Organisation name: India Ports Global Ltd

Tender no: IPGL / RTGC / 2022, Tender type: Tender.

Tender for procurement of New Rubber Tyred Gantry Cranes (RTGCs) of 40 Ton. Capacity.

Scope of work: Design, Manufacture, Supply, Installation, Testing, Commissioning and Guaranteeing the performance of Fourteen (14) Nos. of New Rubber Tyred Gantry Cranes (RTGCs) of 40 Ton. Capacity.

Tender can be downloaded between 13.05.2022 to 15.06.2022 (up to 17:00 hrs). Completed tenders shall be submitted to IPGL office before 15:00 hrs of 16.06.2022 and will be opened at 15:30 hrs on 16.06.2022.

Office address:

Managing Director
India Ports Global Ltd.
4th Floor, Nirman Bhavan,
M.P.Road, Mazgaon,
Mumbai,400 010, INDIA

Contact Details:

Websites : https://sdclinidia.com , www.ipa.nic.in, and http://www.ipgl.co.in/
Phone : 022 69000430 ; +91 9029026180
E-mail: md.indiaportsglobal@gmail.com

INDEX

TENDER NOTICE

(Tender No: IPGL / RTGC / 2022)

Sealed tenders in two-bid system (Technical & Price Bids) are invited on behalf of **India Ports Global Limited (IPGL)**, from reputed manufacturers fulfilling the Minimum Eligibility Criteria (MEC). The scope of works, details of time schedule and EMD to be submitted by Tenderers for participation in this tender are given below:

i)	Scope of work	Design, Manufacture, Supply, Installation, Testing, Commissioning and Guaranteeing the performance of Fourteen (14) Nos. of New RUBBER TYRED GANTRY CRANES (RTGCs) of 40 Ton capacity.
ii)	Earnest Money Deposit (EMD)	**EURO** 180,000 (Euros One hundred eighty thousand only) or INR 1,50,00,000 (INR Rupees Fifteen million only) in favour of IPGL in the form of Bank Guarantee, as per **Annex - II** of Tender Document (Volume - I), from any Nationalised or Scheduled Bank having its branch at Mumbai OR Demand Draft (DD) of the said amount in favour of IPGL, payable at Mumbai from any Nationalised or Scheduled Bank having its branch at Mumbai payable at Mumbai.
iii)	Sale of Tender Document	**On all working days (10:00 hrs. to 17:00 hrs) from 13.05.2022** during office hours at the office of the Managing Director, India Ports Global Limited, 4th Floor, Nirman Bhavan, M.P. Road, Mazgaon, Mumbai-400010.**Tender document will not be sent by post / courier.**
iv)	Pre-Bid Meeting	**On 26.05.2022 at 14:30 Hrs.** at Conference Hall of India Ports Global Limited, 4th Floor, Nirman Bhavan, M.P. Road, Mazgaon, Mumbai-400010.
v)	Cost of Tender Document (set of two copies)	Rs. 10,000+ 18% GST Rs 1800/- Total 11,800(Rupees Eleven Thousand Eight Hundred only) or EURO 135 (Euro One Hundred Thirty Five only**)** in the form of Demand Draft (non-refundable) drawn on any scheduled bank having its branch at Mumbai in favour of India Ports Global Limited. Tender Document shall have to be collected by the party through an authorised person / Agent. The Tender document detailing the terms & conditions and the technical requirements can also be downloaded from the web sites: http://ipa.nic.in, http://www.sdclindia.com and http://www.ipgl.co.in/ from 13.05.2022 onwards till the date of submission of tender. The downloading of tender document shall be carried out strictly as provided on web site. In such case, the Cost of tender document can be deposited at the time of submission of the tender. Tender document will not be sent by post / courier.
vi)	Due date for submission of Tender Document	**On or before 16.06.2022 up to 15:00 hrs.** at the office of the India Ports Global Limited, 4th Floor, Nirman Bhavan, M.P. Road, Mazgaon, Mumbai-400010.
vii)	Date of opening of Technical Bid	**On 16.06.2022 at 15:30 hrs.** at Conference Hall, India Ports Global Limited, 4th Floor, Nirman Bhavan, M.P. Road, Mazgaon, Mumbai-400010.

Managing Director,

For India Ports Global Limited,

4th Floor, Nirman Bhavan,

M.P. Road, Mazgaon,

Mumbai-400010, India

Email:-md.indiaportsglobal@gmail.com

2 INSTRUCTIONS TO TENDERERS (ITT):

2.1 Sealed tenders in two-bid system (Technical & Price Bid), are invited on behalf of India Ports Global Limited (IPGL), for the following work : –

Name of the work: Design, Manufacture, Supply, Installation, Testing, Commissioning and Guaranteeing the performance of Fourteen (14) Nos. of New Rubber Tyred Gantry Cranes (RTGCs) of 40 Ton, Capacity at Chabahar Port of Islamic Republic of Iran.

2.1.1 Minimum Eligibility Criteria (MEC):

a) Financial Standing:

1- The average annual financial turnover in past three years shall be at least US Dollars 20,000,000(US Dollars Twenty Million only) or INR 150,00,00,000 (INDIAN RUPEES FIFTEEN HUNDRED MILLION ONLY) or equivalent. (Audited and certified copies of annual financial reports from authorised Chartered Accountant to be submitted). For documents in language other than English, translation in English, duly certified by a Chartered Accountant or self-certification of the translated version in English by an Authorised senior official of the Tendering Company is also acceptable.

2- Tenderer should have positive net worth during past three years.

b) Experience:

The tenderer should be in the business of designing, manufacturing, Supplying and Commissioning of RTGCs, at least for last seven (07) years. (Copies of work-order and completion certificate to be submitted).

c) Capacity and Capability:

The tenderer should have supplied at least Fourteen (14) Nos. RTGCs with similar Lifting Capacity under spreader during any of the last seven (07) years to the international container terminal , out of which at least four(04) of them shall be delivered to the top hundred Container Ports as per independent international publication such as Lloyds list etc along with documentary evidence.

d) Satisfactory Performance:

At least four (4) RTGCs supplied in the last seven (7) years must have EITHER completed warranty period satisfactorily or the tenderer shall provide a testimonial letter or document from previous employer (who should be 100 container ports during last seven years as per international publication) towards satisfactory performance.

e) Recent Business Activities:

The tenderer should have supplied or is in the process of manufacturing at least three (3) RTGCs during the last five (05) years. (Work order and / or completion certificate to be submitted).

All the tenderers participating in this tender shall be evaluated so as to meet the above requirements of MEC.

Note 1: Preference will be given to Make in India firm to achieve the vision of Hon'ble PM - 'Atmanirbhar Bharat '. Subject to the meeting MEC criteria.

Note 2: If the Tender is a subsidiary Company, then for the purpose of meeting MEC criteria of clause 2.1.1, documents submitted by the tenderer of its holding Company and/or its sister company can be considered, provided the holding company certifies that the tenderer and/or its sister company is their subsidiary and the holding company is severally and jointly responsible for compliance of the contract terms and conditions.

Note 3: Department of Expenditure Order (Public Procurement No.1) dated 23rd July 2020 mandating that bidders having beneficial ownership in countries which share land border with India will be eligible to bid in public procurement, only if they have registered with the competent authority. Accordingly, the bidders, who have beneficial ownership in countries which share land borders with India and intend to participate in public procurement in India, may submit an application for "Registration" in the format enclosed as Appendix "A". Bidders are also required to submit application for "Security Clearance" in the format enclosed as Appendix "B". Complete application containing both "Registration" and "Security Clearance" in the format, duly filled in, may be submitted in the office of Joint Secretary (MKN),DPIIT,Room No.236A,Udyog Bhawan, New Delhi.

2.2 LAST DATE FOR SUBMISSION OF TENDER:

2.2.1 Tenders shall be received in the office of the Managing Director, India Ports Global Limited, 4th Floor, Nirman Bhavan, M.P. Road, Mazgaon, Mumbai - 400010, **up to 15:00 Hrs. On** 16.06.2022.

2.2.2 IPGL, May at its own discretion, reserves the right to extend the date for receipt of tender. Tenders received after the aforesaid time and date or the extended time and date, if any, shall be returned unopened to the Tenderer. Tenderers to note that IPGL shall not be responsible for late receipt of any offer due to postal delays or any other delay for whatsoever reasons.

2.3 TENDERER TO INFORM HIMSELF FULLY:

2.3.1 The Tenderer is expected to examine carefully the contents of the tender document like, Instructions to the Tenderers, General Conditions, scope of work, annexures and schedules, check-list of documents to be submitted along with the tender etc. Failure to comply with the requirements of the tender will be at the Tenderer's own risk. It would be deemed that prior to the submission of the tender the Tenderer has made a complete and careful examination of requirements and other information set out in the tender document. The Tenderer shall be deemed to have, visited the site and surroundings and have obtained all necessary information in all the matters whatsoever that might influence while carrying out

the works as per the conditions of the tender and to satisfy himself to sufficiency of his tender, etc.

2.3.2 The Tenderer is advised to get acquainted himself with the job involved at the site, like availability of labour, means of transport, communication facilities, local laws and bye laws in force. The tenderer is essentially required to be abreast of latest Rules and Regulations in force as regards to local port authority and any other statutory bodies as well as security regulation for the permission to collect all information that may be necessary for preparing and submitting the tender and entering into Contract with IPGL.

2.3.3 Tenderer shall bear all costs associated with the preparation and submission of his tender and IPGL will in no case be responsible or liable for these costs, regardless of the conduct or outcome of the tendering process.

2.3.4 The Tenderer and / or his representatives will be granted permits to visit the site for the purpose of inspection, on receipt of a formal written request. The Tenderer will be fully responsible for any injury (whether fatal or otherwise) to himself or his representatives for any loss or damage to property or for any other loss, damage, costs and expenses whatsoever caused which but for the granting of such permission would not have arisen. The Tenderer will be liable to indemnify the Employer against any loss or damage to the property of the Employer or neighbouring property which may be caused due to any act of the Tenderer or his representatives.

2.4 EARNEST MONEY DEPOSIT (EMD):

2.4.1 The tender shall be accompanied by Earnest Money Deposit as stipulated in the tender notice. **The tender not accompanied with EMD shall be treated invalid.** The E.M.D. shall be submitted in the form of Bank Guarantee (BG) as per enclosed format at **Annex - II (Volume-I of the Tender Document)** drawn in favour of India Ports Global Limited, Mumbai, from any Nationalised / Scheduled Bank (Nationalised / Scheduled Bank shall mean a bank defined under section 2 (e) of the Reserve Bank of India Act 1974) having its branch at Mumbai. Alternatively, Demand Draft (DD), in favour of IPGL, Mumbai, drawn on any Nationalised / scheduled bank enlisted under RBI, payable at Mumbai, for specified amount in the tender for EMD, is also acceptable.

2.4.2 In the event of Tenderer withdrawing his tender before the expiry of tender validity period of **180 days** from the date of opening of technical bid, the tender submitted by the tenderer shall be cancelled and EMD shall be forfeited.

2.4.3 The Earnest Money Deposit of unsuccessful Tenderers shall be returned on award of Contract to the successful Tenderer. No interest shall be payable on the amount of E.M.D in any case. The Earnest Money Deposit of the successful Tenderer shall be refunded only on receipt of Performance Bank Guarantee as stipulated in the tender.

2.4.4 IPGL reserves the right to forfeit the Earnest Money Deposit in respect of successful Tenderer, if he fails to furnish the necessary Bank Guarantee towards performance within 45 days from the date of receipt of Letter of Acceptance (LOA) as per clause 2.18.3 (d) of the tender. However, the successful tenderer shall enter in to contract with IPGL within 30 days from the date of receipt of Letter of Acceptance (LOA).

2.4.5 EMD shall not be enclosed with the sealed covers containing technical offers, but shall be submitted separately in a properly sealed envelope so super scribed.

2.5 IPGL'S Right to Annul the Bidding Process:

2.5.1 Notwithstanding anything contained in this tender document, IPGL reserves the right to annul the bidding process at any time without any liability or any obligation for such annulment, without assigning any reason. It clarified that in case the tender process is annulled by IPGL under the provision of this Clause, the EMD of the Bidders shall be returned within 21 days from the date of notice of annulment, on receipt of request of the bidder.

2.5.2 IPGL reserves the right to invite revised Technical Tenders and / or revised Financial Tenders from Bidders with or without amendment of the tender document at any stage, without liability or any obligation for such invitation and without assigning any reason.

2.5.3 IPGL reserves the right to reject any Tender if at any time, a material misrepresentation is made or uncovered OR the Bidder does not respond promptly and thoroughly to requests for supplemental information required for the evaluation of the tender.

2.6 TENDER VALIDITY:

The tender shall remain valid for acceptance for a period of **180 days** from the date fixed for opening of Technical Bid. IPGL reserves their right to extend the period of validity for a specific time. The request and the response, there to, shall be made in writing by post or by E-mail. However, in the event of the tenderer agreeing to the request, he shall not be permitted to modify his tender. In the event of the tenderer agreeing to the extension, the Tenderer shall correspondingly extend the validity of the tender suitably along with valid extension of the Bank Guarantee furnished towards EMD against this Tender. In case tenderers do not agree to extend the validity of their offer beyond the validity period, EMD of such tenderers shall be refunded on receipt of bidder's request.

2.7 AUTHORITY FOR SIGNING TENDER DOCUMENTS:

2.7.1 The tender, if submitted on behalf of principals or a Partnership Firm, should be signed either by all the partners or some of the partners or other person/s holding a valid "Power of Attorney" from other partners or all the partners constituting the firm or the Principals as the case may be.

2.7.2 In the event, the tender is signed by some of the partners or other persons, the Tender should be accompanied by a valid Power of Attorney duly executed by partners / Principals specifying that the partners or person/s signing the tender has the authority to bind them or the firm as the case may be, in all matters pertaining to the tender.

2.7.3 In case of a Company, the tender should be signed by a person holding a valid Power of Attorney executed in his favour in accordance with the constitution of the Company.

2.8 AMENDMENTS:

2.8.1 At any time, prior to the last date for submission of tenders, IPGL reserves the right to amend and modify the tender document. The amendments so carried out shall be forwarded to all the prospective Tenderers prior to the last date for submission of the tender in writing either by post or by Fax or by e-mail including displaying the said amendment on IPGL nominated web sites. The prospective Tenderers shall immediately acknowledge receipt thereof either by post or by fax.

2.8.2 The amendment so carried out shall form part of the tender and shall be binding upon the Tenderers. IPGL may at their discretion, extend the last date for submission of the tender, to enable the Tenderers to have reasonable time to submit their tender after taking into consideration such amendments.

2.9 ERRORS IN THE TENDER DOCUMENT:

2.9.1 Tender shall be prepared, signed and submitted only by that bidder in whose name the tender documents have been issued. The tender shall be typed or written in indelible ink and all pages of the tender shall be signed.

2.9.2 The Tenderer shall submit complete tender and the same shall be without alterations, interlineations or erasure except those to accord that instructions issued by the IPGL or as may be necessary to correct errors made by the Tenderers. Person or persons signing the tender shall initial all such cancellations, alterations or amendments. If any discrepancies found in figures and words while reading the rates in the Price Schedule the rate quoted in words shall supersede the figures. In the event of any difference between the unit rate and the total amount stated therein, the unit rate should be reckoned as the correct one.

2.10 MODIFICATION, SUBSTITUTION AND WITHDRAWAL OF PROPOSAL:

2.10.1 The Tenderer may modify, substitute or withdraw his proposal after submission, provided that written notice of modification, substitution or withdrawal is received by the Employer before the closing time on due date of submission. No offer shall be modified, substituted or withdrawn by the Tenderer after the closing time on due date. The Tenderer's modification, substitution or withdrawal notice shall be addressed to the Managing Director, India Ports Global Limited, 4th Floor, Nirman Bhavan, M.P. Road, Mazgaon, Mumbai -

400010, with outer envelope clearly marked as Modification, substitution or withdrawal of the tender. Withdrawal of a proposal during the interval between closing time on proposed due date and expiry of the proposal validity period would result in forfeiture of EMD in accordance with clause 2.4.2 (volume-I of Tender Document).

2.10.2 STAMP DUTY & OTHER EXPENSES:

All costs, charges and expenses including any duty in connection with the Contract as well as preparations and completions of agreement including registration of same by the tenderer, if he wishes to do so, shall be payable by the Tenderer. Tenderer shall ascertain the taxes and duties to be paid on his own due diligence before the submission of the bid. All taxes duties, to be paid to any statutory bodies in places other than destination country shall be paid by the tenderer.

The Bidder shall quote their CIF prices(Incoterm 2010) with insurance till receipt of equipment inclusive of all taxes and duties related to their country of export. The Bidder shall exclude from his price, the custom duty / related taxes (if any payable in destination country) for those items / equipment's only which are appearing in the Price Schedule. These taxes / duties related to destination country , if payable, shall be initially borne by the bidder and later reimbursed on actual by IPGL, based on production of relevant proof.

For avoidance of doubt,

(i) It is further clarified that CIF value includes all dues at port of origin and vessel related charges at the disport, including insurance till receipt of equipment at the port of destination.

(ii) Wharf age at discharged port (if applicable) will be reimbursed to the bidder against the documentary evidence.

(iii) Taxes and duties for that items / equipment's which are appearing in the Price schedule, the custom duty in destination country shall be borne by IPGL.

2.11 CONTRACT WORK AND CONTRACT PRICE:

2.11.1 The work to be carried out (hereinafter referred to as "the Contract Work") and the Price for the same (hereinafter called "the Contract Price") shall include the work described in the specifications, schedules, drawings, etc. annexed hereto.

2.11.2 Except where otherwise expressly provided, the Contractor shall provide all materials, labour and plant and things necessary in connection with the Contract work although everything may not be fully specified and although there may be errors and omissions in the specifications.

2.11.3 The Scope of Works, under this contract is as mentioned below;

Design, Manufacture, Supply, Installation, Testing, Commissioning and Guaranteeing the performance of 14 Nos. of New Rubber Tyred Gantry Cranes (RTGCs), of 40 Ton capacity at Shahid Beheshti Port, Chabahar.

2.11.4 Contract Price: Price shall be inclusive of all charges for Design, Manufacture, Transportation including Transit / Marine Insurance, Handling, Supply and Delivery, Receipt of all Equipment / Items and handed over at Site, Installation, Trials, Testing, Commissioning of Equipment and Insurance at Site, Training of IPGL personnel, Cost of O & M Manuals and Training Manuals as per Contractual Conditions, and tools as per Schedule of price i.e. **Schedule 11 (Volume I)** Warranty support as per Contractual conditions and all other incidental charges for the execution of the Contract.

2.11.5 Contractors shall arrange for training of (02) two Officers of the Employer for training on PLC, Drives and CMMS & mechanical / hydraulic systems, at Contractor's works(In consortium, technical bidders has to provide training). This training shall be conducted by the manufacturer's qualified and experienced personnel while carrying out the trial run of the cranes at contractor's works. Accommodation during the training stay of these (02) two Officers at contractor's site, shall be arranged by the contractor. This training shall be conducted by the manufacturer's qualified and experienced personnel at contractor's works. The charges towards to and fro transportation from India / Destination country to contractor's works, accommodation, including local transport during the training stay for these Officers at contractor's works, shall be arranged by the contractor and Cost towards the said training at contractor's works is deemed to be included in CIF / Ex - works Price of the equipment.

Refer **Schedule 4 A**. Training at contractor's work is in two batches, each batch containing two engineers for drive, PLC and CMMS and two engineers for mechanical / hydraulic systems, i.e. each batch for maximum Ten (14) days.

2.11.6 Tenderers are required to quote in Price **Schedule 11** for all the spare parts as listed at Schedule 10 of the tender. However, IPGL reserves the right to review the same at the time of award of contract to the successful tenderer. Successful tenderer shall supply the spares & Tools as per the ordered list of spare parts issued along with the LOA (award of work) at the rate quoted for, which will be valid for period for (02) Two years from the date final acceptance of equipment's.

2.12 LANGUAGE OF TENDER:

The Tender submitted by the Tenderer and all correspondence and documents relating to the Tender exchanged by the Tenderer and the IPGL shall be written in the ***English language*****.** Any printed literature, other than English language, shall be accompanied by an English translation, in which case, for purpose of interpretation of the tender, the English translation shall govern. Anything given in a language other than English shall not be taken into consideration for any purpose. For MEC of Financial Standing, the audited report in language other than English, translation in English duly certified by a Chartered Accountant

or self-certification of the translated version in English by an Authorised senior official of the Tendering Company, shall be acceptable and be considered for evaluation.

2.13 CONVERSION OF SINGLE CURRENCY:

The Tenderers are required to quote their offer as per Price schedule of the tender document, in **Euros or Indian Rupees.** To facilitate evaluation and comparison, IPGL shall convert all tender Prices, expressed in the Euros in to Indian Rupees, at the bill selling rate quoted by State Bank of India on the date of opening of tender i.e. date of opening of Technical Bid. If on this date, due to any reasons such exchange rates are not available (Forex Market may be closed) the latest available rates prior to the date of opening shall be considered. The due payment of the contract shall be paid in same currency as quoted.

2.14 TENDER SUBMISSION:

The tender submitted by Tenderer shall comprise the following:

2.14.1 A covering letter along with check list – **Schedule 13 (Volume I)** giving details of the documents being submitted with tender confirming validity of bid for **180 days** & submission of Earnest Money Deposit and the Tender Document fee, if not already paid - **Envelope 1** so super scribed with the contents therein.

2.14.2 Earnest Money Deposit as per tender condition - **Envelope 2** so super scribed with the contents therein.

2.14.3 The tender document (downloaded from JNPT, DPT & IPA web-site) to be submitted in two sets, one being marked as **"ORIGINAL"** and other as **"DUPLICATE".** (Technical Bid), with each page of it duly signed by the authorised person and stamped with company's seal in token of having been read and accepted the tender conditions along with Letter of application cum Tender form duly signed by the person / persons who is / are competent to sign as per format enclosed to this tender document and **TECHNICAL BID.** A scanned copy of the signed documents along with **MS-WORD / EXCEL** copy (as the case may be) of the technical bid shall also be submitted on a **CD / Pen Drive. - Envelope 3** so super scribed with the contents therein.

2.14.4 **Price Bid - Envelope 4** so super scribed with the contents therein i.e. **Schedule 11 Part – I & Part – II.**

2.14.5 One Duplicate Copy of Technical Bid (clearly marked) of the offer shall be submitted along with the original offer, as stated 2.14.3.

2.14.6 Tenderers are required to put each of the elements viz., Covering letter, Earnest Money Deposit, Technical Bid with tender form and Tender Document, Price Bid and Duplicate Copy of Technical Bid in separate sealed envelopes. These four envelopes shall be super scribed as "Tender No. IPGL / RTGC / 2022, Design, Manufacture, Supply, Installation,

Testing, Commissioning and Guaranteeing the performance of 14 new RTGCs at Shahid Behesti Port, Chabahar " and shall be addressed to The Managing Director, India Ports Global Limited, 4th Floor, Nirman Bhavan, M.P. Road, Mazgaon, Mumbai- 400010, Maharashtra State, India.

2.15 TECHNICAL BID:

Technical Bid should not contain Prices i.e. it should not contain Schedule 11 i.e. Schedule of price. "<u>Disclosure / indication of Price</u> <u>in the Technical Bid shall render the tender disqualified and rejected</u>".

The Technical Bid shall comprise of the following information / documents which will be used in the evaluation of Tenders.

2.15.1 The Tenderer while submitting their offer for this Tender, shall also confirm in writing along with all relevant documents supporting to fact that they are meeting the MEC as specified at clause 2.1.1 of this tender document.

2.15.2 General Information / Particulars of the Tenderers as specified in the **Schedule 1 (Volume-I)** of this tender document.

2.15.3 Duly Audited Annual Reports on financial standing of the Tenderer / holding company including annual turnover, for the last three years, as per Schedule 2 (Volume-I) of this tender document.

2.15.4 Documentary evidence related to business registration / commencement.

2.15.5 List and copies of work orders executed during the last (07) seven years and documentary evidence of completion of work i.e. clients final acceptance certificates mentioning details of work- order with dated signature indicating supply of RTGCs as per Clause 2.1.1.b.

2.15.6 Copy of certificate indicating supply of at least Fourteen (14) Nos. of RTGCs with similar lifting capacity under spreader during any of the last (07) seven years as per Clause 2.1.1.c, to the international container terminal out of which at least four (04) of then shall be delivered to top hundred container ports as per independent international publication such as Lloyds list etc. along with documentary evidence.

2.15.7 Copy of client's certificates / testimonial letter for satisfactory performance as per Clause 2.1.1.d.

2.15.8 Copy of work order for supplied or is in the process of manufacturing at least three (3) RTGCs during the last five (05) years. (Work order and / or completion certificate to be submitted). As per clause 2.1.1.e.

2.15.9 The bidder shall submit documentary evidence for having sea-front for assembly and roll-on facility, if applicable.

2.15.10 Technical data of the RTGCs as per Clause 1.5 and 1.6 of **Volume-II** of this tender document.

2.15.11 Work Schedule showing as per **Schedule 3 (Volume-I)** of this tender document:

2.15.12 Details of the training programme of various categories of IPGL or its Associates as per **Schedule 4 & 4A (Volume-I)** of this tender document.

2.15.13 Quality Assurance Plan indicating all activities steps by step at various stage of project as per **Schedule 5 (Volume-I)** and details of instruments for Testing & quality control as per **Schedule 6 (Volume-I)** of this tender document.

2.15.14 Details of Sub Contractors involved in the various activities according to **Schedule 7 (Volume-I)** of this tender document.

2.15.15 Details of Organisation showing hierarchy and key personnel i.e. Organisation chart.

2.15.16 Details of Current Commitments in Hand and details of work completed in past. as per **Schedule 16 (Volume-I).**

2.15.17 Experience in having executed similar Works along with and other related details as per **Schedule 18 (Volume-I)** of this tender document.

2.15.18 a) Arrangement for importing spare parts, tie up with local firms for supply of spare parts, if any, and arrangement for after sales service. Tenderer shall submit the information as per **Schedule 8 (Volume-I)** of the Tender Document.

b) Details of bought off out items and its quality certification plan. The bidder is expected to provide the details of major bought out items in their submission and must provide QAP for all items except for those which are bought out items from various suppliers and the same may be provided at an appropriate stage.

2.15.19 Information regarding any current litigation.

2.15.20 Any other details, which shall establish the technical competency and any deviation from technical specification.

2.15.21 The deviations if any, shall be submitted as per Schedule 9 (volume-I) of the Tender Document along with Technical Bid without disclosure of the Price adjustments for withdrawal of deviations proposed by the Tenderer. However, the price adjustments proposed for withdrawal of Deviations if any, as specified by the tenderer in the Schedule 9, shall be submitted along with the PRICE SCHEDULE of the Tender. If Price adjustments are not given in the price schedule, it is deemed that particular deviation does not bear any financial implication for withdrawal of deviation. In case there are no deviations, Schedule 9 shall be stroked off by writing **"NO DEVIATIONS"** on it. The bidder is expected to comply with all terms of the tender and no deviations are envisaged. However, in case of any deviation considered by the bidder, the same shall need to be indicated in Schedule 9. The deviations not acceptable to IPGL should be withdrawn by the bidder. The bidder shall provide price implications, if any, for the deviated items, along with the price bid.

2.15.22 **List** of spare parts quoted as per **Schedule 10 (Volume-I)** without disclosure of the price. Schedule 10 A (Volume-I) is details of Operation and Maintenance Manual and Schedule 10 B (Volume-I) is List of the Tools to be supplied with each equipment, cost of which is included in CIF Price of the Equipment.

2.15.23 Schedule of Price i.e. **Schedule 11 (Volume-I) Part-I & II** to be submitted separately in sealed **Envelope 4.** Super scribed as **Price Bid.** Price adjustment offered for each deviation should also be attached along with.

2.15.24 Undertaking to ensure **Integrity Agreement** as per **Schedule 12 (Volume-I):** The tenderer shall give an undertaking that they have not made any payment or illegal gratification to any person / authority connected with the bid process so as to influence the bid process and have not committed any offence in connection with the bid. The bidder shall disclose any payments made or proposed to be made to any intermediaries (agent etc.) in connection with the bid.

2.15.25 Check List as per **Schedule 13 (Volume-I).**

2.15.26 **Confidentiality and Non-Disclosure Agreement Schedule 14 (Volume-I)**: Except with the written consent of IPGL, the successful tenderer and its personnel shall not at any time communicate to any person or entity any confidential information acquired in the course of the Project execution or the services rendered, this contract or IPGL's Business Operations nor shall the vendor / Consultant and its Personnel make public the recommendations formulated in the course of, or as a result of the services. However, in case of requirement of sharing of critical business / technical information with third party, a Non-disclosure agreement shall be signed between authorised official of the successful tenderer and IPGL as per the **Schedule 14 (Volume-I)** of the tender document.

2.15.27 Details of organisation showing hierarchy and key personnel **Schedule 15 (Volume-I)** (Organisation Chart).

2.15.28 Current Commitments in Hand as per **Schedule 16 (Volume-I).**

2.15.29 Details of works completed in past as per **Schedule 17 (Volume-I).**

2.15.30 Tentative drawings of various arrangements of the RTGCs as per clause 3.26 (Volume-I) of this tender document.

Note: Technical offer with counter condition shall be liable for rejection and disqualification.

2.15.31 Schedule 18: Experience in similar works

2.15.32 Schedule 19: Format of GFR rule 144 (xi)

2.15.33 Schedule 20: Format of security clearance

2.16 PRICE BID:

2.16.1 The "Price Bid" as per the **Price Schedule of (Volume - I)** of the tender document shall contain following;

i. CIF Price of the equipment.

ii. CIF Price of spare parts / Tools. **SCHEDULED 10 B**

iii. Price breakup of Spares and Tools as mentioned in **Schedule 10 (Volume - I)**.

iv. Custom duty / any other taxes payable.

v. Price for Testing and Commissioning of the equipment.

vi. Cost for imparting training to IPGL personnel at contractor's works (Clause 2.11 of Volume I of the Tender Document) which shall deem to be included in the cost of the equipment.

vii. Cost for imparting training to IPGL personnel at site as per clause 1.12 of (Volume – II) of the Tender Document.

viii. Cost towards inspection of equipment at contractor's works (as per clause 3.24 & 3.25 Volume-I of the tender document) which shall deem to be included in the cost of the equipment.

ix. Cost towards Training, Operation and Maintenance manuals.

x. Cost towards Warranty support.

The expenses on the training and inspection at contractor's works for the officers deputed shall include to and fro travelling expenses from IPGL to contractor's works and vice-a-versa, lodging & boarding, local transportation at Contractor's works.

2.16.2 Conditional Price Bid shall be liable for rejection.

2.16.3 The "Price Bid" shall contain rates of RTGCs, as per the Price Schedule of Vol.-I of the tender document i.e. Schedule11. The Price Schedule shall contain all applicable taxes payable, CIF Price of the equipment and spare parts / Tools as per relevant Schedule of (Volume-I) Price for Testing and Commissioning of the equipment, the cost for imparting training to IPGL personnel at work site i.e. Chabahar Port, , the cost for imparting training to two IPGL officers at contractor's works on PLCs, Drives / CMMS (including cost for Transportation & Accommodation & lodging of two (02) officials of IPGL during the period of testing of manufactured equipment at contractor's site / work. It may be noted that Custom Duty at Chabahar is exempted on import of ONLY those items / equipment appearing in the Price Schedule of this tender document. Anything other than the subjected to the contract is liable for duties as applicable.

The Bidder shall quote their CIF prices inclusive of all taxes and duties related to their country of export. The Bidder shall exclude from his Price only the custom duty / related

taxes if any payable in destination country for the items / equipment's appearing in the Price Schedule.

The bidder shall exclude from his price the custom duty/related taxes if any, payable in destination port for the items / equipment's appearing in the price schedule.

2.16.4 Tenderers shall quote the Total cost for the entire work as per Contract conditions and as per format given in the Price Schedule.

2.16.5 Tenderers shall quote for each and every item of the work of the Tender as per price schedule of the tender. Partial offer by any tenderer shall be liable for rejection and will not be considered by the IPGL.

2.16.6 Conditional Price Bid shall be liable for rejection.

2.17 PRE-BID CONFERENCE:

IPGL shall hold a pre-bid meeting, in order to clarify and discuss issues with respect to the tender vis-à-vis terms and conditions or any other related issues. The meeting shall be held on **26.05.2022** at Conference Hall, 4th floor, Nirman Bhavan, M.P. Road, Mazgaon, Mumbai- 400010, and would start at **14:30 Hrs.** Tenderers are advised to formulate their views / queries in the form prescribed below in **MS - WORD** format and forward the same to The Managing Director, IPGL, on or before **21.05.2022** on e-mail md.indiaportsglobal@gmail.com, mons.indiaportsglobal@gmail.com indicating their intention to attend the pre-bid meeting and their queries as mentioned above. The prospective tenderers who intend to attend the pre-bid conference are required to submit authorisation letter from the tenderer for the representative attending the pre-bid conference. During the pre-bid meeting, the queries received in advance, would be clarified first, followed by those submitted in writing and in soft copy, during the meeting. No further queries shall be entertained after the Pre-Bid Conference. The changes, if any, proposed by the Tenderer would be discussed and the IPGL's response would be provided to all the Tenderers. The queries received from all the prospective Tenderers would be consolidated and IPGL's response to the same would be communicated to all the Tenderers in writing (through e-mail) well in advance to the last date of submission of tenders. The clarifications so issued would form part of the tender and remain binding on all the Tenderers which shall be accepted and submitted by all the Tenderers along with their offer, duly signed by the authorised signatory on each page.

The format for sending queries:

Sr. No.	Page & Clause No.	Tender Specification Requirements	Queries	Clarification From IPGL

2.18 TENDER OPENING AND EVALUATION:

2.18.1 OPENING OF TECHNICAL BID:

Technical Bids of the tender, received up to closing time on stipulated date, shall be opened on the same day i.e. 26.06.2022 at 15:30 Hrs. at Conference Hall, IPGL**,** Nirman Bhavan M.P. Road, Mazgaon, Mumbai - 400010 in presence of Tenderers' duly authorised representative, who may wish to be present. The Tenderer -representatives who are present shall sign a register evidencing their attendance. Tenders shall be opened as per the following procedures:

a) In the first instance the envelopes containing cost of tender document for the tenderers who have downloaded the tender document from web site will be checked and opened. Then the envelope containing covering letter and confirmation of submission of the tender as required **(Envelope -1)** and **EMD (Envelope -2)** shall be opened and checked.

b) Thereafter the Letter of application cum Tender form and Technical Bids i.e. Volume I of the tender document **(Envelope-3)** of those tenderers whose tenders are accompanied by EMD shall be opened. At the time of opening only the contents of the covering letter and salient details of Technical Bids as considered appropriate by the tender opening Officers shall be read out.

c) **The envelopes containing the Price Bid i.e. (Envelope 4), shall not be opened.** All the sealed Price Bids of the Tenderers shall be put in separate cover and sealed in presence of the Tenderer's representatives. The sealed cover containing Price Bids shall be kept in the safe custody of IPGL to be opened at subsequent date as per the procedure.

2.18.2 SCRUTINY AND EVALUATION OF THE TENDERS:

a) In the first instance the documents submitted with the Technical Bid will be scrutinised to ascertain whether the Tenderer fulfils the requirements as stipulated in the Minimum Eligibility Criteria Clause 2.1.1. The tenderer who do not fulfil the Minimum Eligibility Criteria shall not be considered for further evaluation.

b) The Technical Bids of the tenderers who fulfil the Minimum Eligibility Criteria at Clause 2.1.1 shall be thereafter scrutinised for responsiveness. For this purpose, a tender shall be treated as substantially responsive which meets with the all requirements of the tender documents and is without any deviations.

c) After the tender opening, the whole process involving scrutiny, clarifications, evaluation and comparison of tenders and recommendations regarding award of Contract shall be confidential. Any efforts on part of any Tenderer to influence the IPGL or any officials in any way in the process of scrutiny, evaluation, comparison of tenders and decision concerning award of Contract may result in rejection of the Tenderer's bid.

d) To assess the scrutiny, evaluation and comparison of tenders, the IPGL may ask Tenderer individually for clarifications. Request for clarification and response thereto, shall be in writing or through FAX, e mail followed by post or through speed post. No change in Price or substance of the tender shall be sought, offered or permitted nor is the Tenderer permitted to withdraw the tender before the expiry of the validity period of the tenders in the process of clarifications.

2.18.3 OPENING OF PRICE BID:

a) Tenders, which are found to be in conformity with IPGL's Tender requirement and are considered substantially responsive, shall be considered for opening of Price Bid.

b) The Tenderers found to be responsive shall be informed about the date and time of opening of their Price Bids. On the stipulated date and time the Price Bids of such Tenderers who are found to be responsive, shall be opened in the presence of authorised representatives of such Tenderers who wish to remain present.

c) The Comparison and Evaluation of Price Bid will be based on the total cost of the Equipment quoted by the Tenderers covering CIF Price / Ex-work Price of the equipment (RTGC's) for Design, Manufacture, Third Party Inspection, Supply, including, transportation, transit / Marine insurance, Assembly, testing, commissioning and other cost involved for making the equipment / items available at site till it is handed over at site, including insurance as per tender, price quoted for imparting necessary operational & maintenance training to IPGL personnel as per conditions of the Contract, cost of O & M Manuals and Training Manuals as per conditions of the Contract, service during 2 years guarantee period and excluding cost of spare parts and special tools (optional and not taken for evaluation) enlisted under Schedule 10.

d) The Tenderer whose bid is accepted by the IPGL shall be duly informed in writing. Within 15 days of receipt of intimation, regarding acceptance of its bid i.e. Letter of Acceptance (LOA), the Tenderer shall submit draft Contract Agreement and draft Bank Guarantee in the format approved by the IPGL as in the ANNEX – IV and V (Volume-I of Tender Document) and within 30 Days the Contract agreement and work order shall be signed between the IPGL and the successful Tenderer. The successful tenderer shall submit performance bank guarantee as per Clause3.39 (Volume-I) of the tender document and Annexure - V. Concurrent with signing of the contract."

e) The Tenderer whose offers are found not in conformity with the conditions of the tender, will not be considered for opening of price bids and their un-opened price bids will be returned after award of work to the successful tenderer.

2.19 NOTIFICATION AND AWARD OF CONTRACT:

Prior to the expiry of the prescribed period of tender validity or such extended time, the IPGL shall notify the successful Tenderer with Letter of Acceptance (L.O.A.), by a FAX, e mail followed by registered letter that his tender has been accepted. The notification of award shall constitute the formation of the Contract. The successful tenderer, at his cost shall prepare and submit to IPGL five bound sets containing their technical offer and the various documentary transactions taken place between the employer and tenderer till the finalisation and award of the Contract.

2.20 EXPORT APPROVAL

The contract will be subject to the respective export approval laws of the country or origin.

3. GENERAL CONDITIONS OF CONTRACT:

3.1 DEFINITION AND INTERPRETATIONS:

In the Contract, as hereinafter defined, the following words and expressions shall have the meanings hereby assigned to them except where the context otherwise requires:

3.1.1 "IPGL" or "Employer" or "Company" means Board of Directors of India Ports Global Limited, a company incorporated on 22nd January, 2015, under Indian Company Act 2013.

3.1.2 "Contractor" means the firm, corporation or company whose tender has been accepted by the IPGL and includes the Contractor's servants, agents and workmen, personal representatives, successors and permitted assigns.

3.1.3 "Sub-Contractor" shall mean a person or persons to whom a part or full portion of the work has been assigned by the Contractor with information to IPGL in writing.

3.1.4 "Contract" means and includes Tender Documents, Instructions to Tenderers, General Conditions of Contract, special conditions, if any, drawings, specifications, Price Schedule and other annexures and Schedules etc., any amendments / clarifications thereto, Letter of Acceptance (LOA) and the Contract Agreement entered into between the IPGL and the Contractor as per format given in **Annex- IV** of the tender document.

3.1.5 "Contract Price" means the sum named in the Letter of Acceptance subject to such additions thereto, or deductions there from, as may be made under the provisions of the Contract.

3.1.6 "Specification" means the specification referred to in the Tender document and any modification thereof or addition thereto as may from time to time be furnished or approved in writing by the Employer.

3.1.7 "Site" means the land and other areas on, under, in or through which the Works are to be executed or carried, or any other places provided by the Employer for the purpose of the Contract.

3.1.8 "Works" means Design, Manufacture, supply, Installation, Testing, Commissioning & Guaranteeing the performance of **14 New RUBBER TYRED GANTRY CRANES (RTGCs)** to be supplied at Container Terminal, India Ports Global Limited, Shahid Beheshti Port, Chabahar.

3.1.9 "Approved / Approval" means the approval in writing.

3.1.10 "Engineer-In-Charge" means the Project Manager, IPGL, or any officer authorised.

3.1.11 "Drawings" means the drawings referred to in the Specification and any modification of such drawings approved in writing by the Engineer- In – Charge and such other drawings as may from time to time be furnished or approved in writing by the Engineer-In-Charge.

3.1.12 "Schedule" shall mean the schedule annexed to the tenderers bid.

3.1.13 “Tests on completion” shall mean such tests as are prescribed by the applicable Design Standards (latest editions), codes and described in the tender document, to be made by the Contractor before the equipment / items are supplied, delivered and taken over by the Employer.

3.1.14 “Writing” shall include any manuscript, typewritten or printed statement under or over signature and seal as the case may be.

3.1.15 "Defect Liability Period" has the meaning assigned in the clause no. 3.29 of the tender document (Volume - I).

3.1.16 "Month" means calendar month.

3.1.17 "Day" means calendar day.

3.1.18 "Letter of Acceptance’’ means the formal acceptance, made by or on behalf of the Employer, of the tender including any adjustments or variation to the tender agreed between the Employer and the Contractor.

3.1.19 "Foreign currency" means the currency other than Indian Currency.

3.1.20 “Commissioning of Equipment” has the meaning assigned in clause no.3.38 of the tender document (Volume - I).

3.1.21 “Bidder” for the purpose of this Order (including the term ‘tenderer ’, ’consultant’, ‘Vender’ , or ‘service provider ’ in certain contexts) means any person or firm or company including any member of a consortium or joint venture (that is an association of several persons, or firms or companies), every artificial judicial persons not falling in any of the descriptions of bidders stated hereinbefore, including any agency, branch or office controlled by such person, participating in a procurement process.

3.1.22 **Sub-Contracting in works of contracts**

In works contracts, including turnkey contracts, contractors shall not be allowed to sub-contract works to any contractors from a country which shares a land border with India unless such contractor is registered with shares a land border with India unless such contractor is registered with the Competent Authority. The definition of “contractor from a country which shares a land border with India” shall be as in paragraph 8 Department of Expenditure order dated 23rd July,2020. This shall not apply to sub-contracts already awarded on or before the date of this order.

3.1.23 **Certificate regarding compliance**

A certificate shall be taken from bidders in the tender documents regarding their compliance with this order. If such certificate given by a bidder whose bid is accepted is found to be false, this would be a ground for immediate termination and further legal action in accordance with law.

3.1.24 **Validity of registration**

In respect of tenders, registration should be valid at the time of submission of bids and at the time of acceptance of bids. In respect of supply otherwise than by tender, registration should be valid at the time of placement of order. If the bidder was validity registered at the time of acceptance/placement of order.

3.2 SINGULAR AND PLURAL:

Words implying the singular only also include the plural and vice versa where the context required.

3.3 HEADINGS OR NOTES:

The headings in these conditions of Contract and instructions to tenders shall not be taken to be part thereof, or be taken into consideration in the interpretation, or construction thereof, or of the Contract.

3.4 ENGINEER-IN-CHARGE AND HIS REPRESENTATIVE:

3.4.1 The Engineer-In-charge shall carry out such duties in issuing decisions, certificates and orders as are specified in the Contract.

3.4.2 The Engineer-In-charge may from time to time, in writing delegate to his Representative any of the powers, discretion, function and / or authorities vested in him and he may at any time revoke any such delegation. Any written decision, instruction or approval given by the Engineer In Charge to the Contractor in accordance with such delegation shall bind the Contractor provided always that:

a) Any failure of the Engineer In Charge to disapprove any Plant / workmanship shall not prejudice the power of the Engineer In Charge thereafter such plant or workmanship and to order the rectification thereof in accordance with these conditions;

b) If the Contractor shall be dissatisfied by reason of any decision of the Engineer In Charge he shall be entitled to refer the matter to the officer above the rank of Engineer In Charge who will thereupon confirm, reverse or vary such decision.

3.4.3 Wherever by these conditions the Engineer-In-charge is required to exercise his discretion, by giving a decision, opinion, consent or to express satisfaction or approval, or to determine value or otherwise take action which may affect the rights and obligations of the Contractor, the Engineer- In-charge shall exercise such discretion fairly within the terms of the Contract and having regard to all the circumstances. If either party disagrees with the action taken by the Engineer-In -Charge he shall be at liberty to refer the matter to Appellate Authority with these conditions.

3.5 OBLIGATIONS OF THE CONTRACTOR:

3.5.1 The Contractor shall exercise all reasonable care and diligence in the discharge of all technical, professional and Contractual duties to be performed by them under this Contract as specified in the Scope of Work within the Time for Completion and provide all labour, including the supervision and security thereof, Contractor's Equipment necessary thereof and for carrying out his obligation, so far as the necessity for providing the same is specified in or is reasonably to be inferred from the Contract. The Contractor shall be fully responsible to the IPGL for proper, efficient and effective discharge of their duties.

3.5.2 Contractor shall furnish bond in the form of Bank Guarantee towards the performance of the work as per clause 3.40 (Volume - I) of this tender document.

3.5.3 If the Employer shall consider himself entitled to any claim under the performance Guarantee he shall forthwith so inform the Contractor specifying the default of the Contractor upon which he relies. If the Contractor fails to remedy such default within 30 days after the receipt of such notice the Employer shall be entitled to forfeit to the extent of the loss or damage incurred by reason of the default.

3.5.4 The Contractor shall proceed with the Works in accordance with the decisions, instructions and orders given by the Engineer - In Charge in accordance with the condition of the Contract.

3.6 ASSIGNMENT AND SUBLETTING:

3.6.1 The Contractor may sub let the Works or any part thereof with prior intimation and approval from the Employer.

3.6.2 He shall neither assign his right and interest in these presents tender nor assume a fresh partner or partners, or dissolve the partnership existing between him in reference to this Contract without the written permission of the IPGL.

3.6.3 In the event of any activity being sub-contracted, the total liability and responsibility for meeting obligations and performance under Contract agreement shall rest with the Contractor. In the event of the Contractor contravening this condition, the IPGL shall be entitled to terminate the Contract forthwith and award a fresh Contract to some other party at risk and cost of the Contractor who shall be liable for any loss or damage which the IPGL may sustain in consequence arising out of such replacement of the Contractor. In such case the performance guarantee shall be forfeited.

3.6.4 Such consent, if any, shall not relieve the Contractor from any liability or obligations under the Contract and he shall be responsible for the acts, defaults and neglects of any Sub-Contractor or his servants, agents or workmen fully if they were the acts, defaults or neglects

of the Contractor provided always that the provisions of labour or a piecework basis shall not be deemed to be sub-letting under this clause.

3.7 PATENT RIGHTS:

3.7.1 The Contractor shall fully indemnify the Employer against any action, claim or demand, costs or expenses arising from or incurred by reason of any infringement or alleged infringements of letters, patents, Design, trademark or name, copyright or other protected rights in respect of any machine, plant, work, materials or things, system or methods of using, fixing working or arrangement used for fixed or supplied by the Contractor in India, or elsewhere.

3.7.2 All payments, or otherwise shall be deemed to be included by the Contractor in the Prices named in the tender and shall be paid by him to whom they may be payable.

3.7.3 In the event of any claim being made or action brought against the Company in respect of any such matter as aforesaid, the Contractor shall be immediately notified thereof and he shall, with the assistance if he so requires of the Company, but at the sole expense of the Contractor, conduct all negotiations for the settlement of the same or any litigation that may arise there from, provided that the conduct of such negotiations or litigations shall be conditional upon the Contractor giving to the Employer such security as shall from time to time, reasonably required by the Employer to recover the ascertained or agreed amount as the case may be of any compensation, damages, expenses and cost which might be payable by IPGL in respect of or as result of any negotiation or litigation.

3.7.4 Intellectual Property Rights developed by the seller shall remain with him and buyer shall not claim any right of business on same.

3.8 GENERAL OBLIGATION OF THE EMPLOYER:

In execution of the Works no person other than the Contractor, sub Contractors and his and their employees shall be allowed on the site except by the written permission of the Engineer In Charge or his authorised representative, but the Engineer in charge, his authorised representative, other authorities and officials of the Employer shall be afforded to inspect all facilities arranged by the Contractor at site.

3.9 CUSTOMS DUES, PORT DUES etc.:

3.9.1 In case Contractor brings in any special tools or material for commissioning of the Cranes (as appearing in the price schedule), the Contractor shall pay all applicable duties in respect of any such materials to be imported / exported to / from destination port.

3.9.2 It shall be the responsibility of the successful Contractor to comply with all the required formalities for custom clearance for items stated in 3.9.1 at destination port and pay the, charges as applicable and take necessary clearance required from the customs department.

3.9.3 Custom clearance for items appearing in the price schedule of this tender document and associated custom duty (if any), shall be the responsibility of IPGL. However the Contractor will provide all support / documents, as required.

3.9.4 If available, Office space including electricity and water, as indicated by the tenderer shall be provided on chargeable basis.

For avoidance of doubt:

(i) It is further clarified that CIF value includes all dues at port of origin and vessel related charges at the disport, including insurance till receipt of equipment at disport.

(ii)Wharfage at discharged port (if applicable) will be reimbursed to the bidder against the documentary evidence.

(iii)Taxes and duties for those items / equipment's which are appearing in the Price Schedule, the custom duty at the destination port shall be borne by IPGL.

3.10 SHIPMENT:

3.10.1 The shipment of the consignment shall be arrange by the Contractor subject to applicable laws of country of origin.

3.10.2 It is necessary that notice to be given regarding readiness of the cargo for the shipment.

3.10.3 Bill of Lading should be drawn so as to show:

3.10.4 Shippers : Tenderers Nominee

3.10.5 Consignee: India Ports Global Limited or it's SPV.

3.10.6 The contractor shall submit shipping list to the IPGL for information.

3.10.7 The Bills of Lading (clean and shipped on board) should be made to order and bank endorsed. Copy of bill of lading should be sent to IPGL.

3.10.8 Import permission, if required, at the port of destination will be obtained by IPGL on request from the supplier prior to shipment/delivery.

3.11 PACKING AND MARKING FOR SHIPMENT:

3.11.1 All equipment / spare parts required under this Contract shall be packed, securely placed and protected by the Contractor during transportation to destination country. Packing cases shall be of a size convenient for shipment for cases containing easily damageable articles. The Contractor will be held responsible for the improper packing and protection of the parts.

3.11.2 The cases, crates and packages shall be permanently branded and painted with the shipping marks. The marking shall be carried out with a view to the mark remaining unobliterated, when the consignment reaches destination but as a further precaution, a reproduction of the shipping marks shall be placed inside each case, crate and packages.

3.11.3 Packages or bundles, which cannot be permanently branded, shall have metal label, with the above particulars stamped or attached to them by strong wire.

3.11.4 All 14 RTGCs may be supplied in fully erected and pre tested condition. However, the bidder shall have the option of on-site erection delivery method. The bidder should ensure that the most economical offer considering the overall timeline of supply of equipments shall be provided in the Price Offer. Alternate price offer shall not be allowed.

3.12 COMPLETION PERIOD OF WORK:

Under this tender IPGL intends to invite price offer for acquiring 14 nos. new RTGCs. The period of completion for total Works, under this Contract shall be as given below:

Name of the work: Design, Manufacture, Supply, Installation, Testing, Commissioning and Guaranteeing the performance of 14 Nos. of **New Rubber Tyred Gantry Cranes (RTGCs),** 40 T capacity at Shahid Behesti Port, with a Total completion period of **12 (Twelve) months** from the date of opening of Letter of Credit (LC).

The bidder shall be required to follow either of the following schedules, clearly indicating the Option 1 or Option 2 in the technical bid and once opted in the technical bid, cannot be changed later.

Option 1:

Supply of All 14 RTGC: within a period of **12 (Twelve) months** from the date of opening of Letter of Credit (LC).

Option 2:

a) Supply of 05 RTGC: within a period of **12 (Twelve) months** from the date of opening of Letter of Credit (LC).

b) Supply of another 05 RTGC: within a period of **16 (Sixteen) months** from the date of opening of Letter of Credit (LC).

c) Supply of balance 04 RTGC: within a period of **20 (Twenty) months** from the date of opening of Letter of Credit (LC).

Liquidated Damages as per the Clause shall be applicable in both the options.

It may further be noted that if the Bidder opts to go with Option 2, incentives as per clause 3.49 shall not be applicable.

3.13 RATES AND AMOUNTS INCLUDE ALL CHARGES:

The rates and amounts submitted by the Tenderer shall include all payments on account of taxes, levies, duties, royalties etc. as applicable and payable in the country of origin including all incidental charges that the tenderer may have to bear for the execution of works**.**

3.14 ADDITIONS AND ALTERNATIONS:

3.14.1 IPGL may give instructions and directions as may appear (necessary and proper) to the IPGL for the guidance of the Contractor and good and efficient execution of the Works under this contract without altering major conditions and scope of work of the Contract.

3.14.2 The Contractor shall receive, obey and be bound by the same according to the true intent and meaning thereof.

3.15 EXECUTION:

The Contractor shall, in consideration of payments to be made to him as hereinafter provided, execute and do the Works set forth as described in the scope of the work and specifications, including any amendments to tender clauses.

3.16 EXTRAS:

Any extra expenses incurred and supported by documentary proof in connection to the Works by the IPGL in the performance of the Works owing to the neglect or omission on the part of the Contractor, in any of the case mentioned in this Contract shall be deducted from any sum due or which may thereafter become due to the Contractor or from any amount lying with them or under their control or he may be called upon to pay the amount of such extra expense to such person or persons as the IPGL may appoint to receive the same and in the event of the Contractor failing to make such payment, the said amount shall be recoverable from him in such manner as the IPGL may determine.

3.17 USE OF GROUND:

The Contractor shall be allowed to use such an area as in the opinion of the IPGL may be absolutely necessary for the proper and efficient execution of Works and on completion of Works or termination of his Contract, he shall clear away all his tools, plant, rubbish and other materials within a fortnight and hand over vacant and peaceful possession of the same to the IPGL in a tidy and clean condition. The Contractor shall not be allowed to erect any structures on any property of the IPGL.

3.18 CONTRACT DOCUMENT MUTUALLY EXPLANATORY:

3.18.1 The several documents forming the Contract are to be taken as mutually explanatory of one another and should anything appear in one that is not described in the other, no advantage shall be taken of any such omission.

3.18.2 In case of any discrepancies or inconsistencies however appear, or should any misunderstandings arise as to the meaning and of the specifications or drawings or as to the dimensions or the quality of the material or proper execution of the Works or as to the measurement or quality and valuation of the Works executed under this Contract or as extra thereupon, the same shall be explained by the Engineer-in-charge or his authorised representative.

3.18.3 The explanation of Engineer-in-charge or his authorised representative shall be final and binding upon the Contractor and the Contractor shall execute the Works according to such explanations, and without extra charge or deductions to/from the Prices specified in the bill of quantities and do all such Works and things as may be necessary for the proper completion of the work as implied by the specification and drawings, even though such work and things are not specifically shown and described therein.

3.19 ACCESS TO SITE:

The Contractor shall obtain prior permission of the IPGL before any person connected with the Works visits the site. The Contractor shall abide by the regulations and rules of India Ports Global /Security agency at destination port in respect of entry/exit and movement in the premises and any other directives issued by the Government / Statutory Agency from time to time during execution of the contract.

3.20 CONTRACTOR'S EQUIPMENT:

3.20.1 The Contractor shall be responsible for supply, use and maintenance of all the equipment and he shall ensure that they are suitable for the work and are maintained in such a manner as to ensure their efficient working.

3.20.2 IPGL may, if they deem fit, direct the Contractor to remove from site any equipment which are not efficient and/or prejudicial to the quality of the work to be replaced by equipment to their satisfaction. The Contractor shall immediately follow IPGL's directions/instructions.

3.21 EXISTING SERVICES:

3.21.1 Drains, pipes, cables, overhead wires and similar services whether above or below the ground which may be encountered in the course of the Works shall be saved and kept harmless from injury and/or loss or damages by the Contractor at his own costs and expenses so that they continue to be in full and uninterrupted use to the IPGL.

3.21.2 The Contractor shall not store any materials or otherwise occupy any part of the site in a manner likely to hinder the operation of such or any services. The Contractor shall at his own costs and expenses and without any delay repair and make good to the satisfaction of the Employer, any injury and/or loss or damage caused by the Contractor to the same.

3.22 LABOUR:

3.22.1 The Contractor shall make his own arrangements for the engagement of all labour for doing the work at site or in respect of or in connection with the execution of work as also for the transport, housing, feeding and payment thereof. Since time is the essence of this Contract, requisite number of labour force has to be kept, so as to complete the Installation, Testing and Commissioning of the equipment within the completion period as stipulated in the tender.

3.22.2 In the event of any outbreak of illness or an epidemic nature, the Contractor shall comply with and carry out such regulations, orders and requirements as may be made by the Government, or the local medical or sanitary authorities for the purpose of dealing with and overcoming the same.

3.22.3 The Contractor shall at all times take all reasonable precautions to prevent any unlawful, riotous or disorderly conduct by or amongst his employees and for the preservation of peace and protection of persons and property in the neighbourhood of the Works against the same.

3.22.4 The Contractor shall at all times during the continuance of the Contract comply fully with all existing Acts, Regulations and bye law as including all statutory amendments and re-enactment of state, Central Government and other local authorities and any other enactment and acts that may be passed in future either by the State or the Central Government or local authority, including Labour Laws, Factories Act, Minimum Wages Act etc

3.22.5 If as a result of Contractor's failure, negligence, omission, default or non-observance of any provisions of any laws, the IPGL is called upon by any authority to pay or reimburse or required to pay or reimburse any amount, the IPGL shall be entitled to deduct the same from any moneys due or that they become due to the Contractor under this Contract or any other Contract or otherwise recover from the Contractor any sums which the IPGL is required or called upon to pay or reimburse on behalf of the Contractor. All registration and statutory inspection fees in respect of his work pursuant to the Contract shall be paid by the Contractor.

3.22.6 The Contractor shall pay the labourer engaged by him on the work not less than a fair wage, which expression shall mean, whether for time or piece work, rate of wages as may be fixed by the relevant statutory authority as fair wages for payable to the different categories of labourers or those notified under the Minimum Wages Act or applicable local laws of respective country.

3.22.7 Safety Gears Etc.: The Contractor shall at his own expenses provide all safety gears for all labours engaged during the work and failing to do so, IPGL shall provide the same and recover the cost thereof from any amount due or which may become due to the Contractor or from any amount lying with them or under their control.

3.23 PLANT AND EQUIPMENT:

The Contractor shall at his own costs and expenses provide all labour, plant, haulage, transportation of plant and equipment to be used for executing the Contract, all materials, stores etc required for efficiently carrying out and completing the work to the satisfaction of the IPGL.

3.24 INSPECTION AND TESTING OF WORK AT CONTRACTOR'S AND SUB CONTRACTOR'S PREMISES:

3.24.1 The Engineer In-charge or his Representative shall have at all reasonable time access to the Contractor's and sub-contractors premises / work site and shall have the power at all reasonable time to inspect, examine and test the materials & workmanship of the work during its Manufacture. The employer shall depute two engineers for inspection & testing at contractor's works and sub contractor's premises for which the necessary co-ordination & arrangements shall be made by the contractor at his cost. The contractor shall give at-least 30 (thirty) days' advance notice to the Engineer-In-Charge for each pre-shipment inspection. It is clarified that the IPGL will co-operate to complete the pre dispatch inspection soonest possible.

3.24.2 The expenses of two engineers deputed for inspection of cranes to contractor's work shall be deemed to be included in the price of equipment, i.e. travelling from Mumbai to works and back, lodging & boarding, transportations at contractor's works etc. Only such works will be accepted for which the Engineer In-charge or his authorised representative may certify to be in accordance with the Contract. The period of stay of two engineers depends on bidders schedule for inspection & testing at contractor's works, as per actual requirement and as decided in kick-off meeting and during design review meetings by Engineer In-charge or his authorised representative or TPIA.

3.24.3 The Engineer In-charge or authorised representative on giving seven (7) days' notice in writing to the Contractor setting out any ground of objections which may have in respect of the work, shall be at liberty to reject all or any materials of workmanship in the subject of any of the said grounds of objection which are not in accordance with the Contract.

3.24.4 In all cases where the Contract provides for tests whether at the premises of the Contractor or any sub-Contractor or elsewhere, the Contractor except where otherwise specified shall provide free of charges such labour, materials, electricity, fuel, water, stores, apparatus and instruments as may reasonably be demanded, to carry out sufficiently such tests of the work in accordance with the Contract and shall at all time facilitate the Engineer In-charge and his assistant to accomplish such Testing.

3.24.5 The cost of all tests and / or analysis as required during execution of the contract effected at the Contractor's or Sub - Contractor's work and on the installation site shall be borne by the Contractor. The cost of independent test and / or analysis which the Engineer In - charge or his authorised representative may cause to be made and which prove satisfactory shall be borne by the Contractor and also the Contractor will be called upon to pay all expenses incurred by the Employer in respect of any work found to be defective or of inferior quality, adulterated or otherwise unacceptable.

3.24.6 Third Party Inspecting Agency (TPIA) shall certify the RTGCs before shipment at Contractor's site. The Contractor shall give the Engineer In - charge such reasonable notice

of the progress of the work and shall intimate the tentative date of shipment & arrival at IPGL well in advance. The contractor shall furnish a certificate issued by Third Party Inspection Agency towards "Ready to ship" prior to transportation of RTGCs from contractor's works."

3.24.7 The crane without inspection, examination and Testing shall not be prepared for shipment or transportation, as the case may be, without the consent of the Engineer In-charge, as being ready for shipment or transportation. Such passing or consent shall not relieve the Contractor from the liability to complete the Contract Works in accordance with the Contract.

3.24.8 a) IPGL shall appoint an Internationally reputed Third Party Inspection Agency (TPIA) at his own cost for carrying out stage wise inspection like Design verification including Structural Material, Welding, Sub-assemblies, Painting, Erection, Testing, Commissioning etc. and TPIA shall submit the certificates to Engineer In-charge or authorised representative at the time of shipment of the equipment or the parts of equipment and the same shall be submitted to the Employer before Commissioning of the equipment at site. The third party agency appointed shall also monitor the work progress reports at the contractor's works and report to the employer in addition to inspection reports.

b) The contractor shall provide following;

All necessary documents required for execution of the job by TPIA as specified in the Scope of work for TPIA at Annexure-VII of Volume-I of tender document. IPGL shall endeavour to get approval of TPIA within 2 weeks or as per schedule drawn during kick - off meeting. Schedule for inspection during manufacturing, assembly, erection, testing and commissioning and requirement of inspectors from TPIA shall be communicated at least one month in advance.

In case, the scheduled inspection is cancelled due to the reasons attributable to the contractor, the fees of TPIA inspectors will be on contractor's account and same shall be deducted from the payment due to the contractor.

In case, the contract gets delayed due to the reasons attributable to the contractor, the fees of TPIA inspectors during the delayed period will be on contractor's account and same shall be deducted from the payment due to the contractor.

3.24.9 The scope of work of Third Party Inspection at Contractor's Works and Employer's site shall be as per the scope indicated at **Annexure-VII** of this tender.

A copy of tender document along with amendments & clarifications must be issued to the Third Party Inspection agency to understand the contract.

3.24.10 Third Party Inspection Agency shall submit fortnightly progress report to the Employer directly by e-mail.

3.25 TESTING OF EQUIPMENT AT CONTRACTOR'S AND EMPLOYER'S SITE:

3.25.1 The tests shall include operational and capacity tests. The capacity test for hoist motion shall be with an overload of 10 % in excess of the rated working load. The date for operational and capacity test shall be set by the Contractor and shall be informed to Engineer-In charge in advance. The Contractor shall be responsible for any adjustments or corrections found necessary during the test.

3.25.2 The Contractor shall arrange to test the equipment for load test by a Competent Agency notified by competent authority at Employer's site and submit the certificate to this effect to the Engineer-In charge. The test load in containers required shall be arranged by the contractor at his cost and risk. The contractor shall produce the certificates issued by the competent authority for these test load / containers being used for load test at site. All the tests shall be carried out in presence of TPIA and / or Engineer-in-charge or his authorised representative so as to meet all local statutory regulations.

3.25.3 Adequate strength of qualified & experienced engineers shall be deputed at work site to attend recurring faults on advice of the Engineer In Charge during the testing, commissioning & warranty period. The cost of the same shall be deemed to be included in the quoted price.

3.26 DRAWINGS:

The Tenderer shall submit along with the tender, minimum one copy of each of the following drawings for new RTGC's:

3.26.1 General arrangement of the crane offered with principal details and leading dimensions etc.

3.26.2 Schematic electric, electronic and programmable controller details.

3.26.3 Schematic arrangement of hoist & hoist wire ropes, Electric room and Machinery house arrangement etc.

3.26.4 General arrangement of the operator's cabin, clearly indicating the location of various controls and indicators.

3.26.5 Any other special features, which the bidder wishes to highlight

3.26.6 Diagram showing stage wise activities of the project.

3.26.7 All technical details of electrical infrastructure proposed for RTGCs.

Note: All dimensions of the drawings shall be in Metric units and all writings shall be in English.

3.27 TESTS ON COMPLETION AT EMPLOYER'S SITE:

3.27.1 On completion of fabrication of all items at the Contractor's premises and also when Installation / final adjustments at site are completed in accordance with the Contract, the Contractor shall give the Engineer In-charge notice in writing thereof and before making the tests on completion of 7 days' notice in writing of the date on which he will be ready to make the said tests in accordance with and in the manner prescribed in the specifications.

3.27.2 The tests on completion shall be made on each item when final adjustments and tests are completed at the Contractor's premises in the presence of Engineer In charge or his authorised representative if desired necessary, in accordance with the Contract and also when erection / Installation is completed at IPGL site in accordance with the Contract.

3.27.3 If any portion of work fails under the tests to fulfil the Contract conditions, tests of the faulty portion shall, if required by the Engineer In-charge or by the Contractor, be repeated within reasonable time upon the same terms and conditions.

3.27.4 The 'Endurance test' (Durability Test) as per clause 1.18.2 (Volume - II of the tender document) shall be carried out by the Contractor within one week after the time fixed by the Engineer In-Charge for the commencement of commercial operations and if in opinion of the Engineer In-charge the tests are being unduly delayed, the Engineer In-charge may, in writing, call upon the Contractor under three days' notice to make such tests. The Engineer In-charge may proceed to make such tests himself, at the Contractor's risk and expense.

3.27.5 If the Contractor neglects to make the 'Performance test' (Acceptance Test) as per clause 1.18.1 (Volume-II of the tender document), within the time stipulated by the Contractor, the Employer shall nevertheless have the right of using the Installations at the Contractor's risk until the 'Performance test' are successfully carried out.

3.28 REJECTION OF DEFECTIVE WORK:

3.28.1 If the complete erection / Installation at site or any portion thereof before being taken over, under Clause 3.30 (Volume-I of Tender Document) is defective, or fail to fulfil the requirements of the Contract, the Engineer In-charge shall give notice to the Contractor setting forth particulars of such defects and the Contractor shall forthwith make the defective supply / plant / Installation good, or alter the same to make it comply with the requirements of the Contract.

3.28.2 If Contractor fails to do so within a reasonable time, as mutually agreed, IPGL may reject and replace the same at the cost of Contractor, the whole, or any portion of the work, as the case may be, which is defective or fails to fulfil the requirements of the Contract. The Contractor's full and extreme liability under this clause shall be satisfied by the payment to IPGL, the extra cost, if any, of such replacement delivered and erected. Such extra cost being ascertained shall be deducted from the Contractor's bill.

3.28.3 If any supply of defective items shall have caused delay in the completion of the Contract so as to give rise to a claim for damage on the part of the IPGL nothing contained in this clause shall interfere with or prejudice any rights of the Employer with respect to such claim.

3.29 DEFECT LIABILITY PERIOD:

In this condition the expression 'Defect liability period' shall mean a period of **24 months** calculated from the date certified at the time of acceptance in accordance with clause 3.31 (Volume-I of Tender Document).

3.30 DEFECTS AFTER TAKING OVER:

3.30.1 The Contractor within 4 weeks from the date of communication by the Engineer In charge, shall be responsible for making good at his expense any defect in or damage to any portion of the Works which may appear or occur during the defect liability period and which arises either:

a) From any defective materials, workmanship or Design or

b) From any act or omission of the Contractor done or omitted during the said period.

3.30.2 If any such defects shall appear or damage occur the Engineer - In Charge shall forthwith inform the Contractor thereof stating in writing the nature of defect or damage. The provision of this clause shall apply to all replacements or renewals carried out by the Contractor to remedy defects and damage as if the said replacements and renewals had been taken over on the date they were completed to the satisfaction of Engineer In Charge. Replacements or renewals of parts shall be warranted for a period from the date of replacement till completion of Defect Liability Period.

3.30.3 If any such defect or damages were not remedied within a reasonable time, IPGL may proceed to do the work at the Contractor's cost & risk.

3.31 TIME OF ACCEPTANCE:

The supply, delivery and Installation of the equipment / items at site shall be deemed to have been accepted by IPGL when the same shall have been installed, tested & commissioned and the Engineer-In-charge shall have issued the final acceptance certificate as per clause 3.35.4.

3.32 TERMS OF PAYMENT:

Mode of Payment: The payment to the contractor for acquisition of the equipments under the contract shall be effected by IPGL through irrevocable letter of credit (L/C), against stage-wise payments. The charges towards opening of L/C within India shall be borne by the Employer (IPGL) and charges towards opening of L/C outside India shall be borne by the Contractor. Any charges against extension of L/C for shall be borne by the respective party. **Alternatively payment can also be effected directly if supplier do not require payment though L/C.**

(a) First stage: Initial advance up to **10 %** of CIF Price of equipment mentioned in the LOA against submission of a Bank Guarantee equivalent to **110 %** of the advance amount and this initial advance will not carry interest. However, if the contract is terminated due to default of the contractor the initial advance would be deemed as interest bearing advance at an interest rate of base Prime Lending Rate of SBI + 02 % p.a. to be compounded quarterly.

(b) Second stage: 60 % of CIF Price mentioned in LOA after shipment of the equipment to the final destination and submission of shipment documents of satisfactory evidence of this shipment of equipment.

Shipment Documents includes:

(i) Original Bill of Lading (Clean and Shipped on Board), (03) Three Copies.

(ii) Original Invoices (03) Three Copies.

(iii) Original Certificate of Origin,(03) Three Copies.

(iv) Packing list for each Crane.

Note : In case advance payment is not taken by the contractor, second stage payment after shipment of equipment's to the final destination as 70 % can be claimed by contractor.

(c) Third stage: 20 % of CIF Price mentioned in LOA against Completion of commissioning of equipment and compliance of operation to endurance test activities and on verification and certification by Engineer-In-Charge against commissioning of equipment and handing over of the cranes for commercial operations.

(d) Fourth stage: 10 % of CIF Price mentioned in LOA after issuance of final acceptance certificate by the Engineer-In-charge for the Equipment.

Note: For the second, third and fourth stage payments, pro-rata payment shall be considered in case the contractor opts for staggered delivery schedule. (Option 2).

3.32.1 Training Charges: Charges for Training as mentioned in the LOA shall be paid after completion of Training of IPGL Personnel and issuance of certificate for completion of training by Engineer In-charge, as per terms of Contract.

3.32.2 **Payments,** if payable, towards Spare Parts / Tools as listed out at **Schedule – 10 (Volume-I)** shall be made in two stages as mentioned below:

A)	50 % of CIF Price mentioned in the LOA against delivery of Spare parts and Special Tools as per the list attached at Schedule – 10 (volume I) at Employers Main Stores duly certified by the Engineer-In -Charge for Receipt of the same.
B)	50 % of CIF Price mentioned in the LOA on commencement of Commercial operation of the equipment.

Note: Spare Parts as Listed in **schedule – 10** are **optional and not to be considered for evaluation.** However, the bidder has to confirm that price quoted for spares will remain valid for 2 years from date of Final Acceptance.

3.32.3 Payment for rendering Warranty Support:

Charges for rendering Warranty Support as mentioned in the LOA shall be paid after satisfactory completion of Warranty period as per clause 3.60 of the tender and issuance of certificate by the Engineer – In - Charge.

3.32.4 Payment of Duties:

It may be noted that Custom Duty at Chabahar is likely to be exempted for IPGL on import of ONLY those items / equipment appearing in the Price Schedule of this tender document. In case any custom duty is payable same shall be initially borne by the Tenderer / Contractor and will be reimbursed at actual against production of satisfactory documentary evidence. All the co-ordination in this regard shall be done by the Tenderer or his local representative for getting necessary clearance from relevant authorities like Customs and Assessment of the Duty component.

3.33 Payment of taxes and Levies:

The Contractor shall pay all taxes, levy as applicable in the country of origin including all incidental charges that the tenderer may have to bear for the execution of works.

3.34 NO INTEREST ON ACCOUNT OF DELAYED PAYMENTS:

Any claim for interest will not be entertained by the IPGL with respect to any payment or balance which may be in their hands owning to any disputes between themselves and the Contractor or with respect to any delay on part of the IPGL in making payment.

3.35 CERTIFICATE AND PAYMENT:

3.35.1 Certificate of payment:

The Contractor may at the times and in the manner following apply for interim and final certificates as referred to in Clause 3.32 (Terms of Payment – Volume - I of Tender Document) for Plant shipped to the site and for work executed on the site.

3.35.2 Certificate for receipt of Equipment at site:

Application for Certificate for receipt of Equipment at site may be made to the Engineer In Charge against arrival and safe unloading of cranes and spares at site, accompanied by certificate for ready to shipment issued by Third Party Inspecting Agency, inspection release note, certificate for receipt of all parts of entire equipment in safe condition at site by Third Party Inspection Agency, certificates from Marine Insurance Company(s) which covers all risks and other documents as the Engineer In Charge may reasonably require. Application shall state the amount claimed and shall set forth in detail, in the order of the schedule of Prices, particulars of the equipment received at the site along with declaration of the contractor to this effect. The Engineer In Charge shall issue to the Contractor a Certificate for receipt of Equipment at site within 14 days after receiving an application thereof.

3.35.3 Issue of Provisional Certificate:

Application for Provisional Certificate for satisfactory commencement of commercial operations of Equipment may be made to the Engineer In-Charge against release of equipment for commercial operations accompanied by undertaking that the pending punch list items shall be attended within 6 weeks from the date of this application. The Engineer In-Charge shall issue to the Contractor the Provisional Certificate for Commercial Operations within 14 days after receiving an application thereof.

Subject to completion of requirements of clause 3.38.3 an application for Provisional Certificate for satisfactory commencement of commercial operations of Equipment may be made to the Engineer In-charge against release of equipment for commercial operations accompanied by undertaking that the pending punch list items shall be attended within 6 weeks from the date of this application. The Engineer In-charge shall issue to the Contractor the Provisional Certificate for Commercial Operations within 14 days after receiving an application thereof along with punch list. If any works related to safety of the equipment are balance to be attended then even though the cranes are in operation the same shall not be declared as commercial operation but under Trial operation and at the risk and cost of the contractor till issue of Provisional certificate by IPGL for accepting the cranes for commercial operations. During such time of trial operations the Insurance risk of the cranes will be responsibility of the contractor.

3.35.4 Issue of Final Acceptance Certificate:

Application for Final Acceptance Certificate of Equipment may be made to the Engineer In Charge against satisfactorily attending of punch list items and after the Contractor has ceased to be under any obligation under Clause 3.3 provided that, if a Provisional Certificate has been issued in respect of any Section or Portion of the Works, the Contractor may apply for a separate final certificate at any time after the said obligation has ceased in relation to such Section or Portion. Where the Contractor has carried out replacements or renewals to the Works in compliance with Clause 3.30 the Contractor's obligations shall continue, but the right of the Contractor to apply for a final certificate other than for the replacements or renewals shall not be affected by that fact and after the Contractor has ceased to be under any obligation under Clause 3.30 in respect of the replacements or renewals he may apply for a final certificate in respect thereof.

If the punch list items are attended within 06 weeks from the date of issue of provisional certificate, then the Final Acceptance Certificate shall be issued with effect from the date of issue of Provisional Certificate and in case the punch list items are completed beyond 06

weeks from the date of issue of provisional certificate, then the Final Acceptance Certificate shall be issued with effect from the date of Application for Final Acceptance Certificate after verification of completion of punch list items by Engineer In Charge. The Engineer - In Charge shall issue to the Contractor the Final Acceptance Certificate within 28 days after receiving an application thereof.

3.35.5 Final Certificate conclusive:

A final certificate shall, save in the case of fraud or dishonesty relating to or affecting any matter dealt with in the certificate, be conclusive evidence as to the sufficiency of the Works and of the value thereof unless any proceedings arising out of the Contract whether under Clause 3.51 / 3.53 (Arbitration Dispute Resolution – Volume - I of Tender Document) or otherwise shall have been commenced by either party before the final certificate has been issued or within three months thereafter.

3.35.6 Adjustment to Certificates:

If any sum shall become payable to the Contractor under the Contract otherwise than for work executed or Plant delivered, the amount thereof shall be included in the next certificate (interim or final) issued by the Engineer In charge, and if any sum shall become payable under the Contract by the Contractor to the Employer, prior to the issue of the final certificate, whether by deduction from the Contract Sum or otherwise, the amount thereof shall be deducted in the next certificate.

3.35.7 Corrections and with-holding of certificates:

The Engineer - In Charge may in any certificate give effect to any correction or modification that should properly be made in respect of any previous certificate. Engineer - In Charge shall have power to withhold any certificate if the Works or any part thereof is not being carried out to his satisfaction, in accordance with the contract conditions.

3.36 GUARANTEE PERIOD FOR 14 Nos. NEW RTGCs:

3.36.1 The RTGC's to be supplied under this Contract shall be guaranteed for a period of **twenty four (24) months** towards satisfactory performance of each component. The steel structures and paintings & anti - corrosions application shall be guaranteed for a period of **sixty (60) months** and **thirty six (36) months** respectively and same shall be in force from the date of final acceptance of the cranes, under this Contract, by the Engineer In Charge. The Contractor shall be responsible for any defects that may develop under proper use arising from faulty materials, Designs, workmanship in the work but not otherwise and shall at his own cost remedy such defects when called upon to do so by the Engineer In -Charge who shall state in writing in what respect any portion is faulty. Excluded consumable items for guarantee period are lubricants, grease, filters for hydraulic system and for diesel engine.

3.36.2 If it becomes necessary for the Contractor to replace or renew any defective portions of the supply of the items under this clause, the provisions of this clause shall apply to the portions of the supply so replaced or renewed until the expiry of guarantee period of **24 months.** If any defects are not remedied within a reasonable time, the IPGL may proceed to do the work at the Contractors' risk and expenses but without prejudice to any other rights, which IPGL may have against the Contractor in respect of such defects.

3.36.3 If the replacement or renewals are of such a character as may affect the efficiency of the items supplied, the Engineer In-charge shall have the right to give to the Contractor within one month of such replacement or renewal notice in writing the 'Test on Completion' be made in which case test shall be carried out as provided in Clause 3.27.4 (Volume-I). Costs of all the tests shall be borne by the Contractor.

3.36.4 All inspection, adjustments, replacement or renewal carried out by the Contractor during the period referred in this clause shall be subject to the conditions of this Contract which shall be binding on the Contractor in all respects during the guarantee period and extended guarantee period if any.

3.37 COMMISSIONING OF NEW EQUIPMENT (14 new RTGC):

3.37.1 Contractor shall complete the whole work such as Design, Manufacture, Supply, Installation, Testing and Commissioning of the cranes within a period stipulated in clause 3.12 (Volume-I), from the date of issue of Letter of Credit (LC).

3.37.2 Contractor shall arrange to commission the equipment after due Testing and approval of the Engineer In-Charge within a minimum period from the date of Installation of the equipment at Employers' site and this period shall be considered within the total completion period stipulated in clause 3.12 (Volume-I) of Tender Document). All necessary testing materials, tools, slings etc. required for the Testing of the equipment shall be arranged by the Contractor at his own cost & risk. Since time is the essence of this contract, contractor shall ensure that requisite number of labour force / resources are made available at site, so as to complete the installation, testing and commissioning of all equipment at IPGL site within the completion period of the contract

3.37.3 Commissioning of equipment shall mean handing over of equipment for regular operations after completion of Endurance test (Durability Test) as per clause 1.18.2 of the tender (Volume-II), without compromising safety norms and satisfying all functional requirements without affecting the productivity of the equipment.

(i) Any punch item which is not affecting safety norms and functional requirements without affecting the productivity of the equipment shall be closed within six weeks from the date of commissioning of equipment and put in regular commercial operations to consider the

date of commencement of regular commercial operations as the date of acceptance of the equipment.

(ii) In case punch items are not closed within six weeks from the date of commissioning of the equipment, the date of closure of punch item shall be considered as date of acceptance. Defect liability period shall commence from the date of final acceptance of the equipment to be done.

3.38 REMOVAL OF MATERIAL ON COMPLETION:

The Contractor shall, on completion of the Works or when directed by the Employer, remove all plant, equipment, tools, materials, temporary constructions etc. and rubbish which may have been accumulated during the execution of the work, other than those permanently used into the Works, at Employer's site.

3.39 PERFORMANCE GUARANTEE BOND TOWARDS PERFORMNACE OF CONTRACT:

3.39.1 Within 45 days of the receipt of the notification of the award of Contract from the Employer, i.e. LOA or 30 days signing of contract between IPGL and Contactor, whichever is earlier, the successful tenderer shall furnish to the Employer, a bond in the form of a Bank Guarantee (B.G), from a any Nationalised / Scheduled Bank covered under section 2 (e) of the Reserve Bank of India Act 1974, having their branch in Mumbai, for an amount equivalent to 3% of the Contract Price (as indicated in LOA) guaranteeing the performance of the Contract, as per the draft Bank Guarantee form at Annex-V of this tender document. The validity of such bank guarantee issued, towards performance of the Contract, shall be up to handover/FAC of cranes after successful completing all due tests.

3.39.2 Failure of the successful Tenderer to submit the required Performance Guarantee shall constitute sufficient grounds for termination of the Contract & forfeiting the Earnest Money Deposit. The BG submitted towards performance shall be returned after deploying the cranes for regular operations and after receipt of performance BG towards defect liability period and upon making application thereof by the contractor.

3.39.3 Performance Bond during Defect Liability period for 14 new RTGCs:

After successful completion of the work, final Testing & Commissioning of the crane and before handing over of the 14 new RTGCs supplied to IPGL under this contract, the Contractor shall submit a B.G., for an amount equivalent to 3 % of the Contract Price towards guaranteeing the performance of the new cranes during defect liability period as per the draft Bank Guarantee form at **Annex - V** of this tender document. The validity of such bond issued shall be for a period of 24 months from the date of final acceptance certificate, with a claim period of 03 months thereafter. In this case, the para 1 of the BG

format at **Annex - V** may be suitably worded indicating the work of contract for 14 new RTGC only for this Guarantee.

3.39.4 Performance Bond after completion of Defect Liability period for 14 nos. new RTGCs: The contractor shall submit a Performance Bond, in respect of 14 new RTGCs supplied under this contract in the form of B.G for an amount equivalent to 3 % of the Contract Price, towards performance of steel structures and painting, at least 30 days before the expiry of validity of bond mentioned under clause 3.39 **(Volume - I of Tender Document)** as per the draft Bank Guarantee form at **Annex - V (Volume - I)** of this tender document. The validity of this bond shall be for a period of 36 months, after defect liability period, with 03 months claim period thereafter. In this case, the para 1 of the BG format at **Annex - V** may be suitably worded indicating the work of contract for 14 Nos. RTGC only for this Guarantee.

Note: The tenderer has the option to submit only one Bank Guarantee covering Performance Bank Guarantee as well as warranty period (defect liability period), with a claim period of three (03) months, after completion of warranty.

3.39.5 In the event of failure of Contractor to ensure the performance of the equipment, during the guarantee period and not responding to the requirement of the situation as indicated in clause 3.37 (Volume-I of Tender Document), of this tender document and if the Employer is compelled to encash the B.G to meet the situation, the Contractor shall revalidate the said guarantee for the suitable period as agreed by the Employer.

3.39.6 The BG submitted by the Contractor towards the performance of the equipment during defect liability will be returned to the Contractor after successful completion of the defect liability period, to the satisfaction of the Employer and on making an application thereof.

Note : All bank guarantee shall be submitted verbatim as per the Annex of tender.

3.40 SECURITY DEPOSIT TOWARDS ADVANCE PAYMENT FOR OF CONTRACT (i.e. NEW 14 RTGCs):

3.40.1 The successful Tenderer shall furnish to the Employer, a security deposit in the form of a Bank Guarantee (B.G) from a Nationalised / Scheduled / International Bank, having their branch in Mumbai for an amount equivalent to 110 % of the advance amount to be made to the Contractor, for advance payment. Such B.G. shall be as per the draft Bank Guarantee form at Annex-VI (Volume-I) of this tender document, applicable for the first stage payment at clause 3.32.1 A.

3.40.2 The Employer shall release advance as indicated in clause 3.32 (Volume-I), Terms of Payment, of this tender document to the Contractor against submission of Security deposit in the prescribed form.

3.40.3 The B.G issued, towards security deposit of advance payment, shall be valid for a period of **02 months** beyond the date of completion of the contract i.e. dates of Final Acceptance Certificate, with a claim period of 03 months. The B.G submitted by the Contractor under this clause will be returned to the Contractor after successful commencement of commercial operations of the equipment and on making an application thereof.

3.40.4 In the event of failure of Contractor to complete the work within stipulated period, the Contractor shall revalidate the B.Gs for an extended period as agreed by the Employer however this will not relieve the Contractor from the obligation of liquidated damages as indicated in clause 3.44 (Volume-I) of this tender document.

3.41 FORFEITURE OF SECURITY DEPOSIT:

IPGL shall be entitled to encash the Bank Guarantee deposited by the Contractor / Contractors with IPGL in the following event.

a) In case of failure on the part of the Contractor / Contractors, at any time, during the continuance of this Contract, to comply with any of the conditions herein contained, or

b) In case of any breach of any portion of this Contract.

3.42 INDEMNITY:

3.43.1 Notwithstanding that all reasonable and proper precautions may have been taken by the Contractor at all times during the progress of the work, the Contractor shall nevertheless be wholly responsible for all damages, whether to the Works themselves or to any other property of IPGL, or to the lives, persons, property of others during the progress of the work.

3.43.2 In case any damage occurs to the existing structure due to the Contractor's operation, the same shall be made good by the Contractor at his own risk and cost. The areas, which are likely to be unsafe for use, shall be barricaded and all the necessary precautionary measures like displaying notices shall be taken by the Contractor, during Commissioning and Testing of equipment at site.

Further, it is clarified the Contractor shall not be liable for incidental, indirect or consequential damages to the extent such limitation of liability is valid under Indian law.

3.43 LIQUIDATED DAMAGES:

(a) The Contractor has to Design, Manufacture, Supply, Install, Test, Commission and hand over the new equipment within the completion period as stipulated in **clause 3.12 (Volume-I of Tender Document).**

(b) In the event of failure on the part of the Contractor to commission the new equipment for any reason whatsoever within the period stipulated in clause 3.12, an amount of per week shall be levied for delayed period as Liquidated Damages as stipulated below for the work of Design, Manufacture, Supply, Install, Test, Commission and hand over the new RTGCs at Shahid Beheshti Port, Chabahar.

(c) Except as provided in the Cl. no. 3.53 of GCC (Force Majeure), if contractor fails to deliver any or all of the Goods by the Date(s) of delivery or perform the Related Services within the period specified in the Contract, the Employer may without prejudice to all its other remedies under the Contract, deduct from the Contract Price, as liquidated damages, a sum equivalent to 1 % per week or part thereof, of the delivered price of the delayed Goods for each week or part thereof of delay until actual delivery, up to a maximum deduction of the percentage of 10 % of Total Contract Price, However in case of part delivery or staggered delivery under Option 2 of Clause 3.12, LD of 1 % per week or part thereof, shall be calculated based on the delivered price of balance / un fulfilled portions of the contractual obligations i.e. not delivered to the Employer (IPGL). This does not absolve the contractor from his obligation of completion of whole of the work in an expeditious manner. Contract price shall be inclusive of CIF price plus all taxes and duties payable for computing Liquidated Damages. Further, in case of staggered delivery under Option 2 of Clause 3.12, the payment of LD in the first part of delivery shall not entitle the Contractor to extend the delivery schedule for the second part and the timeline for the second part shall remain unchanged.

(d) Once the maximum LD is reached, the Employer may terminate the Contract pursuant to Clause no. 3.52 of the GCC. The maximum amount of liquidated damages shall be 10 % of total Contract Price. Even in case of the part taking over, maximum ceiling limit remain in reference to the total contract price.

(e) The necessary Liquidated Damages shall be recovered by the Employer from any stage payment due to the Contractor.

(f) No claim will be made by the Employer for consequential losses due to delay in delivery and handover**.**

(g) Delay penalties shall be recovered in the currency of bid.

The necessary Liquidated Damages shall be recovered by the Employer from any stage payment due to the Contractor in Euro/INR.

3.44 INSURANCE OF WORK AT MANUFACTURER'S SITE FOR NEW RTGCs:

3.44.1 Unless the Employer shall have approved in writing other arrangements, the Contractor shall, insure, so far as reasonably practicable the Works and keep each part thereof insured as may be mutually agreed between the Employer and the Contractor against all loss or damage from whatever cause arising, until the RTGC's are received at employer's site in good condition duly certified by the Third party inspection agency. The value of such insurance shall be at least equal to **110 % of the contract price of 14 Nos. new RTGCs excluding spare parts / tools cost.**

3.44.2 **Insurance during installation at employer's site:** The Contractor shall so far as reasonably practicable insure against the Contractor's liability in respect of any loss or damage occurring whilst the Contractor is at **EMPLOYER'S** site for the purpose of making good a defect or carrying out the tests on completion during the installation & commissioning of the equipment at employer's site or for the purpose of completing any outstanding work and against any loss or damage arising during the defects liability period from a cause occurring prior to the taking over of new RTGCs by the employer. For all practical purpose such insurance, during Defect Liability Period, shall be from any internationally reputed insurance company, covering the risk and liability specified in the tender. The value of such insurance shall be at least equal to **110 % of contract price of 14 new RTGC excluding spares parts / tools cost.**

3.44.3 The Contractor shall from time to time when so required by the Engineer-In-Charge, produce the policy or an undertaking about covering the liability as defined in the tender terms and receipts for the premium or premiums or satisfactory evidence of insurance cover. All monies received under any such policy shall be applied in or towards the replacement and repair of the Works lost, damaged or destroyed but this provision shall not affect the Contractor's liabilities under the Contract.

3.45 INSURANCE AGAINST THIRD PARTY LIABILITY (FOR 14 Nos. NEW RTGC) at Employer site:

3.45.1 Before commencing the execution of work, the Contractor shall insure in the joint names of the IPGL and the Contractor, or other arrangement acceptable to IPGL covering Third Party Liability (TPL) against any damage or loss or injury which may occur to the equipment being installed or to any property or to any person (including property and employees of the Employer) by or arising out of the execution of the Works or temporary Works in carrying out of the Contract. The value of TPL policy shall be Minimum of EURO **29,500 /- (EURO Twenty nine thousand five hundred only)** against occurrence of each incidence. The Contractor shall revalidate the insurance coverage after each incidence and keep the insurance coverage till certification of completion.

3.45.2 Such insurance shall be effected with a international reputed insurance company as directed by IPGL and in terms approved by the IPGL & Tenderer shall submit the copy of policy of insurance or a certificate to the effect covering liabilities stipulated in the tender document to Engineer-In-Charge before arrival of equipment at site and shall be valid till Final Acceptance Certificate.

3.46 COMPENSATION:

The Contractor shall indemnify IPGL in the event being held liable to pay compensation for injury to any Contractor's servants or workmen under the any act of country of destination

or any other laws, acts or provisions as applicable and as amended from time to time and shall take out an insurance policy covering all risks under the Act and shall keep the same renewed from time to time as necessary for the duration of the Contract and produce the same before arrival of equipment to the Engineer-In-Charge and shall be valid till issuance of Final Acceptance Certificate (FAC) for the contract.

3.47 DEFAULT OF THE CONTRACTOR:

If the Contractor makes any default or on the happenings of anyone or more of the following events that is to say:

a) If the Contractor without reasonable cause abandons the Contract or
b) Suspends the carrying out of the Works for a reasonable time after receiving written notice from the IPGL without any lawful excuse or fails to make proper progress with Works after receiving written notice from the Engineer –In Charge or
c) Fails to proceed diligently with the work or
d) Fails to give the IPGL proper facilities for inspection of the Works at contractor's premises of any part thereof for three days after receiving notice in writing by the IPGL demanding the same or
e) The Contractor has become insolvent or
f) The Contractor has gone into liquidation or passed the resolution for winding up or
g) Upon the Contractor making an arrangement with or assignment in favour of his creditor or
h) Upon his assigning this Contract or
i) Upon an execution being levied upon the Contractor's good or
j) Upon winding up order being passed by the court or a Receiver or manager is appointed in respect of any of the property of the Contractor or
k) Possession is taken by or on behalf of any holder of any debentures secured by floating charges of any of the property of the Contractor or
l) Fails to complete all or any part of the Works during the time specified for completion of the Contract or such extended time as may be granted by the IPGL.

IPGL shall have every right to terminate the Contract after issuing 60 days' notice to the Contractor, on his omission or negligence or neglect or default or failure to comply with any of the condition of the Contract.

3.48 IPGL'S LIEN:

IPGL shall have a lien on over all or any money that may become due and payable to the Contractor under this Contract or from any amount lying with [IPGL] in respect of any debt or sum that may become due and payable by the IPGL to the Contractor under this Contract or other transaction of any nature whatsoever between the IPGL and the Contractor.

3.49 INCENTIVE FOR EARLY DELIVERY:

IPGL prefers that all 14 RTGCs or part thereof are delivered and commissioned before the scheduled delivery period. Therefore if the Contractor can deliver & commission before the scheduled delivery, IPGL may consider accepting early delivery and in such case incentive per RTGC will be paid @ 0.25 % CIF value per week subject to maximum limit of 01 % of CIF value. Contractor shall raise claim for such incentive along with payment against PAC. However, applicable incentive will be paid only after issuance of Final Acceptance Certificate. Incentive as per this clause will not be applicable in case bidder opts for Option -2 under the clause 3.12.

3.50 SETTLEMENT OF DISPUTES:

3.50.1 ENGINEER IN CHARGE'S DECISION: If disputes of any kind arises between the Employer and the Contractor in any connection with, or arising out of the Contract or the execution of the Works whether during the execution of the Works or after the completion and whether before or after repudiation or termination of the Contract, including any dispute as to any opinion, instruction, determination, certificate or valuation of Engineer, the matter in dispute shall in the first place, be referred in writing to the Engineer In Charge. Such reference shall state that it is made pursuant to this clause. No later than thirty days after the day on which he receives such reference, the Engineer - In Charge shall give notice of his decision to the Contractor. Such decision shall state that it is made pursuant to this clause.

3.52.2 Unless the Contract has already been repudiated or terminated, the Contractor shall, in every case, continue to proceed with the Works with all due diligence and the Contractor and the Employer shall give effect forthwith to every decision of the Engineer-In-Charge unless and until the same shall be revised, as hereinafter provided, in an amicable statement or an arbitrate award.

3.52.3 If the Contractor is dissatisfied with any decision of the Engineer In Charge or if the Engineer In Charge fails to give notice of his decision on or before the thirtieth day after the day on which he received the reference, then the Contractor may, on or before the seventieth day after the day on which he received the notice of such decision, or on or before the seventieth day after the day on which the said period of 30 days expired, as the case may be, give notice to the Employer, of his intention to commence arbitration, as hereinafter provided as to the matter in dispute. Such notice shall establish the entitlement of the party to commence arbitration, as hereinafter provided, as to such dispute no arbitration in respect thereof may be commenced unless such notice is given.

3.52.4 If the Engineer-In-Charge has given notice of his decision to a matter in dispute to the Employer & the Contractor and no notification of intention to commence arbitration as to such dispute has been given by either the Employer or the Contractor on or before the

seventieth day after the day on which the parties received notice as such decision from the Engineer-In-Charge, the said decision become final and binding upon the Employer and Contractor.

3.51 AMICABLE SETTLEMENT:

Where notice of intention to commence arbitration as to the dispute has been given in accordance with Clause 3.52 (Volume-I of Tender Document) arbitration of such dispute shall not be commenced unless an attempt has first been made by the parties to settle such dispute amicably and may take assistance of a third party (cost of which will be jointly shared) Provided that, unless the parties otherwise, agree, arbitration may be commenced on or after the fifty - sixth days after the day on which notice of intention to commence arbitration of such dispute was given, whether or not any attempt at amicable settlement thereof has been made.

3.52 ARBITRATION:

Disputes if any, between IPGL and the Contractor during the currency of the Contract or after the completion of the work or abandonment thereof shall be settled in accordance with Indian Arbitration & Conciliation Act, 1996 (Amended in 2015) or any statutory modification or re-enactment thereof and rules made there under and for the time being in force shall apply to arbitration proceedings under this Contract. The disputes so raised shall be referred to a panel of two arbitrators, of which one to be appointed by the IPGL and other by the Contractor. The arbitration proceeding shall take place in Mumbai or at office of IPGL, Mumbai only, and the same shall be under jurisdiction of High Court of Mumbai. Singapore is also acceptable as place of arbitration proceedings.

3.53 TERMINATION OF CONTRACT:

If the Contractor does not perform the Contractual obligations satisfactorily, as far as Commissioning the equipment for commercial use within stipulated time frame, the Contract is liable to be terminated after issue of notice of 60 (Sixty) days to the Contractor.

3.54 FORCE MAJEAURE:

If the supply, Commissioning and Testing of equipment is hindered due to force majeure such as, war, riots, civil commotion, fire, epidemics, natural calamities, etc. such period shall be exempted from completion period as mentioned in clause 3.12 (Volume - I) of this tender document. It is clarified that a change in applicable international laws and regulations, if and to the extent such change results in major change in duties/obligations of the affected party and leads to undesirable impact on contractual obligations, the same would fall within the meaning of "Force Majeure" if it is beyond the control of the affected party and has a material and adverse effect as set out in the contract.

Further, it is clarified that (i) In case the duration of the force majeure is less than **365 days**, the contract will be suspended during this period and after extinction of the force majeure, the contract will continue. (ii) In case the duration of the force majeure is more than 365 days, the contract may be terminated upon mutual consent.

In case of change in applicable international laws and regulations leading to undesired impact in execution of the contract obligation, e.g. prohibiting delivery at agreed destination port and as per tender terms, then suitable alternative destination and cost implication thereof shall be decided by mutual agreement.

3.55 LABOUR LAWS:

The Contractor shall comply with all the provisions of destination country or any other local authority or State regarding Labour Laws and the rules and regulations made there under as amended from time to time and as applicable from time to time with regard to the employees to be deployed by the Contractor for erection, testing, Commissioning of equipment.

3.56 OUTBREAK OF WAR:

If during the currency of the Contract, there shall be an outbreak of war (whether war is declared or not) in any part of the world which, whether financially or otherwise, materially affects the execution of the Works the Contractor shall, unless and until the Contract is terminated under the provision in this clause contained, use his best endeavours to complete the execution of the Works, provided always that either the Employer or the Contractor shall be entitled, at any time after such outbreak of war, to terminate this Contract by giving notice in writing to the other, and upon such notice being given this Contract shall terminate, but without prejudice to the rights of either party in respect of any antecedent breach.

3.57 MISTAKE IN CONTRACTOR'S DRAWING:

The Contractor shall be responsible for and shall pay for any alterations of the work due to any discrepancies, errors or omissions in the drawings or other particulars supplied by him, whether such drawings or other particulars supplied by him, have been approved by the Engineer In-charge or not.

3.58 DEFAULT OF THE EMPLOYER:

In the event of the Employer:

a) Failing to pay Contractor the amount due under Contract as per stipulated condition or
b) Interfering with or obstructing the written approval in this Contract, the Contractor shall be entitled without prejudice to any other rights or remedies to terminate his employment under the Contract by giving 90 (Ninety) days prior notice in writing to Employer.

3.59 WARRANTY:

During the 24 months of the Defects Liability Period the contractor shall post at least one competent, experienced and responsible Technical person who has experience of Erection, Testing and Commissioning of the Equipment, to co-ordinate and execute all works to be attended by the Contractor as per Contractual obligations. The cost for the same shall deemed to be included in the services during guarantee period. The Contractor shall also authorize his technical representative to carry out monthly inspection and submit a monthly report before 10th day of succeeding month to the Engineer-In-Charge. The contractor shall quote for the cost of this service as per price schedule which shall be paid after satisfactory completion of 24 months of the Defects Liability Period as certified by the Engineer In charge.

3.60 WARRANTY SUPPORT:

The Tenderer shall submit warranty support programme, in detail, covering the methodology and approach, which shall be adopted to ensure minimum failures and maximum availability of the cranes. The Tenderer shall provide details of his warranty program and after sales service capability including an organization chart, guaranteed response times to requests for technical assistance and spare parts and a 24-hour help line.

3.61 REFERENCES:

The Tenderers shall provide details of similar cranes that he has recently manufactured together with a list of customers who are willing to act as reference points.

3.62 LIMITATION OF LIABILITY:

(i) To the fullest extent permitted by the law, the total liability, in the aggregate, of the contractor, contractor's officers, directors, partners, employees, agents, and subcontractors, to employer (IPGL), and anyone claiming by, or under employer for any claims, losses, costs, or damages whatsoever arising out of or resulting from or in any way related to the tender from any cause or causes, including but not limited to negligence, professional errors and omissions, strict liability, breach of contract, or breach of warranty, shall not exceed **100 %** of the Contract Price.

(ii) As regards damages and indemnifications, the contractor shall not be liable for incidental, indirect or consequential damages to the extent such limitation of liability is valid under applicable law.

(iii) This clause is enforceable until expiry of entire defect-liability period.

SECTION – 4

4. ENVIRONMENTAL CONDITIONS AT CHABAHAR:

4.1. GENERAL:

The Port is in a sheltered location with natural deep-water close offshore outside the Persian Gulf to the East of the Straits of Hormuz. The surrounding area is characterized by the sea, the atmosphere containing a lot of salt and small particles of sand. The humidity level in the region of the site is high. The region is regarded as one of the most humid of destination country.

The following is the summary of environmental conditions prevailing at the Site:

- Maximum temperature 50 ^{0}C
- Average temperature 25 ^{0}C
- Minimum temperature 5 ^{0}C
- Average annual rainfall 108 mm
- Maximum annual rainfall 244 mm
- Average humidity 70%
- Maximum humidity 99%
- Climate description sea-climate
- Prevailing wind direction South
- Average wind 99% of the time < 15 m/s
- Maximum gust wind 44 m/s

4.2. TIDES AND STORM SURGE:

Tidal Levels with reference to Chart Datum

High Water springs (HWS)	+3.15 m
Mean High Water Springs (MHWS)	+ 2.53 m
Mean High Water Neaps (MHWN)	+ 1.93 m
Mean Sea Level	+ 1.63 m
Mean Low Water Springs (MLWS)	+ 1.28 m
Mean Low Water Neaps (MLWN)	+ 0.69 m
Low Water Neaps (LWN)	- 0.25 m

Land Datum at Chabahar Port is 1.61 m above Chart Datum.

Storm Surges:

Return Period (Year)	Max Storm Surge (m)
2	0.15
10	0.24
25	0.35
50	0.64
100	1.11

4.3. WIND:

Direction (Deg)	Speed (m/s) for Return Periods	
	1 in 50 years	1 in 100 years
0	12	13
30	13	13
60	17	18
90	16	17
120	20	22
150	19	20
180	16	17
210	19	20
240	20	21
270	25	27
Direction (Deg)	Speed (m/s) for Return Periods	
	1 in 50 years	1 in 100 years
300	18	19
330	13	14

The maximum gust speed for design shall be taken as 44m/sec.

4.4. WAVES:

Based on hydrodynamic and sedimentation studies report, the design wave heights (H_s) and periods ($T_{p)}$ are as follows:

(a) Waves Generated within Chabahar Bay:

Return Period	1 in 10 Years		1 in 25 years		1 in 50 years		1 in 100 years	
Direction ^{0}N	H_s (m)	T_p (Sec)	H_s (m)	T_p (Sec)	H_s (m)	T_p (Sec)	H_s (m)	T_p (Sec)
270	1.4	4.0	1.5	4.1	1.5	4.2	1.6	4.3
300	1.1	3.6	1.2	3.8	1.3	3.8	1.3	3.9
330	1.0	3.5	1.1	3.6	1.2	3.7	1.2	3.8

Source : Consultant's Analysis.

(b) Deep Water Waves

Return Period	1 in 1 year		1 in 10 Years		1 in 25 Years		1 in 50 years		1 in 100 years	
Direction ^{0}N	H_s (m)	T_p (sec)	H_s (m)	T_p (sec)	H_s (m)	T_p (sec)	H_s (m)	T_p (sec)	H_s (m)	T_p (sec)
120	2.33	6.17	4.1	6.8	4.6	7.3	5.0	7.6	5.3	7.8
150	1.09	5.22	5.1	7.7	6.8	8.5	8.3	9.1	10.5	9.7
180	3.24	7.94	4.6	7.3	5.1	7.7	5.5	8.0	5.8	8.2
210	3.05	7.35	5.0	7.6	5.8	8.2	6.3	8.5	6.8	8.9
240	2.73	7.06	4.1	6.9	4.6	7.3	4.9	7.5	5.2	7.7

Source: Analysis of British Meteorological Office data

(c) Shallow Water Waves

Return period	1 in 1year	1 in 5 years	1 in 10 Years	1 in 25 years	1 in 50 years	1 in 100 years
H_s (m)	1.39	2.00	2.25	2.50	2.70	2.90
Direction ^{0}N	141	145	145	146	147	148
H_s(m)	0.96	2.70	3.40	4.60	5.10	5.30
Direction^{0}N	156	163	164	166	167	168
H_s(m)	2.69	3.50	3.80	4.20	4.50	4.80
Direction^{0}N	183	182	182	182	182	182
H_s(m)	2.5	3.50	4.00	4.60	4.90	5.20
Direction ^{0}N	203	201	200	200	199	199
H_s(m)	2.02	2.70	2.90	3.20	3.40	3.60
Direction ^{0}N	223	220	219	218	217	216
H_s(m)	1.25	2.10	2.50	2.80	3.10	3.40
Direction ^{0}N	248	242	239	235	233	231

Source : Consultant's analysis

5. CURRENTS

Tidal current speed is in the range 0.1 ~ 0.3 m/s.

4.6. RAINFALL

	Rainfall (mm)
Maximum annual rainfall	244.4
Mean annual rainfall	108.2

4.7. TEMPERATURE

Month / Item	Jan	Feb	Mar	Apr.	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Ave. (^oC)	19.20	20.4	23.53	26.57	29.57	31.50	30.80	29.68	27.55	27.43	24.09	21.20	25.98
Ave. Max (^oC)	24.32	24.9	27.92	30.81	33.76	34.77	33.52	32.30	30.78	32.32	29.46	26.25	30.04
Ave. Min (^oC)	15.10	16.0	19.14	22.32	25.40	27.92	28.08	27.11	24.31	22.56	18.74	16.17	21.91
Abs. Max (^oC)	31.00	33.0	38.00	42.00	46.00	47.00	46.00	42.00	42.00	41.00	37.00	32.00	47.00
Abs Min (^oC)	7.00	7.00	9.60	14.00	19.20	22.00	21.00	23.00	19.00	13.20	9.20	7.00	7.00

The maximum ambient temperature for design shall be taken as 50^oC
The Minimum ambient temperature for design shall be taken as 5^o C.

4.8. HUMIDITY

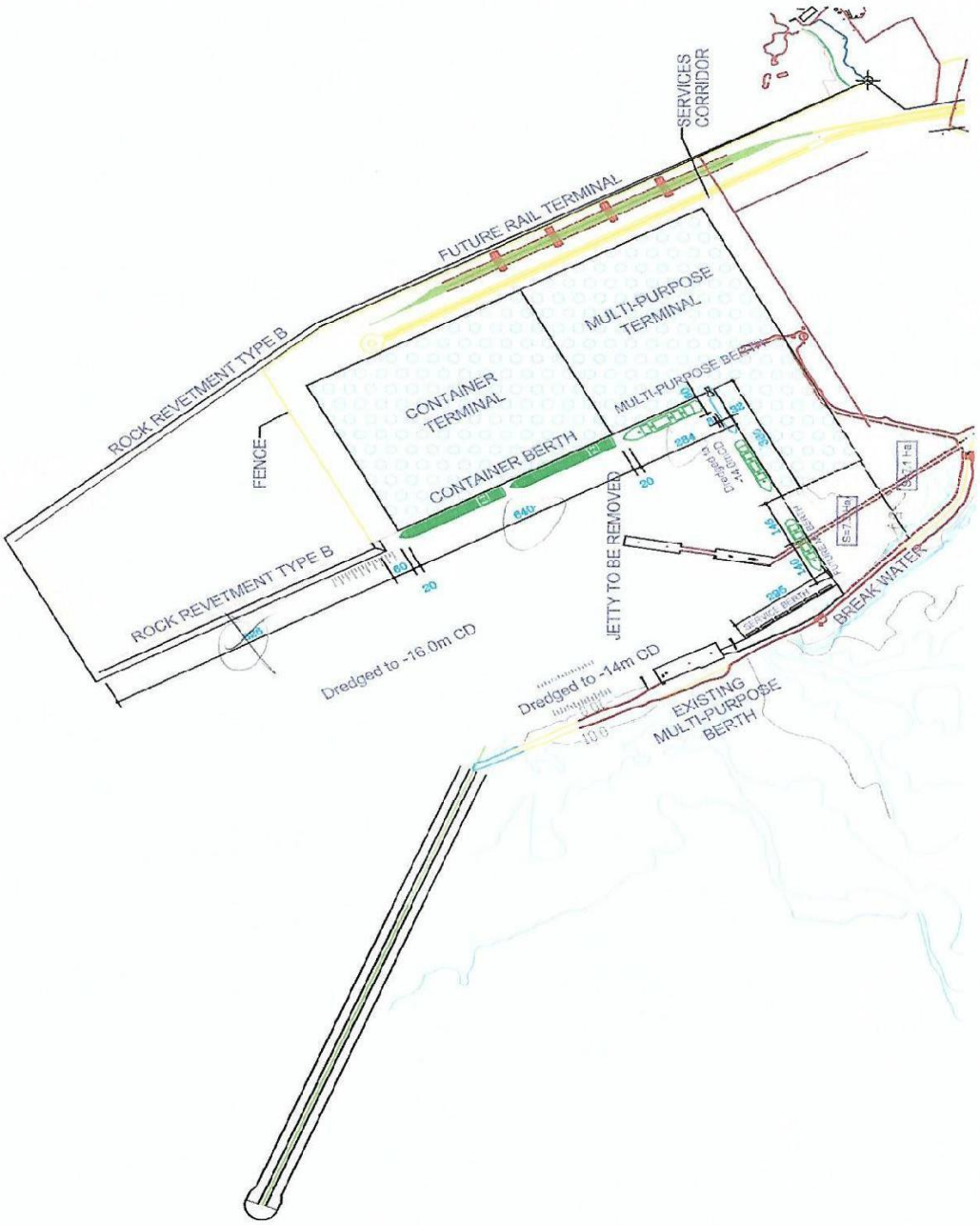
As a percentage:

Months Time Of Reading	Jan	Feb	Mar	Apr.	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
06:30	68.96	72.13	76.4	79.29	81.96	84.3	82.83	83.17	79.42	81.9	77.48	74.78	78.46
12:30	52.92	56.21	58	60.88	64.13	67.8	70.71	70.46	63.46	60.4	55.3	52.13	61.07

The maximum relative humidity for design shall be taken as 99 %.

ANNEX –I

LAYOUT MAP OF CHABAHAR PORT



ANNEX-II
BANK GUARANTEE FORMAT FOR EMD

KNOW ALL BY THESE PRESENT THAT ---------- (Name of the Bank), a Banking corporation carrying on banking business including Guarantees at Mumbai and other places and having its office at ---------- Mumbai (hereinafter called 'The Bank' which expression shall unless excluded by or repugnant to the context or meaning thereof be deemed to include its successors and assigns) SEND GREETINGS:

WHEREAS The Board of Directors of INDIA PORTS GLOBAL LIMITED constituted under the COMPANY Act, 2013 (hereinafter called 'The Board' which expression shall unless repugnant to the context or meaning thereof be deemed to include its successors and assigns) had invited tenders for ---------- (hereinafter called Tender) as per Instruction to the Tenderers, General conditions of the Contract, scope of work, specifications and Price schedule covered under 'Tender No. ----------.

AND WHEREAS M/s ---------- (hereinafter called the 'Tenderer') has offered to carry out the work under the said Tender.

AND WHEREAS under the conditions of the Contract, the Tenderer is required to give a Earnest Money Deposit in the form of Bank Guarantee from a Scheduled Bank having its branch in Mumbai for the sum of Rs. ----------(Rupees ----------) / EURO_____ (EURO_____)

AND WHEREAS M/s ---------- have requested the Bank to furnish a Guarantee to the Board for the sum of Rs. ---------- (Rupees ----------) /EURO _____(EURO_____) which the Bank has agreed to do in the manner hereinafter appearing.

NOW THIS INDENTURE WITNESSETH that the said Bank doth hereby stand surety for the said sum of Rs. ---------- (Rupees ----------) / EURO _____(EURO_____)

AND DOTH HEREBY GUARANTEE TO AND COVENANT WITH AND irrevocably agree to pay to the Board upon demand in writing without referring to M/s ---------- (Name of the

Tenderer) and without questioning the right of the Board to make such demand or the propriety or legality of such demand, such sum or sums not exceeding in the whole a sum of Rs. ---------- (Rupees----------)/EURO_____ (EURO_____) as may be payable to the Board by the Tenderer by reason of withdrawing his Tender before the expiry of the day from the last date of the submission of the Tender or such time as may be extended by the Board to which M/s ---------- have agreed in writing, or in the event of the tender being accepted by the Board and fails to enter into a Contract or to furnish Performance Guarantee as per the terms of the Contract, in respect of which the decision of the Board shall be final and legally binding and the said Bank doth further covenant and declare that this security is irrevocable and shall remain in force up to and inclusive of the ---------- (date) and if the Contract is not awarded by the Board before the expiry of the aforesaid date, the said Banker undertakes to renew this Guarantee from month to month until 6 months after the aforesaid date i.e. up to ---------- (date) and the said Bank doth hereby further covenant and declare that if the said M/s --------
---------- do not obtain and furnish renewals of this Guarantee for a further period of six months to the Board not less than 30 days prior to the expiry of the period of this Bank Guarantee or renewals thereof as to keep the same valid and subsisting till the Contract is awarded by the Board and for 6 months thereafter i.e. up to ---------- the entire amount of this Bank Guarantee in default of obtaining and furnishing the renewals of this Bank Guarantee in the manner and within the time aforesaid shall become forthwith due and payable to the Board notwithstanding :

1. that the period of the Guarantee of the renewal or renewals thereof has not expired or,
2. that the period of Guarantee of the renewal or renewals thereof has already expired

AND THE BANK further declares that notwithstanding anything to the contrary contained hereinabove, the Bank's liabilities under the Guarantee is restricted to Rs. ---------- (Rs. ---- ------ ----------) / EURO _____(EUOR_____) and unless a demand in writing under the Guarantee is made with the Bank within the 3 months from the date of expiry i.e. by ----------
-----, all the rights of Board under this Guarantee shall be forfeited and the Bank shall be relieved and discharged from all liability thereunder :
Notwithstanding anything to the contrary contained herein:

Our liability under this Bank Guarantee shall not exceed Rs. ---------- (Rupees --
---------- / EURO _____(EURO_____

This Bank Guarantee shall be valid up to ----------; and

We are liable to pay the guaranteed amount or any part thereof under this Bank Guarantee only and only if you serve upon us a written claim or demand on or before ----

IN WITNESS WHEREOF, the duly constituted attorneys of the Bank has here up to set his/their hands and seals on the ---------- of ----------2022.

SIGNED, SEALED AND DELIVERED

By the within named ----------

Through its duly ----------

Constituted Attorney Mr. ----------

& ---------- in the presence of

ANNEX –III

LETTER OF APPLICATION CUM TENDER FORM

To be submitted on company Letter Head by the Tenderer indicating full postal address, telephone number/s, fax number/s, email id, etc.

To,

Date:

India Ports Global Limited

4th Floor, Nirman Bhavan,

M.P. Road, Mazgaon,

Mumbai-400010 – INDIA.

Sub: Design, Manufacture, Supply, Installation, Testing, Commissioning & Guaranteeing the performance of 14 nos. Rubber Tyred Gantry Cranes at Container Terminal at Shahid Behesti Port Chabahar.

REF: Tender No: IPGL / RTGC / 2022

Sir,

Being duly authorised and represent and act on behalf of M/s._____ hereinafter called the `Tenderer' and having fully understood Instructions to Tenderer/s, General Conditions of Contract, Scope of Work, Drawings & Specifications as given in the Tender Document and after visiting the Site, the undersigned hereby submits the Offer for the subject Works.

IPGL and its representatives are hereby authorised to conduct any enquiry or investigations to verify the statements, documents & information submitted in connection with this Tender and to seek clarifications from our bankers & Clients regarding any financial, commercial & technical aspects. This letter of application will also serve as authorization to any individual or representatives of any institution referred to in the supporting information, to provide such information deemed necessary and requested by yourself to verify statements and information provided in this Tender, or with regard to the resources, experience, and competence of the Tenderer.

Following IPGL representatives may be contacted for further information / clarification, in case of any doubt.

For General & Managerial inquiries	
Name of Contact Person	Mr.Sunil Mukundan
Telephone number/s	+91 9029026180
Fax Number/s	022 66566336
E-mail Id	md.indiaportsglobal@gmail.com

For Technical inquiries	
Name of Contact Person	Mr.Shailesh Makwana
Telephone number/s	+91 9029026177
Fax Number/s	022 6656636
E-mail Id	mons.indiaportsglobal@gmail.com

For Financial inquires	
Name of Contact Person	Mr.Hemant Godbole
Telephone number/s	+91 9029026178
Fax Number/s	022 6656636
E-mail Id	cfo.indiaportsglobal@gmail.com

4. This application is made in the full understanding that:

i. Tenders received from Tenderers will be subject to verification of all submitted information.

ii. We agree to abide by this Tender for the period of 180 days from the last date fixed for receiving the same and it shall remain binding upon us and may be extended at any time, if requested by IPGL, before the expiry of the validity period as given in this Tender.

iii. Notwithstanding anything contained in this tender document, IPGL reserves the right to annul the bidding process at any time without any liability or any obligation for such annulment, without assigning any reason.

iv. If our Tender is accepted, we confirm to commence work from the date of issue of `Letter of Acceptance' and to complete all Works in good condition within the completion period as stipulated in this Tender.

v. If our Tender is accepted, we will furnish the Security Deposit and Performance Guarantee Bond for the due Performance of the Contract. The amount and format of such Guarantee will be in accordance with the subject Tender and Conditions of Contract.

vi. We have independently considered the amount / rate shown as Liquidated Damages as penalty for delay in completion of Works and agree that the same represent a fair estimate

of the damages / losses likely to be suffered by IPGL in the event of delay in overall completion of the Work.

vii. We have downloaded the tender form from web site and we hereby certify that we have not made any changes to the Tender Document either in words or in sentences or deleted or added any word or sentences from / to the tender document.

5. The undersigned declares that the statements made & the information provided in the duly filled Forms are complete, true & correct in every detail.

Signature
Name and Designation with company seal For & on behalf of (name of the Tenderer)

Witness
Signature Name and Designation with company seal

Witness
Signature Name and Designation with company seal

Signature

Name and Designation with company seal

For & on behalf of (name of the Tenderer)

ANNEX - IV

FORM OF AGREEMENT

THIS AGREEMENT made at Mumbai this _____ day of _____ BETWEEN _____ (herein after called "the Contractor") which expression shall unless excluded by or repugnant to the context or meaning thereof be deemed to include the party named and his heirs, executors and administrators or its successors and permitted assigns) of the one part and INDIA PORTS GLOBAL LIMITED, Mumbai incorporated by Companies Act 2013 being the successors (herein after called "The Employer") which expression shall unless excluded by or repugnant to the context or meaning hereof, be deemed to include their successors and assigns) of other part, WHEREAS the Board have accepted a tender by the Contractor for Design, Manufacture, Supply, Installation, Testing, Commissioning and Guaranteeing the performance of Fourteen Nos. RUBBER TYRED GANTRY CRANES (RTGC) of 40 ton Capacity.

NOW THIS AGREEMENT WITNESSESTH AS FOLLOWS:

In this agreement words and expressions shall have the same meaning as are respectively assigned to them in the conditions of Contract hereinafter referred to.

The following documents shall be deemed to form and be read and construed as part of this Agreement, viz -

The said tender

The acceptance of tender

The conditions of Contract

The specification

The Price, schedule and all other schedules

The Contractor’s specification and all correspondence, by which the

Contract is added, amended, varied or modified in any way by mutual consent.

In consideration of the payments to be made to the Contractor as hereinafter mentioned the Contractor HEREBY CONVENANT with the Employer to Design, Manufacture, Supply, Installation, Testing, Commissioning and Guaranteeing the performance of Fourteen Nos.

new RUBBER TYRED GANTRY CRANES (RTGCs) of 40 ton capacity in conformity in all respects with the provision of the Contract.

The Employer HEREBY CONVENANT to pay to the Contractor in consideration of the Design, Manufacture, Supply, Installation, Testing, Commissioning and handing over the 14 new RTGCs , as per the Contract Price at the time and in the manner prescribed by the Contract.

IN WITNESS WHEREOF the Contractor that hereunto set his hand and seal and the Managing Director, India Ports Global Limited for an on behalf of the Board has set his hand and seal and the common seal of the Employer has been hereunto affixed the day and year first above written.

Signed, sealed and delivered by _____ for and on behalf of the said

_____ in pursuance of a resolution of the Board of Directors of the

_____ passed at a meeting held on

Managing Director the _____ CONSTITUTED ATTORNEY

_____ or The Common Seal of the Contractor was hereto affixed in the presence of

SIGNED, SEALED AND DELIVERED

by The Managing Director,

for and on behalf of the Board of Directors of

India Ports Global Limited with the Common Seal of the
Board of Directors

ANNEX - V

FORMAT OF BANK GUARANTEE to be used FOR (i) PERFORMANCE of the Contract (ii) Performance of equipment during defect liability period and (iii) after completion of defect liability period for the contract.

1. In consideration of the India Ports Global Limited incorporated under Companies Act, 2013 (hereinafter called "The Employer" which expression shall unless excluded by or repugnant to the context or meaning thereof be deemed to include the Board of Directors of India Ports Global Limited, its successors and assigns) has awarded the Contract for Design, Manufacture, Supply, Installation, Testing, Commissioning and Guaranteeing the performance of Fourteen Nos.(14) new RUBBER TYRED GANTRY CRANES (RTGCs) vide Managing Director, IPGL's letter No. ----------, dated ---------- --- (hereinafter called 'the said Contract') to ---------- (Name of the Contractor) (hereinafter called the 'Contractor'). Under the terms and conditions of the Contract, made between the Contractors and the Employer, the Contractor is bound to submit a performance Guarantee of EURO ---------- (In words euros ---------- ---------- only) / Rs. ---------- (in words Indian Rupees ……) to Employer, we the ---------- (Name of the Bank and address) (hereinafter referred to as 'the Bank' at the request of the Contractors do hereby undertake to pay to the Employer an amount not exceeding EURO ---------- (EURO ---------- -- only) / Rs. ---------- (in words Indian Rupees ……) against any loss or damage caused to or suffered or which would be caused to or suffered by the Employer by reason of any breach by the Contractors of any of the terms and conditions of the said Contract.

2. We ----------Bank do hereby undertake to pay the amounts due and payable under this guarantee without any demur merely on a demand from the Employer stating that the amount claimed is due by way of loss or damage caused to or which would be caused to or suffered by the Employer by reason of the Contractor's failure to perform the said Contract. Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this Guarantee. However, our liability under this Guarantee shall be restricted to an amount not exceeding EURO ---------- - (Euro ---------- only) / Rs. ---------- (in words Indian Rupees ……)

3. We, ---------- (Name of the Bank) undertake to pay to the Employer any money so demanded notwithstanding any dispute or disputes raised by the Contractor in any suit or proceeding before any court of Tribunal relating thereto our liability under this present being absolute and unequivocal. The payment so made by us under this bond shall be a valid discharge of our liability for payment there under and the Contractor shall have no claim against us for making such payment.

4. We, ---------- further agree with the Employer that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Contract and it shall continue to be enforceable till all the dues of the Employer under or by virtue of the said Contract have been fully paid and its claims satisfied or discharged or till the Managing Director of the said Employer certified that the terms and conditions of the said Contract have been fully and properly carried out by the said Contractors and accordingly discharge this guarantee. Unless the demand or claim under this guarantee is made on us in writing on or before the ----------, we shall be discharged from all liabilities under this guarantee thereafter. This Guarantee will remain in force from the date hereof, i.e. till --------- and unless a demand or suit or action to enforce any claim under the guarantee is made within three months from the date of expiry of this guarantee, i.e. on or before ---------- all your rights under this guarantee shall be forfeited and we shall be relieved and discharged from all liabilities under this guarantee.
5. We, ---------- Bank further agree with the Employer that the Employer 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 extend the time of performance by the said Contractors from time to time to postpone from any time or from time to time any of the powers exercisable by the Employer against the said Contractors and to forebear or enforce any of the terms and conditions relating to the said Contract and we shall not be relieved from our liability by reason of any such variation or extension being granted to the Contractors or for any forbearance, act or omission on the part of the Employer or any indulgence shown by the Employer on the part of the Employer or any indulgence shown by the Employer on the part of the Employer or any indulgence shown by the Employer to the Contractors or by any such matter or thing whatsoever which under the law relating to sureties would but for this provision, have effect of so relieving us.
6. This Guarantee will remain valid for the entire period as agreed, even though there happens to be change in the constitution of the bank or that of the Contractor.

It is also hereby agreed that the Courts in Greater Bombay shall have exclusive jurisdiction in respect of claims, if any, under this Guarantee.

We, ---------- Bank lastly undertake not to revoke this guarantee during its currency except with the previous consent of the Employer in writing.

Dated ---------- day of ----------2022

For (Name of the Bank)

(Name with Designation)

Signature

Seal of The Bank

ANNEX -VI

FORM OF BANK GUARANTEE (SECURITY DEPOSIT)

(For Advance Payment)

In consideration of the India Ports Global Limited incorporated under Companies Act, 2013 (hereinafter called "The Employer" which expression shall unless excluded by or repugnant to the context or meaning thereof be deemed to include the Board of Directors of India Ports Global Limited, its successors and assigns) has awarded the Contract for Design, Manufacture, Supply, Installation, Testing, Commissioning and Guaranteeing the performance of Fourteen Nos.(14) RUBBER TYRED GANTRY CRANES (RTGCs), vide Board's Managing Director's letter No. ----------, dated ---------- (hereinafter called 'the said Contract') to ---------- (Name of the Contractor) (hereinafter called the 'Contractor'). Under the terms and conditions of the Contract, made between the Contractors and the Employer, the Contractor is bound to submit a Bank Guarantee towards security deposit, (against advance payment as per terms of contract) for EURO ---------- (Euro ---------- only) / Rs --------- ---(Rupees----------) to Employer, we the ---------- (Name of the Bank and address) (hereinafter referred to as 'the Bank' at the request of the Contractors do hereby undertake to pay to the Employer an amount not exceeding EURO ---------- (Euro ---------- only) / Rs ---------- (Rupees----------) against any loss or damage caused to or suffered or which would be caused to or suffered by the Employer by reason of any breach by the Contractors of any of the terms and conditions of the said Contract.

We ---------- Bank do hereby undertake to pay the amounts due and payable under this guarantee without any demur merely on a demand from the Employer stating that the amount claimed is due by way of loss or damage caused to or which would be caused to or suffered by the Employer by reason of the Contractor's failure to perform the said Contract. Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this Guarantee. However, our liability under this Guarantee shall be restricted to an amount not exceeding EURO ---------- (EURO ---------- only) / Rs ---------- (Rupees----------) We, ---------- (Name of the Bank) undertake to pay to the Employer any money so demanded notwithstanding any dispute or disputes raised by the Contractor in any suit or proceeding before any court of Tribunal relating thereto our liability under this present being absolute and unequivocal. The payment so made by us under this bond shall be a

valid discharge of our liability for payment there under and the Contractor shall have no claim against us for making such payment.

We, ---------- further agree with the Employer that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Contract and it shall continue to be enforceable till all the dues of the Employer under or by virtue of the said Contract have been fully paid and its claims satisfied or discharged or till the Managing Director of the said Employer certified that the terms and conditions of the said Contract have been fully and properly carried out by the said Contractors and accordingly discharge this guarantee. Unless the demand or claim under this guarantee is made on us in writing on or before the ----------, we shall be discharged from all liabilities under this guarantee thereafter. This Guarantee will remain in force from the date hereof, i.e. till --------- and unless a demand or suit or action to enforce any claim under the guarantee is made within three months from the date of expiry of this guarantee, i.e. on or before ------- all your rights under this guarantee shall be forfeited and we shall be relieved and discharged from all liabilities under this guarantee.

We, ---------- Bank further agree with the Employer that the Employer 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 extend the time of performance by the said Contractors from time to time to postpone from any time or from time to time any of the powers exercisable by the Employer against the said Contractors and to forebear or enforce any of the terms and conditions relating to the said Contract and we shall not be relieved from our liability by reason of any such variation or extension being granted to the Contractors or for any forbearance, act or omission on the part of the Employer or any indulgence shown by the Employer on the part of the Employer or any indulgence shown by the Employer on the part of the Employer or any indulgence shown by the Employer to the Contractors or by any such matter or thing whatsoever which under the law relating to sureties would but for this provision, have effect of so relieving us.

This Guarantee will remain valid for the entire period as agreed, even though there happens to be change in the constitution of the bank or that of the Contractor.

It is also hereby agreed that the Courts in India shall have exclusive jurisdiction in respect of claims, if any, under this Guarantee.

We, ---------- Bank lastly undertake not to revoke this guarantee during its currency except with the previous consent of the Employer in writing.

Dated ---------- day of ----------2022

For (Name of the Bank) (Name with Designation)

Signature / Seal of The Bank

ANNEX –VII

SCOPE OF WORK FOR THIRD PARTY INSPECTION AGENCY TO BE APPOINTED BY IPGL

1. Main Structure Analysis Results

a. Check for Design Criteria

b. Check for Stress Results

c. Check for Fatigue Stress

d. Check for Main Structure Drawings of: Girder, Girder Support Beam, Leg, Top Leg, Top Beam, Fore-Stay & Back-Stay, Leg Diagonal, Top Leg Brace,

e. Check the results and conformity with the technical specification of performance test

2. Documents Review:

a. Technical Specification

b. Approved Construction drawings

c. Inspection and Test Plan

d. WPS / PQR-WPQR

e. NDE Procedures & NDE Personnel Certificates

f. DE Procedures & DE Personnel Certificates

g. Painting Procedure

h. Commissioning Procedure etc.

i. Review of raw material test certificate for compliance with code / specifications and identification of material with manufacturer's test certificate.

j. Review of heat treatment records carried out where applicable.

k. Examination of radiographs including review of radiographic technique and monitoring of other NDT requirements such as Ultrasonic, Magnetic particle and Liquid Penetrant testing are met with as per the relevant code / drawings / QAP.

l. Review of test certificate for all critical items but no limited to for:

Bogies, Portal, Main girder and girder beam, Trolley & Loading devices

Long travel, Trolley traversing.

Motors, Controller, Main Cables, Other bought out components any other like anemometer, hold down devices, all safety devices, wire ropes etc.

3. Material Verification:

   a. Review Mill Certificate

   b. Verify the material traceability records

   c. Witness material test as per submitted QAP

4. Witness & Verification

a. Witness Welder Qualification Test and certification by TPI

b. Fit-up: witness on critical parts and randomly spot witness for the others

c. Welding Process: monitoring / patrol inspection

d. Non Destructive Test: review NDT results, spot check on the calibration of equipment & verify the qualification of personnel

e. Final Inspection: witness on the final welds and dimensional / straightness

f. Sub-assembly: witness on the final welds, alignment, dimension.

g. Erection: witness on the final welds, final dimensional, bolt torque, levelling / straightness.

h. Painting: witness on the surface preparation (after sand blasting), painting procedure and randomly spot check on the final DFT.

i. Testing:-

   a. Electrical: review continuity check & megger test; verify electrical equipment installation etc.

   b. Mechanical: witness alignment / installation, bolt torque, greasing / lubricating, idle running test, etc.

j. Commissioning: witness on all testing as per approved commissioning procedures, including load test.

k. Witness assembly of all the primary structural with the machinery and electrical equipment, spreader and safety devices at site.

5. Documentation & Certification

   a. Submit FORTNIGHTLY inspection report to IPGL

b. Certification of parts of the crane before shipment to berth as per clause 3.24 (Volume-I)

c. Certification of completion of installation & erection activities as per clause 3.27.

d. Certification of the crane for meeting the FEM classification and requirements as per TPIA.

e. Certification of the crane for "Ready to ship" prior to shipment from contractor's site indicating that all the tests are successfully carried out as detailed in the tender document as per clause 1.18 (Volume-II).

f. Certification of completion of commissioning & testing as per contract.

g. Stamping and issue of certificates.

SCHEDULE 1

GENERAL INFORMATION

Page1/2: Schedule -1

All individual firms submitting the tender must complete the information in this form.

	Full name of the Firm:	
	Head Office address:	
	Contact person name at	Head office:
	Telephone number/s:	
	Fax number/s:	
6	E-mail Id	
	Branch Office address, if any:	
	Contact person name at	Branch office:
	Telephone number/s: Fax number/s:	
	E-mail Id	
	Works address:	

Contact person name at Works:

Telephone number/s:	
Fax number/s:	
E-mail Id	

Page 2/2: Schedule -1

17.	Place Of Registration/Incorporation:		
18.	Year of Registration/ Incorporation		
19.	Details of Mainlines of Business:		
	i.		Since
	ii.		Since
	Iii.		Since
	iv.		Since
	v.		Since

Signature & seal of the Tenderer

SCHEDULE 2

FINANCIAL DATA

Page:1/2 Schedule 2

Banker's Details:

Name of the Banker Bank Account details of tender Account holder name, Account no Bank name, IFSC code, Branch code	
In Full	
Telephone No: Address of Banker	
Fax No: Contact Person name:	

Contact Person name:

Page 2/2 Schedule 2

Income tax and GSTdetails:

1. Permanent Income-Tax Account Number (PAN) or equivalent	
2. GST registration number or equivalent	

(Kindly enclose copies of supporting documents for above information)

The Tenderer must submit following document:

Copy of Latest sales tax clearance certificate or equivalent

Signature & Seal of the Tenderer

SCHEDULE 3

WORK SCHEDULE

Supply of 14 nos New RTGC(s)

3.1 Work schedule for design and manufacturing of the cranes at work. (A bar chart / CPM / pert for the entire completion period)

3.2 Shipment Schedule.

3.3 Unloading Schedule.

3.4 The time required for mobilizing the equipment at Chabahar Port including details of transportation, Installation, Commissioning & Testing of equipment

3.5 Manpower deployment during Installation, Testing and commissioning Phase.

3.6 Tenderer can indicate the minimum length of berth and period that will be required for Installation, Commissioning & Testing of the 14 new cranes at site, Chabahar Port.

3.7 Requirement for office space and other facilities if any to be provided by IPGL during Installation, Testing and Commissioning period.

Signature & Seal of the Tenderer

SCHEDULE 4

TRAINING SCHEME

The Tenderer shall describe in detail the training scheme that he is proposing for technicians, operators and supervisory personals of the Employer for efficient functioning of the equipment to be supplied by him. The scheme shall indicate the nature and duration of training required for various categories of personnel. The following particulars shall be furnished in the format given below: -

Sl no.	Designation of each personnel and area Of Training assignment.	Name And short resume showing experience Of persons	Recommended no. of person to be trained in each category	Duration Of training For each category

Signature & Seal of the Tenderer

SCHEDULE 4 - A

TRAINING SCHEDULE

TRAINING OF CRANE OPERATORS AND MAINTENANCE PERSONNEL:

1.1 GENERAL:

The contractor can assign qualified mechanical and electrical specialists to instruct the employer's Terminal operations personnel in the operating and maintenance on all equipment installed under this contract. The training session by OEM for Drives, PLC & CMMS & mechanical / hydraulic systems will be performed at the site of the work or at the site of technically qualified bidder/member. The contractor shall submit his fully structured and detailed proposed training programme under this contract.

1.2 TRAINING SESSIONS:

.1 The training sessions shall include operations, maintenance and servicing of all mechanical / hydraulic and electrical / electronic components of the crane. The detailed training programme will be finalized by the Contractor in consultation with the employer well in advance. The training shall be in sufficient depth to enable IPGL to use and maintain the crane in a safe and proper manner. Contractor shall impart operational & maintenance training to employer's personnel as per the following;

Location	Details	Total Training man-days
At the works of Contractor.	A) Drive, PLC & CMMS (total 02 Engineers) B) Mechanical System (total 02 Engineers)	Maximum 14 days
At employer's site after arrival equipment, in classroom.	Mechanical	4
	Electrical	4
	Crane Operations	4
On site in crane at IPGL	Mechanical	2
	Electrical	2
	Crane Operations	5

.2 The session shall also include hand-on-trouble shooting where the contractor inserts known faults into the system to demonstrate the fault diagnostic capabilities of the fault diagnostic.

.3 The contractor shall furnish detailed Training manual to employer 15 days before commencement of training.

.4 The contractor shall provide a full time engineer on the contractor's permanent payroll, on site who shall oversee the Erection works. He shall have authorization to make reasonable changes and modifications as required by the employer.

.5 A commissioning engineer with PLC knowledge shall remain at site for the first two weeks of the performance test period of each equipment.

Signature & Seal of the Tenderer

SCHEDULE 5

QUALITY ASSURANCE PLAN (QAP)

All stages of execution of the work shall be governed by Quality Assurance Procedures that shall comply with or better requirements of ISO standards. Tenderer shall submit in substantial detail a quality assurance plan indicating all activities step by step at various manufacturing / fabrication / construction premises including site to carry out to meet the requirement of this specification and International standards / regulations / practices to enable comprehensive assessment of its merit and reliability. This shall also indicate tentatively at what stages of manufacturing / fabrication/construction of all items he proposes the customer control points according to which the inspection by the Employer and Engineer-In Charge could be planned.

QAP shall incorporate monitoring, inspection, Testing and Review as per the scope of Third Party Inspection Agency (TPIA) as given in the Annex VII of tender document.

Signature & Seal of the Tenderer

SCHEDULE 6

DETAILS OF INSTRUMENTS

FOR TESTING & QUALITY CONTROL

Tenderers are advised to furnish details regarding instruments that he will be using for `Testing & Quality Control' till completion of the subject Work. The information in this regard should be submitted in below mentioned format and separate sheets may be used to furnish necessary details, if required.

Sl. No.	Brief Description & specifications of Testing & Quality Control Instruments	Qty	Year of Installation
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

Signature & Seal of the Tenderer

SCHEDULE 7

SUB-CONTRACTORS

The Tenderer shall submit the name, address of persons, firms or companies, proposed by him as sub-Contractors for carrying out the work under the Contract together with particulars of work to be carried out by each party. Written confirmation from sub-Contractor shall be submitted along with the tender.

Sl. No.	Section of Works	Name and address of the proposed Supplier/sub-contractor	Name & Location of the Organisation previously supplied/worked
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			

Signature & Seal of the Tenderer

SCHEDULE 8

ARRANGEMENT FOR SPARE PARTS

Tenderer shall submit following information pertaining to availability of spare parts

1	Name, address and Contact Number of Service Centres of tenderer's firm with spare parts stock in India/Destination country.	
2	The address of the dedicated website through which order for spare parts can be placed.	
3	Minimum number of days, on intimation, a service Engineers of tenderer's firm for this particular Equipment is available on site.	

Signature & Seal of the Tenderer

SCHEDULE 9

STATEMENT OF DEVIATIONS

1. The following are the particulars for deviations from the requirements of the Tender specifications: (A soft copy to be submitted in Word Format in the following tabular form):

Sr. No.	Volume I/II Clause No./ Page No.	Proposed Deviations	Justification for Proposed Deviations	Price Adjustment in Terms of Percentage	Remarks by IPGL

Note: 1.Where there are no deviations, the statement should be returned in duly signed manner with an endorsement indicating no deviations.

2. The Tenderer shall indicate in this Schedule, the Price adjustment in terms of percentage against each deviation, which he may like to apply to the Tender Price for withdrawing his deviation, if the same is unacceptable to the Employer. However, the absolute amount of Price adjustment, if applicable, shall be mentioned in the Price Schedule, for each deviation.

3. In case of no submission of price-adjustment against any deviation, it will be deemed acceptance by the contractor without any price adjustment.

4. The deviation which is not acceptable to IPGL is required to be withdrawn unconditionally, failing which the offer will be treated as conditional offer and the same is liable for rejection.

Signature and seal of the Tenderer

SCHEDULE -10

LIST OF SPARE PARTS to be supplied under this contract.
Consolidated List for fourteen (14) units. RTGCs.

Supply of Spare parts shall be separate from scope of this tender and shall be optional on part of IPGL. The rates / prices / amount shall be submitted in price Schedule 11, part II, which will be valid for a period of 2 years from final acceptance date. However, the same shall not be taken in to consideration for evaluation of the tender.

SPARES:

ELECTRICAL SYSTEM:

Details	Spares	Qty
	Electronics	
1	I/O modules	1 nos. each type
2	Data communication modules	1 nos. each type
3	Power semiconductor modules with heat sink	3 nos.
	Cables	
1	Spreader cable	2 nos.
	Switches & contactors	
1	Limit switches, magnetic switches, proximity switches & encoders	2 nos. of each type
	Other electrical items	
1	Fuses all types (Control, power & Drives)	4 sets
2	Long travel siren with flashing light	2 sets
3	Master controller	1 no. each type.
4	SMPS	1 no. each type.
	Spreader & head block	
1	Complete spreader with cable & quick connectors.	1 no.
2	Spreader twist lock pins & nuts	4 nos
3	Twist lock cylinders	2 nos
4	Twist lock guide	2 nos.
5	Landed pins	2 nos
6	Flipper gear box	2 nos
7	Flipper motors	2 nos.
8	Flipper arm	2 nos
9	Limit switches-Proximities	10 nos.
10	CAN Open slave node	2nos.
11	Spreader SCS3 node, can booster, ASI conversion, any bus gateway, CAN open modules	1set
12	Hoses	2 sets
	Brake thruster assembly	
1	i)Main Hoist	1nos.
2	ii)Trolley	1no.

3	iii)Gantry with control unit	1 nos.
4	iv)	1no.
5	v)	2 nos.
	Brake Linings	
1	i)Main Hoist brake linings	2sets
2	ii)Main Trolley brake linings	1sets
3	iii)Main Gantry brake linings	2sets
4	iv)	1set
5	vi) Lift brake liner	2 sets
	Other (Mechanicals)	
1	Wire ropes for main hoist	1sets
2	Wire ropes for trolley	1sets
	Hydraulic system	
1	C) Hoses	1 sets
2	D) Filters	1 sets

Signature & seal of the Tenderer

SCHEDULE - 10 A

OPERATIONS AND MAINTENANCE MANUALS

OPERATING AND MAINTENANCE (O&M) MANUAL

The contractor shall provide an operating and maintenance (O&M) manual which will cover the operation, lubrication, maintenance and inspection of the crane including routine and major maintenance of mechanical and electrical components. Routine and major inspection of the structure shall be covered by the structural maintenance manual. Detailed electrical record drawing shall be included with each O&M manual.

The O&M manual shall be durable and hardbound with properly indexed for easy reading. The contractor shall furnish 6 sets of O&M manuals with the supply of cranes. The contractor shall also provide O&M manual on a CD for reference. These manual shall be supplied 15 days before commencement of training schedule and commissioning of the equipment at employer's site. The O & M manuals shall consist following;

.1 A fully detailed as constructed manufacturing specification of the crane and equipment including, without limitation:

Drawings and diagrams where appropriate including electrical diagrams and hydraulic schematics.

All materials and component parts test certificates

A schedule of third party supplied components.

A schedule of spare parts provided under the contract.

.2 A fully detailed as constructed performance specification of the crane and equipment including, without limitation:

Wheel loading

Operating speeds and limitations

Commissioning test results including current readings

Statutory test certificates

.3 A fully detailed operating and maintenance manual for the crane, equipment and component parts including without limitation:

Setting up and testing procedures

Operational duties and restrictions

Maintenance and replacement schedules

Signature & seal of the Tenderer

SCHEDULE 10 – B

Maintenance Tools

The Following Tools are required to be supplied along with each Crane and cost of which is inclusive in CIF value of each equipment.

Electrical power screw driver set 230 V AC	: 2 Nos.
Electrical powered grease gun with 25 m hose & 20 kg reservoir	: 01 per crane
Portable grease gun	: 01 per crane
Set of spanners for maintenance of equipment	: 01 per crane
Industrial vacuum cleaner	: 01 Nos.
Pneumatic compressor installed in machinery room & power wrench with suitable head wrench and torque output	: 01 Nos. per crane.

Signature & seal of the Tenderer

SCHEDULE - 11 i.e. Format of PRICE SCHEDULE-Part I

(Tender No. IPGL/RTGC/2022)

Name of Work: Design, Manufacture, Supply, Installation, Testing, Commissioning, Training and Guaranteeing the performance of 14 Nos. New RTGCs, as per Principal Technical Parameters, specified in Tender clause 1.6 (volume-II of the tender document) at Container Terminal, IPGL, Shahid Beheshti Port of Chabahar, in accordance with the Contract.

Sl. No.	Description (Part I)	Price Quoted for new RTGCs (EURO / INR)	
		In Figures	In Words
1.	**Equipment**		
	-1 CIF price for Design, Manufacture, Supply, Installation, Testing, Commissioning and Guaranteeing the performance of 14 units of new RTGCs of 40 Ton Capacity to IPGL, Shahid Beheshti Port, Chabahar including Transit / Marine Insurance etc as prescribed in the tender document and including all other taxes, duties, levis, if any, payable at country of origin.		
2.	**Service component**		
	A) Price for Training fee for imparting operational & maintenance training, as per the Tender document and as per training schedule provided as Schedule 4 and 4A. B) Price for providing 06 sets of operation and maintenance manuals (prepared in accordance with relevant Schedule 10 A and " As-built" drawings and spare parts catalogue as per tender conditions. C) Price for providing 04 sets of training manuals.		
3.	Price for rendering warranty support as per tender conditions		
	TOTAL OF 1 T0 3-: TOTAL Landed Cost of 14 units of RTGCs (PRICE SCHEDULE- 11 PART-1)		

Note: Tenderer shall submit their offer for the entire work. Partial offer by any tenderer shall be rejected.

Name, Designation and Signature of Tenderer with company seal & date.

Name Signature of witness

PRICE SCHEDULE 11 Part –II

For Supply of Spares

(Tender No. IPGL/RTGC/2022)

A complete list of spare parts as per list attached at Schedule –10 required for operation of the cranes with quantity, unit price and total amount to be paid by the employer shall be given in the following format.

Spare Parts

Sl. No.	Description	Qty	Manufacturer' s Name and Model Number	Country Of Origin	CIF price (In INR /Euro)			
					Unit rate Quoted		Total amount quoted	
					In Figures	InWords	In Figures	In Word
1.								
Grand Total (Price Schedule II)								

Note: It shall be mandatory for the contractor to fill in this schedule. However, the same shall NOT TO BE TAKEN FOR EVALUATION OF THE BID. However, the prices shall remain binding for two years from date of Final Acceptance.

Name and Signature of Tenderer Name and Signature of Witness

SCHEDULE 12

INTEGRITY PACT

Between

"India Ports Global Limited, (IPGL) hereinafter referred to as "The Principal"

And
…… hereinafter referred to as "The Bidder/Contractor"

Preamble

The Principal intends to award, under laid down organizational procedures, contract/s for "Design, Manufacture, Supply, Installation, Testing, Commissioning and Guaranteeing the performance of 14 Nos. of New RUBBER TYRED GANTRY CRANES (RTGCs) of 40 ton capacity , at Shahid Beheshti Port, Chabahar.

The Principal values full compliance with all relevant laws of the land, rules, regulations, economic use of resources and of fairness/transparency in its relations with its Bidder(s) and/or Contractor(s).

Section 1 – Commitments of the Principal

(1) The Principal commits itself to take all measures necessary to prevent corruption and to observe the following principles;

a. No employee of the Principal, personally or through family members will be in connection with the tender for, or the execution of a contract, demand, take a promise for or accept for self or third person, any material or immaterial benefit which the person is not legally entitled to.

b. The Principal will, during the tender process treat all Bidder(s) with equity and reason. The Principal will in particular, before and during the tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential / additional information through which the Bidder(s) could obtain an advantage in relation to the tender process or the contract execution.

c. The Principal will exclude from the process all known prejudiced persons.

(2) If the Principal obtains information on the conduct of any of its employees which is a criminal offence under the IPC / PC Act, or if there will be a substantive suspicious in this regard, the Principal will inform the Chief Vigilance Officer and in addition can be initiate disciplinary action.

Section 2 - Commitments of the Bidder(s) / Contractor(s):

(1) The Bidder(s) / Contractor(s) commit himself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the tender process and during the contract execution.

(a)The Bidder(s) / Contractor(s) will not directly or through any other person or firm, offer, promise or give to any of the Principal's employees involved in the tender process or the execution of the contract or to any third person any material or other benefit which he / she is not legally entitled to. In order to obtain in exchange any advantage of any kind whatsoever during the tender process or during the execution of the contract.

(b)The Bidder(s) / Contractor(s) will not enter with other Bidders into any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submissions or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the Bidding process.

©The Bidder(s) / Contractor(s) will not commit any offence under the relevant IPC/PC Act; further the Bidder(s) / Contractor(s) will not use improperly, for purpose of competition, or personal gain, or pass on to others, any information or document provided by the Principal as part of the business relationship, regarding plans, technical proposals and business details including information contained or transmitted electronically.

(d)The Bidder(s) / Contractor(s) of foreign origin shall disclose the name and address of the Agent/Representatives in India, if any. Similarly the Bidder(s) / Contractor(s) of Indian Nationality shall furnish the name and address of the foreign principals, if any. Further details as mentioned in the "Guidelines on Indian Agent of Foreign Suppliers" shall be disclosed by the Bidder(s) / Contractor(s). Further as mentioned in the Guidelines all the payments made to the Indian agent / representative have to be in Indian Rupees only. Copy

of the "Guidelines on Indian Agent of Foreign Supplier" is annexed and marked as Annex-"A".

(e)The Bidder(s) / Contractor(s) will, when presenting his bid, disclose any and all payments he has made, is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of contract

(2)The Bidder(s) / Contractor(s) will not instigate third person to commit offences outlined above or be an accessory to such offences.

Section 3- Disqualification from tender process and exclusion from future contracts.

If the Bidder(s) / Contractor(s), before award or during execution has committed a transgression through a violation of Section 2, above or in any other form such as to put his reliability or credibility in question, the Principal is entitled to disqualify the Bidder(s) / Contractor(s) from the tender process or take appropriate action.

Section 4 – Compensation for Damages

(1)If the Principal has disqualified the Bidder(s) from the tender process prior to the award according to Section 3, the Principal is entitled to demand and recover the damages equivalent to Earnest Money Deposit / Bid Security.

(2)If the Principal has terminated the contract according to Section 3, or if the Principal is entitled to terminate the contract according to Section 3, the Principal shall be entitled to demand and recover from the Contractor liquidated damages of the Contract value or the amounts equivalents to Performance Bank Guarantee.

Section 5- Previous transgression

(1)The Bidder declares that no previous transgression occurred in the last 3 years with any other Company in any Country conforming to the anti-corruption approach or with any other Public Sector Enterprise in India that could justify his execution from the tender process.

(2)If the Bidder makes incorrect statement on this subject, he can be disqualified from the tender process or appropriate action can be taken.

Section 6-Equal treatment of all Bidders / Contractors / Subcontractors

(1)The Bidder(s) / Contractor(s) undertake(s) to demand from all subcontractors a commitment in conformity with this Integrity Pact, and to submit it to the Principal before contract signing.

(2)The Principal will enter into agreement with identical conditions as this one with all Bidders, Contractors and Subcontractors.

(3)The Principal will disqualify from the tender process all bidders who do not sign this Pact or violate its provisions.

Section 7- Criminal charges against violating Bidder(s) / Contractor(s) / Subcontractor(s)

If the Principal obtains knowledge of conduct of a Bidder, Contractor or Subcontractor or of an employee or a representative or an associate of a Bidder, Contractor or Subcontractor which constitutes corruption or if the Principal has substantive suspicion in this regard, the Principal will inform the same to the relevant vigilance authorities.

Section 8- Pact Durations

This Pact begins when both parties have legally signed it. It expires for the Contractor 12 months after the last payment under the contract, and for all other Bidders 6 months after the contract has been awarded.

If any claim is made / lodged during this time, the same shall be binding and continue to be valid despite the lapse of this Pact as specified above, unless it is discharged / determined by Managing Director, IPGL

Section 9 - Other provisions

(1)This agreement is subject to Indian Law, Place or Performance and Jurisdiction is / the Registered Office of the Principal, i.e., Mumbai.

(2)Changes and supplements as well as termination notices need to be made in writing. Side agreements have not been made.

(3)If the Contractor is a partnership or a consortium, this agreement must be signed by all partners or consortium members.

(4)Should one or several provisions of this agreement turn out to be invalid, the reminder of this agreement remains valid. In this case the parties will strive to come to an agreement to their original intentions.

(For and on behalf of Principal) (For and on behalf of Bidder / Contractor)

(Office seal)

(Office seal)

Place……..

Date……..

Witness 1: …….

(Name & Address)
……

Witness 2: …….

SCHEDULE 13 - CHECK LIST

INDIA PORTS GLOBAL LIMITED

Tender: No. IPGL/RTGC/2022

CHECK LIST OF DOCUMENTS TO BE SUBMITTED ALONG WITH TECHNICAL BID.

All the pages of the document submitted under this tender shall be properly and neatly numbered in serial, and same shall be reflected in the summary to be submitted as check list to the offer in the following manner for easy identification of the documents during evaluation.

Sr. No.	DETAILS OF DOCUMENTS TO BE SUBMITTED
1.	A covering letter along with check list giving details of the documents being submitted with tender confirming validity of bid for 180 days and submission of Earnest Money Deposit- Envelope-1 so super scribed with the contents therein.
2.	Earnest Money Deposit as per tender condition- Envelope-2 so super scribed with the contents therein.
3.	The tender document is issued in two sets, one being marked as "ORIGINAL" and other as "TENDERER'S COPY". Original tender copy shall be returned along with the offer (Technical Bid), with each page of it duly signed by the authorised person and stamped with company's seal in token of having been read and accepted the tender conditions along with Letter of application cum Tender form duly signed by the person / persons who is / are competent to sign (Annex III of Volume-I of this tender document) and TECHNICAL BID. – Envelope 3 so super scribed with the contents therein.
4.	Price Bid As per Schedule 11 (Volume-I) - Envelope-4 so super scribed with the contents therein
5	One Duplicate Copy of technical bid (clearly marked) of the offer shall be submitted along with the original offer in the same envelope i.e. Envelope -3
6	Schedule 11 Schedule of Prices is in Part I & II. Both the Parts duly filled in shall be kept in Envelope 4.
7.	Particulars of the Tenderers as specified in the Schedule 1 (Volume-I) of this tender document.
8.	Technical data of the crane as per Volume-II of this tender document.
9.	Work Schedule as per Schedule 3 (Volume-I) of this tender document:
10.	Details of the training programme of various categories of IPGL/Associates employees as per Schedule 4 & 4 A (Volume-I) of this tender document.
11.	Quality Assurance Plan indicating all activities steps by step at various stage of project as per Schedule 5 (Volume-I) and details of instruments for Testing & quality control as per Schedule 6 (Volume-I) of this tender document.
12.	Details of bought out items and its quality certification plan.
13.	Details of Sub Contractor involved in the various activities according to

	Schedule 7 (Volume-I) of this tender document
14.	Detailed drawings of various arrangements of the crane as per this tender document.
15.	Arrangement for importing spare parts, tie up with local firms for supply of spare parts, if any and arrangement for after sales service. Tenderer shall submit the information as per Schedule 8 (volume-I) of the Tender Document.
16.	Statements of deviations as per Schedule 9 (Volume – I) of tender document.
17.	List of spare parts as per Schedule 10 (Volume – I) and Operation & Maintenance Manual Schedule 10 A and List of Maintenance Tools Schedule 10 B.
18.	Information regarding any current litigation.
19.	Details of Warranty Support programme as per Contract Conditions.
20.	MOU/Agreement entered in technical collaboration (if applicable)
21.	Undertaking to ensure integrity as per Clause 2.15.16.i.e. Schedule 12 of Volume I.
22	Any other details, which shall establish the technical competency and any deviation from technical specification
	Non - Disclosure Agreement Schedule 14.
24.	Details of organisation showing hierarchy and key personnel as per Schedule 15 of this tender document.
25.	Details of current commitments indicating order value, period etc as per Schedule 16 of this tender document.
	Experience in having executed similar Works completed in Past along with Contract value and other related details as per Schedule 17 of this tender document.
27.	EXPERIENCE IN SIMILAR WORKS Schedule 18.

SCHEDULE – 14 Non Disclosure Agreement

THIS AGREEMENT is made this _____ day of _____ _, 202_

Between

Board of Directors of India Global Ports Limited, incorporated under the Companies Act (hereinafter called the 'Board' which expression shall, unless excluded by, or repugnant to the context, be deemed to include the Board of Directors of India Global Ports Limited, its successors and assigns) of the ONE PART

AND.

M/s_____, a Company incorporated in _____ (Country) under the _____ and having its office at _____ (Hereinafter referred to as "Contractor" which expression shall include its successors and assigns) of the part:

WHEREAS:

(1)By Tender No _____ (the "Tender"), offers were invited from Contractors to for the work of _____ for India Global Ports Limited) the "Project"):

(2) M/S _____ made an offer to act the Contractor as per the terms and conditions of the tender: and

(3)After evaluation of the proposals / offers received, the Board has engaged M/s _____ as the Agency for carrying out _____ (Work Title), subject to signing of the Confidentiality Agreement between the Board and the Contractor and conveyed to the Contractor by its _____ (Work Order signatory) vide Work Order No. dated.__/__/202_ which was duly accepted by the Contractor vide its letter dated __/__/202_.

NOW, THEREFORE, in consideration of the mutual agreements contained herein, the Contractor covenants with the Board as follows:

1. All business, financial, operational and other information and data, of whatever kind and in whatever form, relating to the Board, which is disclosed or made known or comes to the knowledge of the Contractor (including but not limited to its representatives, professional advisors, employees and agents) by the Board or on the Board's behalf (including but not limited to its representatives, advisors, employees and agents) (collectively referred to as "Confidential

Information") will be held in complete confidence and will not be used for any purpose other than directly in connection with the scope of services described in the tender.

The Contractor will not, without the prior written consent of the Board or its authorised person/s, disclose or otherwise make available whole or any part of the Confidential Information to any third party except in accordance with the terms of this Agreement.

The Contractor will be entitled to copy and circulate the Confidential Information to its only such directors, officers and employees and to such of its professional advisors who are directly concerned with fulfilment of the scope of services as per the terms and conditions of the tender and to whom knowledge of such information is necessary for such purpose. All persons to whom any Confidential Information is disclosed shall treat the same as confidential and use the same solely for due discharge of its obligations under the Scope of Services stated in the tender. The Contractor will be responsible for procuring their compliance with the terms of this Agreement as if they were subject to the same obligations to the Company as the Contractor is subject to hereunder.

The restrictions, obligations and liabilities contained in this Agreement shall not apply to any information which:

a) Was already in the public domain at the time of its disclosure to the Contractor by the Board; or subsequently becomes part of the public domain through no breach by the Contractor of its obligation under the Agreement.

b) is generally available to or accessible by, the public or, after such disclosure, becomes generally available to, or accessible by the public, other than by reason of a breach of any undertaking by the Contractor contained in this Agreement; or

c) is required to be disclosed by the Contractor by applicable law or regulation or judicial authority, provided that the Contractor agrees, to notify, the Board in writing, duly signed by an authorised signatory, as soon as possible, upon becoming aware of any such requirement and confirming the necessity of the disclosure prior to such disclosure; The Contractor shall promptly notify the Board in writing if any confidential information is required to be disclosed by law or other regulation and will co-operate with the Board regarding the timing and content of such disclosure or any action which the Board may elect to take to challenge the validity of such requirement unless such cooperation exposes the Contractor to claims, losses, damages or other liability for which the Contractor does not receive indemnification from the Board, and the Contractor undertake that any such disclosure shall be the minimum required by the relevant law or regulation in order for the Contractor to comply with its obligations there under.

The Contractor will not make, or permit its officers, directors, employees and professional advisors to make or procure or solicit or assist any other persons to make, any announcement or disclosure of the Confidential Information without the Board's prior written consent.

The Contractor and the Board shall individually keep a record of the Confidential Information provided by the Board to it in writing ("Confidential Information"). The Contractor shall, forthwith upon receipt of a written request from the Company or completion of the assignment as per the tender or if the Contractor ceases to act as the Agency for …….. (Work Title) of the Board:

a) Return to the Board any Confidential Information in the Contractor's possession or control of, or in the possession or control of, any of its employees, agents or professional advisors, together with all copies thereof, and

b) Expunge all Confidential Information from any computer, word processor or similar device into which it has been programmed by the Contractor or its professional advisors on its behalf.

c) Not make use of the information, contained in the confidential information for any of its business operations.

The Contractor acknowledges that neither the return of any Confidential Information nor the expunging of any Confidential Information from its records shall release it from its obligations under this Agreement.

7. The obligations contained in this Agreement are continuing and, in particular, shall survive the completion of the project.

The Contractor agrees and acknowledges that the Board may be irreparably harmed by the breach of the terms hereof and damages may not be an adequate remedy and that injunctive relief is an appropriate remedy to protect the rights of a party with respect to its Confidential Information. The Contractor shall be responsible for the breach of any of its covenants and obligations in this Agreement and will indemnify the Board from and against any claims, costs, expenses, losses or damages (including reasonable attorneys' fees) that are actually incurred by the Board and that are directly and solely attributable to the breach by the Contractor of its covenants and obligations in this Agreement. The Contractor further confirms that it is acting in this matter as principal and not as agent for any other person.

The rights, powers and remedies provided in this Agreement shall be in addition to, and not in substitution for, any other rights, powers and remedies provided by law. No failure or delay in exercising any right, power or privilege hereunder will operate as a waiver thereof nor will any

single or partial exercise of any right, power or privilege preclude any further exercise thereof or the exercise of any other right, power or privilege hereunder. The terms of this Agreement and the Contractor's obligations hereunder may only be amended or modified by written agreement between the Contractor and the Board.'

This Agreement shall be governed by and construed in accordance with Indian law. The parties hereby agree to submit to the jurisdiction of the courts of Mumbai.

If at any time any term or provision in this Agreement shall be held to be illegal, invalid or unenforceable, in whole or in part, under any rule of law or enactment, such term or provision or part shall to that extent be deemed not to form part of this Agreement, but the enforceability of the remainder of this Agreement shall not be affected.

This Agreement shall be freely assigned by the Board, with prior written notice to the Contractor, to any person or persons who are substituted in all in the interests or rights or obligations of the Board for the development of the Project.

All questions, disputes and differences arising under or in relation to this Agreement shall be referred to …… (Work Order signatory) of The Board for consideration. The decision of …… (Work Order signatory) shall be final, conclusive and binding on all the parties to the Agreement.

IN WITNESS WHEREOF, the parties have caused this Non-Disclosure Agreement to be executed by their respective duly authorised officers as of the day and year first hereinabove written.

Authorized Signatory

For M/s. ……

In Present Of

……

……

……
Managing Director on Behalf of the

Board of Directors of
India Ports Global Limited

In Present Of

……

……

……

SCHEDULE 15

DETAILS OF KEY PERSONNEL

Details of key personnel involved in administration and execution of the subject work till completion, are to be furnished. The information in this regard should be submitted in below mentioned format and separate sheets may be used to furnish necessary details, if required.

No.	Name in full	Designation	Qualification	Experience
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				

Signature & Seal of the Tenderer

SCHEDULE 16

CURRENT COMMITMENTS IN HAND

Tenderer should provide necessary information about their current commitments on all Contracts that have been awarded, or for which a 'Letter of Intent' is placed or 'Letter of Acceptance' has been received or for Contracts approaching towards completion and full completion certificate has yet to be issued. The information in this regard should be submitted in below mentioned format and separate sheets can be used to furnish necessary details.

In support of submitted information, it is very essential to submit copies of orders in hand or copies of 'Letter of Intent' / work orders as the case may be.

	Name of the Client	Order number / Reference number & Date	Order value	Date of Completion as per the Order	Estimated date of Completion
1.					
2.					
3.					
4.					

Signature & Seal of the Tenderer

SCHEDULE 17

DETAILS OF WORKS COMPLETED IN PAST

Tenderer should provide necessary information about Works completed during last 03 years for which completion certificate or performance certificate is already issued by the Client. The information in this regard should be submitted in below mentioned format and separate sheets can be used to furnish necessary details.

In support of submitted information, it is very essential to submit copies of orders executed in past along with satisfactory performance certificates issued by Clients.

No	Name of the Client	Order number or Reference number & Date	Order value	Date of Completion as per the Order	Actual date of Completion
1.					
2.					
3.					
4.					

Signature & Seal of the Tenderer

SCHEDULE 18

EXPERIENCE IN SIMILAR WORKS

Reference: -1

The information about experience in similar Works should be submitted in below mentioned format and separate sheets must be used for each reference.

You are advised to furnish details about similar works as stipulated in the Tender. In support of submitted information, it is very essential to submit copies of order/s executed along with satisfactory performance certificate issued by Client/s.

1.	Client's Name:	
2.	Contract / Order number and Date	
3.	Name of the Contract:	
4.	Client's Address in full:	
5.	Name of Client's Contact person:	
6.	Client's Telephone Number/s	
7.	Client's fax number	
8.	Contract / Order value	
9.	Completion period as per Contract / Order	
10.	Date of Actual completion Of Contact / Order	
11.	Brief details of Contract/Order	

Signature & Seal of the Tenderer

SCHEDULE 18

EXPERIENCE IN SIMILAR WORKS

Reference: -2 (if any)

1.	Client's Name:	
2.	Contract / Order number and Date	
	Name of the Contract:	
4.	Client's Address in full:	
5.	Name of Client's Contact person:	
6.	Client's Telephone Number/s	
7.	Client's fax number	
8.	Contract / Order value	
9.	Completion period as per Contract / Order	
10.	Date of Actual completion of Contact / Order	
11.	Brief details of Contract/Order	

Signature & Seal of the Tenderer

SCHEDULE 19

Appendix-A

Format for bidder registration under Rule 144(xi) of GFR

Name of Bidder - as defined in the Department of Expenditure Order (Public Procurement No. 1) issued vide No. F.No.6/18/2019-PPD dated 23rd July, 2020	
Type of business entity (Natural Person/ Private Limited Company/ Public Limited Company/ Sole Proprietorship/ One Person Company/ Partnership firm/ Limited Liability Partnership/ Joint Venture/ Trust/ NGO/or any other type of entity) In case of incorporated entity - to attach certificate of incorporation.	
Beneficial owners - as defined in the Department of Expenditure Order (Public Procurement No. 1) issued vide No. F.No.6/18/2019-PPD dated 23rd July, 2020 Details of all beneficial owners having ownership more than that prescribed in Para 9 of Department of Expenditure Order (Public Procurement No. 1) issued vide No. F.No.6/18/2019-PPD dated 23rd July, 2020 may be furnished in the format as given in Annexure -I duly certified by practicing Chartered Account in India.	
Complete **address of the Registered Office** with contact person name, telephone number and email Id.	
Whether registration is being sought as a. Manufacturer/ service provider/ contractor for supply of goods/ services / works or b. As an **agent/reseller/distributor/member of consortium/ Branch Office/ Office Controlled by bidder/any subsidy of any artificial juridical person**/ any other type of category)	

Bidder to give details in which category - registration is being sought.	
In case registration is being sought as **an agent /reseller/distributor/Office controlled by bidder/ any other subsidy of any artificial juridical person /any other category other than manufacturer / service provider and contractor** of above - the **details of manufacturer/ service provider/ contractor** may be furnished in Annexure- II.	
The **details of items (**goods/ services / works**)** for which registration is sought as per Annexure -III	
Financial details in INR/ US Dollar for last five financial years as per Annexure -IV duly certified by practicing Chartered Account in India.	

Note: The terminology “Works” in the entire document means “Works including turnkey works/ projects”. Similarly, the terminology “Services” means “Consultancy as well as non-Consultancy services”.

Annexure - I

Details of beneficial ownership of M/s.....(Name of the bidder)

		Beneficial owner details		
Name of the beneficial owner	**% beneficial ownership**	**Natural person or legal/ artificial juridical person/ entity**	**Country of Citizenship / Country of incorporation of legal/ artificial juridical person/ entity.**	**In case of legal/ artificial juridical person/ entity, beneficial ownership details of such entities may be furnished and so on.**

Annexure- II

Details of manufacturer/ service provider/ contractor

Name of manufacturer/ service provider/ contractor	
Type of business entity (Natural Person/ Private Limited Company/ Public Limited Company/ Sole Proprietorship/ One Person Company/ Partnership firm/ Limited Liability Partnership/ Joint Venture/ Trust/ NGO/or any other type of entity) In case of incorporated entity - to attach certificate of incorporation.	
Beneficial owners - as defined in the Department of Expenditure Order (Public Procurement No. 1) issued vide No. F.No.6/18/2019-PPD dated 23rd July, 2020 Details of all beneficial owners having ownership more than that prescribed in Para 9 of Department of Expenditure Order (Public Procurement No. 1) issued vide No. F.No.6/18/2019-PPD dated 23rd July, 2020 may be furnished in the format as given in Annexure -I duly certified by practicing Chartered Account in India.	
Complete **address of the Registered Office of manufacturer/ service provider/ contractor** with contact person name, telephone number and email Id.	
In case of manufacturer, complete address of the **manufacturing premises** with name, telephone number and email Id of contact person.	
In case of service provider/ contractor, **complete address of the premises from where services** are provided may be given with name, telephone number and email Id of contact person.	
The **details of items (**goods/ services / works**)** for which registration is sought as per Annexure -III	
Financial details in INR/USD for last five financial years as per Annexure -IV duly certified by practicing Chartered Account in India.	

Annexure -III

Details of item (goods/ services / works) for which registration is sought

Description of items (goods/ services / works) for which registration is being sought.	
Broad technical specification parameters/ details of items	
Annual Capacity of bidder for each of the goods/ services / works for which registration is being sought.	
Major public procuring entities in India for these items	
Details of contracts received in last 05 years for these items from public procuring entities in India in the format given in Annexure-V	
Details of contracts received in last 05 years for these item from private sector in India in the format given in Annexure-VI	
Details of outsourced components/goods and subcontracted works and services proposed to be used in execution of contract may be provided in the format given in Annexure -VII.	

Note:-

1. Bidder can seek registration for multiple items in an application by providing requisite details for each of the item for which registration is being sought.
2. Registration will be valid for a period of one year from the date of issue.
3. If there is change in the beneficial ownership of the bidder/ manufacturer/ contractor/service provider - this registration shall automatically stand annulled. Fresh registration need to be filed in such cases.

Annexure-IV

Financial details in INR/ EURO for last three financial years duly certified by practicing Chartered Account in India.

Financial year (FY)	**Net Sales turnover during the FY**	**Net Profit during the FY**	**Net worth at the end of the FY**

Annexure-V

Details of contracts received in last 05 years from public procuring entities in India

Sr. No.	Description of goods/ services / works with broad technical parameters	Procuring entity details - Name and complete address of the Organization.	Purchase Order Qty and value	Status of the Order - Executed successfully/ under execution/ cancelled

Note:- The details are required to be furnished only for those goods/ services / works for which registration is being sought.

Annexure- VI

Details of contracts received in last 05 years from private sector in India

Sr. No.	Description of goods/ services / works with broad technical parameters	Procuring entity details - Name and complete address of the Organization.	Purchase Order Qty and value	Status of the Order - Executed successfully/ under execution/ cancelled

Note:- The details are required to be furnished only for those goods/ services / works for which registration is being sought.

Annexure - VII

Details of outsourced components/goods and subcontracted works and services proposed to be used in execution of contract

Sr. No.	Details of outsourced components/goods and subcontracted works and services	Major technical parameters	Manufactured by /Subcontracted to	Country of Origin

*The details are required to be furnished for top 20 high value outsourced components/goods and subcontracted works and services.

SCHEDULE 20

Appendix - B

Proforma for application for security clearance for registration of bidders from countries which share land border with India

I. Details in respect of bidding company / person:

SI. No.	Name of the company / person	Type of company (Pvt. Ltd. / Pub. Ltd. / sole proprietorship / one-person company *1* partnership / LLP / JV*1* Trust / NGO etc.)	Country of registration in case of company / nationality (if holding multiple nationality, all must be mentioned) in case of person	Registration number with date in case of company / passport nos. and issue date in case of person	Registered office address and correspondence address in case of company *1* Contact Address in case of person	Previous name of the company, if any	Details of earlier registration, if any (ref. no. & date)

II. Details of beneficial ownership of entity:

SI. **No.**	Name of the company/individuals which/who are the beneficial owner of bidding company	Country of registration, registration number with date in case beneficial owner is a company / nationality, passport nos. and issue date (if holding multiple nationality, all must be mentioned) in case beneficial owner is an individual	Registered office address in case of company and correspondence address / contact address in case of individual	Details of intermediary company(s) / persons between bidder company or person and beneficial owner company / individual	Enclose a chart depicting the link between bidding company / person and the beneficial company / owners along with details such as address, parentage, passport details (in case of individuals) or company registration details (in case of companies)

III. Details in respect of Directors of bidding company:

SI. No.	Full Name of Board of Directors	Present position held with date (since when)	Date of birth	Parentage (name of father / mother)	Present & Permanent Address	Nationality (if holding multiple nationality, all must be mentioned)	Passport Nos. and issue date, if any	Contact Address & telephone number

IV. Details of shareholders of bidding company (all companies/entities/individuals with more than 10% shares or having controlling ownership interest or exercising control through other means in case of less than 10% shares):

SI. No.	Full Name of individual / company	Parentage (name of father / mother) in case of individuals, and registration number in case of companies	Permanent address / present address in case of individuals, and registered and correspondence address in case of companies	Present position held, in any, in the applicant company	Nationality, in case of individual (if holding multiple nationality, all must be mentioned) / country of registration, in case of company	Passport Nos. and date of issue, if any (date of birth, in case passport is not available) for individuals	% of shares held in the company

V. Details of tender(s) and specific goods / services / works proposed to be supplied:

VI. Reasons for seeking registration with Registration Committee of DPIIT: A brief note be attached

VII. Details of nature of activities undertaken by bidding company / person: A brief note be attached.

VIII. Details of nature of activities undertaken by beneficial owner of bidding company / person: A brief note be attached**.**

IX. Details of criminal cases, if any, against the bidding company, its director(s) or person as per annexure

Annexure

Self-declaration for bidding company and its director(s) / owners or person

a. Name & address and registration number of the company:

b. Name and address of owners (in case of proprietorship firm)/ directors of the company / person

1. _____
2. _____
3. _____
4. _____

c. Are the company owners (in case of proprietorship firm) *I* directors / person listed above, are the subject of any?

1. Preventive detention proceedings under: Yes/No
   Public Safety Act *I* National Security Act etc.

2. Criminal investigation in which charge sheet: Yes/No
   has been filed

d. If, Yes, please provide following details

1. Case / FIR number :
2. Detention *I* warrant number, if any, :
3. Police station / district *I* agency :
4. Sections of law under which case(s) has *I* have been filed :
5. Name and place of the court :

e. The above-mentioned details are in respect of both India and any other foreign country.

(Signature)

Note: The above self-declaration is required to be filled and signed by the authorized signatory of the company

VOLUME - II

RUBBER TYRED RY CONTAINER CRANES
(Fourteen (14)units for Shahid Beheshti Port (Chabahar)

TECHNICAL SPECIFICATION

May 2022

CONTENTS PART

1 – GENERAL

PART 1 – GENERAL

1.1 Introduction

This Specification is for the design, manufacture, supply, installation, commissioning and testing of fourteen units of Rubber Tyred Gantry Container Handling Cranes (RTGs) for Shahid Beheshti Port (Chabahar).

1.2 Sub-Contractors and Suppliers

Any Sub-Contractor proposed for the crane structure fabrication work shall be subject to Buyer's approval.

The names of the manufacturers of major component items shall be stated in the technical schedules.

Approved Sub-Contractors and Suppliers shall not be changed following award of the Contract without the Buyer's approval.

1.3 Materials

Shahid Beheshti Port (Chabahar) is located in a highly corrosive marine environment. Due consideration shall be given to the design and selection of materials used for the crane and its component parts. Where stainless steel is used in an exposed location, it shall be grade 316S16 or equivalent. Grades with less resistance to corrosion shall not be used.

1.4 Environmental Conditions

The port equipment will be exposed to an extremely corrosive marine atmosphere with particularly high salinity, high temperatures and humidity. In addition, this region of the Persian Gulf and Oman sea are subjected to frequent dust and haze storms and periodic seismic activity.

The Manufacture shall design and construct the cranes to ensure reliable operation under the following site conditions: -

1.4.1 Temperatures (measured in shade)

Ambient Air Temperatures:	Maximum	50°C
	Minimum	0°C

1.4.2 Relative Humidity

Maximum relative humidity (RH)	99%

1.4.3 Rainfall

Mean annual (17 years)	171mm
Max annual (1976)	494mm
Min annual (1962)	1mm
Intensity	20mm/20 mins

1.4.4 Winds

Wind strength and direction variable through the seasons:

Maximum operating wind speed	20m/s
Maximum storm winds	44m/sec (gust)

1.4.5 Seismic

Seismic Design Data:

Horizontal acceleration (50 year) 0.34g

Vertical (50% x horizontal) 0.17g

Vibration period of quay: X direction 0.33 sec.
Y direction 0.45 sec.

1.5 Description of the Crane

The crane shall be a diesel-electric powered, rubber tyred gantry crane capable of handling 20ft, 40ft, and 45ft containers (9ft 6ins high) up to 40 tonne.

The crane shall stack containers between the legs at a height of 1 over 5 containers (9ft 6ins height containers) and width of 6 container rows (+) 1 traffic lane.

The crane shall be capable of full speed trolley travelling and gantry travelling simultaneously only when the head-block is at its upper hoisted position. Otherwise, it shall only be possible to operate gantry, trolley and hoist motions, one at a time.

The crane shall be fitted with anti-sway, trim, and horizontal fine positioning systems and be able to skew containers around their vertical axis, and be operated from an insulated and sound proofed operator's cab.

The crane structure and mechanisms shall be based upon designs that have been proven in service. The crane electrical drive systems and equipment shall be of proven design for use with high speed container handling cranes, and obtained from a Sub-Contractor who has an extensive track record in the crane industry.

1.6 Principal Dimensions and Loads

Gantry type	Rubber tyred
Operational power	Diesel-electric
Total number of wheels	16
Inside clear span	Minimum 22 metres for six containers across and one traffic lane.
Wheel span (centre line of tyres)	Maximum 23.50 metres
Overall width of lower part of crane	Maximum 26.50 metres
Lifting Height	One over five high containers of 9ft. 6in. height each.
Lifting capacity under spreader	40 tonnes.
Length	maximum 13.50 metres.
Hoisting speeds: with load of 40 tonnes without load	minimum 26 metres/min +/- 2.5 %.
Hoisting speeds: without load	minimum 52 metres/min +/- 2.5 %.
Trolley travel speed	minimum 70 metres/min +/- 2.5 %.
Gantry speed (without load)	minimum 135 metres/min +/- 2.5 %.

Note: To meet the span and overall lower width requirement 21.84 m. of the inside clear span is also acceptable provided dimensional drawing to be submitted and to be got approved from IPGL.

1.7 Standards

The major design standards to be used for the detail design of the crane shall be:
British Standards: -

BS 2573: Rules for the design of cranes: Part 1: Specification for classification, stress calculations and design criteria for structures

BS 2573: Part 2: Permissible stresses in cranes and design rules: Mechanisms

OR

Federation Europeans De La Manutention (FEM) - Rules for the design of hoisting appliances

The materials, workmanship and component standards to be used shall be British Standards or DIN standards or other equivalent standards specified or approved at the time of placement of the order for the cranes. For electrical design, it will only be according to IEC Standards.

1.8 Classification

The crane shall be designed to work continuously, up to a maximum of 24 hours a day at peak, and to work in a service design wind speed of 20m/sec as defined in BS 2573. Structures shall be classified to BS 2573: Part 1 as follows:

i) Class of Utilisation - U7 (2 million loading cycles)
ii) State of loading - Q2
iii) Group Classification - A7
iv) Impact factor - 1.3
v) Duty factor - 0.95

The details of the load and load cycle to be used in the fatigue check shall be stated at the time of tendering.

Mechanisms shall be classified to BS 2573: Part 2 as follows:

Mechanisms	Class of Utilisation	State of Loading	Group Classification
Hoist	T7	L2	M7 or M8
Traverse (Trolley)	T7	L2	M7
Travel (Gantry)	T7	L2	M7

1.9 Interfaces with Civil Works

The design loading for the stacking area is 60 kN/m2.The wheel load should not be more than 18ton/wheel. The theoretical weight and maximum wheel loads for the crane shall be stated in the tender schedules.

The crane shall be capable of operating fully laden on the following slopes: -

Longitudinal Inclination	up to 1 vertical in 50 horizontal
Lateral slopes of yard	up to 1 vertical in 50 horizontal

The crane shall be supplied complete with storm anchor points and crane tie downs. The storm anchor points at the yard shall be on Buyer's scope. Bidder shall provide the tie downs only.

1.10 Drawings and Documents for Approval

The Manufacturer shall submit the following documents and drawings to the Buyer for approval. Unless otherwise agreed by the Buyer, documents and drawings shall be supplied in four (4) full size paper copies (sizes A0, A1, A2, A3 or A4 as appropriate) plus electronic format (Microsoft office or AutoCAD as necessary). The Buyer shall reply with review / approval comments within a period of four (4) weeks from receipt of paper copies unless otherwise stated in the Contract. Where information submitted to the Buyer is found to be incomplete, the 4 weeks approval period shall commence upon receipt by the Buyer of the additional drawings and documents requested. Where no submission dates are stated below, these shall be in accordance with dates agreed by the Buyer and indicated the Manufacturer's Work Schedule.

- Within 5 days from Contract award the Manufacturer shall submit for the Buyer's approval comprehensive Work Schedule (programme) in the form of a Gantt chart listing all major milestones and detailing all design, manufacturing, testing, delivery, erection and commissioning activities.
- Within two weeks from Contract award the Manufacturer shall submit for the Buyer's approval preliminary Contract Quality Plan outlining QA procedures covering all project management, design, manufacturing and testing processes, including those undertaken by the Sub-Contractors and major suppliers. The Manufacturer shall confirm contact names of the project manager and others who will communicate with the Buyer or the Buyer's representative to technical or commercial aspects of the Contract.
- The Manufacturer shall submit proposed arrangement and detail drawings. These shall include the crane GA with overall dimensions, main structure, spreaders, head-block, access-ways, mechanisms, anti-sway system, machinery house, electric room, operator's cabin, control consoles, layout of controls, and lighting, electrical schematic and single line diagrams.
- The Manufacturer shall submit calculations in sufficient detail to allow a complete review of the design to be carried out. As a minimum, this shall include calculations for structure, stability, wheel loading, mechanisms, gear reducers, buffers, storm anchors, motor power, and power demand. Procurement specifications defining all technical aspects of major proprietary items as agreed within the Contract Quality Plan.
- Painting specifications for structure and machinery.

- Detailed manufacturing inspections plans for all major assemblies and items agreed within the Contract Quality Plan. These shall list all relevant inspection activities including welding acceptance and NDT standards applicable.
- Preliminary packing specification, delivery and erection schedules are to be submitted a minimum of four weeks prior to manufacture commencing to be submitted a minimum of four weeks prior to manufacture commencing.
- Steel mill certificates showing source, grade, composition and strength.
- Works test and inspection reports for welding and painting etc.
- Overload test certificates for lifting components such as spreaders, wire ropes, twist-lock pins etc.
- Operating and Maintenance Manuals including brochures / catalogues for the mechanical and electrical components.
- Test certificates for motors, hydraulic components etc. (As applicable).
- Training plan.
- Site erection and testing procedure.

Documents and drawings shall be produced specifically for this project and shall be suitably titled as agreed by the Buyer prior to Contract award.

1.11 Inspection and Testing During Manufacture

The Manufacturer shall submit for the Buyer's approval, four weeks prior to full details of their proposed inspection and test programme. (QC Plan including Tests, witness and hold points) This shall include all tests to be carried out prior to delivery by the Manufacturer and Sub-Contractors as specified in the Contract and any further tests proposed by the Manufacturer. The scope of inspections to be representative shall carried out by the include, but not necessarily be limited to the following:-

- Conduct visual checks on the quality of incoming materials, which shall include structural steel, motors, reducers, hydraulic components, and other items deemed necessary by the Buyer.
- ITP (Inspection & Test Plan) and QC Plan shall be approved by the buyer.
- Verification and identification of steel material, including witness of fracture test against mill sheets for major structural items. Review system for material tracing with random witness of identification.

- Check welders test certificates and welding procedures to ensure that only qualified welders are being used and that correct welding procedures are followed.
- Check material preparation, cutting, fit-up and welding to ensure that they are in compliance with drawings.
- Review qualifications of non-destructive examination operators and procedures. Witness non-destructive examinations of ultra-sonic, magnetic particle and liquid penetrant testing as required. Review radiographs.
- Conduct visual inspections pertaining to the quality of structural welding.
- Compare assembly and mounting of mechanisms with recognized engineering practices.
- Check material surface preparation and coating of paint. Check proper application of paint to meet specifications. Check ambient conditions and/or records during blasting and painting.
- Check electrical wiring for proper installation and termination. Witness high voltages withstand tests and insulation resistance tests.
- Witness shop test of motors, reducers, hydraulic systems and sub-assemblies.
- Witness tests on the crane and spreaders prior to shipment. Witness tests on control panel and drive systems.
- Conduct final checks on the quality of welds, painting, installation of substructures, sea-fastenings, etc. before the crane is shipped out to the site.

1.12 Training

Training shall be provided to the crane operators and maintenance staff by competent instructors in the Farsi language, unless otherwise agreed and approved by the Buyer. The training language in English is also acceptable. The program for training at the Manufacturers works and at site shall be drawn up by the Manufacturer and approved by the Buyer.

1.12.1 Crane Operator Training

Crane operator training number of people shall be undertaken at site, and shall cover, but not necessarily be limited to the following: -

- Familiarisation with controls, operating systems, instrumentation, equipment and fittings.
- Daily routine maintenance.

- Understanding the crane's capability, safety features and operational techniques.
- Practical instruction on an operating crane.

1.12.2 Maintenance Staff Training

The Training Plan shall include training at the Manufacture or Sub Contractor's works of a specified number of people appointed by the training at site in accordance with the programme approved by the Buyer.

Maintenance staff shall be trained to use fault diagnostic aids, special tools, jigs, instruments and wear gauges to calibrate crane components and to carry out major repairs and maintenance jobs.

The training shall cover, but not necessarily be limited to the following: -

a. Familiarisation with main components and systems comprising: -

- mechanical system
- drive system
- electrical system
- spreaders
- diagnostics systems

b. Routine maintenance program:-

- Periodic checks and servicing
- Lubrication program

c. Trouble shooting,

d. Special adjustments and repairs

e. Familiarisation with manuals and parts book

1.13 Maintenance Tools and Equipment

The Manufacturer shall provide all necessary maintenance tools and Equipment under the Contract with delivery of the first crane. The following shall be included:

- Special instruments and tools required for calibration or fault diagnosis.
- Wear gauges, that can indicate the limits of wear on rope sheaves, rope drums, trolley wheels, etc., shall be supplied with each crane.

- One control panel to test spreader operation in the workshop during maintenance. The panel shall incorporate push buttons, selector switches, indicator lamps, programmable logic controllers, input / output devices, spreader multi-pin plug with cable, and all parts necessary to operate and confirm proper operation of all spreader functions. Power supply cable of at least 20 metres shall be provided with the panel.

- Four infra-red non-contact thermometers for checking the operating temperatures of equipment. The infra-red thermometers shall be equipped with laser sighting to accurately pinpoint the target where temperature measurements are to be taken.
- Mechanical tools etc. multi-size spanners, hammer, adjustable spanner, screw drivers and pliers complete with tool box.

1.14 Drawings and Documents for Maintenance

Copies of the following shall be submitted to the Buyer for approval in advance of training the operators and maintenance staff: -

- Crane operators' manual.
- Maintenance and repair manual. The documentation shall include relevant software for preventative maintenance.
- Complete set of as-constructed drawings covering all aspects of the structural, mechanical, electrical, and hydraulic parts of the crane.
- Complete set of electrical and electronic circuit diagrams.
- Computer hardware layout schematics and detailed circuit diagrams to be illustrated in sufficient detail to enable them to be used for repair and maintenance.
- Computer software documentation.
- Spare parts manual and drawings. Spares used on the crane shall be indicated in the spare parts manual with drawings. These shall include the Manufacturer's and the Original Manufacturer's component part, sub Numbers and descriptions.

1.15 Packing for Transportation

The Manufacturer shall submit for the Buyer's approval least four weeks prior to commencing manufacture, the proposed packing specification, together with preliminary delivery / shipping and erection schedules. Delivery and erection schedules

shall include details of programmed dates for all activities as derived from the Manufacturer's approved Work Schedule.

At least four weeks before shipment of each consignment, the Manufacturer shall inform the Buyer of final packing lists including all details specified in the Contract.

Plant likely to deteriorate due to the weather shall be suitably protected during the programme of the works and particularly during transit and site erection.

Before delivery, plant shall be packed and prepared for export. Plant shall be thoroughly dried and cleaned internally. External unpainted ferrous parts and machined surfaces shall be protected by an approved proprietary preservative, openings shall be covered and screwed connections shall be protected unless otherwise agreed.

Where moisture absorbent materials have been used for protection against corrosion during storage or transit, adequate information of their location and warning as to their removal shall be clearly indicated.

Adequate precautions shall be taken in the packing of plant that has ball or roller bearings so as to eliminate the risk of damage to such bearings during transit.

1.16 Labelling

All labels and name plates shall be permanently engraved or embossed, in English, on phenol plastic or non-ferrous, rust proof plates and mounted securely by corrosion resistance fasteners at easily visible locations. Name plates and labels shall not be easily removable.

Warning signs and safety notices shall be in both Farsi and English and shall conform to the associated EU regulations. The translated text in Farsi shall be subject to the Buyer's prior approval.

Layout and contentof Crane name plates shall be subject for major components e.g. motor and reducers, name plates from the original equipment manufacturer shall be attached to the components. Name plates shall bear the model and serial numbers, year and place of manufacture, ratings and ratios, bearing identification number, safety warnings, maintenance limits and any other information critical to the components.

Name plates indicating the function or service of contactors, circuit breakers, hydraulic valves, limit switches, etc. shall be provided. Plates showing hydraulic circuit diagrams shall be provided on all hydraulic units. Electrical panels and junction boxes shall be provided with electrical connection diagrams with functional descriptions corresponding to the wire / cable numbering for easy troubleshooting. Considering the limited space of E-room electrical control panel may be open rack / panel.

A plate showing principal dimensions, speeds and capacity of the crane shall be fitted in the operator's cab.

1.17 Dangerous Materials

The crane shall be free from any parts and components made of or containing asbestos.

The crane shall not contain any flammable parts and components except for lubricants.

The crane shall be free from any substances that are to be phased out as stipulated by the Montreal Protocol of 1987, e.g. CFC (Chlorofluorocarbon).

1.18 Inspection and Testing at Site

Inspection and testing shall be in accordance with procedures approved by the Buyer. The Manufacturer shall submit details of proposed site inspections for approval at least four weeks before erection commences. Inspection shall be undertaken before testing. The inspection shall include visual inspection of the completed installations and protective painting systems.

1.18.1 Acceptance Testing

The Manufacturer shall submit a detailed test procedure for approval at least four weeks before testing is due to commence. The Manufacturer shall provide the testing facilities including power supply, instruments, tools and test container free of charge to the manufacturer. The test weight and on site power supply required for the acceptance testing shall be provided by the employer at its own cost. If any of the tests fail, the Manufacturer shall, in accordance with the Contract, remedy the defects and repeat the test to the satisfaction of the Buyer.

The tests shall include no load and full load tests on the mechanisms to check that the performance characteristics are in conformance with the Contract specifications. Measurement of noise levels, lighting levels, structural deflections, anti-sway system performance, shall also be carried out.

Vibration tests of the structure, operator cabin and trolley shall be carried out and results recorded at the complete range of operating speeds and loads. It is clarified that the vibration tests must be according to ISO 2631 or equivalent International standards. Consideration shall be given to the requirements of BS 6841: 1987 – 'Guide to the measurement and evaluation of human exposure to whole-body Mechanical vibration and repeated shock for which a certificate confirming, compliance shall be provided.
The crane shall be tested with no load, the safe working load and dynamic 110 % overload in that order before the following durability test. In addition, a static overload test of 125 % shall be applied at mid span with the structural deflections recorded.

1.18.2 Durability Test

Upon completion of the inspections and acceptance tests, the crane shall be subjected to a durability test in accordance with procedures approved by the Buyer. The test shall include putting the crane into intensive use in actual container operation for a period of 48 hours, or subjecting the crane to continuous simulated container operation with the rated load at 30 lifting cycles per hour up to a minimum of 600 cycles. The test shall be performed by the Manufacturer with his own crane operator.

During the first 10 hours of durability test, failures are allowed provided the time for one single failure does not exceed 15 minutes. If the permitted single failure time is exceeded, the test shall be restarted. Where the sum of failure times reaches one hour, the testing time shall be extended by an hour.

Between the 11th and 24th hour of testing, short interruptions of up to 5 minutes each are allowed but where the sum of interruptions reaches 30 minutes, the testing time shall be extended by one hour. During that hour, no further interruptions are allowed.

The final 24 hours of testing shall be performed without interruption. In the event an interruption due to crane malfunction occurs, the test shall be continued until 24 hours of interruption free operation is achieved.

When final 24 hours of the durability test has been successfully performed, the Manufacturer's commissioning engineer shall ensure that faults have been eliminated and any necessary repairs carried out to the satisfaction of the Buyer.
There shall be separate durability tests for gantry travel.

1.19 Compliance with Technical Specification

This specification does not cover all details of the crane and nothing written or implied in this specification shall release the Manufacturer from providing a complete working crane that is fully operational, safe and suitable for the purposes of container handling in the particularly arduous Persian Gulf and Oman Environment Sea.

1.20 Spares

Spare parts shall be excluded from the Contract Price; however a comprehensive list of spares parts complete with prices shall be submitted with the tender.

A priced list of spare parts recommended by the Manufacturer to cover 12000 running hour shall also be submitted with the tender. The parts shall include consumable parts that require frequent replacement and electrical components such as fuses, lamps, relays, contacts, coils etc shall also be identified.

Spares shall be indicated in the spare parts manual with drawings as necessary. These shall include the Manufacturer's and- the original Sub Contractor's part numbers and descriptions.

PART 2 - STRUCTURAL

2.1 General

Structural steel shall be to BS EN10113 Grades S275N or S355N or equivalent. Steel shall be supplied with mill certificates for mechanical properties and chemical analysis and unless otherwise approved by the Buyer. The Manufacture shall provide additional verification of quality requirements, including supplementary NDT and destructive tests as approved by the Buyer.

The structure shall be designed to minimise swaying and vibration of the cabin.

The crane structure shall be designed to withstand earthquake loads in accordance with specified seismic design data.

The Manufacturer shall submit calculations during the design stage, showing the design deflection values for the proposed crane. The Manufacturer shall provide all instruments, equipment and operators to measure the above deflections during the acceptance testing and commissioning of each crane.

The crane structure shall be designed to avoid water being trapped in corners, recesses or pockets. Splice joints shall be avoided and counterweights will not be approved.

Pin joints may be employed for connections of the wheel bogies to the lower sill beams. Design of bogie pins, sheave pins etc., shall be such that the pins will last the whole life of the crane. Pin joints shall not promote undesirable rocking of the structure. The allowable bearing stress of pins shall not exceed 0.3 times the yield stress of the material. Pin joint bearing surfaces shall be enlarged to minimise wear on the pins and bearing surfaces.

2.2 Stairs, Ladders, Walkways and Platforms.

Stairs shall be provided for safe access to the operator’s cabin, machinery trolley platform.

Stairs, ladders, walkways and platforms shall be designed and constructed in accordance with, BS 5395 Part 3.

Vertical ladders shall be avoided where possible. Approval must be obtained from the Buyer's Representative for the use of vertical ladders on the crane.

Hot dip galvanised gratings shall be used for the walkways and platforms used for inspection purposes, together with all exposed access stairs, ladders and hand-railing. Provision shall be made for the gratings to be easily removable for re-galvanising and maintenance. Chequered plate shall not be used for stair treads.

Chequered plates / gratings of at least 4.5 mm thick shall be used for platforms where maintenance works are undertaken. Design load for walkways and platforms shall be 5.0 kN/m2 uniformly distributed load (UDL).

Access ways and permanent platforms shall be provided at areas on the structural frame that require regular or periodic inspection. Platforms shall also be provided on the trolley to facilitate inspection of the girder structure.

2.3 Welding

Welding shall be undertaken in accordance with BS EN 1011-2:2001 Recommendation for welding of metallic materials. Alternative internationally recognised standards such as AWS D1.1 shall be employed, subject to prior approval by the Buyer.

Welding shall be undertaken by welders who are certified according to BS EN 287-1:1992 requirements. Welding procedure qualification tests shall be carried out for all welding positions employed in the fabrication process, according to BS EN 288-3:1992. Valid welder's qualification certificates procedures shall be reviewed and approved. Reports of such test and welder's certificates shall be submitted for review prior to fabrication.

As far as possible, welding shall be carried out by automatic or semi-automatic process. Electrodes used for the main structures shall have tensile strength greater than that of the steel material. Quality levels of welds shall be suitable for the specific construction details and shall be subject to approval by the Buyer or Buyer's representative.

Precise details and extent of proposed non-destructive tests and the standards of acceptance shall be submitted for the Buyer's approval. Weld testing accordance with the following standards or approved equivalent:

BS EN 970: Visual Inspection

BS 6072: Magnetic Particle flaw Testing
BS EN 1714: Ultrasonic Testing
BS EN 1435: Radiographic Testing

2.4 Painting and Protective Treatments

The recommendations of BS 5493 Code of Practice for "Protect Iron and Steel Structure against Corrosion and BS" EN ISO12944 shall be followed.

Protective systems shall be compatible with C5-M corrosive category, suitable for coastal and offshore areas with high salinity. Unless otherwise stated all protective coating systems shall have a life to first major maintenance of 15 years or as per paint supplier's standard. Details of the proposed paint system shall be submitted for approval.

Minimum blast cleaning standard shall be SA2.5. The paint system shall be applied in a minimum of three coats by the air-less sprays method and is overcoat able. Internal surfaces of non-sealed, accessible box sections shall be suitably protected from corrosion.

Blast cleaning and painting shall be undertaken in a dedicated under roof facility where the environment can be controlled. Paint shall not be applied when the temperature is below 50 Celsius or the relative humidity over 75%.

Work not undertaken under suitable conditions of temperature and relative humidity will be rejected. Grit blast material shall be regularly checked and replaced with new to ensure correct profile height for subsequent paint key.

Steelwork for stairs, access ladders, hand railing, platforms etc., shall be hot dip galvanised. Due to the extremely corrosive nature of the atmosphere, a thicker coating than normal is required. This shall be achieved by batch hot dip galvanising by a member of Galvanisers Association to BS EN ISO 1461: 1999 after grit blasting to SA2.5 with G24 chilled angular iron grit to achieve a nominal thickness of 120 microns for steel thickness greater than 6mm.

Except where otherwise approved, all steel shall be galvanised after sawing, shearing, drilling, punching and machining work has been completed. The zinc coating shall be smooth, clean, of uniform thickness and free from defects.

FinishedcoloursanddetailsofthePortorTerminalOperator’sLogowillbeadvised after the Award of Contract

Capacity signs showing the safe working load of the crane shall be fitted to both sides of the gantry structure and shall be clearly legible from ground level.

After erection, the Manufacturer shall make good to the original standards all paint works damaged during the course of shipment and erection.

PART 3 – MECHANICAL

3.1 Main Hoist

The main hoist machinery shall consist of a single layer deep grooved drum(s) consisting of two sets of driven devices and each set shall be driven by an AC electric motor through a totally enclosed gear reducer. The hoist drum and associated drive equipment shall be mounted on top of the travelling trolley. A minimum of 2 fail safe brakes that are each rated at 150 % of the load shall be provided. Alternatively for each drum one fail safe brake rated at 200 % of load shall be provided. A lever mechanism for manually opening the brakes shall be provided.

A switch / encoders to serve for preventing excessive speed during lowering shall be provided Limit switches shall be as follows:- slow down and stops limits for hoist emergency over-hoist limit + slow down and stop limits for lower.

Interlocking devices shall be provided to prevent hoisting until all the twist locks are turned the full 90 degrees to lock or unlock position.

The wire rope revving configuration and sheaves shall be designed such that the wire ropes do not dislodge from the sheaves under any operating conditions. Slack rope limit/s shall be provided. Visual warnings shall be provided in the operator's cabin to indicate. Slack rope Condi Lowering shall automatically stop when the spreader lands on a container or other object.

An auxiliary control switch for operating the main hoist rope drum at low speed shall be provided near the rope drum. This switch shall be used when replacement of wire ropes is carried out. An interlock switch to disconnect the auxiliary control switch shall be provided in the main hoist control panel inside the electrical control house cubicle.

3.2 Trolley Travel

The trolley shall be self-propelled with the drive mechanism mounted on the trolley. Four double flanged wheels shall support the trolley. Each wheel shall be driven. In case, any advantageous design is offered, the same can be considered at design-review stage at no extra cost. The mechanism shall include electric motor(s); fail safe disc brake(s), flexible geared coupling(s), gearbox / speed reducer(s) and drive shafts.

Alternatively, gear box together with brake and motor i.e. without coupling is also acceptable. It shall be possible to remove the motors without disturbing the brakes.

The trolley shall be designed such that it will not fall from the girder structure in the event of a wheel / axle failure. Jacking pads shall be provided on the trolley to facilitate replacement of the wheels, axles and bearings at any position of the trolley along the girder.

The trolley shall be fitted with emergency buffers at each end. The buffers shall be capable of absorbing and dissipating the impact of collision of the trolley travelling at full speed, with the rated load. Compatible buffers or striking pads shall be provided at the extreme ends of the trolley runway.

Slow down and stop limit switches shall be provided at each end of the trolley runway to prevent buffer impact under normal operating conditions.

Stow pins shall be provided on the trolley for parking under storm wind conditions. The pins shall be manually inserted and interlocked with the drive.

3.3 Gantry Travel

The drive mechanism shall incorporate direct driven geared motor units and be designed to enable frequent inching motions with a fully loaded trolley at all working positions. The rating of the drive system shall be continuous.

Safety guards shall be fitted on both sides of the wheels. The guards shall be designed to push obstructions from the path of the wheels. The safety guards shall be durable and easily removable and reinstalled.

On the inner sides of the sill beams, proximity switches / cat-whiskers shall be installed to prevent the crane structure from colliding with stacked containers during gantry travel.

Substantial steel sections shall be used to protect the gantry travel machinery against damage caused by collision with swinging containers or secondary container handling vehicles. Alternatively, the gantry motors and gear boxes shall be installed at the inner side of the bogies to prevent damage in case of collision.

The crane shall be equipped with manually inserted, interlocked storm anchors capable of holding the crane in out -of-service storm conditions as specified under BS 2573. Anchor sockets shall be provided with the crane. The storm anchor points at the yard shall be on employer's scope. The manufacturer shall provide the tie downs only.

Lightweight wheel chocks designed for at least 10 years service shall be provided for the wheels. Pockets for storage of the wheel chocks shall be provided on the wheel yokes. The wheel chocks shall be chained to the pockets.

The crane shall be provided with eyes or lugs at the ends of the sill beams on both sides for the purpose of tying down the crane in storm conditions, and for towing the cranes in case of gantry mechanism failure.

The gantry rocker beams shall be electrically bonded to the main structure.

3.4 Straight Line Auto-Steering System

The crane shall be provided with an auto-steering system for automatic straight-line crane gantry travel. The system shall also facilitate gantry travel at defined angles. The proposed system shall be such that no digging up of the container yard surface will be required.

The automatic steering system / Smart Rail DGPS shall be designed such that the travelling accuracy of the crane is within the range of + 50 mm. An alarm signal shall be provided in the driver's cabin and shall be activated in case cannot keep the crane within the range of + 50 mm. Upon reaching a deviation of more than 100 mm, the crane movement shall be automatically stopped.

The automatic steering system shall identify the exact position of the crane along the runway.

The steering system shall facilitate pivoting of the wheels through 90 degrees permitting the crane to operate in cross travel mode. The time taken to pivot 90 degrees shall not exceed 45 seconds.

3.5 Head Block and Telescopic Spreader

The design of the head block and telescopic spreader shall be for intensive and continuous use (24 hours a day) under all weather conditions, with a fatigue life of two (2) million lifts.

The crane shall incorporate skew, trim (rotation of spreader around transverse axis) and horizontal fine positioning. It shall also be equipped with an effective anti-sway system to improve operability and reduce handling times. Containers eccentrically loaded by 60 / 40 proportions shall be capable of being handled. The crane shall be designed for an eccentricity load of 40 tonnes under the spreaders beam, with a maximum load eccentricity of 1.22 m in longitudinal direction and 0.24 m in transversal direction of the container.

The spreader shall be of an all-electric, high performance and low maintenance design, of proven performance and reliability, supplied by a manufacturer approved by the Buyer.

The spreader shall be designed to handle 20ft, 40ft and 45ft containers up to 40t.

The spreader shall be fitted with a monitoring and diagnostics package / relay control system that feeds information to the operator's cabin and electrical room for operation, maintenance and fault finding purposes.

The head block shall be coupled to the spreader by four (04) twist-lock pins. Coupling and uncoupling of the head block and spreader shall be done manually. Safety electrical interlock devices shall be provided to prevent hoisting if any twist-lock is not fully locked into, or fully unlocked from the spreader connection. The fully engaged and fully disengaged conditions shall be detected by separate proximity switches. Guides shall be provided on the head block and spreader to facilitate the coupling process. Horizontal float between the spreader and head block shall not be more than 5 mm. Bearing surfaces on the spreaders shall be such that wear of the connection pin hole surfaces will not occur during the life of the spreader.

The spreader cable shall have 20 % spare conductors and all spare conductors shall be labelled and terminated at terminal blocks in junction boxes. The connection and isolation of the electrical supply to the spreader shall be done manually. All electrical

lines supplying power on the spreader shall be protected by vibration proof circuit breaker and shall be at the operator's cabin, one circuit breaker for every device. The circuit breakers shall prevent damage to in / out devices in case of short circuit occurring.

The load bearing surfaces on the spreader, where connected by twist locks to the head block, shall be heat treated with minimum hardness of 320 BHN to ensure there is minimal wear on the bearing surfaces.

Head block, spreaders and twist locks shall be proof-load tested prior to shipment to the site.

Limit switches to detect the various container lengths shall be installed on the main frame adjacent to the telescopic beams. Provision shall be made in the system for flexibility that allows small changes in spreader length when handling distorted containers. Sliding pads that can withstand the impact transmitted to the telescopic beams during container handling operations shall guide the telescopic beams. Means to adjust the clearance between the sliding pads and the telescopic beams shall be provided. The telescopic frames shall be mechanically locked to prevent sliding motion when the telescopic motion is not activated. Stoppers to limit the telescopic action at the various container length positions shall also be provided.

Lifting lugs and slings shall be provided for handling damaged containers that cannot be lifted by the twist locks, one at each corner of the telescopic spreader. The hole diameter of these lugs shall be 50 mm. Each lug shall be rated for a 10 to 13 tonnes safe working load.

The twist-locks and telescopic (extend / retract) motions shall be electrically operated. The telescoping and twist-locking mechanisms shall also be capable of manual operation and access to twist-locks shall be provided.

Compartments and junction boxes shall be generously sized and easily accessible from the side of the spreader when coupled to the head-block to enable maintenance and trouble-shooting of cable connections. Hinged doors shall be provided on the compartments and junction boxes. These doors shall be hinged at the top to prevent rain entry if the door is left open. Electrical schematic drawings shall be permanently

mounted on the inside of compartments and junction boxes. The compartments and junction boxes shall be water-tight and mounted using shock dampers to withstand the vibration and impact during container handling operations.

There shall be a minimum clearance of 100 mm between a raised flipper and the head block rope sheave, including when the spreader is trimmed or listed to maximum angle. Flippers shall be constructed in such a way that any part can be easily mounted and removed from the spreader.

ISO floating type twist-locks shall be provided. The float shall be (+/-) 8 mm. Twist-lock pins shall be proof-load tested to 20 tonnes. Electrical as well as mechanical interlocks shall be provided to prevent operation of the twist-lock while the container is suspended under the spreader and to immobilise the hoisting system if any of the twist-locks are not securely engaged in the container / hatch cover corner casting. Positive and absolute detection of the twist-lock status by limit switches shall be provided.

Top of container (spreader landed onto container) detectors at all four corners of the spreader shall be provided to detect the following:

- full landing of spreader squarely onto container,
- no container under spreader, and
- container suspended under spreader

The above detectors shall be positioned such that they will function on the corner castings of ISO containers and non-ISO type containers.

Spreader limit switches shall be easily accessible for maintenance and shall be protected from impact damage. Limit switches shall be proximity type.

Capacity signs showing the safe working load of the spreader shall be fitted on both sides of the spreader.

A specified number of spreader stands shall be provided for ease of maintenance on spreaders. In addition, a specified number of equipment / frames shall be provided for occasional lifting of open top containers that are over height.

3.6 Spreader Skew and Trim

The crane shall be equipped with skew and trim adjustment of (+/-) 5 degrees with rated load. Sufficient clearance shall be maintained between any part of the spreader (with flipper at raised position) with crane structures (e.g. walkway leading to operator cabin) especially when trolley travelling and spreader is skewed to maximum.

Push button switch(s) on the l operator's skew console shall adjustment. Push button switches shall also be provided in the operator's cabin to enable the operator to automatically correct the spreader to and 'zero trim' position.

3.7 Anti-Sway System

The anti-sway system shall be capable of damping the sway of the spreader, with rated load at a height above ground and beneath the spreader of 4.5 metres, bringing it to rest within (+/-) 50 mm displacement in less than five seconds after the trolley is brought to a halt from full speed.

Electronic Sway prevention or motion controls system is also acceptable subject to commitment of manufacturer to provided appropriate productivity and throughput of container handling i.e. minimum 17 container handling cycle per hour.

3.8 Horizontal Fine Positioning

The horizontal fine positioning system shall be capable of movement of the spreader relative to the trolley, of (+/-) 200 mm for trolley and (+/-) 300 for gantry travel directions.

3.9 Operator's Cabin

The operator's cabin shall be secured failsafe to and the easy trolley in an escape from the cabin at any trolley position shall be made possible or emergency purposes without having to move the trolley back to the parking position.

There shall be a safety clearance between the cabin and spreader at all working positions.

Rear view mirrors shall be provided to enhance visibility during trolley backward motion. A convex mirror, not smaller than 500 mm x 60 mm, shall be provided and fitted in such a manner that the operator is able to view the off side of the spreader with

container, at any position of the spreader. In addition a CCTV system comprising four (04) cameras and dedicated monitors shall be supplied enabling the driver to view operations when seated in the cab. The LCD type monitors shall be colour and mounted forward of the drive. The cameras shall be mounted on the crane legs, 2 on each, one facing forward and one back.

The cabin shall be insulated against heat, noise and vibration and shall be provided with split type air-conditioner. The design of the supports and mounting shall facilitate easy removal of the air-conditioner using the machinery maintenance hoist / equipment. The air-conditioner shall be of a make that is locally available.

Scratch resistant safety glass that meets the requirements of ECE R43 standard safety glass shall be used on the wind screen windows and of operator's cabin. The glass shall have sufficient strength to withstand the impact of an 80 kg operator being thrown against it when the trolley is suddenly stopped. Shields shall be fitted above the windscreen to prevent wire-rope lubricants from splashing onto the glass. The upper portion (above eye level) shall be tinted to reduce glare. The bottom window shall be at least 900 mm width and shall offer optimum visibility to the crane operator. For this purpose, safety floor glass shall be used on which the operator can safely walk. Grills and bars shall be provided at the windows only where necessary for safety reasons. All windscreens and windows shall be fitted such that they can be manually cleaned as well as have glass replaced from within the cabin. For safety reasons, the front floor windows of the cabin are formed by three separate glasses. The width of the middle glass shall be around 686 mm and it shall not affect the visibility of cabin. Wipers and washers shall be provided for the exterior windows where the manual washing of windows within the cabin is not possible.

There shall be sufficient space to the front mounting the operator's console for monitor and keyboard for the crane monitoring system.

The operator's chair shall be designed for horizontal adjustments, vertical and tilt the chair shall incorporate lumbar support, headrest, seat belt, and a U-cut seat for good visibility when viewing between legs. The chair shall be fitted with a high back that can be reclined upto 180 degrees to enable the operator to lie back whilst taking a rest. The seat of the chair shall be upholstered in hard wearing vinyl material and shall be easily detachable for replacement.

The operator control consoles and layout of controls shall be ergonomically designed and details submitted for approval.

A foldable wall mounted seat complete with self-retractable safety seat belts shall be provided in the cabin for an instructor.

Electronic type spreader height and load indicators with digital read outs shall be provided in the cabin. The indicators shall be installed within view of the operator sitting in the normal operating position. An audible alarm for overloaded containers shall be provided.

An anemometer with an audible alarm shall be provided in the cabin to indicate the wind speed. The audible alarm shall be activated when the wind speed exceeds the condition for safe operation of the crane.

The following indicator lights shall be provided inside the cabin at an approved position to enable the driver to detect the following status:

- Spreader squarely landed on top-of-container (yellow).
- Twist lock in locked position (green).
- Twist lock in unlocked position (red).

The operator's cabin shall be equipped with a fire alarm and extinguishers as described elsewhere.

An emergency escape device with test certificate shall be provided in the operator's cabin.

3.10 Fire Extinguishers and Detection Equipment

Fire extinguishers that are approved by the N.F.P.A. shall be provided, located on the crane as follows: -

i)	Diesel Engine Set	-	1 unit 5.0 kg carbon dioxide
ii)	Operator's cabin	-	1 unit 5.0 kg carbon dioxide
iii)	Electrical Control Enclosure	-	1 unit 5.0 kg carbon dioxide
iv)	Trolley platform	-	1 unit 5.0 kg carbon dioxide

In addition, fire detection systems with suitable audible and visual alarms shall be provided within the operator's cab, machinery house, and electrical control generator enclosures.

3.11 Rope Drums

Rope drums shall be made of high strength steel and shall have accurately machined grooves to suit the wire ropes. Each drum unless otherwise approved shall have sufficient capacity to carry the required length of the ropes in a single layer. Drums shall be statically balanced and stress relieved. Drum grooves shall have sufficient depth to ensure minimum wear on wire ropes.

The pitch diameter of the rope drums shall not be less than 30 times the wire rope diameter, for mechanism utilisation loading hoist M7 and not less than 26 times the wire rope diameter for M8.

There shall be at least three or four optimum dead turns of wire ropes remaining on the main hoist when the spreader lowered to the lowest position. Guide rollers for wire ropes on the rope drums shall be provided, if required to prevent wire ropes from jumping groves during operations. Guide rollers shall be easily removable for replacement of wire ropes.

The maximum fleet angle of wire rope leading to the drum shall not exceed 3.5 degrees.

The main hoist drum arrangement shall have about one metre clearance from main hoist motor. However, hoist configuration which is well proven on cranes delivered worldwide is acceptable.

Drip trays shall be provided beneath every drum to collect spillage and dripping of wire rope lubricant. The trays shall be large enough to cover the entire length and width of the drum.

3.12 Wire Ropes

Wire rope construction shall have a steel core. Steel wire ropes shall be of 6 x 36 constructions, independent wire rope core (IWRC). The proposed wire rope diameter and safety factors shall be entered in the tender schedules.

Lubrication of all wire ropes shall be done automatically and be controlled by the computerised Crane Management System (CMS) specified in this specification at the interval of pre-set number of containers handled by the crane or at the pre-set time interval, whichever occur first. The auto wire rope lubricators shall be drip or brush type. The point of application of lubricants to the ropes shall be enclosed to prevent splashing of lubricants from staining the crane structures and platforms. The auto wire rope lubricating system shall ensure that all the moving parts of the ropes are lubricated. Lubricant reservoirs shall be provided and linked to groups of lubricators at various locations on the crane. These reservoirs shall have capacities for supply of lubricants to the lubricators for a minimum period of 2 months or 300 hoist operating hours before the next topping up. Level sensor shall give warning through CMS when the levels of lubricant fall to the topping up level.

All necessary rope reel stands and equipment shall be provided under the Contract for changing the wire ropes.

3.13 Sheaves

The pitch diameter of wire rope sheaves shall be designed to enhance wire rope life, and shall not be less than 30 times the wire rope diameter for mechanism Utilisation Loading Hoist as M7 and unless otherwise M8 is approved, at technical review, the pitch diameter of wire rope sheaves shall be designed to enhance wire rope life, and shall not be less than 29 times the wire rope diameter. Grooves of sheaves shall be appropriately hardened.

All sheaves shall be mounted independently on individual shaft such that if one sheave is removed, other will not be affected. If more than one sheave is mounted on a shaft, independent drilling on the shaft for grease lubrication shall be provided for each sheave.

Mounting of all rope sheaves shall be on split type brackets or fixed type that enables easy and rapid removal and replacement of the rope sheaves, bearings and shafts. For areas where split type mounting brackets are not possible, every shaft shall be provided with a threaded hole of 20 mm metric thread by 40 mm deep. This hole shall be used for extracting the shaft from its mounting brackets. Sufficient working space shall be provided for safe and easy repair and replacement of sheaves. Rope sheaves shall be

mounted above the trolley platform such that the sheaves, covers, shafts and bearing can be accessed from the top direction. All sheaves shall be statically balanced.

3.14 Hydraulic System (Not Applicable for Fully Electric RTGCs):

Hydraulic piping shall be flared at the ends and connected by flared fittings. Hydraulic piping shall be used on rigid structures. All hydraulic piping and hoses shall be securely clamped at appropriate intervals.

Criss-crossing of hoses and piping shall be avoided as far as possible.

Solenoids of hydraulic valves shall be high-power type that can withstand high in-rush current of 200 VA. Every solenoid shall be earthed. Solenoids shall have means of manual operation.

The relevant hydraulic line distribution schematic drawing shall be prominently displayed on the inside surface of compartment's door. The drawing should be engraved and permanently mounted.

Hydraulic units shall be fitted with moisture absorbent breathers. Hydraulic cylinders shall be of high corrosion resistance materials and protected where possible with bellows covers.

3.15 Gear Reducers

All gears in the reducers shall be standard products rather than special and shall be standard products available in the markets. All gears shall be totally enclosed in leakage free casing. Open gears will not be considered. Large gearbox casings shall be split horizontally and arranged such that the top half can be easily removed for maintenance without affecting the position and alignment of the gears and bearings. Oil-tight inspection covers shall be provided on the top half of the casing to facilitate inspection of the gears without having to remove the top casing.

A compressed air operated diaphragm pump complete with valves and hoses for quick refilling of new oils and lubricants shall be provided on every crane. Capacity of the pump shall not be less than 20 litres per minute.

Oil level indicator (gauge – glass) and dial type temperature gauge shall be provided on every gear reducer. These indicators shall be located for convenience and ease of

inspection. Reducer vibration, oil level and oil temperature shall be monitored by suitable gadgets and devices.

3.16 Bearings

All bearings, except for pin connections, shall be anti-friction type with lubricant retaining seals, and shall have a life compatible with the service life of the mechanism. Pre -lubricated plain bearings shall not be used for major components (e.g. motors, wheels, sheaves, reducers etc.)

3.17 Castings

Cast iron and cast steel shall be of good quality, close grained type, appropriate to the relevant duty and standard.

All surfaces of castings, which are not machined, shall be smooth and shall be carefully fettled to remove all foundry irregularities.

Castings shall be free from non-metallic inclusions and other defects. Castings with defects or repaired castings other than cosmetic dressing will not be accepted.

3.18 Bolts and Nuts

Bolts (including hexagonal cap screws) and nuts used shall be of ISO metric screw threads and dimensions. Bolts and nuts, which are subjected to vibration or frequent changes in state of loading, shall be secured by effective methods. Tack welding on bolts and nuts is not allowed.

Bolts shall have at least two threads protruding from the nuts after the nuts are securely fastened.

Manufacturer shall pay particular attention to the corrosion resistance of all exposed fasteners, and shall ensure the same level of protection as the main structure components is achieved. All fasteners larger than M12 shall be hot dipped galvanised in accordance with BS 7531: Part 6: 1998. Fasteners with Geomet treatment for connections between main girders, columns and sill beams are acceptable.

All fasteners M12 and under shall be stainless steel. Bolts for securing covers, which require frequent removal, shall be of stainless steel. Bolts and nuts for installation of

all lights, telephones, electrical socket outlets, limit switches and junction boxes shall also be of stainless steel. High tensile steel galvanized bolts and nuts shall be used for installation of stairs, ladders, platforms and covers for rope sheaves.

3.19 Grease Lubrication Systems

Sets of Localized lubrication systems shall be provided, with one set each installed on the trolley platform to lubricate the bearings, on the trolley platform to lubricate the wire ropes and on the bogies. The Manufacturer shall specify other set (if any).

Each Localized lubrication System shall be provided a with reservoir of sufficient capacity or at least for 02 months operation, weather proof electrical motor driven pump(s) (except for bogie), strainers, safety valves, divider valves, metering valves, flow direction valves, etc. and connected to all (except on rotating parts, electric motors, reducers and brakes) lubricating points.

Grease level in the reservoir shall be monitored continuously by the computerised Crane Management System (CMS) as specified elsewhere in this Specification. Design of the Localized lubrication System shall accommodate quick replenishment of grease into the reservoir.

The electrical motor driven pump(s) shall have the capacity for delivering at least 35 cubic centimetres of grease per minute and shall be activated automatically by the computerised CMS at intervals of pre-set numbers of containers handled by the crane or at the pre-set time intervals, whichever occur first. There shall be means to override the computerised lubricating system.

All lubrication points on the gantry tyres rocker beams shall be grouped and linked by piping, divider valves and metering valves to four manual centralized lubrication points located at the four corners of the crane. Each centralized lubrication system for the gantry tyres shall be provided with a manual operated pump. Provision shall be made on the gantry tyres lubrication System to install automatic operated pump. Alternatively, manual centralised lubrication points, without pumps and valves is also acceptable, by which, standing on the ground , it is easy to lubricate these points.

Grease distribution lines schematic diagrams shall be prominently displayed for each lubrication systems. The diagrams shall be engraved and mounted near each lubrication system.

All grease fittings shall be brass type standard button head grease nipples.
Each lubrication point shall be painted red for easy identification.

All other lubrication points that are in difficult to reach positions shall be routed by tubing and grouped together at convenient, accessible locations for easy application of grease.

Details of the above proposed systems and other features of the lubrication systems offered shall be submitted during the design stage. The final design and installation of the systems shall be subjected to approval.

3.20 Wheels and Tyres

The Manufacturer shall submit details of the proposed type, size, inflation pressure and rating of tyres to be used to the Buyer for approval. Tyre, tyre rim, hub shaft and bearing block shall be easily available and represented by local agents in destination country.

3.21 Diesel Set

The diesel set shall be mounted on a structural sub-base within an IP 65 enclosure. Switchboard compartment shall be confirming to IP 65 and genset compartment with IP 44 is acceptable. There shall be adequate ventilation within the enclosure. Temperature inside the enclosure shall not be more than 10 degrees Celsius above the ambient. The diesel set shall be installed in such a manner so as to allow easy maintenance and repair. The structural sub-base and enclosure of the set shall be designed for easy mounting and dismounting using forklift or mobile crane. The enclosure shall be fitted with roller shutter doors or removable hinged doors to facilitate the maintenance job of industrial duty construction.

The diesel set and electrical control enclosure shall be installed on different sill beams of the crane. Alternative arrangement of power unit and EE house to be installed on the same sill beam is also acceptable. Fluorescent lamps and battery-operated lamps shall be provided inside the enclosures for maintenance purposes.

The design and layout of the set shall be such that all belts, engine oil sump, radiator and fans can be simply replaced. The engine shall have the following basic accessories: -

i) Engine starting equipment - the starter motor shall operate on 24 volts DC. The ignition switch shall be located at the first landing of the access ladder.

ii) Battery charging unit.

iii) Heavy-duty batteries - two 12 volts heavy-duty batteries of not less than 200 AH each shall be provided. The 24 volts DC supply shall be negative earth.

iv) Radiator and cooling unit - due to the mode of operation (high engine idling time) the radiator shall be generously sized to prevent overheating of the engine. An auxiliary tank (expansion tank) separated from the radiator of not less than 10 litres capacity and fitted with easily visible level indicator shall be provided for easy topping up of the radiator water. The external surfaces of the radiator shall be protected with anti corrosive treatment. The radiator shall be mounted such that it can be removed for repair without removing the enclosure.

v) Exhaust silencer complete with acoustic treatment shall terminate at bridge girder level. The noise level shall comply with any local requirements.

vi) Governor for (+/-) 3 % speed regulation

vii) Fail safe automatic shutdown at high water temperature, low oil pressure and engine over speed. Indicator lights shall be provided in the cabin to show causes of any shutdown.

A tray shall be provided under the engine to contain all engine oil and cooling water spillage. The tray shall be drained to an 80-litre tank provided at ground level. Outlet with gate valve for draining the waste oil and water from the tank shall be provided. The engine breather shall have a trap to contain the oil and vapour. Suitable protective installations and warning devices shall be provided to prevent spillage of diesel when refuelling.

The oil and water topping up points and the engine oil dipstick shall be located on the same side as the access ladder to enable the operator to carry out daily routine checks.

To ease drainage of the engine oil from the sump, valves, piping and hoses shall be provided and routed to location near to the ground level. The drainage pipes/hoses shall be installed with a lever type globe valve near the oil sump and a gate valve at the drainage outlet near the ground level. The valves shall be protected from accidental damage and unintentional opening.

A stainless steel fuel tank with a capacity permitting continuous operation of the crane for at least 24 hours without refuelling shall be provided. Its design shall permit optimum use (Over 95 % of all fuel in the tank) and shall ensure that the diesel fuel does not overflow due to foaming while being refuelled. The refuelling point shall be located at the same side of the ladder but not too near so as to avoid accidental spillage of diesel onto the ladder. Fuel level indicator shall be provided at the same side as the refuelling point and it shall be visible from the refuelling point as well as from a distance from the crane at the ground level. The tank shall be separate from the diesel set enclosure. For long wheel base RTG as the power unit is already located at ground level and the sufficient spillage tray can be easily drained using the valve provided, a separate tank is not necessary. In proven track record design, the fuel tank may be part of the front sill beam which is made of steel.

The outgoing cable from the diesel set shall be terminated at the electrical main switchboard via a circuit breaker complete with over current and earth fault protection. The main switchboard shall be equipped with protection relays set to discriminate with the supply of the generator. The relays shall include under-voltage, over-current and earth fault protection.

A fire detection system with suitable audible and visual alarms shall be provided within the enclosure, together with appropriate quantities and sizes of fire extinguishers.

PART 4 – ELECTRICAL

4.1 General Requirements

All electrical installations shall be designed, assembled and tested in accordance with British Standards, European Standards, IEE (Institution of Electrical Engineers, UK) Regulations, IEC or other equivalent approved standards and regulations. It shall be the responsibility of the Manufacturer to ascertain that all such local laws, rules and regulations are strictly adhered to.

4.2 Electrical Installation Standard

All electrical installations shall comply with IEE Wiring Regulations for Electrical Installation (BS7671)/ IEC standards. All installations shall be made with due regards to safety of persons in the proximity of live conductors. All live conductors shall be shielded.

All electrical and electronic equipment shall be protected from multiple transient voltage damage caused by transients in power supply, lightning, etc. The protection system shall include high quality transient voltage surge suppression (TVSS) devices that are capable of withstanding, without degradation, continuous application of IEEE 587, ANSI C 62.41, 43 and 45. Equivalent international reputed standards such as IEC standards are acceptable, subject to prior approval of IPGL.

4.3 Wiring

The numbering of cables shall be documented and shall be consistent and easy to interpret.

Cables shall be installed in one length from terminal point to terminal point. Cable terminations shall be by connectors and not loose wired. Cable bends shall be strictly in accordance with the manufacturer recommendations.

Conductors shall be copper and multi-strand. Cabling for 380 / 415V shall be 600 / 1000V grade XLPE / PVC cable. Single core cabling shall be PVC insulated of not less than 1.5 sq. mm2 and shall be run in conduit outside panels. Metal conduits shall be earthed.

A minimum of 10 % or two pair, whichever is the greatest, of spare cores shall be provided in each control or signal cable, spare cores shall be marked and terminated at spare connectors or terminal blocks.

The outer sheath of cables located in exposed positions shall be manufactured from materials that have a high level of resistance to damage from contamination by oil or grease.

All cables and cable cores shall be identified at both ends by means of sleeve bands that are indelibly marked with the cable/core reference numbers as shown on the Drawings. The outer protective covering of multi-core cables shall extend into the switch or panel. Cable support / glands shall be provided at the cable entry point to all switches, panels and equipment.

4.4 Cabling to Trolley

Cabling running between the main body of the crane and the trolley shall be supported in a single chain type mechanism. The chain system shall be a proprietary item specifically designed for the purpose.

The materials used shall be suitable for the climatic conditions at the site and the construction shall be suitable for continuous operation in an atmosphere laden with a high level of abrasive dust. To ensure that differential expansion is minimised chain components shall be constructed from the same type of material. The chain shall be designed to minimise the energy required to move the chain and reduce the friction between the chain and the trough and between the layers of chain itself.

The chain shall be sized to carry all cables with sufficient spare capacity to run an additional 10 % of cables. Multi core cables shall have a minimum of 10 % spare cores.

The chain shall run in a stainless steel trough, the trough shall be designed such that it minimises the retention of dust and solid particles and of sufficient depth to ensure stability of the chain at all times.

Cabling shall be specifically designed for use in chain support systems with a bending radius to match operation of the chain. The outer sheath shall be UV and oil resistant. The material of the sheath shall be low friction and highly abrasive resistant. Cables shall have an earthed metallic sheath under the outer sheath to provide electrical safety

and EMC protection. Cabling shall be retained within the chain using stainless steel clamps. The cables running within the chain shall be sized and spaced to allow continuous operation of the drives at full load in the maximum ambient temperatures. The design, spacing and grouping of cables shall be such as to minimise interference between circuits.

4.5 Limit Switches

All limit switches shall be heavy-duty type conforming to requirements of NEMA (National Electric Manufacturer's Associate) or IEC standard or the equivalent international standard. Proximity sensors and magnetic switches that have no moving parts and that require no maintenance shall be used for all non-critical applications. Proximity sensors and magnetic switches shall conform to IP67 protection requirements and shall be capable of withstanding shocks.

Limit switches for sensing of end travel for the trolley shall be heavy -duty type, which have long mechanical life of not less than 10 million cycles. All geared limit switches and over speed control switches (if used) shall be coupled by flexible coupling and not through chain drive. Geared limit switch unit (one number) for main hoist shall have two spare limit switches.

Electronic absolute digital encoders shall be used for position feedback for the drives and shall be used in the hoist drum only while other encoders may be incremental type. Encoders shall be of IP 65 or above protection. Cables for limit switches shall be connected at terminal blocks in water tight junction boxes, for easy maintenance and troubleshooting.

4.6 Motors

Motor construction shall meet the requirements of BS 4999 and IEC 72. Drives shall use suitably rated AC motors.

Motors shall be suitable for intensive use and continuous operation in the local environment with minimum maintenance requirements. Motors installed indoors shall be drip proof type, motors mounted outdoors shall be totally enclosed.

Main drive motors shall be compatible with AC variable frequency drives, maintenance free, and shall be suitably rated for the duty (min. class S3, duty type 80%).

Variable speed drives shall be force ventilated using ventilation fans driven independently at constant speed. The ventilation fans of the hoist motor shall be controlled by a thermostat mounted on the stator and shall continue to cool the motor after hoisting or lowering operation is completed. Motors shall use Class F winding insulation with temperature rises to class B limits. i.e. 800C above a 400C ambient

Terminal boxes shall be provided on the motors for connecting the power cables. Motors mounted indoors shall be IP54, whilst motors exposed to outdoor conditions shall be totally enclosed to IP65 protection complete with drain plugs and breathers, as per manufacturer's recommendation on the main hoist and trolley travel motors, thermocouples shall be provided to measure the temperatures of the windings. The thermocouple readings shall be input to the crane management system and shall warn the driver of high motor temperatures. In addition, motors shall be fitted with high temperature cut-outs.

Anti-condensation heating elements shall be provided inside motors (bigger than 5 KW) to prevent condensation when the motor is not in operation. Notices shall be fitted to motor anti-condensation terminal boxes warning of the heater supply and the need to isolate the supply.

Adequate space shall be provided above motor inspection plates to allow internal inspection.

4.7 Speed Drives and Control Systems

A. General

Electronic dynamic braking shall be provided for all the main drives.

The drives shall be provided with accurate setting of the operating parameters, with absence of drift from set values. There shall be protection against accidental disturbance of the set parameters. The drives shall be able to perform fast and accurate communication with the control logic and between drives. When multiple drives are used, there shall be complete synchronization of the signal timings such that no discrepancies occur between incoming, outgoing or feedback signals from two or more drives.

All adjustments of settings for the drives shall be digital and shall be effected through digital keypads with liquid crystal displays (Man Machine Interfaces – MMI's) located in the electrical equipment (EE) house or operator's cabin displaying main parameters of the cranes and the electrical equipment parameter settings must be retained in memory during a power failure. The parameters settings shall be effected through three methods, i.e. the use of local digital keypads; serially communicated hand held programming panels which can also interrogate the drives and removable programmable ROM cards which allow the settings and programmes to be made in remote locations and downloaded on site.

A full colour printer located within a suitable enclosure mounted on anti-vibration mountings shall be provided within the electrical house. The printer shall be connected and configured to allow the print out of event and fault logs from the crane management system on demand by the maintenance staff. A cabinet shall also be provided for the storage of printer paper and ink cartridges. The system shall be supplied with three spare ink cartridges.

All drive system control circuits shall be protected against overloads. Back-up protection for the drive system shall be provided by circuit breakers external to the drives. Drives shall signal the PLC if any parameters have gone off-limit or if there is failure of any function. The drives shall have the capability to perform self diagnostic tests and to retain diagnostic information for future interrogation.

Data and information about the behaviour of eight different signals during each fault condition for up to five previous faults shall be retained by the drives under power supply loss. Diagnostics shall include indications for; over current, under voltage, over voltage, over temperature, semiconductor failure, communication failure and rotor stalled. Electronic or mechanical counters shall be provided for each drive.

AC inverter drive components shall be protected against all fault conditions including; short-circuit faults and over voltage. The inverter drives shall be protected against the occurrence of earth faults in the output supply to the motor and in the motor itself. The protection mechanism shall switch off the inverter output in the event of a high level of earth current being detected. The inverter drives shall be equipped with radio interference suppressing and noise suppressing equipment.

All ribbon cables employed for connection between cards shall be screened. Twisted differential pair, or coaxial cables, with firm connection that are able to sustain vibration up to 10G shall be used for communication between subsystems.

The power supply to each drive shall run direct from a switchboard or distribution board. Power wiring must be separated from control wiring, and on long cable runs, separated by earth shields within the trucking. Control or signal-carrying wires shall always be individually screened cables. The screens of the cables shall be terminated at one end only, and this point shall be the common termination point for all screens. This point shall become the central earth point (CEP) for the system, and is the connection to which the incoming earth must be bonded. Feedback or input signal to the drive shall be filtered against electrically induced noise.

All electronic components, devices, circuit boards and control systems are to be shielded against the influence of radio frequency interference (RFI) and electromagnetic interference (EMI). The suppression levels are to be in complete compliance with that stated in the directive EEC 82/499. Proper filters are to be incorporated to the input and output of all the drives to suppress the amount of RFI.

The speeds of main hoist, gantry travel and trolley travel drives, shall be step less and variable from low to full speed. Acceleration and deceleration shall be linear and shall have provisions for limitations of acceleration or deceleration to pre-set value even if an excessive fast controller action is being applied.

B. Speed Control

The drive controls shall be fully digital types. The drive control elements shall be modularised for easy inspection and maintenance. Monitoring and diagnostic facilities shall be incorporated into the controllers.

C. Speed Controllers

Master controllers, located in the crane operator's cabin, shall Main Hoist, Trolley and Gantry operation. The controllers shall be digital type, standardised and interchangeable among all the cranes supplied under this Contract. They shall be spring returned to off, lockable at zero notch and released by push button switch (dead man handle) incorporated into the controller joy-stick. Off position interlocks shall be

provided for the master switches so that they have to be returned to the off position for re-starting of crane drives after unintentional stopping.

4.8 Crane and Box Management Systems

The overall port main computer system will be defined within the IT framework for the terminal and will be provided by others.

The Manufacturer shall provide wall space (0.75 metre square minimum) within the operators' cabin for the future installation (by others transmission equipment. Signals for transmission shall be marshalled on terminals within a cabinet located adjacent to the reserved space. A 5A 220V supply shall also be made available within the cabinet to supply the data transmission equipment.

4.9 Sequence Control

All sequencing and inter-locking functions for drives, except emergency protection functions shall be performed by Programmable Logic Controllers (PLC). The PLC's shall be able to communicate with each other and shall have remote communication capabilities. PLC's shall readily be able interrogate other PLC's connected to the same network. (i.e. The PLC in the same cranes, not to other cranes).

All components of the PLC shall be suitable for use in site environmental conditions. Power failure protection shall be provided to ensure safe operation.

The PLC's shall have sufficient memory capacity for more than on plus at least 30 % redundant memory capacity. There shall be facilities and space provided for adding memory for future developments. It is envisaged that flexible data logging functions will be utilised in the future.

Storage devices for programs and data storage shall be provided. There shall be provision for logging of fault data. The storage devices shall be sized to provide 30% spare capacity above the requirements of the delivered system. The terminal shall be capable of providing independent off-line development of programs and documentation.

The supply to the PLC's shall be regulated and free from noise spike. Expansion of the programmable logic controllers shall be by plug-in modules to the common rack. The PLC's shall have self-diagnostic capability both upon power on and continuously during operation. Faults detected shall be clearly and promptly enunciated. The PLC's shall be capable of detecting the following categories of faults: -

a. out-of-sequence faults
b. under-time faults
c. over-time faults

All faults shall be displayed sequentially on the fault display panel inside the electrical control enclosure.

The programming language shall be of an International Operating system language and suitable for sequence control purposes. It shall also allow referencing devices by English names consisting of alphanumeric characters of adequate length. There shall be provisions for incorporating comments in the documentation of programs. Security features that permit only authorized users to amend the programmes shall be incorporated.

The PLC shall be provided with I/O ports capable of handling standard input and output signals. The I/O ports shall provide isolation from dangerous voltages and currents. There shall be provisions for adding I/O ports.

The crane shall be equipped with portable programming terminals (totally four portable programming terminals for 14 RTGCs) for easy programming and maintenance work for the cranes. The programmer terminal shall be incorporated with relevant PC hardware, interfacing cards and ports, and the latest version of English International operating system. They will be used on the crane only when there is a failure of the Crane Management System (CMS) computer.

The system shall be capable of providing independent off-line development of programs and documentation.

4.10 Instrumentation

In addition to the features for capturing the utilisation of the engine and motors via the CMS, electro-mechanical running hour meters with at least 5 digits (excluding decimals) display to log the operating hours of the following shall also be provided: -

a) Main hoist motor
b) Trolley travel motor
c) Gantry travel motor
d) Engine

A 6 digit (excluding decimals) electronic counter shall be provided to log the numbers of containers handled. The container counter and hour meter shall be installed in a panel with a transparent cover. The panel shall be positioned at a convenient location about 1.5 m above the ground level to enable easy reading by personnel on the ground.

Engine oil pressure and temperature gauges, water temperature gauge, battery charging ammeter, engine tachometer, frequency meter, ammeters, Maximum Demand (MD) indicator and voltmeters shall be provided in the engine starting panel. Ammeters and voltmeters for the hoist, trolley and gantry drives shall be provided in the electrical control cubicles.

4.11 Telecommunication

A push button select intercom system shall be provided at the following locations on the crane: -

i) Operator's cabin (hands free)
ii) Below each sill beam
iii) Inside the electrical control enclosure
iv) On the trolley platform
v) At the engine starting panel

Communications units located below the sill beams, trolley platform and starting panel shall be installed in IP65 enclosures.

Electric bells shall be installed in the operator's cabin, electric engine alternator enclosure to draw attention of the persons at these areas.

Push buttons for these bells shall be provided at the legs of the crane, inside electrical enclosure, inside engine-alternator enclosure, on trolley platform and in the operator's cabin. The bell system shall be powered from the crane's batteries.

A public address system consisting of an amplifier with a hands free microphone shall be installed in the operator's cabin.

Loudspeaker of IP65 construction shall be installed at the following locations: -

a) Below the operator cabin
b) At one of the legs of the diesel generator set enclosure side
c) At one of the legs of the electrical control enclosure side
d) At the top of the trolley platform.

The crane intercom system shall be linked to the public address system such that paging can be made from any intercom unit. Screened cables shall be used on both systems.

4.12 Electrical Supply Outlets

Switched socket outlets, 220V, 16A, conforming to BS EN 60309 with IP67 degree of protection shall be installed at the following locations: -

i) Trolley platform - 1 unit
ii) In the diesel generator set enclosure - 1 unit
iii) In the electrical control enclosure - 1 unit
iv) Spreader - 1 unit
v) On the legs - 1 unit/corner drive
vi) Inside main hoist motor enclosure - 1 unit

The supply to the outlets shall be either from the crane diesel set or mains plug-in supply. Socket outlets shall be protected by earth leakage circuit breakers

4.13 Shore power Supplies

Facilities shall be provided such that a three phase and neutral supply derived from the ports LV system can be connected to the crane. The supply shall be arranged to allow lighting, socket outlets, anti-condensation heaters, air conditioners, communications and PLC systems to operate. The connection shall be made via a suitably rated plug and socket arrangement and a changeover switch. It shall not be possible to parallel the normal on board generator supply with the shore supply.

4.14 Safety Devices

Interlocks and safety devices shall be provided to ensure the safe operation of the crane at all times.

Six warning strobe lights (amber in colour) shall be fitted, one at each leg and one at each end of the girder structure on the walkway side. The strobe lights shall be automatically activated when gantry motion is selected.

Siren units, independent of the Public Address system, shall be provided and fitted at all the four legs of the crane. The siren shall be automatically activated when gantry motion is selected.

Emergency stop push buttons shall be installed at the following positions on the crane: -

i) 1 unit inside the operator's cabin console positioned on the control
ii) 1 unit on the trolley platform
iii) 1 unit below each sill beam and shall be readily reached by ground operating personnel.
iv) 1 unit at the electrical control enclosure
v) 1 unit at the diesel set enclosure

Suitable anti-collision devices shall be installed on the RTG Cranes to detect the proximity of objects that are likely to cause collision. The device shall be activated in the direction of movement of the RTG Crane and shall have two settings i.e. one to give audio warning signal to the operator and the other to bring the RTG Crane to an emergency stop.

RF sensing devices to detect proximity of containers in the stacks shall also be provided. These devices shall provide warning to the operator, during gantry travel mode, when the crane is at near collision path with containers. In lieu, 04 nos. of Ultrasonic sensors are also acceptable.

4.15 Lighting

The power supply for all lighting shall be single phase. The lighting system shall provide illumination to all work areas of the crane, including ladders, platforms, walkways, control cubicles, main hoist machinery, electrical control enclosure and diesel generator set enclosure and operator's cabin shall be provided in the operator's cabin to adjust the light intensity in the cabin. Lighting at the girders shall be positioned to provide illumination at the chassis lane and on every row in the container stack within the operation range of the crane. The illumination on the ground measured at 6 metres away from the centre line between the two girders shall be as follows: -

i) Under the girder	:	at least 100 lux at the chassis lane and at every container row
ii) Under the trolley	:	at least 200 lux

The lighting in the electrical control cubicles shall be activated by the opening and closing of the cubicle doors. All fluorescent lamps shall be of rapid start type, and equipped with steel guards. Safe and easy access for replacement of bulbs or lamps shall be provided for all lighting fixtures. Switches for floodlights and spotlights shall be provided at the engine-starting panel and at the cabin to allow switching from either location.

For emergency use 50 % lighting of the provided, the operator's cabin, electrical control enclosure, hoist motor enclosure, diesel generator set enclosure, and on the trolley platform, shall be of the maintained, self-contained, battery backed emergency type installed in power unit.

4.16 Crane Management System

A computerised Crane Management System (CMS) complete with the necessary sensors and transducers shall be installed on each crane and work in conjunction with the Programmable Logic Circuit's (PLC) to provide continuous monitoring, diagnostics, and data collection the crane's operating systems and essential components

which shall at least consist of the engine(s), alternator(s), motor controls, operator control, motors, gear reducers, etc.

The system shall be based on dedicated on board ruggedized industrial PC, totally independent of them crane's and shall not cause shut down in the event of a CMS fault occurring. The system shall be capable in the future of transmitting data via a remote communication system to the main terminal management system. A dedicated U.P.S shall be provided ensuring that in the event of power loss, power to the computer is maintained before shutting it down in a controlled manner.

The system shall be capable of but not limited to the functions described in the following paragraphs.

A) Condition Monitoring: -

The status and operating data for the electrical systems and sub-systems and all the essential components which are critical to the proper function of the crane, as well as the condition of the Localized lubrication systems and wire rope lubrication system shall be monitored real-time. Any abnormality in the crane's systems and components and shall be prompted and immediately displayed on the screen indicated.

Temperatures of the motors, engine and alternator shall be monitored continuously and displayed on the screen whenever desired. The operating voltages, currents and speeds of all motors shall be monitored. Threshold values for warning and shutdown of respective systems and components shall be incorporated. Easy means of adjustment to the threshold values by the engineers shall be made available.

B) Control of oil and grease lubrication systems: -

The Crane Management System shall control the Localized grease lubrication systems and the hoist system wire rope lubrication systems. The lubrication systems shall be activated at the intervals of pre-set number of containers handled by the crane or pre-set time intervals, whichever occur first.

The pre-set intervals and the amounts of oil/grease to be dosed shall be adjustable. The Manufacturer shall advise the engineers on the optimum intervals and correct amounts of oil/grease for the respective lubrication systems/components.

C) Software and Hardware: -

Software and hardware shall be of the latest technology type and fully suitable for crane applications.

4.17 Covers, Junction boxes and Enclosures

Covers, pull-boxes, junction boxes and enclosures for motors, hydraulic compartments, etc. shall be made of stainless steel plate with a minimum thickness of 2 mm.

Covers to junction boxes, inspection covers, machinery hoods etc. shall be hinged and secured with corrosion resistant, durable handles with built-in common master key locks or stainless steel wing bolts. Large junction boxes shall have double hinged covers with built-in common master key lock handles.

Junction boxes shall be protected from corrosion and mechanical damage and exposed junction boxes shall be constructed to provide a minimum enclosure standard of IP65 when installed and cables connected. Each junction box shall carry a unique identifier.

4.18 Container Positioning System

Each crane shall be designed to accommodate the sensors, guiding devices and data interchange channels required for a fully automatic container positioning system which may be part of the future Container Terminal Control System. Alternatively, Smart Rail CPI based on global positioning system (GNSS) technology and advanced (GNSS) equipments, combined with an on-board computer that allows for real time positioning of the RTG within centimetre accuracy, reporting to the TOS.

****

Appendix A

List of Manufacturers

(LOM)

List of Manufacturers

Shahid Beheshti Port (Chabahar) complex Development Equipment suppliers:

Product	Manufacturer /Supplier	Country
Painting and protective treatments	Hempel / Arostal / Ameron	Denmark/Germany
Diesel Engine	Volvo, CAT, cummins	Sweden/USA/UK
Generator	Stamford Newage, Leroy- somer	UK/France
Hoist/Gantry Brakes	Bubenzer, Siegerland	Germany
Trolley Brake	Siemens	Germany
Couplings	Flender/Siegerland/ KTR	Germany
Gear reducers Hoist	Flender, Brevini/PIV	Germany/Italy/Flender (China Letter of OEM to be Provided)
Gearbox Trolley	Nord	Germany
Gearbox Gantry	Kessler	Germany
Bearings	SKF,FAG/TNT/Schaeffer(INA)	Sweden/Germany/Japan
Wire Ropes	Certex, Casar	Germany
Spreaders (complete electric design)	Bromma, RAM, Stinis	Malaysia/UK/Netherland
Spreader Baloney Cable	Prysmian	Germany
Rail Clip/pad system (where offered)	Gantrail, Gantrex, Manufacturer	UK/Belgium/Manufacturer country
Trolley Rail – fully Welded	OEM	China (Acceptable with more extended guarantee)
Hydraulic equipment	Mannesmann Rexroth, Vickers	UK/Germany
Lubrication system	Dropsa, Lincoln	USA/European/Korean
Cable reels / drums	Cavotec / Specimas, StemmannTechnik	Germany/France
Cable / Energy chain System	Igus, Cavotec, Kabelschlepp	Germany/Sweden
Inverters	ABB, Siemens	Sweden/Germany
Variable speed drives	ABB, Siemens	Sweden/Germany
Motors	ABB, Siemens	Sweden/Germany
PLC	ABB, Siemens	Sweden/Germany
Electrical cables	Siemens, ABB/LAPP	Sweden/Germany/Europe
Load Measurement	Philips, PAT, Ramsey	Netherland/Germany
Overload Protection Systems	IFM	Germany
Floodlight	Philips / Lumec-Schreder	Netherland/Germany/China (Acceptable with more extended guarantee)

Air conditioners	Carrier,OGeneral/LG/ Toshiba (Should not be made exclusive)	USA/Japan/Korea/Thailand (Follow Technical Specifications)
Electrical Components	Siemens, ABB	Sweden/Germany
Tyres	Bridgestone	Japan

Note1: For all other items that have not been mentioned, the manufacturing companies shall be well-known with considerable amount of relevant sales in the past five years.

For Electrical drives and PLC, at least 4 years guarantee shall be provided for integrated systems.

The other brands maybe indicated by the tenderers. However, the acceptance of the same will be confirmed by the tender holder prior to the end of technical evaluation.

Appendix B

Technical Schedules

Schedule 1.0 Weights

Weights	Tons
Crane Head-block Spreader A Frame complete Main Girder Trolley complete	
Schedule 2.0 Wire Rope Details and Factors of Safety Main Hoist	
Schedule 3.0 Structure & Painting Steel grade used for the structure Main Girder Trolley Frame Bogies Bracing Country of origin of steel Paint System Maker Country of origin of paint Coating Systems Details (Include DFT)	
Schedule 4.0 Diesel Set + Generator Maker Size/Power Full Load Fuel Consumption	
Schedule 5.0 Mains Power Supply	
Low power plug-in supply load required as specified (KVA) Schedule 6.0 Tyres	
Tyre details Pressure	
Schedule 7.0 Preferred Method of Delivery to site and Area Required for erection Details of preferred method of delivery (Fully erected, Large Block or Small Piece Site area required for erection	

Schedule 8.0 List of Spare Parts

In executing the design of the equipment and preparing the recommended consumable spare parts list, the Manufacturer shall wherever possible make use of and recommend parts that can be provided by multiple sources.
The parts shall comprise:
- Consumable spare parts for two years of operation of the crane.
- Recommended strategic spare parts such as motors, gearboxes, brake assemblies, wheels, wire ropes, electrical cables etc.

Small strategic parts such as fuses, lamps, relays, contacts, coils, limits, brake pads, bearings, seals etc.

Ref.	Items	Number