Tax etc) from the bills of the Supplier as per statutes. Where payment of VAT, Sales Tax, and Excise Duty is agreed to and stipulated in the Purchase Order / Contract, the same will be reimbursed by the Purchaser at actuals after receipt of Supplier's bills alongwith proof or declaration to the satisfaction of purchaser for payment of such taxes by the Supplier to Appropriate Tax authorities.

12. INSPECTION, TESTING.

- a) The ordered items will be inspected either by Classification Society / Nominated Agency and or by Inspection Officer nominated by Purchaser at stages defined in the tender / Purchase Order or as agreed to be defined subsequently in terms of the Purchase Order.
- b) The decision of the Inspecting Authority or their representatives, as the case may be, on any question of the intent, meaning and the scope of Specifications / Standards shall be final, conclusive and binding on the Bidder/ Supplier / Contractor.
- c) The Bidder / Supplier / Contractor shall accord all facilities to Purchaser' s Inspectors / Nominated Agency to carry out Inspection / Testing during course of manufacture / final testing.

13. RECEIPT INSPECTION BY KSINC

KSINC shall carry out necessary inspection of the items on receipt, on the basis of an appropriate quality assurance system and inspection system requirements along with representative of the Owner. Any objection raised by KSINC Quality Control Team against quality of materials or workmanship shall be satisfactorily corrected by the Contractor at his expense including replacement as may be required within shortest possible time within 30 days. Items damaged during transit shall also be rectified/replaced by the Contractor within shortest possible time, payment for which shall be made at mutually agreed rates.

14. TECHNOLOGICAL DEVELOPMENTS / MODIFICATIONS

- a) The Bidder / Supplier / Contractor shall unconditionally and free of cost to the Purchaser transfer information on technological developments / innovations / modifications which the Bidder / Supplier / Contractor would evolve in future (within 3 years) in relation to the supplied equipment. To enable this, the Purchaser' s address shall be added to the Bidder / Supplier / Contractor ' s mailing list or database or any other document maintained for dissemination of product information and the Purchaser shall be informed of the action taken in this regard. If such improvements / modifications are brought in by the Bidder / Supplier / Contractor' s Design Department in the course of manufacture of equipment ordered by the Purchaser, the Bidder / Supplier / Contractor shall incorporate such improved versions in the equipment without any extra cost to the Purchaser under Purchaser' s prior consent.
- b) If the Purchaser be desirous of getting incorporated all post supply modifications / improvements arising out of technological developments to the original equipment supplied by the Bidder / Supplier / Contractor, the Bidder / Supplier / Contractor, shall quote for and carry out all such modifications to the equipment.

c) Where the whole or a portion of the equipment has been specifically developed by the Bidder /Supplier / Contractor for the Owner and the latter would through the Purchaser be bearing the entire or part of the development cost incurred by the Bidder / Supplier / Contractor, the design rights for the whole or portion thereof, of the equipment as appropriate, shall vest in the Owners.

15. PURCHASER'S RIGHT TO ACCEPT ANY BID, PART OF BID AND TO REJECT ANY OR ALL BIDS

The Purchaser reserves the right to accept and or reject any or all tenders and or to withdraw the tender in toto and or award the contract / order in full or part to

16. GENERAL

UNLESS OTHERWISE INDICATED SPECIFICALLY BY THE BIDDER / CONTRACTOR IN HIS BID AND AGREED BY KSINC IT SHALL BE CONSTRUED AS HIS ACCEPTANCE OF ALL THE CONDITIONS MENTIONED IN THIS STACS.

17. RISK PURCHASE

a) If the equipment / article / service or any portion thereof be not delivered / performed by the scheduled delivery date / period, any stoppage or discontinuation of ordered supply / awarded contract without written consent by Purchaser or not meeting the required quality standards the Purchaser shall be at liberty, without prejudice to the right of the Purchaser to recover Liquidated Damages / penalty as provided for in these conditions or to any other remedy for breach of contract, to terminate the contract either wholly or to the extent of such default. Amounts advanced or part thereof corresponding to the undelivered supply shall be recoverable from the Contractor / Bidder at the prevailing bank rate of interest.

b) The Purchaser shall also be at liberty to purchase, manufacture or supply from stock or utilize the services as it deems fit, other articles of the same or similar description to make good such default and/or in the event of the contract being terminated, the balance of the articles of the remaining to be delivered there under. Any excess over the purchase price, cost of manufacture or value of any articles supplied from the stock, as the case may be, over the contract price shall be recoverable from the Bidder / Contractor.

18. RECOVERY-ADJUSTMENT PROVISIONS:

Payment made under one order shall not be assigned or adjusted to any other order except to the extent agreed upon in writing by the Purchaser. During the currency of the contract, if any sum of money is payable by the Bidder / Contractor the same shall be deducted from any sum then due or thereafter may become due to the Bidder / Contractor under the contract or any other contract with the Purchaser.

19. INDEMNIFICATION

The Contractor / Bidder, his employees, licencees, agents or Sub-Supplier / Sub-contractor, while on site of the Purchaser for the purpose of this contract, indemnifies the Purchaser against direct damage and/ or injury to the property and/or the person of the Purchaser or that of Purchaser' s employees,

agents, Sub- Contractors / Suppliers occurring and to the extent caused by the negligence of the Contractor / Bidder, his employees, licencees, agents or Sub-contractor by making good such damages to the property, or compensating personal injury and the total liability for such damages or injury shall be as mutually discussed and agreed to.

20. SUBCONTRACT & RIGHT OF PURCHASER

The Contractor / Bidder shall under no circumstances undertake or subcontract any work / contract from or to any other Sub-contractor without prior written approval of the Competent Authority of Purchaser. In the event it is found that such practice has been indulged in, the contract is liable to be terminated without notice and the Contractor / Bidder is debarred all from future tender enquiries / work orders. However in no circumstances a contractor is permitted to subcontract any part of the contract to the bidders who had quoted for the concerned tender.

21. ARBITRATION

Any dispute / differences between the parties arising out of and in connection with the contract shall be settled amicably by mutual negotiations. Unresolved disputes/ differences, if any, shall be settled by Arbitration and the arbitration proceedings shall be conducted at Kochi (India) in English language, under the Indian Arbitration and Conciliation Act, 1996.

22. JURISDICTION OF COURTS

All contracts shall be deemed to have been wholly made in Kochi and all claims there under are payable in Ernakulam (kochi) City and it is the distinct condition of the order that no suit or action for the purpose of enforcing any claim in respect of the order shall be instituted in any Court other than that situated in Kochi City, Kerala State, India i.e. courts in Kochi shall alone have jurisdiction to decide upon any dispute arising out of or in respect of the contract.

23. SAFETY:

a) The Contractor / Bidder must observe all safety precautions in connection with the work to be performed by him, his agents or labourers. In the event of any accident happening in our yard resulting in loss of lives or otherwise damaging any part of the property, the contractor shall be required to make good the loss to the Company and shall be responsible for all consequences that follow from the loss and /or Injuries to the persons involved in such accidents. The standard of safety to be observed in the Company shall be decided by the Officer-in-Charge Safety, or any officer appointed for the purpose before the commencement of work in the yard. It will be essential for contractor to ascertain the standard precautions which contractor is required to observe in discharging his work as per the standards prevalent in KSINC. The decision of KSINC in matters concerning Safety shall be final and binding on the contractor.

b) The Contractor / Bidder shall be required to provide his workmen with Boiler Suits of any suitable colour other than blue or white, with the Name of the Contractor in prominent letters on the boiler suits along with personal protection gears like safety shoes, hand gloves etc. workmen of the Contractor / Bidder must wear throughout their working while in the premises of KSINC . Contractor's workmen working without safety gears are likely to be disallowed for work.

ENCLOSURE –1

FORMAT FOR SUBMISSION OF BIDS.

(To be given on the firm's Letterhead)

Reference No.: (Firm's Ref. No.)

Date:

To,
 The Managing Director,
 Kerala Shipping and inland navigation Corporation ltd,
 38/924 A, Udaya nagar road,
 Gandhi nagar, kochi -6820220..

Dear Sir,

Sub.: Submission of Bids.

Ref.: KSINC Tender No.: _____ Dated: _____

Closing on. _____

With reference to the above, we hereby tender our best competitive offer in Two Bids.

Part I.: Technical Bid Containing following documents:-

- i) Tender Fees Rs. DD / Pay Order No. dtd.
 Bank Branch
- ii) EMD/ Bid Bond Rs. Bank Guarantee/ DD / Pay Order No.
 dtd. Bank Branch
- iii) Company Profile. (Page No. .to.....)
- iv) Shop & Establishment Certificate (Page No.to.....)
- v) Audited Accounts & Balance Sheet (Page No.to.....)
- vi) Order Copies to prove experience ((Page No.to
- vii) General Terms & Conditions duly signed as accepted
- viii) Validity Period days.

(SEAL OF THE FIRM)

SIGNATURE:

NAME:

DESIGNATION:

ADDRESS OF THE FIRM:

CONTACT PERSON:

TELEPHONE NO.:

FAX NO.

Part II Price bid

Submitted in separately sealed envelope.

(PRICE BID -1)

Name of the Bidder :

Tender no.C-677/2009

Address :

Due on 20.11.2009

	Unit Price in Rs.	Total Price in Rs.
For Design, Construction, Trials and Delivery of Ro-Ro/Lo-Lo barge for carrying 10 nos TEU containers through Inland waters)		
VAT		
SERVICE TAX		
Total cost In figure		
Total cost In Words		

Note: The prices must be indicated both in figures as well as words. In case of any discrepancies between the two, the amount indicated in “words” shall be considered final.

Signature

Name

Date: (Seal)

Designation.....

(PRICE BID -2)

Name of the Bidder :

Tender no.C-677/2009

Address :

Due on 20.11.2009

	Unit Price in Rs.	Total Price in Rs.
Design ,construction ,trials and delivery of 30 nos trolleys suitable for roll on and roll off of containers from Barge using prime movers (except cost of prime mover		
VAT		
SERVICE TAX		
Total cost In figure		
Total cost In Words		

Note: The prices must be indicated both in figures as well as words. In case of any discrepancies between the two, the amount indicated in “words” shall be considered final.

Signature

Name

Date: (Seal)

Designation.....

PART – 2

CONSTRUCTION AND SERVICES

2.1.0 DESCRIPTION OF THE RO-RO VESSEL

2.1.1 Design and construction, of a ro-ro vessel for operation in the Inland waters of Kerala for transporting containers in bulk (10 nos) to be done as per IRS specification and Construction under classification norms.

2.1.2 The Designers should be fully conversant with the waterway characteristics and the operational Parameters of the container barge in our waterways etc. The ro-ro vessel and trolleys for conveying the containers in and out the Vessel shall be constructed at the Slipway complex of KSINC, at Thoppumpady.

2.1.3. The operation of ro-ro vessel and Trolley movements on board and on Ramp to be part of trials.

2.1.4. The Contractor has to pay for track rent, water, security, fire and safety and other administrative services provided at the site by KSINC. (Lump sum payment of Rs.10, 000/- per day.) All other services of equipments /electricity etc at SWC tariff rates.

2.1.5 Procurement of all materials will be the contractor's responsibility. KSINC will be concerned only with services within the yard only.

2.1.6 The contractor to ensure safety of his personnel engaged in the Project and also follow all applicable rules and regulations.

2.1.7. The contractor to assess the technical specifications of the track No.3 at KSINC Slip way, Thoppumpady, where the vessel will be built, including final launching requirements. The launching of the vessel from the track will be done using the present slipping out system of the company, for which the builder will have to meet the launching expenses of Rs.1.00 lack (LS).

2.1.8. The skid blocks if any fabricated by the builder to facilitate construction of the vessel will be hence forth the property of KSINC.

2.1.8 The trolley specifications should match 20 TEU containers as well as 40 TEU Containers and have provision for lifting by crane as well as pulling/pushing by tractor/ trailer. Of the total no. of trolleys, 3/4th no. will be 20' and 1/4th for 40' units. Final quantity of trolleys will be decided later.

2.1.9. The loading and unloading of containers mounted on trolley wheels will be with the help of suitable prime movers.

2.1.10. Quote to be made for barges and trolleys separately (total 30 nos Trolleys)

2.2.0. **LIASON**

The owner shall nominate a liaison officer, with whom builder shall liaise for finalization of contract/building specification in the event of placement of order.

Owners nominated representative are entitled to visit shipyard, where vessel /trolleys or her parts are being constructed/erected at their own risk and cost. The Builder shall inform the Owner, the Schedule of inspection well in advance giving details of inspection so that the Owner's representative may also witness the inspection being carried out by Classification Surveyor.

2.3.0 **DOCUMENTS SUBMITTED WITH TENDER SPECIFICATION**

The following drawings, in triplicate shall be submitted with the tender.

- a. General Arrangement plan of the vessel showing layout of the accommodation, engine room machinery, wheel house and deck machinery.
- b. Mid ship section indicating the form of the hull and scantlings.
- c. Engine Room Layout
- d. Preliminary Trim & Stability
- e. Electrical Load chart etc.

2.4.0. **Technical fundamentals**

2.4.1 TYPE REQUIREMENTS: IRS Class Inland ro-ro/lo-lo vessel

2.4.2. PURPOSE OF THE VESSEL AND EXPECTED PERFORMANCE

- 1) The Vessel shall be highly maneuverable and able to carry 20 nos containers in two tiers in respect of Lo-Lo mode and 10 containers in single tier mounted on trolley wheels in respect of Ro-Ro mode.
- 2) The Designers should also examine the possibility of providing wheel house of the vessel located in the front portion of the vessel to enable visibility to the Syrang/Master of the vessel with two tier loading in Lo-Lo operations.
- 3) The running speed of the vessel shall be minimum 10 knots at trial displacement with full load.
- 4) Suitable diesel engines of adequate power to give the above speed may be decided by the Designers/builders. However, the builder will have the liberty to suggest the economical horse power rating

2.4.3. **MAIN DIMENSIONS & MAIN TECHNICAL DATA**

MAIN DIMENSIONS

Length overall	: Should not exceed 42 Meters to enable docking at Slipway, but confining to the waterway parameters
Breadth moulded	: About 8.50 m enable passing through the lock gate having 9.15 meter width
Depth moulded	: Designers judgment
Maximum draft	: not more than 1.80 m
Head room clearance free running	: Minimum clearance available in NW 3 is only 4.5 meters Speed : minimum 10 knots at trial displacement

2.4.5. **COMPLEMENT**

The vessel shall be designed to carry a total complement of 8 crew/Officers - 2 (one double cabin) Crew - 6 (one cabin with 2 double bunks and 2 chairs)

Total Complement - 8

2.4.6. **RULES AND REGULATIONS**

The vessel, including its machinery and equipment shall be classed with and constructed in accordance with the rules of IRS to class notation Å IW ,ZONE-3, for operation in Cochin Harbour

The vessel shall be registered with Cochin Port trust under Harbour craft Rules as Inland vessel and required exemptions shall be sought at the time of registration of the vessel for restricted operation in Cochin Harbour.

2.4.7. **DESIGN AND DRAWINGS**

- a) One copy of all the Class approved drawings shall be submitted to the owner for information.
- b) The following as fitted drawings/documents shall be supplied to the Owner by the Builder at the time of handing over:
 - General Arrangement
 - Lines and offsets
 - Approved Trim & stability Booklet
 - Approved Tonnage plan
 - Draught marks and Load Line mark.
 - Draught marks and Load Line mark.
 - Marking of official number and net tonnage
 - Tank Calibration tables
 - Hull Construction - profile and decks
 - Midship section plan
 - Watertight bulkheads plan
 - Shell expansion plan
 - Main engine seating
 - Generator seat
 - Stem & Stern construction
 - All bulkheads and walls of super structure
 - Funnel & Mast Details
 - Foundation for major equipment - windlass etc.

- Hull testing schedule
- Manholes arrangement
- Details of manhole covers
- Accommodation plan
- Deck covering/Insulation Plan
- Accommodation layout plan
- Sanitary and sewage discharge
- Diagram of mechanical Ventilation
- Pantry arrangement plan
- Fire control plan
- Arrangement of window and side scuttles
- Anchoring & Mooring Plan
- Painting schedule
- Ship's name and port of registry plan
- Details of ladders
- Safety Equipment Plan
- Cathodic protection plan
- Marking of tank boundaries and W.T bulkheads on outer shell
- Plan of lights, shapes and sound signals.
- Disposition of drain plugs and details of drain plugs
- Steel doors, access hatches and ladders arrangement
- Funnel mark and bow emblem
- Wood gratings
- Piping sketches
- Colour scheme for piping
- Bilge /Ballast arrangement drawing
- Sea chest construction and arrangement
- Engine room layout
- Operation & maintenance manual of all the machinery/equipment
- Test bed reports of all machinery/equipment witnessed by class wherever necessary
- Electrical load analysis
- Main Switchboard – single line diagram
- 415 V power distribution – single line diagram
- 220 V power and lighting distribution - single line diagram
- Navigation lights control panel - single line diagram
- 24 V DC Normal and Emergency Dist. System - single line diagram
- Installation wiring diagram – Intercom system
- Installation wiring diagram - PA and Talkback system
- Installation wiring diagram – Echo sounder
- Installation wiring diagram – General Alarm system
- Arrangements of lights on board
- Arrangements of Navigation Lights
- Arrangement of electrical equipments in Wheelhouse.
- Arrangement of transducer of Echo Sounder

2.4.8. CONSTRUCTION

- a) The vessel to be of all welded construction. The vessel shall be divided into stern thruster compartment, tank space, machinery space, Store, fore peak & double bottom. Superstructure shall be located fwd.
- b) The Vessel shall have a continuous main deck having a camber and sheer suitable for this Type of vessel. The superstructure height shall be limited to waterway parameters..
- c) Structural details in general shall be in accordance with the requirements of classification society.
- d) The superstructure and deckhouse exposed bulkhead shall be plain construction, vertically stiffened, welded type. Inner bulkheads shall be plain as convenient. Good all around visibility from wheelhouse shall be maintained.

2.4.9. MATERIAL

- a) All materials used in the construction and outfitting of the vessel shall be suitable for the purpose and appropriate to the vessel' s design. Where required materials shall conform to the regulations of the classification society. The vessel shall be constructed in steel tested and approved by the classification society. Test certificates shall be supplied.
- b) All wood used in the vessel shall be well seasoned, free from sap, shakes, warps and cracks and shall be reasonably free from knots.
- c) All smith work or fabricated fittings shall be of neat design, strong, smooth and free from defects and to be galvanized as required. All castings shall be good quality, close grained and free from cracks, blowholes and other defects.
- d) To be manufactured to classification society requirements and approval.
- e) All cables, fastenings, shackles, ropes etc. Shall be of materials which have been tested, approved and certificates supplied prior to commencing the work. During construction and before delivery, the builder shall be responsible for protection of all materials, equipment etc, intended for the ship. Workmanship shall be of good quality and shall be to the satisfaction of the owner and the classification society surveyor.

2.4.10. Quality control during construction

- a) Tank pressure testing
 - Pressure testing and leak testing shall be carried out in accordance with the requirements of classification society.
 - Watertight bulkheads, weather tight doors and other weather tight closing appliances shall be hose tested to the satisfaction of the classification society surveyor.

3.0.1. DOCKSIDE TRIALS

- 1) Quayside trials shall be carried out prior to official sea trials to ensure correct performance of all machinery and systems.
- 2) During dock trials propulsion machinery, all auxiliary machinery and all deck machinery shall be thoroughly tested.

- 3) All pipeline systems, associated valves and cocks and ventilation systems shall be fully tested.
- 4) Electric power plants, with all lights burning shall be run for a reasonable period of time.
- 5) Before Quay side trials of main machinery are commenced, all auxiliary machinery shall be previously worked out and proven to be in good working condition.

3.0.2. Main Engine Performance

(a) Shop Test

Owner reserves the right to witness the test bed trials. Results of shop test shall be submitted to Owner. Exhaust back pressure shall be same as expected on board vessel.

(b) Dock Trials

- (i) Engine Performance
- (ii) Starting tests for main engine
- (iii) Safety devices (To be repeated during sea trials)

3.0.3 Performance Tests & Approvals of Electrical Equipment

Electrical equipment shall be inspected and tested in accordance with the Classification Society rules and Regulations and Builder's usual practice. Owner reserves the right to witness the test bed trials.

3.0.4. MANUFACTURER'S SHOP TEST

Shop test for Generator and Main Switchboard shall be class approved and necessary certificates shall be submitted.

3.0.5. ON BOARD TEST

On the completion of installation, the electrical equipment shall undergo the inspection and / or the test in accordance with Classification Society's rules and regulations and Builder's usual practice. The inspection and / or test shall be as follows:

3.0.6. GENERATOR AND SWITCHBOARD

The electrical loads for generator test on board shall be the water resistor load bank on the shore and ship's consumers.

Following tests shall be carried out :

- Load test (100 % for one hour & 110 % for ten minutes)
- Test for instantaneous fluctuation of voltage and frequency when full load is suddenly thrown off.
- Individual generator running test for all modes / loads.
- Short time paralleling and load sharing for the purpose of load transfer.
- Protective relay test for generator over current trip, reverse power trip and under voltage trip for each generator shall be demonstrated.

MOTOR

Motors together with their associated control gear shall be run under normal operating conditions to make sure of their performance. Overload function / settings shall be checked and recorded. Normal running current shall also be recorded. With one generator on bus bars, the voltage and frequency variation shall be recorded at the time of starting of largest motor.

LIGHTING EQUIPMENT

- On/off tests shall be carried out for all lighting equipment, including navigation, signal and searchlights.
- Internal Communication & Navigation Equipment
- Internal communication and navigation equipment's shall be tested to ascertain the specified function.

INSULATION RESISTANCE

Insulation resistance shall be measured for the electric systems.

- (C) Aux. Machinery / Equipment (Shop test of selected machinery and on board test of following)
 - a) Air Compressor
 - b) All pumps and systems
 - c) Ventilation of engine room
 - d) Bilge/GS/Ballast/Fire pumps
 - e) Hydraulic system for SRP
 - f) Control system
 - g) Emergency systems and alarms
- (D) Deck Machinery (Shop test of selected item and on board test)
 - a) Anchor windlass
 - b) Mooring Capstan
- (E) Accommodation Systems (Trials & Inspections)
 - a) General arrangement / layout of furniture
 - b) Ventilation
 - c) Pantry equipment
 - d) Fire safety equipment
 - e) Safety Equipment
 - f) Stores
 - g) All sanitary and sewage equipment
 - h) All communication equipment
 - i) All navigation equipment
 - j) The above inspections and tests from (a) to (j) shall include following as applicable:
 - Performance
 - Capacity measurement
 - Pipe line and electrical cable inspection
 - Equipment inspection after testing

- Compliance of all rules, regulations, etc. as stipulated
- Inspection for easy access and future maintenance
- Name plates for equipment's, fittings, valves, etc.

3.0.7. SEA TRIALS

GENERAL

The builder shall prepare the vessel for sea trials based on trial loading condition. Trial loading condition shall include lightship, fuel, fresh water, crew and effects spares, inventory etc.

Sea trials shall be carried out in accordance with a programme agreed upon by the owner and the classification Society. During sea trials the vessel shall be under the command of an experienced Master nominated by the Owner.

The builder shall ensure the presence of various machinery and equipment suppliers during sea trials. The sea trial shall be carried out by and at the expense of the builder who is to provide necessary materials and services for the operation of the vessel during the sea trials and the vessel's trips to and from the builder's/owner's yard.

A trial report, neatly presented and bound shall be submitted.

When the vessel is substantially completed, except for minor items of work, the vessel shall be subjected to sea trials as described below:

3.0.8. SPEED TRIALS

Ahead speed trials shall consist of three double runs in opposite directions for the maximum power setting of the main engine. Speed shall be calculated as the mean of mean for three double runs with and against the tide in each case. The trials shall be conducted in calm water and wind speed not exceeding BF 2.

The speed shall be established from a measured mile course or using certified DGPS over duration of 15 minutes.

3.0.9. MANOEUVRING TRIALS

Maneuvering trials shall be conducted in accordance with Class requirements.

The following tests shall be carried out to prove the maneuverability of the vessel

- a) Crash stop ahead and astern

3.0.10. ENGINE PERFORMANCE & ENDURANCE TRIALS

The endurance trial shall be carried out as per the requirements of the Classification Society:

The Auxiliary Engines shall be tested as per the requirements of the class.

Shall be carried out in accordance with classification society requirements, accurate time being recorded for heaving and lowering each anchor.

3.0.11. OTHER TESTS AT SEA

The following tests shall be conducted during the sea trials or in port:

- Anchor trials
- Adjustment of magnetic compass
- Electrical sea load measurements
- Dead slow test.

3.0.12. RECTIFICATION OF DEFECTS

If during the sea trials or dock trials it becomes apparent that there is a design defect and/or any deficiency, then modifications have to be made in order to make the ship safe and seaworthy and also satisfactorily meet the intended services within the extent and spirit of the specifications. The Builder shall at his expense carry out such work prior to delivery.

3.0.13. SPECIAL TESTS & MEASUREMENTS

A. INCLINING EXPERIMENT

An inclining experiment is to be carried out according to the IMO requirements by the builder on completion of the vessel and the stability booklet shall be submitted to the regulatory bodies for approval. An approved stability booklet along with a copy of the signed inclining experiment report shall be submitted to the owner.

3.0.14. DELIVERY DOCUMENTS

The following certificates shall be supplied by the builder:

- a) Classification Certificate (by Class)
- b) Load Line Certificate (by Class)
- c) Bollard pull Certificate (by Class)
- d) Cargo Ship Safety Construction Certificate (by National Authority) or Class
- e) Cargo Ship Safety Equipment Certificate (by National Authority) or Class
- f) Cargo Ship Radio Telephony Certificate (by National Authority) or Class if applicable
- g) Builders Certificate (by builder)

4. HULL AND FIXED INSTALLED OUTFIT

4.0.1. GENERAL - BASIC REQUIREMENTS

The vessel shall be built of shipbuilding quality steel approved by the Classification Society. Application of steel grades shall be in accordance with the classification society requirements.

The ship shall be designed for transverse system of framing. The hull shall be strengthened as required by the Classification Society.

The main and auxiliary engine girders shall be efficiently integrated with the main hull structure.

In way of hawse pipes, deck machinery, mooring fittings, etc. the hull shall be adequately strengthened as specified by Class.

The temporary access openings made for access and ventilation during construction shall be with the concurrence of classification society surveyor.

4.0.2. CONSTRUCTION RULES

The IRS rules shall be followed for the following

- Crew Accommodation
- Cargo Ship Safety Construction

4.0.3. WEIGHTS, TRIM AND STABILITY

Based on the results of the inclining experiment, a trim and stability booklet shall be prepared incorporating all normal and expected loading conditions. Stability of the vessel shall be certified by the statutory authority.

Fixed permanent ballast under no circumstances shall be used. No ballast shall be carried in full load condition. No head trim is allowed in any loading condition. The maximum trim shall not exceed 1% of LBP in any loading condition.

4.0.4 STRENGTH AND VIBRATIONS

All possible and practicable attention shall be paid in the design and construction of the vessel to minimize vibration.

The structural design of hull construction shall be such that the maximum stresses permitted by Classification Society shall not be exceeded in any condition of loading.

The vessel's bottom shall be suitably reinforced for docking. The construction of the vessel's hull shall be designed and strengthened to enable two tiers loading of containers on deck. .

4.0.5. WELDING

The vessel shall be welded construction. The methods and norms of welding shall be as per rules and under the survey of classification society and in accordance with good shipbuilding practice (which is in line with AWS). Electrode shall be of approved quality.

All welding for hull structure shall be continuous except in dry space in superstructure where intermittent weld shall be used subject to approval by classification.

4.0.6. MATERIAL TESTING

Testing of material used for hull structure of the ship shall be carried as applicable and as per requirement of Classification Society. Necessary test certificate shall be obtained from the material supplier by the builder wherever required.

4.0.7. HULL STRUCTURAL PLANS

Following drawings shall be issued to Classification Society for approval prior to commencement of production and one copy these drawings shall be submitted to owner, duly approved by Classification Society.

- Midship Section
- Profile and Plan

- Shell Expansion
- Main W.T. Bulkheads
- Superstructure & Deckhouses
- Main Engine Foundation
- Auxiliary Engine Foundation.

4.0.8. CONSTRUCTION SCHEDULE

The builder shall prepare and submit for approval a comprehensive scheme for the erection of the structure.

This scheme is to embody proposals regarding prefabrication of structural units and the sequence of welding and any special requirement laid down in the ship or Class specification.

Precautions shall be taken to preserve the hull during the construction period. All parts of the ship shall be maintained in satisfactory condition during the entire period of construction.

Special care shall be taken to prevent corrosion, wear or damage to the structure or fittings during the building period. These shall include protective coatings and cathodic protection by means of suspended sacrificial anodes.