

REQUEST FOR PROPOSAL
DIRECTOR GENERAL NAVAL PROJECT, MUMBAI-23

AUGMENTATION OF HOISTING FACILITIES AT SBW JETTY FOR VIKRAMAADITYA
AT ND(MBI)

REQUEST FOR PROPOSAL NO. DGNP (MBI)/7706/HF/SBWJ/VR/TS DTD 27 APR 18

INSTRUCTIONS TO BIDDERS

1. Bids in sealed cover are invited from Original Equipment Manufacturers (OEMs) or authorised dealers of OEMs for Augmentation of Hoisting facilities at SBW jetty for Vikramaditya at ND(MBI) as listed in Part II of this RFP. **Please super scribe the abovementioned Title, RFP number and date of opening of the Bids on the sealed cover to avoid the Bid being declared invalid.**

2. **Qualification Criteria:** To qualify, an applicant must demonstrate to DGNP(MBI) that it substantially satisfies the requirements regarding experience, design, personnel, financial position and litigation history. The qualification will therefore be based on the applicant meeting the minimum criteria regarding the applicant's general and specific experience, personnel and equipment capabilities, and financial position, specified in the Qualification criteria, as demonstrated by the applicant's responses in the forms attached and other requested documentation. DGNP(MBI) reserves the right to waive off minor deviations from the criteria if they do not materially affect the capability of an applicant to perform the contract. Any tender submitted without the necessary supporting documents is liable to be rejected. Minimum qualifying criteria for the quoting firms is as follows:-

(a) Constitution, legal status and registration (class and type) with other government agencies and previous qualification for similar work including the grade awarded would be required.

(b) OEM or authorised dealership certificate.

(c) **Financial Position.** The Supplier should satisfy the following requirements:-

(i) Average financial turnover (I.T.C.C, Annual Report, Balance sheet and profit & loss statement to be enclosed) of the quoting firm/Principals for last 03 years of FY ending 31 Mar 18 should be at least **Rs. 10 Crores.**

(ii) Financial standing as certified by Banker, audited profit & loss and audited balance sheets for the last three years should be submitted and must demonstrate the soundness of the applicant's financial position, showing long term profitability. Where necessary, DGNP(MBI) will make enquiries with the applicant's bankers and/or other sources as applicable.

(iii) The applicant shall demonstrate that he has access to, or has available, liquid assets, unencumbered real assets, lines of credit, and other financial means sufficient to meet the construction cash flow for the contract, net of the applicant's commitments for other contracts. The applicant must submit a solvency certificate to demonstrate that a level of working capital or credit is available to support the statement on financing of project.

(d) **Specific Experience.** Firm/Principals should have experience in design & erection of minimum 15 Ton or above ELL cranes and should have completed during last 7 years three similar works not less than 6 crores or two similar work costing not less than 7.5 crores or one similar work costing not less than 12 crores.

(e) **Litigation History.** The applicant shall provide accurate information on any current or past litigation or arbitration resulting from contracts completed or under execution by him over the last ten years. A history of awards against the applicant can be a ground for disqualification of application. DGNP(MB) reserves the right to verify the facts wherever applicable and disqualify applicants on this account. In addition, ***an Affidavit on judicial stamp paper stating that the firm is not banned or blacklisted and no recovery outstanding in any govt. department will be required.***

(f) **Current Work Load and EDC.** The applicants shall submit details of current orders with expected dates of completion (EDC) of work. Also, for works in progress, the percentage of work completed as on 31 Mar 18 is to be included. Availability of qualified manpower with firm for the execution of the project and attending calls during warranty period is to be confirmed by the applicant.

3. **Opening of 'Q' Bids.**

(i) 'Q' bids of only those firms that have been qualified during Technical evaluation would be opened. Submission or participation by a tenderer for more than one tender for the present RFP will result in disqualification of all tenders submitted by him for this RFP.

(ii) Failure to provide information which is essential to evaluate the applicant's qualifications or to provide timely clarification or substantiation of the information supplied will result in disqualification of the applicant.

(iii) DGNP(MB) reserves the right to:-

-Amend the scope and value of the contract being tendered.

-Reject or accept any application.

-Cancel the qualification process and reject all applications without assigning any reasons.

4. **Language.** The ruling language of the application shall be English.

5. General Information about the tender:-

(a) Tender reference No **DGNP(MBI)/7706/HF/SBWJ/VR/TS**

(b) Last date and time for receipt of tenders: **08 Jun 2018 / 1400 Hrs**

(c) Date and Time for opening of tenders: **08 Jun 2018 / 1500 Hrs**

(d) Place of opening of tenders: **DGNP Building Naval Dockyard, Mumbai**

(e) Pre-Bid Conference on **11 May 18 at 1400 hrs at PD(L) Office, DGNP(MBI) Tel No. 022-22660903/22751263/22751937** (The details of personnel attending is to be intimated two days prior to the pre-bid meeting)

(f) For clarification contact as follows:-

<u>Clarification on Technical matters/Scope of Work</u>
The Director General Naval Project [for PDL] Naval Dockyard Mumbai 400023 Tele:- 022-22660903/22751665 Fax:- 022-22661142 e-mail : wncdgnp-navy@nic.in

6. This RFP is divided into five parts as follows:-

(a) **Part I** – Contains General Information and Instructions for the Bidders about the RFP such as the time, place of submission and opening of tenders, Validity period of tenders, etc.

(b) **Part II** – Contains essential details of the items/services required, such as the Schedule of Requirements (SOR), Technical Specifications, Delivery Period, Mode of Delivery and Consignee details.

(c) **Part III** – Contains Standard Conditions of RFP, which will form part of the Contract with the successful Bidder.

(d) **Part IV** – Contains Special Conditions applicable to this RFP and which will also form part of the contract with the successful Bidder.

(e) **Part V** – Contains Evaluation Criteria and Format for Price Bids.

Commercial Bid

7. The Commercial bid is to be submitted strictly in accordance of Part-V to this tender enquiry. This format is to be strictly adhered to for submission of commercial bid. **Non compliance could result in disqualification of the firm.** The Commercial bid once opened, will not be subjected to unilateral revision by the firm, unless the firm is called for price negotiations specifically and asked to justify the rates. ***(Total Nos of pages in the Q-bid are to be mentioned on the first page of the Q-bid. Further each page to be numbered. For example if there are 20 pages in Q bid, first page to be numbered as 1/20 and last page to be numbered as 20/20.)***

Conditions under which this RFP is issued

8 This RFP is being issued with no financial commitment and Buyer reserves the right to change or vary any part thereof at any stage. The Buyer reserves the right to reject any or all of the offers without assigning any reason whatsoever. The Buyer also reserves the right to withdraw the RFP should it be so necessary at any stage.

Note: - The bids of vendors not qualifying the minimum aforesaid qualification criteria are liable to be rejected.

Part I – General Information

1. **Two Bid System.** In this Two-bid system, the bidders are to forward their quotes for the complete scope of work in two parts as follows:-

(a) **Part I: Technical Bid ('T' bid):** The 'T' bid should cover the complete scope of supply, progress schedule / timelines and delivery durations, etc. The specifications should be well documented and supported by drawings, manuals, relevant calculations and descriptive text as necessary for an evaluation to be made. **A copy of unpriced 'Q' bid must be included alongwith the 'T' bid. This will be identical to the sealed 'Q'-bid, but without any indication of the prices.**

(b) **Part II: Commercial Bid ('Q' bid):** The 'Q' bid should give the cost of each item as per format enclosed.

2. The Technical bid and the Commercial bid should be sealed by the bidder in separate covers duly super scribed and both these sealed covers are to be put in a single cover which should also be sealed and duly super scribed as under:-

“Augmentation of Hoisting facilities at SBW Jetty for Vikramaditya at ND(MBI)”. [Part I (Technical) / Part II (Commercial)] is also to be indicated as applicable on inner covers.

3. Earnest Money Deposit (EMD) shall be kept with the cover containing 'T' bid.

4. **The bidders have to strictly furnish clause by clause compliance of specifications bringing out clearly the deviations from specifications, if any.** The Bidders are advised to submit the compliance statement in the following format along with 'T' bid. In case of non-compliance, deviation from RFP is to be specified in unambiguous terms.

Para of RFP Specifications	Specification of Item offered	Compliance to RFP specification – whether Yes or No	In case of non-compliance, Deviation from RFP

5. **Last Date and Time for Depositing the Bids. 08 Jun 2018 by 1400 hrs.** The sealed Bids (both Technical and Commercial) should be deposited/reach by the due date and time. The responsibility to ensure this lies with the Bidder.

6. **Manner of depositing the Bids.** Sealed Bids should be either dropped in the Tender Box marked as **DGPN(MBI)** or sent by registered post at the address given above so as to reach by the due date and time. Late tenders will not be considered. No responsibility will be taken for postal delay or non-delivery/ non-receipt of Bid documents. Bids sent by FAX or e-mail will not be considered. Hand written Bids will not be considered and will be rejected outright.

7. **Time and date for opening of Bids: 08 Jun 2018 at 1500 hrs** If due to any exigency, the due date for opening of the Bids is declared a closed holiday, the Bids will be opened on the next working day at the same time or on any other day/time, as

intimated by the Buyer. The date of opening of Commercial Bid will be intimated after acceptance of Technical Bids.

8. **Location of the Tender Box.** **Muster Gate, Naval Dockyard, Mumbai** Only those Bids that are found in the 'DGNP' tender box will be opened. Bids dropped in the wrong Tender Box will be rendered invalid.

9. **Place of opening of the Bids.** **Office of Director General Naval Project, (Mumbai), Lion Gate, Naval Dockyard, Mumbai-23.** The Bidders may depute their representatives, duly authorized in writing, to attend the opening of Bids on the due date and time. Rates and important commercial/technical clauses quoted by all Bidders will be read out in the presence of the representatives of all the Bidders. This event will not be postponed due to non-presence of your representative.

10. **Forwarding of Bids.** Bids should be forwarded by Bidders under their original memo / letter pad inter alia furnishing details like TIN number, GST number, PAN number, Bank address with EFT Account if applicable, etc and complete postal & e-mail address of their office.

11. **Pre-Bid meeting.** Pre-bid meeting will be scheduled on **11 May 18 at 1400 hrs** for clarifying issues and clearing doubts, about the specification and other technical details of the equipment projected in the RFP. Firms are required to take prior appointment for the same. It is advised to all the bidding firms should attend the pre-bid meeting in their own interest. Firms are also advised to visit the site to ascertain the requirement and scope to avoid any change of scope in future.

12. **Modification and Withdrawal of Bids.** A bidder may modify or withdraw his bid after submission provided that the written notice of modification or withdrawal is received by the Buyer prior to deadline prescribed for submission of bids. A withdrawal notice may be sent by fax but it should be followed by a signed confirmation copy to be sent by post and such signed confirmation should reach the purchaser not later than the deadline for submission of bids. No bid shall be modified after the deadline for submission of bids. No bid may be withdrawn in the interval between the deadline for submission of bids and expiration of the period of bid validity specified. Withdrawal of a bid during this period will result in Bidder's forfeiture of bid security.

13. **Clarification Regarding Contents of the Bids.** During evaluation and comparison of bids, the Buyer may, at its discretion, ask the bidder for clarification of his bid. The request for clarification will be given in writing and no change in prices or substance of the bid will be sought, offered or permitted. No post-bid clarification on the initiative of the bidder will be entertained.

14. **Rejection of Bids.** Canvassing by the Bidder in any form, unsolicited letters and post-tender corrections may invoke summary rejection with forfeiture of EMD. Conditional tenders will be rejected.

15. **Validity of Bids.** The Bids should remain valid till **120 days** from the last date of submission of the Bids.

16. **Earnest Money Deposit.** Bidders are required to submit Earnest Money Deposit (EMD) for amount of **50 Lakhs** along with their bids. The EMD may be submitted in the form of an Account Payee Demand Draft, Fixed Deposit Receipt, Banker's Cheque or Bank Guarantee from any of the public sector banks or a private sector bank authorised to conduct government business as per Form DPM-13 (**Appendix 'A'**). EMD is to remain **valid for a period of forty five days beyond the final bid validity period.** EMD of the unsuccessful bidders will be returned to them at the earliest after expiry of the final bid validity and latest on or before the 30th day after the award of the contract. EMD is not required to be submitted by those Bidders who are registered with the Central Purchase Organization (e.g. DGS&D), or any Department of MoD **for the same items/ range of products or services for which the tenders have been issued.** However, the firm has to submit the valid registration proof along with the bid. The Bid Security of the successful bidder would be returned, without any interest whatsoever, after the receipt of Performance Security from them as called for in the contract. The EMD will be forfeited if the bidder withdraws or amends impairs or derogates from the tender in any respect within the validity period of their tender.

19. **Independent Monitor.** The buyer has appointed an independent monitor by way of Vigilance Officer to monitor this contract, whose name and address is given below. The vendor is at liberty to contact the under mentioned Officer directly if any case of undue influence is noticed or any unethical means by any party/official is employed to secure the contract/order or to disable/disqualify the vendor.

Cdr Randhir Singh
Tel. No.: 022-22751884
Office of the Director General
Naval Project (MB)
Shahid Bhagat Singh Road
Naval Dockyard
Mumbai – 400 023

PART II – ESSENTIAL DETAILS OF ITEMS/SERVICES REQUIRED

GENERAL

1. This specification is for 01 no. rail mounted Electrical Level Luffing Crane to be erected at Naval Dockyard, Mumbai. The crane will be with a Main hoist capacity of 30 Ton at 46 m radius with Auxiliary hoist capacity of 05 Ton at 50 m radius. The ELL crane is to be erected at South Break Water Jetty on existing rails at extreme rail end of South Break Water Jetty at Knuckle berth number two.

SCOPE OF WORK

2. The proposed work comprises of design, manufacture, inspection and testing of works at all stages as required, supply, delivery at site, erection, testing at site, commissioning and handing over 01 no. travelling rail mounted, Electric Level Luffing crane in fully working condition to ND(MBI), including furnishing of all labour, material & services, essential tools, and documentation in accordance with the specifications as furnished in the subsequent sections. The equipment shall be complete with all necessary parts, auxiliary items and safety devices whether specified herein or not which should form part of crane as deemed fit by Seller for operating the crane for intended purpose.

3. All machinery, materials, appliances, safety devices, fitting and things comprised therein unless otherwise specified shall be supplied, delivered and contracted by the Seller within the prices mentioned in this Contract.

4. The specifications outline the functions and the operating characteristics which the crane must fulfill. The overall dimensions and functional requirements mentioned in this specification shall be strictly adhered to. Even though all the clauses of this specification shall be fully complied with, it is the responsibility of the Seller to guarantee the performance of the entire installation in every detail, complete the final trials to the satisfaction of third party inspector (IRS/LRS/BVQI) and hand over the equipment in working condition.

5. The general conditions of service and the leading particulars of the cranes are given in the subsequent paragraphs. The cranes shall be designed as per these specifications and as per IS:807, IS:4594 and all other standards mentioned in these specifications.

WORK INCLUDED

6. The Seller's work shall also include the following:-

- (a) Supply of a set of conventional tools and set of special tools and tackles required for maintenance of the cranes.
- (b) Supply of four VHF hand held communication sets for radio communication with crane operators & ground crew.
- (c) All information for planning of maintenance facilities (supplied by others) including a list of equipment which will be required to maintain the cranes.

(d) Supply of six copies of maintenance manuals including electrical circuit diagrams. Draft copy will be furnished to third party inspector for approval before preparation and submission of final copies.

(e) Supply of two complete sets of "As Built" drawings after approval of third party inspector, on handing over of the cranes. A soft copy of the same, made on "AUTOCAD" is also to be given on a CD.

(f) The Seller shall submit stability calculations and wheel load calculation together with stress calculations, electrical diagrams for crane structure with details of major sections proposed to be used and any other details sought by third party inspector (IRS/LRS/BVQI). The complete detailed designed calculations along with drawings for each and every part shall be submitted by the Seller before manufacturing for approval by third party inspector (IRS/LRS/BVQI).

EXCLUSIONS AND FACILITY TO BE PROVIDED TO THE SELLER

7. The following are not included in the crane Seller's scope.

(a) The power supply point (415 V A.C., 3 phase, 50 Hz) at the centre of the crane travel will be provided by the Buyer. The Seller will feed the CRD of the crane from the power supply point.

(b) Power supply for erection, load trials and commissioning will be provided on chargeable basis. Crane Seller to install one calibrated energy meter through which power will be provided. The current rate is Rs. 10/- per unit (or as revised from time to time).

(c) Space for providing site office will be provided by the Buyer on chargeable basis at a nominal rate of Re 1 per year or part of year. Any portable office / store can be positioned by the Seller in the given space.

(d) Test loads for commissioning will be provided by the Buyer.

GENERAL DESIGN REQUIREMENTS

8. Conditions of Service

(a)	Incoming Electric Power Supply for the cranes	415V, 50 Hz, 3 Phase
(b)	Permissible live point load on rail	25.7 tons
(c)	Steady Wind speed for normal operation	54 KMPH wind speed.
(d)	Temperature (Ambient) Maximum Minimum	45° C 15° C
(e)	Maximum Relative Humidity	95%

9. The cranes are to be designed to stand in parked position with jib at minimum radius and storm rail clamps and storm anchors in place up to a wind speed of 44 m/sec. The crane should not tip or travel either under storm condition or with the jib removed. The stability of the crane is to be in accordance with FEM (Federation Europeenne de la Manutention) specifications (widely used for material handling and lifting equipment).

10. **Principal particulars.**

S.NO	TECHNICAL SPECIFICATION	PARAMETER
(a)	Safe Working Load (Main Hoist)	30 Ton at 46 Mtr Radius
(b)	Safe Working Load (Aux Hoist)	05 Ton at 50 Mtr Radius
(c)	Class & Duty	Minimum Std - Class-II- Outdoor IS:4594 & IS:807, Latest FEM std.
(d)	Height of lift above rail (MH & AH)	46 Mtr average
(e)	Height of lift below rail (MH & AH)	16 mtr average
(f)	Tail Radius	07 mtr maximum
(g)	Range of Slew	360 deg
(h)	Operation Speed	Speed should be in steps of 10%, 25%, 50%, 75%,100% of full speed
	Main Hoist (Full Speed)	10M/Min
	Main Hoist (Creep Speed)	01M/Min
	Aux. Hoist (Full Speed)	50 M/Min
	Aux. Hoist (Creep Speed)	05M/Min
	Luff	15 M/Min
	Travelling	20M/min Maximum
	Slew	0.5 RPM
(j)	Brakes	
	Main Hoist	Electro Hydraulic Thruster
	Aux hoist	Electro Hydraulic Thruster
	Luff	Electro Hydraulic Thruster
	LT(Long Travel)	Electro Hydraulic Thruster/Electro magnetic disc
	Slew	Electro Hydraulic Thruster along with foot operated brake. Mechanical locking arrangement in non-operation condition
(k)	Power Supply	415V, 3Phase, 50 Hz, +5/-10% variation
(l)	Power Supply Feed	MCRD(Motor driven Cable Reel Drum)
(m)	RRC (Remote Radio Control)	Push button type RRC System

(n)	SLI (Safe Load Indicator)	Audio & Visual indication along with continuous load monitoring at various radiuses. Overload Trip facility be given.
(p)	Drives for all motion	VVVF
(q)	Control Panels (including breaker/MCCB)	VVVF control panels should be provided for Main & Aux Hoist, Slew, Luff and Long Travel. Siemens, L&T, Crompton, Schneider,ABB, Fuji
(r)	Master Controller	It should be fitted with dead man provision.
(s)	Ground clearance of structure/min portal height	Min 06 Mtr from ground
(t)	Rail Type	Duplex BS90 II LT FB Rail, double pad at 140 mm (Existing)
(u)	Centre to Centre Rail Track	10.667 mtrs. (Existing). Firm to check and measure on site prior to commencement of work.
(v)	Wire Rope	It should be of steel core and ungalvanised. The wire ropes should comply to IS:2266 with adequate safety margin as per design standard requirement.
(w)	Safety Device	<ul style="list-style-type: none"> • Limit Switch – Over wind and over lower for Main and Aux. Hoist motion and Luffing. • Travel stop switch fitted in travel bogie. • Emergency stop button. • Anemometer for wind speed indication • Audio alarm with red color flashing light for travel motion. • Overload protection for all motions • Limit switch for CRD • Over speed detection and trip • Overload & short circuit protection • Mechanical locking for slew/Long Travel, • Jib locking & drop anchoring during storm condition • SLI • Emergency stop button. • PA system • Interlocking contacts in neutral off position and provision of dead-man switch in Master controller. • Manual rail clamp
(x)	Electrical Motors	Energy efficient induction and travel motor of squirrel cage for various drives/motions of the cranes should be TEFC (Totally Enclosed Fan Cooled

		conforming to IS:325. Motors should be suitable for 415V, 50Hz. Motors should have 'F' class insulation. Hoist, Luff, Slew and LT motors should be 150 starts/hr.
(y)	Gear Boxes	All gears except open gears should be completely covered and oil tight. The gear box housing should be of cast steel/fabricated and stress relieved as per Indian Standard. The gear boxes should be of rigid construction and fitted with inspection covers, oil gauges and lifting lugs whenever necessary.
(z)	Operator Cabin	<ul style="list-style-type: none"> a) Fixed, adjustable and revolving high neck chair (Ergonomic seating) b) Air Conditioner(2T capacity) c) Windscreen Wiper d) Transparent and toughened glass e) Sound insulation of relevant standard f) Internal lighting (including emergency) g) Fire extinguisher h) Foot operated brake for slew j) Telephone k) SLI l) Mechanical radius indicator m) Front glass with adjustable opening. n) Side window with sliding glass. p) Display indicator of Anemometer.
(aa)	Anchoring	Crane shall have provision for anchoring and suitable anchoring points on the jetties.
(ab)	Spares	As per MRLS
(ac)	Documentation	<ul style="list-style-type: none"> a) Operation and Maintenance Manual b) As built GA & Mechanical Drawings c) Power system drawings d) Electrical wiring and component layout drawings e) Hydraulic schematics f) List of standards used to design and build the crane g) Spares parts manual h) Maintenance schedule j) Test reports k) List of service centre
(ad)	Test Load	
	Load Test for stability	Max. 140% of nominal load by lifting 10 cm from ground
	Load Test for overload	Min 125% of SWL
(ae)	Material to be handled	Heavy Engines / Machinery/ Spares Parts/Missiles/Torpedo/Heavy Guns

(af)	Rail Sweeps	Rail sweeps, extending on both sides of the rail, should be provided at four corners at the outer ends.
(ag)	Aviation Safety	All round red mast head light (obstruction light) on top of mast. Separate provision of power supply for mast head light (as it needs to be switched ON during dark hours automatically irrespective of crane operations).
(ah)	Painting	The steel materials of all structural parts should be shot blasted to remove rust, mill scale and grease prior to delivery and be painted as follows: a) After Shot Blasting: One coat of epoxy or equivalent paint (primer) 40 micron thick (min) b) After Partial Assembly and Inspection at Suppliers Works: Two coats of modified epoxy paint. Each coat should be on minimum 70 micron thickness. c) After Erection at Site: One coat of modified epoxy paint of minimum 70 micron thickness. The colour of the final coat would be decided by ND(Mb). Corrosion protection products like Polyglass and PLASMET which provide long term corrosion protection may be used.
(aj)	Warranty	12 months from commissioning of Crane
(ak)	Commissioning & Training	Erection, site commissioning & training of operators & maintenance staff.
(al)	Maintenance Philosophy	As per OEM maintenance manual
(am)	Equipment/Component	All should be of reputed firm/make.
(an)	Ground Clearance	Ground clearance between jetty surface and LT bogie cover should be 2 inch (minimum).
(ap)	Enclosure of machinery house	Enclosure is to made of plane metal sheet with ventilation facility and water proof
(aq)	Height of Operator cabin	30 metres from ground

DESIGN STANDARDS

11. The crane, including its material and equipment shall be designed and manufactured in accordance with international rules, regulation and standards as applicable to such equipment in addition to Indian standards mentioned herein and will be subject to third party classification society (like IRS/LRS/BVQI) inspection.

12. The cranes should be designed and constructed to meet the requirements of FEM 1.001.1 standards, unless otherwise stated elsewhere. Design requirements of structures and mechanisms are as brought out below:-

(a) **STRUCTURES**

Class of Utilization	:	U6 (1 million cycles)
State of Loading	:	Q2
Group Classification	:	A6

(b) **MECHANISMS**

	Class of Utilization	State of Loading	Mechanism Group
Hoist	T-5	L-2	M-5
Slew & Luff	T-5	L-3	M-6
Long Travel	T-4	L-4	M-6

13. The box type portal, should be fabricated out of steel plates (mainly) and rolled sections, and should rest on compensating equalizers and bogies. Accordingly, it should have requisite number of wheels at each corner, at least half of which should be driven, The portal should carry a tubular column, at the top of which the slew bearing and the ring gear for slewing motion should be mounted. The revolving platform should be of box/plate construction and should rest of the slew bearing. It should be capable of carrying the hoist drives, the slewing mechanism, operator's cabin, electrical equipment, 'A' frame and the fixed counterweight.

14. Luffing of the jib should be effected by a nut and screw type mechanism, mounted midway up the A-frame and connected at the front end to the jib, using self-aligning bearings.

15. The portal, column, A-frame and the jib should be built in sections and assembled together permanently using high strength friction grip bolts.

16. All steel plates and sections used in the manufacture should conform to IS:2062 Gr.A or Gr.B. Where co-relation with manufacturer's test certificate is not possible, testing should be carried out in Supplier's own laboratories in accordance with the QAP.

17. Welded joints in the load bearing members should be subjected to ultrasonic/radiography/DP tests as relevant and provided in the QAP Plan. The listed tests are only indicative and any other test in addition should be carried out as per general engineering practices.

18. Assembly of sub-structures and drive mechanism should be carried out to the maximum extent possible in the supplier's shops, in order to facilitate trouble free erection at site. The assemblies should be thoroughly inspected by third party inspector in the Supplier's shops.

19. It is mandatory that the top surface of the column on the portal and the bottom surface of the slewing platform, to which the two flanges of the slew bearing are fitted, are machined on large vertical boring machines in the supplier's shops to ensure that the bearing seating are in plane and even load transfer is assured, leading to long life for the slew bearing.

20. Notwithstanding the above, the manufacturers may suggest alternate arrangement of proven design to cover paras 1 to 9. Design and construction will be inspected and cleared by third party agency.

DESIGN/CONSTRUCTION GUIDES

21. Following Indian standards may be followed for assessment of loads and design of structural steel work unless covered by FEM 1.001.1:-

Sl. No.	IS	DESCRIPTION
(a)	IS:807	Code of practice for design, manufacture, erection and testing (structure portion) of cranes & hoists)
(b)	IS:800	Code of Practice for general construction in steel.
(c)	IS:875 (Part 3)	Code of Practice for Design loads (other than earthquake) for buildings and structures.
(d)	IS:1893	Criteria for earthquake resistant design of structures.
(e)	IS:1024	Code of Practice of use of welding in bridges and structures subject to dynamic loading.
(f)	IS:816	Code of Practice for use of metal arc welding for general construction of mild steel.
(g)	IS:9595	Recommendations for metal arc welding of carbon and carbon manganese steels.
(h)	IS:4000	Code of Practice for assembly of structural joints using high tensile friction grip fasteners.
(j)	IS:4354	Recommendations for submerged arc welding of mild steel and low alloy steel.

22. In addition to the above codes, following codes may also be referred for steel work construction unless covered by FEM 1.001.1:-

Sl. No.	IS/ INTERNATIONAL STANDARD	DESCRIPTION
(a)	IS:1182	Recommended Practice for radiographic examination of fusion welded butt joints
(b)	IS:2595	Code of Practice for radiographic testing.
(c)	IS:3658	Code of Practice for liquid penetrates flaw detection.
(d)	IS:7215	Tolerances for fabrication of steel structure.

23. For welding electrodes the relevant IS/International codes viz. IS:814, IS:3613, AWSA-517, IS:7280 may be followed. For bolts and nuts IS Codes like IS:1363, 1364, 1367, 3757, 6623, 6649 may be followed.

ELECTRICAL EQUIPMENT STANDARDS

24. Following standards for electrical equipment may be followed:-

- (a) Induction Motors :IS 325
- (b) Installation & Maintenance of Induction Motor :IS 900
- (c) Code of Practice for earthing :IS 3043
- (d) Protection against lightning :IS 2309
- (e) Electrical wiring installation :IS 732
- (f) Specification for PVC insulated cables :IS 694
- (g) Specification for PVC insulated (heavy duty) electric cables :IS1554
- (h) Specification for cross linked polyethylene insulated PVC sheathed cables :IS7098
- (i) Selection, Installation & maintenance of switch gear and control gear :IS10118
- (j) Specification for Elastomer insulated Cables :IS 9968
- (k) Specification for Elastometric Insulation and Sheath of electric cables :IS 6380
- (l) Rotating electrical Machines :IS 4722
- (m) Degree of protection provided by enclosures for low voltage switchgear and control gear :IS 2147
- (n) Degree of protection provided by enclosures for rotating electrical machinery :IS4691
- (o) Factory built assemblies of switchgear and control gear for voltages up to and including 1000V A.C. : IS 8623

SPECIAL FEATURES AND SAFETY & CONTROL DEVICES

25. All statutory and safety requirements/rules of the following acts shall be complied with while working in Buyer's premises during installation of the cranes:-

- (a) Indian Factory Act
 - (b) Indian Electricity Rules
 - (c) Indian Electricity Act
 - (d) Indian Dock Laborers' Regulations
 - (e) The latest edition of the Regulations for the electrical equipment of building issued by the institution of Electrical Engineers, England.
 - (f) Indian Standard codes of Practice for Cranes
 - (g) Any other statutory body having jurisdiction in this field/area.
26. Controls and safety devices should be provided but not be limited to the following:
- (a) The main/ aux hoist drives should be provided with VVVF Control. Luffing, slewing and travel motions should be provided with VVVF Control.
 - (b) Overhead PLC based audio-visual alarm and automatic trip for load hoist.
 - (c) Double sets of limit switches for long travel (either end) and luffing motions.
 - (d) Travel limit switches for over hoist and over lowering.
 - (e) Each crane will need to be provided with suitable storm brakes.
 - (f) Interlock between brakes and respective motors, between long travel and rail clamps and anchorage.
 - (g) Over speed detection and trip.
 - (h) Limit switches for protection of cable in the cable reeling drum.
 - (j) Emergency stop buttons in the operator's cabin, on each gantry let at the dock/wharf cope level.
 - (k) Oil level indicators on all gear boxes.

- (l) Over load and short circuit protection tripping facility on all motors and drives.
- (m) Continuous load indicator (Digital) of reputed make in operator's cabin apart from safe load indicator. Also, two large safety indication LED BASED Repeater Displays of minimum size of font to be readable from ground to display height for continuous Load indication should be provided on two opposite sides of the crane at suitable height.

ANEMOMETER

27. An adjustable anemometer should be provided at the top of the crane. It should continuously monitor wind velocity and should give out an alarm when wind velocity exceeds 72 Kmps (20m/s) limit. It should also have a visual display inside the crane operator's cabin to read the wind velocity.

RAIL CLAMPS

28. The rail clamps/locking arrangements should be provided to clamp the crane anywhere along the track. The clamps should have sufficient tangential holding force to safely hold the crane in locking position during non-operating wind conditions. The screw with handle type of locking arrangement should be given.

RAIL SWEEPS

29. Rail sweeps, extending on both sides of the rail, should be provided at four corners at the outer ends.

HOLDING DOWN DEVICES

30. Holding down anchor units to hold the crane in position during storm conditions should be provided and arranged for fixing manually to anchor points provided on the dock/wharf structure. Anchor points should be capable of rapid fixing by an operator. The crane anchor device should consist of wire ropes, shackles and run buckles, etc.

MAINTENANCE AND ACCESSIBILITY

31. The design should pay special attention to ease of maintenance and to replacement of parts with minimum delay. Wheels should be readily removable. Lubricating fittings should be readily accessible. Walkways, stairs, ladders and platforms should be provided and located to provide maximum access for operation, inspection and maintenance by personnel.

ADDITIONAL SPECIAL FEATURES

32. The following special features should also be provided by the supplier:-
- (a) 03 nos. CO2 Fire Extinguishers should be provided for use in the Operator's cabin and at ground level.
 - (b) Effective guard rails on all accessible rotating parts, shafts, pinions, gears and couplings should be provided.
 - (c) Suitable arrangement shall be made to minimize collection of dust and water on the crane.
 - (d) Part Identification List of system maintenance spares for the cranes should be provided.

MECHANICAL DESIGN REQUIREMENTS

33. **Applicable Specification:** The crane should be designed as per IS:4594 and IS:807. All mechanical components will be designed as per Clause 3.2 of IS:4594. All materials, plant and equipment should comply with the latest issue of appropriate Indian Standards and to the Indian Standard Codes of Practice for Cranes. Design and construction will be inspected and cleared by third party agency.

34. **Materials:** Material used in the manufacture of the crane should be to the latest edition of the following specifications unless otherwise stated:-

Structural Steel	: IS 2062
Cast Iron	: IS 210 Gr. 20
Stainless Steel	: IS 6911
Forged Steel	: IS 1875, IS 2001 Gr. 2A
Cast Steel (General)	: IS 1030-1978/ IS 2707-1973
Cast Steel for Pin	: IS 2644 Gr. 4, Gr. 23-45
Cast Steel for Gears	: IS 2644 Gr. 1
High Tensile Steel	: IS 961
Case Hardened Steel	: IS 1570 C-14
Ductile Iron	: IS 1865 Gr. 1
Tubes and Fittings	: IS 1239, IS 1161
Bronze-Phosper Bronze	: IS 28
AL Bronze	: IS 305 Gr. 2
Gunmetal	: IS 306 Gr. 1
Wrought Steel	: IS 1570 C40

35. **Components** Components should conform to relevant IS Code of Practice application to such components. Following is the list of items to be included but not limited to for such considerations:-

Wheels	: IS 3177 / IS 1136
Sheaves	: IS 3177
Rails	: IS 3443
Drum	: IS 3177
Wire Rope	: IS 2266
Crane Hooks	: IS 7874

36. Gears, pinions and threads should be of Metric system as per ISO. The crane should have separate drive motors for all motions. The components of drive assemblies should be designed for Class IV – outdoor duty as per IS 3177 and IS 807.

TYPE

37. The crane should be double boom type goose neck with electrical level luffing (ELL) system, electrical level luffing, travelling; rail mounted portal type suitable for operation at the full rated load. The hosting, slewing and luffing motions should be through separate motors. The top revolving structure of the crane should be supported on the top of the crane carriage through a large diameter slew ring bearing of Rothe-Erde, Germany / Robelloof U.K / INA of Germany / Rollix of France/SKF/reputed firm only. Any other country make slew ring bearing will not be acceptable. The bottom half of this bearing should be securely fixed to the top of the crane carriage and the top to the underside of the revolving fixture. The crane carriage should be of the portal type supported at each corner by wheels mounted on fully equalizing compensating bogies.

38. A main access platform fitted with handrails should be fitted to the carriage top. Access to this platform should be gained by means of a ladder, an intermediate platform and another ladder from the intermediate to the main platform. Platform should give access to the machinery house and operator's cabin by a ladder fitted on the crane machinery base. This ladder should be suitably positioned to clear the inside of the slew bearing ring and the collector column at the centre line of the crane. Access should also be to the roof of the machinery house. From the machinery house roof, the mast head pulleys should be reached of a ladder with platform at the mast head.

DESIGN SAFETY/ STRESS FACTORS

39. All safety factors should be as per FEM 1.001.1 specifications.

SLEWING MECHANISM

40. The revolving portion of the crane should be mounted on an anti-friction triple row roller slewing bearing with integral slewing gear on top of the vertical mast (column).

41. The slew drive installed in the machinery house should consist of a drive motor, planetary gear box, vertical pinion shaft and the pinion engaging with the ring gear of the slew bearing. VVVF control should be provided for the slew motion.

42. The brake should be of electro-hydraulic type which will be normally applied when the motor is de-energized. Mechanical locking should be provided to hold the slew motion during storm condition. Electrical interlocking should be provided to ensure that the slew motor cannot be energized when the slew lock is in position. Slew bearing should be auto lubricated.

43. Slew unit should be designed as per group classification T-5 according to FEM. Life of gear box and bearing should not be less than 6300 hrs.

LUFFING MECHANISM

44. The screw type luffing mechanism should be driven by a flange mounted motor through a totally enclosed gearbox. The reduction gear should be of high quality steel and machine cut teeth running in oil bath and supported on anti-friction bearings. An electro-magnetic brake should be mounted on the main drive shaft.

45. The output drive gear should engage the gear on the outside of the nut, which works on the luffing screw. The entire arrangement consisting of the drive motor, gear reducer, nut and screw should be mounted on a trunnion block enabling the screw to align itself in the position required by the inclination of the jib. The connection between the screw spindle and the jib should be through self-aligning bearings. The screw/nut should be made of high quality material and the screw should be provided with turned double/triple, squared/trapezoidal threads. For protection against atmospheric influences, the screw should be covered with telescope tubes at its front end.

46. A well proven lubrication arrangement should be provided for nut-screw system.

47. In order to restrict the maximum and minimum radius, rotary limit switch should be provided. This limit switch should automatically interrupt the circuit and thus prevent over-traversing beyond extreme positions.

48. Due to the enclosed design of the luffing mechanism, maintenance of the gearing should be reduced to minimum.
49. A radius cum load indicator should be provided in the operator's cabin for the different jib positions.
50. Luffing drive should be VVVF controlled.
51. Luff unit should be designed as per group classification T-5 according to FEM. Life of gear box and bearing should not be less than 6300 hrs.

HOISTING MECHANISM

52. Four bar linkage system should be provided to ensure most practicable luffing of the load. Each hoist drive should comprise of a fabricated wheel drum, a foot mounted helical gear box, a motor and two electro-magnetic/ electro-hydraulic thrusters/ brakes.
53. Hoist drive should be with VVVF controls to ensure smooth operation.
54. Hoist unit should be designed as per group classification T-5 according to FEM with gear boxes and bearing life not less than 6300 hrs.
55. Separate motors should be used for the main hook and for the auxiliary hook.

TRAVELLING GEAR

56. The travel arrangement for the crane should be fully compensated at each corner. At least half the number of wheels at each corner should be driven by identical drive units. The JIBdrive assembly should comprise of suitable electric motors, reducers, oil tight gear boxes, flexible couplings between gear box and the wheel (to take care of wheel misalignment) and the axle drive through a set of gears. Travel wheels should be of forged steel, Centre-flanged and should be driven by A.C geared motors. LT motors should have electro-magnetic disc brakes integral with the motor. The drive units should be dust tight and suitable for outdoor installation. All axles should be line axle type mounted on spherical roller bearings.
57. The gear reducer should be of such design as to allow the output shaft to over drive the input shaft with the maximum torque loads that may be encountered due to the drifting of the machine or heavy braking after power to the motor has been cut off. The reducer may not be self-locking.
58. Long travel limiting of the crane should be provided through lever type limit switches (if required).
59. Hooter should be operative while the crane is travelling.
60. Suitable hydraulic buffers should be fitted at each end of end-carriage assemblies for stopping the crane at 70% speed. Buffers should be mounted so as to permit easy removal of wheel. Jacking provision to permit removal of bogies/wheel should be made. Vertically adjustable rail sweeps to clear obstructions should be provided.
61. Travel drive should be VVVF controlled.

62. Long travel unit should be designed as per group classification T-4 according to FEM. Life of gear box and bearing should not be less than 3200 hrs.

63. Gear boxes should be totally enclosed oil lubricated.

JIB.

64. The jib should be of double boom type goose neck with electrical level luffing (ELL) system. Special attention should be given to the design of the jib head to prevent damage to the ropes in case they slip off the pulleys.

65. Suitable ladder arrangement should be provided on the jib for facilitating maintenance of the jib and its accessories.

WIRE ROPES, PULLEYS, DRUMS, HOOKS AND BEARINGS

66. **Wire Rope.** The wire ropes should comply to IS:2266.

67. All components of the lifting gear, including the wire ropes and their anchorages should be in compliance of the Indian Dock Labourer's Regulations and certified as such by a competent authority of the manufacturer.

68. **Pulleys.** Pulleys should be of cast steel/fabricated. The Grooves of all pulleys and drums should be smoothly machined to lift the rope used. All pulleys should be fitted with suitable ball/roller bearings. Suitable guards for prevailing slipping off of wire rope from the pulley should be provided.

69. **Lifting Hooks.** The lifting hooks should be forged steel. They should be of Ramshorn type for Main hook and 'C' type of Auxiliary hook.

70. **Rope Drums.** Rope drums should be of suitable large diameter cast steel or steel plates fabricated type (with both longitudinal and circumferential welds 100% X-rayed), stress relieved and neatly machined. The drum should be such that there should not be more than one layer of rope with at least one spare groove when the hook is at the top most position and three full turns of the rope left in the lowest position of the hook. Each rope end should be clamped on rope drum with two clamps and each should have two bolts. Drums should be flanged at both ends.

71. **Bearings.** All bearings should be of the anti-friction type and self-lubricating with a minimum life expectancy compatible with the mechanism with which they are used. The bearings should have proper sealing arrangement to prevent ingress of water and dust particles.

72. **Slew Bearing:-** The top revolving portion of the crane should be supported on a large diameter slew ring bearing of SKF/ Rothe-Erde. Germany /Robello U.K / INA of Germany / Rollix of France/reputed firm only. Any other country make slew ring bearing will not be acceptable. The bottom half of this bearing should be securely fixed to the top of the crane carriage and the top half should be fixed to the underside of the revolving structure. The operation should be with integral gear engaged pinions for obtaining necessary slew motion. The bearing should be capable of dealing with all axial loads and overturning moments.

73. **Rope Sheaves** Sheaves should be made of cast steel or rolled steel and mounted on anti-friction bearings. Swiveling hook should be supported on a thrust bearing. Sheaves should be enclosed in fabricated boxes for rope guide and protection.

74. **Test certificates**, in accordance with the Indian Dock Labour (Safety) Regulations should be supplied for the hook, chain, swivel, rings, shackle, wire ropes, etc. and cleared by third party inspector.

GEAR BOXES/REDUCERS

75. All gears except open gears should be completely covered and oil tight. The gear box housing should be of cast steel/fabricated and stress relieved as per Indian Standards. Housings shall be painted inside with oil resistant paint after proper surface preparation. Gear boxes should be so designed that the gears which they enclose should be automatically splash lubricated. Practicable measures should be taken to prevent leakage of oil from gear boxes.

76. The gear boxes should be of rigid construction and fitted with inspection covers, oil gauges and lifting lugs wherever necessary. Proper arrangement for collecting leakages of oil to prevent spreading on the floor should be provided. Oil level gauges should be provided.

LUBRICATION

77. Group lubrication system, with provision to vent excess lubricant pressure, should be provided for all drive mechanisms. The luff mechanism should be continuously lubricated with grease/oil by a motor driven pump. Stainless steel piping should be provided for LT drive system.

BRAKES

78. Brakes should be of the Electro-hydraulic type with self-aligning, easily replaceable shoes suitable to operate on 03 phase 415+10% and 50Hz+3% for Hoists, luff and slew motions. The LT motors should be provided with integral electro-magnetic disc brakes.

MAST AND SUPER STRUCTURE

79. The mast and superstructure should be designed to have sound structural integrity. The same would be subjected to third party inspection.

SLIPRINGS CLOUMN

80. Vertically arranged current collector column with spring loaded double brush gear should be provided. The current collector column should be dust and vermin proof with toughened glass windows for inspection. The same would be subjected to third party inspection.

WHEELS

81. The wheels should cater for designed lifting load of the crane along with its own load. The same would be subjected to third party inspection. The wheel should have spherical roller bearings and Plummer block. It should be possible to remove the wheels by raising the carriage about 10mm in minimum time.

MISCELLANEOUS

82. **Castings.** All castings should be stress relieved and free from any defects. The same would be subject to third party inspection.

83. **Ballast.** Jib ballasts should preferably be in the form of concrete / CI / CS block to balance jib weights / drives. The fixed superstructure ballast should be fitted at the rear of the revolving structure and should be made of cast concrete with stone / steel scrap aggregate housed in steel boxes.

84. **Shafts and Axles.** Shafts and axles should be forged/made of cold drawn steel as applicable for providing required strength. The same would be subjected to third party inspection.

85. **Holes.** All holes for fitted bolts and pins should be drilled and reamed.

OPERATOR'S CABIN AND MACHINERY HOUSE

86. The operator's cabin should be located in the front part of the machinery house in such a way that the operator gets an all-round visibility and has an uninterrupted view of the load in all positions. The cabin should be protected from rain. Manually and electrically operated wipers should be provided on the front window. All windows should be accessible from inside for manual cleaning. The cabin should be located at one side of the machinery frame.

87. The operator cabin and machinery house should be air tight with air conditioning to maintain a positive pressure and dust free condition. Dust tight seals should be provided on all doors, windows and cable entry points. The cabin should be constructed from a M.S. frame with minimum 2 meters head room. Toughened glass should be upholstered with adjustable height and revolving facility. Suitable wall mounted fan should also be provided for the operator. All controls should be placed in a prominent position to ensure optimum visibility. An exhaust fan should be provided in the machine room. Sufficient windows should be provided in the machinery house. An SLI (Safe Load Indicator) display should be fitted in the cabin in a prominent place ensure optimum visibility to the crane operator inside the operator cabin.

88. 02 nos. 1000W LED lamps should be placed on top of the operator's cabin.

89. A motorized hoist block of 5T capacity should be provided in the machinery house for maintenance work with suitable opening for lower/hoist of machinery installed in machinery house.

90. The cabin should be provided with original display of load during operation.

91. The cabin should have following additional accessories provided:-

- (a) Co2 fire extinguisher – 01.
- (b) Battery operated emergency light – 01
- (c) Wall mounted Oscillating fan -01
- (d) 2 T window type A.C – 01
- (e) Ladder for access to the platform.
- (f) Fitted-Binocular with elevation/depressing mechanism.
- (g) 230 V A.C., 50Hz, 1 phase 5/15A sockets – 01

92. All fasteners should be of 8.8 grade /10.9 grade HSFG bolts with nuts load bearing members and 4.6 grade bolts for non-load bearing members, including platform, hand railings and brackets.

SAFETY DEVICES

93. **Limit Switches.** All limit switches should be connected in the control circuit and should be of self re-setting type. Following limit switches should be provided:-

- (a) Limit switch on hoisting motion to prevent over-hoisting and over-lowering.
- (b) Limit switch on luffing motion to prevent jib over run in either direction.
- (c) Limit switches on long travel to prevent over run in either direction.

94. **Indicator and Alarms.** Following indicators and alarms should be provided:-

- (a) A safe load indicator with an audio visual alarm on load exceeding the safe limit.
- (b) A radius indicator to indicate the position of the jib.
- (c) Rail clips shall be fitted on each corner to secure the crane.

95. **Interlocks.** Following interlocks should be provided:-

- (a) Interlocking contacts in the off position.
- (b) Interlocking of hoist, travel, slew and luffing motions with rail clips and crane anchor. Slew interlocking should be provided on the slew drive reduction system for easy handling by crane operator.
- (c) Brake interlock for all motions.
- (d) Double brake on hoist.
- (e) Emergency main circuit cut off.

LADDERS AND PLATFORMS.

96. Ladders, staircases, platforms and handrails made of G.I. should to give safe and easy access to all the working parts of the crane. Wherever possible, staircases with hand rails should be provided. Ladders should be inclined at 80° and in no case less than 70° to the horizontal. GI gratings should be provided on the platform.

97. The step of these staircases should be of steel gratings of 25mm depth and min 100 mm width.

98. All platforms (600 mm wide) should be made of 25 mm depth GI grating and should be provided with suitable guards.

99. Hand rails should be about 1100 mm overall height with an intermediate rail 550 mm high.

CABLES

100. All the control and power cables should be PVC insulated; HRPVC sheathed armored cables with copper conductor except the CRD. Cable which will be of EPR, PCP sheathed flexible type. All cables should be laid in trays. The cables should be of 650/1100 V grade.

CABLE REELING DRUM

101. Stall torque operated monospiral type, cable reeling drum of M.S. construction suitable for 400m travel with center feed point should be provided. The cable reeling drum should be mounted on the crane pier structure. The cable length should be approx 200 m.

LIGHTING

102. Fluorescent tube light / LED fittings should be provided in the operator's cabin and machinery house. Bulk-head fittings with clear glass should be provided for staircases and platforms to provide adequate lighting. A hard lamp with 10m flexible cable should also be provided for examining the machinery. In addition, head lamps to be provided outside machinery house for illuminating the working area during night.

CONTROL PANELS

103. VVVF control panels should be provided for Hoist, slew, Luff and Long Travel motions. A protective panel should also be provided which should feed power to all the motion panels. All control and indicator circuits should be on maximum 110 V through a suitable step down transformer.

WIRELESS REMOTE OPERATION FROM GROUND

104. Push button and joystick operated Radio Remote Control should be provided for operation of the crane for all its motions / operations from the ground during the day as well as night.

CONTROL GEAR

105. Integrated master controller should be provided for:-

- (a) Main Hoist
- (b) Auxiliary Hoist motions, and
- (c) Luff and slew motions.
- (d) Master Controller for Long Travel.

MOTORS

106. Electric motors of 'Marathon/KEC/Bharat Bijlee/Crompton' make etc. for various drives / motions of the crane should be TEFC (Totally Enclosed Fan Cooled) Squirrel Cage 3 phase A.C. Induction motors conforming to IS:325. Motors should be suitable for 415 V + 10%, 50Hz + 3%. Motors should have 'F' class insulation. Hoist, Luff and Slew LT motors should be suitable for 150 starts/hr.

ELECTRICAL WORK

107. The scope of electrical work would include provisioning of following:-

- (a) LT Weatherproof junction box, cable tensioning drum, LT flexible trailing cable, cable reeling drum with weatherproof slip rings and torque motor.
- (b) Weatherproof on-load isolator on crane leg and the power cable to main distribution board.
- (c) Main distribution board with protective devices, lighting board with lighting transformer.
- (d) Safety and interlocking system with 110V step down transformer.

- (e) Earthing system from earthing to all components.
- (f) Complete lighting of crane and cabin lighting.
- (g) Cabin Ventilation with air-conditioning.
- (h) Communication system including arrangements for communication between operator's cabin machinery house and ground staff by intercom as well as wireless communication system.
- (i) Control Desk with joy stick controllers for all drivers, instrumentations and audio-visual alarm with fault annunciation.
- (j) Wireless Remote Control operation of the Crane from the ground.
- (k) Collector column with collector rings and finger contacts.
- (l) Electric motors for all drives.
- (m) Drop anchor pins for crane anchoring.
- (n) Safe Load Indication mechanism with audio visual signal for Main Hoist as well as Auxiliary Hoist.
- (o) VVVF Panels for Hoist, Slew Luff and LT.
- (p) Masthead obstruction light at the highest point on the crane.

415V POWER PANEL

108. Metal enclosed power panel of the following specifications should be provisioned:-

- (a) Rating 415 V, 3 Phase, 4 Wire, 50 Hz.
- (b) Free standing general purpose enclosure.
- (c) Complete with:-
 - Analog type ammeter and selector switch.
 - Analog type voltmeter and selector switch.
 - Current transformers.
 - Potential transformers with primary and secondary fuses, 415 V / 110V.
- (d) The cubicle to be complete with necessary buses (including ground bus) terminal, wiring etc. and should be completely factory wired and tested ready for installation. Rear of the cubicle should be with bolted-on cover.
- (e) Moulded case circuit breaker should be provided.

SOCKET DETAILS

109. Following electrical supply sockets should be provided:-

- (a) 3 Nos. 415 V, 100 Amp welding sockets shall be provided at the following locations:-
 - 1 No. in machinery room.
 - 2 Nos. on pier legs.
- (b) 03 Nos. of 240 V, 15 Amps, 3 pin socket outlets shall be provided at the following areas for light and small tools:-
 - 01 No. in operator's cabin.
 - 02 Nos. on pier legs.

PREFERRED MAKES OF MAJOR BOUGHT OUT SUB-ASSEMBLIES

110. The following are the some specified makes of equipment and materials to be used by the Supplier:-

- (a) Motors :Siemens, Crompton, Bharat Bijlee, ABB KEC, Marathon.
- (b) Control Panels (including breaker/MCCB) :Siemens, L&T, Crompton, Schneider / ABB etc.
- (c) Master Controller :Siemens, Omega, EMM, E&P, Speed-O-Control etc.
- (d) Gear Coupling :New Allenbury, Hi Cliff, Concord
- (e) Wire Ropes :Usha Martin, Fort William, United Wire Ropes, Bombay Wire Ropes, Mohatta Shackle.
- (f) Slew Bearing :Rothe-Erde of Germany, Robello of UK, INA of Germany, Rollix of France, Liebherr, SKF
- (g) Anti-friction Bearings :SKF, FAG, NTN, Koyo, ZKL.
- (h) Primer & Finish Paints : Asian, Berger, Jehson & Nicholson.
- (j) Lifting Hooks : Hercules, Steel Forging, BR Herman & Mahatta, E Karachiwala
- (k) Planetary Gear Box/
Geared Motor :Brevini, SEW, Siemens, Rossi, Bonfiglioli,
- (l) Fasteners :Unbrako, Bolt Master, Deepak Fasteners, Kant Industries etc.
- (m) Cables :ISI approved make.
- (n) Contactors :Siemens, L&T, ABB, BCH etc.
- (p) Circuit Protective Switchgear :Siemens, BCH, Alstom, L&T, Crompton, ABB, etc.
- (q) Isolating Switches :Siemens, L&T, Kaycee, Alstom etc.
- (r) Limit Switches :Speed-O-Control, EMM, Omega, E&P etc.
- (s) Thruster Brakes :Speed-O-Control, EMM, Omega, Galvi etc.
- (t) Thermal Overload Relay :Siemens, BCH, L&T, etc.
- (u) VVVF Control :ABB, Siemens, Yaskawa, Schneider etc.
- (v) CRD :BPTL (Bengal Technocrats), Electrozavod, EMM, MITOOL etc.
- (w) Light Fittings :Bajaj, Crompton, Philips etc.

- (x) HRC Fuse :Siemens, L&T, Alstom etc.
- (y) Push Button :Siemens, BCH, L&T, Tecknic etc.
- (z) Fitted-Binocular : Nikon/ Olympus
- (aa) VHF sets :Make: Motorola/ICOM

Note – Vendor may suggest additional make as per requirement with approval of Third Party/and user

PAINTING

111. The steel materials of all structural parts are to be shot blasted to remove rust, mill scale and grease prior to delivery and be painted as follows:-

- (a) **After Shot Blasting** – One coat of epoxy or equivalent paint (primer) 40 micron thick (min.).
- (b) **After Partial Assembly and Inspection at Supplier’s Works** - Two coats of modified epoxy paint. Each coat is to be on minimum 70 micron thickness.
- (c) **After Erection at Site** – One coat of finish epoxy paint of minimum 70 micron thickness.

The colour of the final coat would be decided by DGNP(MBI). Corrosion protection products like Polyglass and PLASMET which provide long term corrosion protection may be used.

GALVANIZING

112. All Stairs, walkways, pipes, tubes and all fittings associated with these should be galvanized in accordance with BS 729 Part I/ applicable standards after they are thoroughly cleaned, degreased and de-rusted by pickling.

ERECTION

113. Prior the erection, the Supplier should prepare an erection schedule, drawings, program and also prepare a list of equipment to be used for erection of each component and the complete crane and submit the same to the Buyer.

INSPECTION AND TESTING

114. All equipment, assemblies, sub-assemblies, components including bought-outs and all material shall be subjected to third party inspection/testing at the stages of manufacture and during erection, testing and commissioning at site as per approved QAP finalized after award of contract. The inspecting would be carried out by IRS (Indian Register of Shipping) /LRS (Lloyds Register Services) BVQI at the cost of the Supplier. The Tests, identifications, stamping and the like would be done as per the scope of work.

115. The finalization of design, submission of design and obtaining approval from third party inspection agency should be undertaken by the supplier within 03 months of contract effective date. Any correction/improvement suggested by third party inspector are to be incorporated without additional cost and time. The supplier will be solely responsible for timely submission, follow-up and inspection by third party agency. Any delays on any of the stages would be on account of the Supplier. No extension of time for any activity will be permissible for delays on such counts.

116. The supplier is required to propose the inspection schedule to third party agency for approval. Once approved, the Supplier has to ensure that the approved inspection schedule is handed over to the Buyer within one week.

117. DGNP(Mbi)/ Customer reserves the right to visit OEM premises for any inspections carried out by third agency. 15 days notice is required to be given by the Supplier to Customer/ DGNP(Mbi) whenever the Supplier offers inspection to third party agency.

DELIVERY PERIOD

118. Delivery period for supply, installation and commissioning of the items would be **24 months** from the effective date of contract, which is date of signing the contract by both the parties i.e. BUYER and SELLER. The delivery shall ONLY be considered complete after receipt of material/items at site, completion of installation, test/trials of equipment to the satisfaction of the End User and thereafter obtaining a work completion certificate from the End User. **The commencement of this period will be from the effective date of signing the contract and the total duration of delivery will be accounted, till the date of Work Completion Certificate (WCC) issued from End User to the firm. Please note that Contract can be cancelled unilaterally by the Buyer in case items are not received and commissioned within the contracted Delivery Period.** Extension of contracted delivery period will be at the sole discretion of the Buyer, with applicability of LD clause.

TRAINING OF PERSONNEL

119. The supplier should, during manufacture, erection and commissioning, instruct the buyer's staff in the operation of the equipment to get conversant with the crane operation. After the crane has been completely erected at the site under the supervision of the Supplier's representative and all necessary test have been carried out, the Supplier's representative shall remain available to site for further period of at least 1 week to instruct (as required to enable successful operation and maintenance by the buyer)

- (a) The crane operators and
- (b) Maintenance Personnel.

MANUALS AND TECHNICAL DATA

120. The Supplier would be required to submit the following manuals and technical data to the Buyer along with the equipment:-

- (a) Six copies of operation and maintenance manual including trouble shooting procedures and parts catalogues & technical literatures and special equipment details in English should be supplied in a neat bound folder.

(b) Two copies of manual with relevant drawings, write-ups technical literatures, catalogues, bill of materials, performance data including graphs showing efficiency & characteristic curves and other pertinent information of the individuals/composite items of plant and equipment should be submitted.

WARRANTY

121. The cranes are to be guaranteed for a period of 12 months from the date of commissioning of each crane. In case of defects occurring within the guarantee period, the same are to be rectified free of cost for the defective parts.

COMPLIANCE TO SAFETY RULES

122. The Supplier would be required to abide all the safety rules & practices and Labour Rules applicable during supply, installation, testing and commissioning of the cranes at the site.

123. The work is required to be undertaken inside defence area. The workers will be required to follow the security regulations as laid down / fresh security measures, if any as and when promulgated.

FORMAT OF SCHEDULES AND OTHER DETAILS

124. The formats of different schedules and other details required to be submitted by the supplier are given in the succeeding pages at Schedule 'A' and 'B'

125. **CONSIGNEE DETAILS**

The Admiral Superintendent
Naval Dockyard
Lion Gate
Mumbai- 400 023

SCHEDULE "A"

(To be prepared by vendor and submitted)

TIME FOR COMMENCEMENT AND COMPLETION OF THE WORK

We undertake to commence and complete all phases of construction, installation and commissioning activity within the time periods mentioned in our offer. We further undertake to commence and complete the following defined and itemized sections of the work within the time stated below calculated from date of signing of contract.

	<u>Commence in</u>	<u>Complete in</u>
1. Advance planning for design and Procurement and scheduling	.....days	.....days
2. Submission of design and drawings for structural and mechanical items for approval	.....days	.....days
3. Submission of design and drawings for electrical items for approval	.....days	.....days
4. Procurement of materials for –		
(a) Steel	.....days	.....days
(b) Components	.....days	.....days
(c) Controls	.....days	.....days
5. Procurement of Import Licence if required	.....days	.....days
6. Procurement of imported items	.....days	.....days
7. Manufacturing for –		
(a) Structurals	.....days	.....days
(b) Drives	.....days	.....days
(c) Electricals	.....days	.....days
(d) Assembly	.....days	.....days
8. Ready for shop testing	.....days	.....days
9. Transportation to site	.....days	.....days
10. Installation at site	.....days	.....days
11. Commissioning at site	.....days	.....days
12. Cleaning, painting and completion In all respects and handing over	.....days	.....days

Detailed stage wise progress chart (CPM Diagram) (attach copy).

Note : Total time for completion is 24 months from effective date of contract. This period will also include inspection, trials and handing over of all equipment / stores / documentation as contracted.

Signature_____

For and on behalf of_____

Date _____

SCHEDULE 'B'

(To be prepared by vendor and submitted)

**LIST OF DRAWINGS / DOCUMENTS ACCOMPANYING THE TENDER
FOR EQUIPMENT**

Description

Drawing Nos.

The following drawings are required to be submitted along with the Tender for each equipment :

- a) General Arrangement Drawings
- b) Layout of Machinery and Drives
- c) Control Circuit Diagram
- d) Load/speed curve for motors
- e) Stability calculations for major items like jibs, wheels, drums, slew bearing, portals, etc.
- f) Any other enclosure for Hook Position indicator, analog indicator, cable drum, etc.

Signature

For & On Behalf of

Date

Part III – Standard Conditions of RFP

The Bidder is required to give confirmation of their acceptance of the Standard Conditions of the Request for Proposal mentioned below which will automatically be considered as part of the Contract concluded with the successful Bidder (i.e. Seller in the Contract) as selected by the Buyer. Failure to do so may result in rejection of the Bid submitted by the Bidder.

1. **Law:** The Contract shall be considered and made in accordance with the laws of the Republic of India. The contract shall be governed by and interpreted in accordance with the laws of the Republic of India.
2. **Effective Date of Contract:** The contract shall come into effect on the date of signatures of both the parties on the contract (Effective Date) and shall remain valid until the completion of the obligations of the parties under the contract. The deliveries and supplies and performance of the services shall commence from the effective date of the contract.
3. **Arbitration:** All disputes or differences arising out of or in connection with the Contract shall be settled by bilateral discussions. Any dispute, disagreement or question arising out of or relating to the Contract or relating to construction or performance, which cannot be settled amicably, may be resolved through arbitration. The standard clause of arbitration is as per Forms DPM-7, DPM-8 and DPM-9 (Available in MoD website and can be provided on request).
4. **Penalty for Use of Undue Influence:** The Seller undertakes that he has not given, offered or promised to give, directly or indirectly, any gift, consideration, reward, commission, fees, brokerage or inducement to any person in service of the Buyer or otherwise in procuring the Contracts or forbearing to do or for having done or forborne to do any act in relation to the obtaining or execution of the present Contract or any other Contract with the Government of India for showing or forbearing to show favour or disfavour to any person in relation to the present Contract or any other Contract with the Government of India. Any breach of the aforesaid undertaking by the Seller or any one employed by him or acting on his behalf (whether with or without the knowledge of the Seller) or the commission of any offence by the Seller or anyone employed by him or acting on his behalf, as defined in Chapter IX of the Indian Penal Code, 1860 or the Prevention of Corruption Act, 1986 or any other Act enacted for the prevention of corruption shall entitle the Buyer to cancel the contract and all or any other contracts with the Seller and recover from the Seller the amount of any loss arising from such cancellation. A decision of the Buyer or his nominee to the effect that a breach of the undertaking had been committed shall be final and binding on the Seller. Giving or offering of any gift, bribe or inducement or any attempt at any such act on behalf of the Seller towards any officer/employee of the Buyer or to any other person in a position to influence any officer/employee of the Buyer for showing any favour in relation to this or any other contract, shall render the Seller to such liability/ penalty as the Buyer may deem proper, including but not limited to termination of the contract, imposition of penal damages, forfeiture of the Bank Guarantee and refund of the amounts paid by the Buyer.
5. **Agents / Agency Commission:** The Seller confirms and declares to the Buyer that the Seller is the original manufacturer of the stores/provider of the services referred to in this Contract and has not engaged any individual or firm, whether Indian or foreign whatsoever, to intercede, facilitate or in any way to recommend to the Government of India or any of its functionaries, whether officially or unofficially, to the award of the contract to

the Seller; nor has any amount been paid, promised or intended to be paid to any such individual or firm in respect of any such intercession, facilitation or recommendation. The Seller agrees that if it is established at any time to the satisfaction of the Buyer that the present declaration is in any way incorrect or if at a later stage it is discovered by the Buyer that the Seller has engaged any such individual/firm, and paid or intended to pay any amount, gift, reward, fees, commission or consideration to such person, party, firm or institution, whether before or after the signing of this contract, the Seller will be liable to refund that amount to the Buyer. The Seller will also be debarred from entering into any supply Contract with the Government of India for a minimum period of five years. The Buyer will also have a right to consider cancellation of the Contract either wholly or in part, without any entitlement or compensation to the Seller who shall in such an event be liable to refund all payments made by the Buyer in terms of the Contract along with interest at the rate of 2% per annum above LIBOR rate. The Buyer will also have the right to recover any such amount from any contracts concluded earlier with the Government of India.

6. **Access to Books of Accounts**: In case it is found to the satisfaction of the Buyer that the Seller has engaged an Agent or paid commission or influenced any person to obtain the contract as described in clauses relating to Agents/Agency Commission and penalty for use of undue influence, the Seller, on a specific request of the Buyer, shall provide necessary information/ inspection of the relevant financial documents/information.

7. **Non-disclosure of Contract Documents**: Except with the written consent of the Buyer/ Seller, other party shall not disclose the contract or any provision, specification, plan, design, pattern, sample or information thereof to any third party.

8. **Liquidated Damages**: In the event of the Seller's failure to submit the Bonds, Guarantees and Documents, supply the stores/goods and conduct trials, installation of equipment, training, etc as specified in this contract, the Buyer may, at his discretion, withhold any payment until the completion of the contract. The BUYER may also deduct from the seller as agreed, liquidated damages to the sum of 0.5% of the contract price of the delayed/undelivered stores/services mentioned above for every week of delay or part of a week, subject to the maximum value of the Liquidated Damages being not higher than 10% of the value of delayed stores.

9. **Termination of Contract**: The Buyer shall have the right to terminate this Contract in part or in full in any of the following cases :-

- (a) Failure to submit PBG as per Clause 1, Part IV of this RFP.
- (b) When the supplier has failed to honour any part of the contract including failure to deliver the contracted stores/render services in time.
- (c) When the contractor is found to have made false or fraudulent declaration or statement to get the contract or he is found to be indulging in unethical or unfair trade practices.
- (d) The Buyer has noticed that the Seller has utilised the services of any Indian/Foreign agent in getting this contract and paid any commission to such individual/company etc.
- (e) The delivery of the material is delayed for causes not attributable to Force Majeure for more than 06 months after the scheduled date of delivery.
- (f) The delivery of material is delayed due to causes of Force Majeure by more than 12 months.

- (g) When the item offered by the supplier repeatedly fails in the inspection and /or the supplier is not in the position to either rectify the defects or offer items confirming to the contracted quality standards.
- (h) When both parties agree mutually to terminate the contract.
- (j) The Seller is declared bankrupt or becomes insolvent.
- (k) Any special circumstances to justify the cancellation or termination of a contract.
- (l) As per decision of the Arbitration Tribunal.

10. **Notices**: Any notice required or permitted by the contract shall be written in the English language and may be delivered personally or may be sent by FAX or registered pre-paid mail/airmail, addressed to the last known address of the party to whom it is sent.

11. **Transfer and Sub-letting**: The Seller has no right to give, bargain, sell, assign or sublet or otherwise dispose of the Contract or any part thereof, as well as to give or to let a third party take benefit or advantage of the present Contract or any part thereof.

12. **Patents and Other Industrial Property Rights**: The prices stated in the present Contract shall be deemed to include all amounts payable for the use of patents, copyrights, registered charges, trademarks and payments for any other industrial property rights. The Seller shall indemnify the Buyer against all claims from a third party at any time on account of the infringement of any or all the rights mentioned in the previous paragraphs, whether such claims arise in respect of manufacture or use. The Seller shall be responsible for the completion of the supplies including spares, tools, technical literature and training aggregates irrespective of the fact of infringement of the supplies, irrespective of the fact of infringement of any or all the rights mentioned above.

13. **Amendments**: No provision of present Contract shall be changed or modified in any way (including this provision) either in whole or in part except by an instrument in writing made after the date of this Contract and signed on behalf of both the parties and which expressly states to amend the present Contract.

14. **Taxes and Duties**

(a) **General**.

(i) If Bidder desires to ask for excise duty or Sales Tax / VAT extra, the same must be specifically stated. In the absence of any such stipulation, it will be presumed that the prices include all such charges and no claim for the same will be entertained.

(ii) If reimbursement of any Duty/Tax is intended as extra over the quoted prices, the Bidder must specifically say so. In the absence of any such stipulation it will be presumed that the prices quoted are firm and final and no claim on account of such duty/tax will be entertained after the opening of tenders.

(iii) If a Bidder chooses to quote a price inclusive of any duty/tax and does not confirm inclusive of such duty/tax so included is firm and final, he should clearly indicate the rate of such duty/tax and quantum of such duty/tax included in the price. Failure to do so may result in ignoring of such offers summarily.

(iv) If a Bidder is exempted from payment of any duty/tax up to any value of supplies from them, he should clearly state that no such duty/tax will be charged by him up to the limit of exemption which he may have. If any concession is available in regard to rate/quantum of any Duty/tax, it should be brought out clearly. Stipulations like, the said duty/tax was presently not applicable but the same will be charged if it becomes leviable later on, will not be accepted unless in such cases it is clearly stated by a Bidder that such duty/tax will not be charged by him even if the same becomes applicable later on. In respect of the Bidders, who fail to comply with this requirement, their quoted prices shall be loaded with the quantum of such duty/tax which is normally applicable on the item in question for the purpose of comparing their prices with other Bidders.

(v) Any change in any duty/tax upward/downward as a result of any statutory variation in excise taking place within contract terms shall be allowed to the extent of actual quantum of such duty/tax paid by the supplier, provided the supplies are made during the original delivery period. Similarly, in case of downward revision in any duty/tax, the actual quantum of reduction of such duty/tax shall be reimbursed to the Buyer by the Seller. All such adjustments shall include all reliefs, exemptions, rebates, concession etc. if any obtained by the Seller.

(b) **Customs Duty**

(i) For imported stores offered against forward delivery, the Bidder shall quote prices thereof exclusive of customs duty. The Bidder shall specify separately the C.I.F. prices and total amount of customs duty payable. They will also indicate correctly the rate of customs duty applicable along with Indian Customs Tariff Number. Customs duty as actually paid will be reimbursed on production of necessary documents i.e.

(aa) Triplicate copy of the bill of entry;

(ab) Copy of bill of lading;

(ac) A copy of foreign principal's invoice. However, if the Bidder imports the stores in question against his own commercial quota Import Licences, he will also be required to submit in addition the triplicate copy of bills of entry etc. a certificate from his Internal Auditor on the bill itself, to the effect that the following items/quantity in the bill of entry related to the stores imported against Defence Buyer contract number..... dated.....

(ii) Subsequent to the reimbursement of customs duty, the Bidder will submit to the concerned Payment Authority a certificate to the effect that he has not obtained any refund of customs duty subsequent to the payment of duty to the Customs authority by him. In addition, he shall also submit to the Paying Authority concerned a certificate immediately after a period of three months from the date of payment of the duty to customs authorities to the effect that he has not applied for refund of the customs duty subsequent to the payment of duty to the customs authorities by him.

(iii) In case the Bidder obtains any refund of customs duty, subsequently to the payment of the same by him to the customs authorities and

reimbursement of the customs duty to him by the Payment Authority, he should forthwith furnish the details of the refund obtained and afford full credit of the same to the Buyer.

(c) **Excise Duty**

(i) Where the excise duty is payable on advalorem basis, the Bidder should submit along with the tender, the relevant form and the Manufacturer's price list showing the actual assessable value of the stores as approved by the Excise authorities.

(ii) Bidders should note that in case any refund of excise duty is granted to them by Excise authorities in respect of Stores supplied under the contract, they will pass on the credit to the Buyer immediately along with a certificate that the credit so passed on relates to the Excise Duty, originally paid for the stores supplied under the contract. In case of their failure to do so, within 10 days of the issue of the excise duty refund orders to them by the Excise Authorities the Buyer would be empowered to deduct a sum equivalent to the amount refunded by the Excise Authorities without any further reference to them from any of their outstanding bills against the contract or any other pending Government Contract and that no disputes on this account would be raised by them.

(iii) The Seller is also required to furnish to the Paying Authority the following certificates:

(aa) Certificate with each bill to the effect that no refund has been obtained in respect of the reimbursement of excise duty made to the Seller during three months immediately preceding the date of the claim covered by the relevant bill.

(ab) Certificate as to whether refunds have been obtained or applied for by them or not in the preceding financial year after the annual Audit of their accounts also indicating details of such refunds/applications, if any.

(ac) A certificate along with the final payment bills of the Seller to the effect whether or not they have any pending appeal/protest for refund or partial refund of excise duties already reimbursed to the Seller by the Government pending with the Excise authorities and if so, the nature, the amount involved, and the position of such appeals.

(ad) An undertaking to the effect that in case it is detected by the Government that any refund from Excise Authority was obtained by the Seller after obtaining reimbursement from the Paying Authority, and if the same is not immediately refunded by the Seller to the Paying Authority giving details and particulars of the transactions, Paying Authority will have full authority to recover such amounts from the Seller's outstanding bills against that particular contract or any other pending Government contracts and that no dispute on this account would be raised by the Seller.

(d) **Sales Tax / VAT**

(i) If it is desired by the Bidder to ask for Sales tax / VAT to be paid as extra, the same must be specifically stated. In the absence of any such stipulation in the bid, it will be presumed that the prices quoted by the Bidder are inclusive of sales tax and no liability of sales tax will be developed upon the Buyer.

(ii) On the Bids quoting sales tax extra, the rate and the nature of Sales Tax applicable at the time of supply should be shown separately. Sales tax will be paid to the Seller at the rate at which it is liable to be assessed or has actually been assessed provided the transaction of sale is legally liable to sales tax and the same is payable as per the terms of the contract.

(e) **Octroi Duty & Local Taxes**

(i) Normally, materials to be supplied to Government Departments against Government Contracts are exempted from levy of town duty, Octroi Duty, Terminal Tax and other levies of local bodies. The local Town/Municipal Body regulations at times, however, provide for such Exemption only on production of such exemption certificate from any authorised officer. Seller should ensure that stores ordered against contracts placed by this office are exempted from levy of Town Duty/Octroi Duty, Terminal Tax or other local taxes and duties. Wherever required, they should obtain the exemption certificate from the Buyer, to avoid payment of such local taxes or duties.

(ii) In case where the Municipality or other local body insists upon payment of these duties or taxes the same should be paid by the Seller to avoid delay in supplies and possible demurrage charges. The receipt obtained for such payment should be forwarded to the Buyer without delay together with a copy of the relevant act or bylaws / notifications of the Municipality of the local body concerned to enable him to take up the question of refund with the concerned bodies if admissible under the said acts or rules.

Part IV – Special Conditions of RFP

1. **Performance Guarantee.** The Bidder will be required to furnish a Performance Guarantee by way of Bank Guarantee through a public sector bank or a private sector bank authorized to conduct government business (ICICI Bank Ltd., Axis Bank Ltd or HDFC Bank Ltd.) for a sum equal to 10% of the contract value within 30 days of date of signing of contract. Performance Bank Guarantee should be valid up to 60 days beyond the date of warranty. The specimen of PBG is given in Form DPM-15 (**Appendix ‘B’**). The Bank details for bank guarantee executed in favour of DGNP(Mbi) are as follows :-

(a)	Name of Bank & Branch	State Bank of India, Mumbai Main Branch, Fort, Mumbai
(b)	Account No	10996685587
(c)	IFSC Code	SBIN0000300
(d)	MICR Code	400002010
(e)	GSTIN / UIN no	27MUMD08102D1DX

2. **Tolerance Clause.** To take care of any change in the requirement during the period starting from issue of RFP till placement of the contract, Buyer reserves the right to **50 %** plus/minus increase or decrease the quantity of the required goods upto that limit without any change in the terms & conditions and prices quoted by the Seller. While awarding the contract, the quantity ordered can be increased or decreased by the Buyer within this tolerance limit.

3. **Payment Terms.** It will be mandatory for the Bidders to indicate their bank account numbers and other relevant e-payment details so that payments could be made through ECS/EFT mechanism instead of payment through cheques, wherever feasible. A copy of the model mandate form prescribed by RBI to be submitted by Bidders for receiving payments through ECS is at Form DPM-11 (Available in MoD website and can be given on request). The payment will be made as per the following terms, on production of the requisite documents:-

S.No.	Stage Payment Details	Payment Amount
(a)	Stage Payment 1 On Approval of QAP and Design by third party inspector, against BG of equivalent amount valid up to Stage Payment 3.	10 %
(b)	Stage Payment 2 On ordering of fabrication material and major bought out items duly certified by third party inspector against BG of equivalent amount valid up to Stage Payment 3.	15 %
(c)	Stage Payment 3 Receipt of all Crane parts at ND(Mbi) duly certified by third party inspector.	60 %
(d)	Final Payment On commissioning and after taking over	15 %

4. **Paying Authority. Director General Naval Project, Mumbai.** The payment of bills will be made on submission of the following documents by the Seller to the Paying Authority along with the bill:

- (a) Ink-signed copy of contingent bill / Seller's bill.
- (b) Ink-signed copy of Commercial invoice / Seller's bill.
- (c) Copy of Contract with U.O. number and date of IFA's concurrence, where required under delegation of powers.
- (d) CRVs in duplicate
- (e) Inspection note.
- (f) Claim for statutory and other levies to be supported with requisite documents / proof of payment such as Excise duty challan, Customs duty clearance certificate, Octroi receipt, proof of payment for EPF/ESIC contribution with nominal roll of beneficiaries, etc as applicable.
- (g) Exemption certificate for Excise duty / Customs duty, if applicable.
- (h) Bank Guarantee from nationalized bank for advance, if any in prescribed format.
- (i) Guarantee / Warranty certificate.
- (j) Performance Bank guarantee from public sector bank or ICICI/AXIS/HDFC Bank/Indemnity Bond where applicable.
- (k) DP extension letter with CFA's sanction, U.O. number and date of IFA's concurrence, where required under delegation of powers, indicating whether extension is with or without LD.
- (l) Details for electronic payment viz Account holder's name, Bank name, Branch name and address, Account type, Account number, IFSC code, MICR code (if these details are not incorporated in contract).
- (m) Any other document / certificate that may be provided for in the contract.
- (n) User Acceptance.
- (o) Xerox copy of PBG.

5. All firms are required to pass on the benefit of Input Tax Credit (ITC) to the Buyer i.e. DGNP(MB). The GSTIN/UIN no. of DGNP(Mbi) is as follows:-

27MUMD08102D1DX

6. **Fall clause.** The following Fall Clause will form part of the contract placed on successful Bidder:-

(a) The price charged for the stores supplied under the contract by the Seller shall in no event exceed the lowest prices at which the Seller sells the stores or offer to sell stores of identical description to any persons/Organisation including the purchaser or any department of the Central government or any Department of state government or any statutory undertaking the central or state government as the case may be during the period till performance of all supply Orders placed during the currency of the rate contract is completed.

(b) If at any time, during the said period the Seller reduces the sale price, sells or offer to sell such stores to any person/organisation including the Buyer or any Deptt, of central Govt. or any Department of the State Government or any Statutory undertaking of the Central or state Government as the case may be at a price lower than the price chargeable under the contract, the Seller shall forthwith notify such reduction or sale or offer of sale to the Director general of Supplies & Disposals and the price payable under the contract for the stores of such reduction of sale or offer

of the sale shall stand correspondingly reduced. The above stipulation will, however, not apply to:-

- (i) Exports by the Seller.
- (ii) Sale of goods as original equipment at price lower than the prices charged for normal replacement.
- (iii) Sale of goods such as drugs which have expiry dates.
- (iv) Sale of goods at lower price on or after the date of completion of the Contract sale/placement of the order of goods by the authority concerned under the existing or previous Rate Contracts as also under any previous contracts entered into with the Central or State Govt. Depts, including their undertakings excluding joint sector companies and/or private parties and bodies.

(c) The Seller shall furnish the following certificate to the Paying Authority along with each bill for payment for supplies made against the Contract – “We certify that there has been no reduction in sale price of the stores of description identical to the stores supplied to the Government under the Contract herein and such stores have not been offered/sold by me/us to any person/organisation including the purchaser or any department of Central Government or any Department of a state Government or any Statutory Undertaking of the Central or state Government as the case may be upto the date of bill/the date of completion of supplies against all supply orders placed during the currency of the Contract at price lower than the price charged to the government under the contract except for quantity of stores categories under sub-clauses (a),(b) and (c) of sub-para (ii) above details of which are given below -”.

7. **Exchange Rate Variation Clause**. No adjustment of prices shall be entertainable on account of any variation in exchange rate.

8. **Risk & Expense Clause**

(a) Should the stores or any installment thereof not be delivered within the time or times specified in the contract documents, or if defective delivery is made in respect of the stores or any installment thereof, the Buyer shall after granting the Seller 45 days to cure the breach, be at liberty, without prejudice to the right to recover liquidated damages as a remedy for breach of contract, to declare the contract as cancelled either wholly or to the extent of such default.

(b) Should the stores or any installment thereof not perform in accordance with the specifications / parameters provided by the SELLER during the check proof tests to be done in the BUYER's country, the BUYER shall be at liberty, without prejudice to any other remedies for breach of contract, to cancel the contract wholly or to the extent of such default.

(c) In case of a material breach that was not remedied within 45 days, the BUYER shall, having given the right of first refusal to the SELLER be at liberty to purchase, manufacture, or procure from any other source as he thinks fit, other stores of the same or similar description to make good:-

- (i) Such default.
- (ii) In the event of the contract being wholly determined the balance of the stores remaining to be delivered thereunder.

(d) Any excess of the purchase price, cost of manufacturer, or value of any stores procured from any other supplier as the case may be, over the contract price appropriate to such default or balance shall be recoverable from the Seller. Such recoveries shall not exceed 100% of the value of the Contract.

9. **Force Majeure Clause**

(a) Neither party shall bear responsibility for the complete or partial nonperformance of any of its obligations (except for failure to pay any sum which has become due on account of receipt of goods under the provisions of the present contract), if the non-performance results from such Force Majeure circumstances as Flood, Fire, Earth Quake and other acts of God as well as War, Military operation, blockade, Acts or Actions of State Authorities or any other circumstances beyond the parties control that have arisen after the conclusion of the present contract.

(b) In such circumstances the time stipulated for the performance of an obligation under the present contract is extended correspondingly for the period of time of action of these circumstances and their consequences.

(c) The party for which it becomes impossible to meet obligations under this contract due to Force Majeure conditions, is to notify in written form the other party of the beginning and cessation of the above circumstances immediately, but in any case not later than 10 (Ten) days from the moment of their beginning.

(d) Certificate of a Chamber of Commerce (Commerce and Industry) or other competent authority or organization of the respective country shall be a sufficient proof of commencement and cessation of the above circumstances.

(e) If the impossibility of complete or partial performance of an obligation lasts for more than 12 (twelve) months, either party hereto reserves the right to terminate the contract totally or partially upon giving prior written notice of 30 (thirty) days to the other party of the intention to terminate without any liability other than reimbursement on the terms provided in the agreement for the goods received.

10. **Specification**. The following Specification clause will form part of the contract placed on successful Bidder - The Seller guarantees to meet the specifications as per Part-II of RFP and to incorporate the modifications to the existing design configuration to meet the specific requirement of the Buyer Services as per modifications/requirements recommended after the Maintenance Evaluation Trials. All technical literature and drawings shall be amended as the modifications by the Seller before supply to the Buyer. The Seller, in consultation with the Buyer, may carry out technical upgradation/alterations in the design, drawings and specifications due to change in manufacturing procedures, indigenisation or obsolescence. This will, however, not in any way, adversely affect the end specifications of the equipment. Changes in technical details, drawings repair and maintenance techniques along with necessary tools as a result of upgradation/alterations will be provided to the Buyer free of cost within 15 days of affecting such upgradation/alterations.

11. **OEM Certificate**. In case the Bidder is not the OEM, the agreement certificate with the OEM for sourcing the spares shall be mandatory. However, where OEMs do not exist, minor aggregates and spares can be sourced from authorized vendors subject to quality certification.

12. **Earliest Acceptable Year of Manufacture.** 2018 Quality / Life certificate will need to be enclosed with the Bill.

13. **Buyer Furnished Equipment.** No equipment will be provided by the Buyer at his expense to the Seller:

14. **Transportation.** The following Transportation clause will form part of the contract placed on successful Bidder

(a) **CIF/CIP** – The stores shall be delivered CIF/CIP at Naval Dockyard, Mumbai. Seller will bear the costs and freight necessary to bring the goods to the port of destination. The Seller also has to procure marine/other insurance against the Buyer's risk of loss of or damage to goods during the carriage. The Seller will contract for insurance and pay the insurance premium. Seller is also required to clear the goods for export. The stores shall be delivered to the Buyer by Indian ships only. The date of issue of the Bill of Lading shall be considered as the date of delivery. No part shipment of goods would be permitted. Trans-shipment of goods would not be permitted. In case it becomes inevitable to do so, the Seller shall not arrange part-shipments and/or transshipment without the express/prior written consent of the Buyer. The goods should be shipped by Indian vessels only. However, the Seller can still utilize the services of the MoD, Govt of India Freight Forwarding Agent details for which will be provided by the Buyer. Seller will be required to communicate the following information invariably by telex/signed in case of import of Defence Stores being brought in commercial ships to Embarkation Head Quarters concerned well in advance before the Ship sails the port of loading:

- (i) Name of the Ship
- (ii) Port of Loading and name of Country.
- (iii) ETA at port of Discharge i.e. Mumbai, Kolkatta, Chennai and Kochi.
- (iv) Number of Packages and weight.
- (v) Nomenclature and details of major equipment.
- (vi) Special instructions, if any stores of sensitive nature requiring special attention.

15. **Packing and Marking.** The following Packing and Marking clause will form part of the contract placed on successful Bidder

(a) The Seller shall provide packing and preservation of the equipment and spares/goods contracted so as to ensure their safety against damage in the conditions of land, sea and air transportation, transshipment, storage and weather hazards during transportation, subject to proper cargo handling. The Seller shall ensure that the stores are packed in containers, which are made sufficiently strong, and with seasoned wood. The packing cases should have hooks for lifting by crane/fork lift truck. Tags with proper marking shall be fastened to the special equipment, which cannot be packed.

(b) The packing of the equipment and spares/goods shall conform to the requirements of specifications and standards in force in the territory of the Seller's country.

(c) Each spare, tool and accessory shall be packed in separate cartons. A label in English shall be pasted on the carton indicating the under mentioned details of

the item contained in the carton. A tag in English with said information shall also be attached to six samples of the item. If quantity contracted is less than six then tag shall be affixed to complete quantity contracted of the item. The cartons shall then be packed in packing cases as required.

- (i) Part Number:
- (ii) Nomenclature:
- (iii) Contract annex number:
- (iv) Annex serial number:
- (v) Quantity contracted:

(d) One copy of the packing list in English shall be inserted in each cargo package, and the full set of the packing lists shall be placed in Case No.1 painted in a yellow colour.

(e) The Seller shall mark each package with indelible paint in the English language as follows:-

- (i) EXPORT
- (ii) Contract No. -----
- (iii) Consignee -----
- (iv) Port / airport of destination -----
- (v) Ultimate consignee -----
- (vi) SELLER -----
- (vii) Package No. -----
- (viii) Gross/net weight : -----
- (ix) Overall dimensions/volume : -----
- (x) The Seller's marking.

(f) If necessary, each package shall be marked with warning inscriptions:<Top>, "Do not turn over", category of cargo etc.

(g) Should any special equipment be returned to the Seller by the Buyer, the latter shall provide normal packing, which protects the equipment and spares/goods from the damage of deterioration during transportation by land, air or sea. In this case the Buyer shall finalize the marking with the Seller.

16. **Quality.** The quality of the stores delivered according to the present Contract shall correspond to the technical conditions and standards valid for the deliveries of the same stores for in Seller's country or specifications enumerated as per RFP and shall also include therein modification to the stores suggested by the Buyer. Such modifications will be mutually agreed to. The Seller confirms that the stores to be supplied under this Contract shall be new i.e. not manufactured before (Year of Contract),and shall incorporate all the latest improvements and modifications thereto and spares of improved and modified equipment are backward integrated and interchangeable with same equipment supplied by the Seller in the past if any. The Seller shall supply an interchangeability certificate along with the changed part numbers wherein it should be mentioned that item would provide as much life as the original item.

17. **Quality Assurance.** Seller would provide the QAP within 01 months of the date of signing of the Contract to the third party inspection agency. Buyer reserves the right to modify the QAP. Seller would be required to provide all test facilities at his premises for acceptance and inspection by the User. The details in this regard will be coordinated

during the negotiation of the contract. The item should be of the latest manufacture, conforming to the current production standard and having 100% defined life at the time of delivery.

18. **Inspection Authority**. The Inspection will be carried out by the User i.e in this case ND(Mbi).

19. **Pre-Dispatch Inspection**. The following Pre-dispatch Inspection clause will form part of the contract placed on successful Bidder

(a) The Buyer's representatives may carry out Pre-Dispatch Inspection (PDI) of the stores/equipment in addition to the User, in order to check their compliance with specifications in accordance with its usual standard procedures. Upon successful completion of such PDI, the Seller and Inspection agency/User will issue and sign a Certificate of Conformity as per the specimen at Form DPM-21(Available in MoD website and can be given on request). Same will be forwarded to DGNP(MBI) prior dispatch of items.

(b) The Seller shall intimate the Buyer and User at least 45 days before the scheduled date of PDI. The Buyer may send his authorised representative(s) to attend the PDI.

(c) The Seller shall provide all reasonable facilities, access and assistance to the Buyer's representative for safety and convenience in the performance of their duties in the Seller's country.

20. **Joint Receipt Inspection**. The following Joint Receipt Inspection clause will form part of the contract placed on successful Bidder –

(a) The Parties agree that the Joint Receipt Inspection (JRI) of delivered goods shall be conducted on arrival at ND(MBI). JRI will consist of

(i) Quantitative checking to verify that the quantities of the delivered goods correspond to the quantities defined in this contract and the invoices.

(ii) Complete functional checking of the stores/equipment as per specifications in the contract and as per procedures and tests laid down by Buyer but functional checking of spares shall not be done.

(b) JRI will be carried out by the User and Buyer's representative(s). The Buyer will invite the Seller with a prior notice of a minimum of fifteen (15) days to attend the JRI for the delivered goods. The Seller shall have the right not to attend the JRI. The bio data of the Seller's representative will need to be communicated fifteen (15) days prior to the dispatch of goods to the Buyer for obtaining necessary security clearance in accordance with the rules applicable in the Buyer's country.

(c) Upon completion of each JRI, JRI proceedings and Acceptance Certificate will be signed by the Seller and the User. In case the Seller's representative is not present, the JRI proceedings and Acceptance Certificate shall be signed by the User only and the same shall be binding on the Seller. Copy of JRI proceedings and Acceptance Certificate shall be dispatched to the Seller within 30 days of completion of the JRI. In case of deficiencies in quantity and quality or defects,

details of these shall be recorded in the JRI proceedings, Acceptance Certificate shall not be issued and claims raised as per the Article on Claims in the contract.

21. **Franking Clause.** The following Franking Clause will form part of the contract placed on successful Bidder:-

(a) **Franking Clause in the case of Acceptance of Goods** “The fact that the goods have been inspected after the delivery period and passed by the Inspecting Officer will not have the effect of keeping the contract alive. The goods are being passed without prejudice to the rights of the Buyer under the terms and conditions of the contract”.

(b) **Franking Clause in the case of Rejection of Goods** “The fact that the goods have been inspected after the delivery period and rejected by the Inspecting Officer will not bind the Buyer in any manner. The goods are being rejected without prejudice to the rights of the Buyer under the terms and conditions of the contract.”

22. **Claims.** The following Claims clause will form part of the contract placed on successful Bidder:-

(a) The claims may be presented either: (i) on quantity of the stores, where the quantity does not correspond to the quantity shown in the Packing List/Insufficiency in packing, or (ii) on quality of the stores, where quality does not correspond to the quality mentioned in the contract.

(b) The quantity claims for deficiency of quantity shall be presented within 45 days of completion of JRI and acceptance of goods. The quantity claim shall be submitted to the Seller as per Form DPM-22 (Available in MoD website and can be given on request).

(c) The quality claims for defects or deficiencies in quality noticed during the JRI shall be presented within 45 days of completion of JRI and acceptance of goods. Quality claims shall be presented for defects or deficiencies in quality noticed during warranty period earliest but not later than 45 days after expiry of the guarantee period. The quality claims shall be submitted to the Seller as per Form DPM-23 (Available in MoD website and can be given on request).

(d) The description and quantity of the stores are to be furnished to the Seller along with concrete reasons for making the claims. Copies of all the justifying documents shall be enclosed to the presented claim. The Seller will settle the claims within 45 days from the date of the receipt of the claim at the Seller's office, subject to acceptance of the claim by the Seller. In case no response is received during this period the claim will be deemed to have been accepted.

(e) The Seller shall collect the defective or rejected goods from the location nominated by the Buyer and deliver the repaired or replaced goods at the same location under Seller's arrangement.

(f) Claims may also be settled by reduction of cost of goods under claim from bonds submitted by the Seller or payment of claim amount by Seller through demand draft drawn on an Indian Bank, in favour of Principal Controller/Controller of Defence Accounts concerned.

(g) The quality claims will be raised solely by the Buyer and without any certification/countersignature by the Seller's representative stationed in India.

23. **Warranty**

The following Warranty will form part of the contract placed on successful Bidder:–

(a) The Seller warrants that the goods supplied under the contract conform to technical specifications prescribed and shall perform according to the said technical specifications.

(b) The Seller warrants for a period of 12 months from the date of acceptance of stores by Joint Receipt Inspection or date of installation and commissioning, whichever is later, that the goods/stores supplied under the contract and each component used in the manufacture thereof shall be free from all types of defects/failures.

(c) If within the period of warranty, the goods are reported by the Buyer to have failed to perform as per the specifications, the Seller shall either replace or rectify the same free of charge, within a maximum period of 45 days of notification of such defect received by the Seller, provided that the goods are used and maintained by the Buyer as per instructions contained in the Operating Manual. Warranty of the equipment would be extended by such duration of downtime. Record of the down time would be maintained by the user in the logbook. Spares required for warranty repairs shall be provided free of cost by the Seller. The Seller also undertakes to diagnose, test, adjust, calibrate and repair/replace the goods/equipment arising due to accidents by neglect or misuse by the operator or damage due to transportation of the goods during the warranty period, at the cost mutually agreed to between the Buyer and the Seller.

(d) The Seller also warrants that necessary service and repair back up during the warranty period of the equipment shall be provided by the Seller and he will ensure that the downtime is within 0.5 % of the warranty period.

(e) The Seller shall associate technical personnel of the Maintenance agency and Quality Assurance Agency of the Buyer during warranty repair and shall also provide the details of complete defects, reasons and remedial actions for defects.

(f) If a particular equipment/goods fails frequently and/or, the cumulative down time exceeds 20 % of the warranty period, the complete equipment shall be replaced free of cost by the Seller within a stipulated period of 60 days of receipt of the notification from the Buyer. Warranty of the replaced equipment would start from the date of acceptance after Joint Receipt Inspection by the Buyer/date of installation and commissioning.

(g) In case the complete delivery of Engineering Support Package is delayed beyond the period stipulated in this contract, the Seller undertakes that the warranty period for the goods/stores shall be extended to that extent.

(h) The Seller will guarantee the shelf life of (10) years under the Indian tropical condition as given below:

- (i) Minimum temperature – 10°C
- (ii) Maximum temperature - 50°C

(iii) Average Humidity – 90%

(j) For procurement of oils and lubricants, the following will be applicable:–

(i) The Seller warrants that the special oils and lubricants required during the warranty period of the equipment shall be provided by the Seller himself.

(ii) The penalty amounting to (20 %) of the value of the equipment shall be imposed on the Seller in case the Seller refuses or fails to meet the requirement of oils and lubricants during the warranty period of the equipment.

(iii) The Seller shall make available the detailed specifications of all oils and lubricants required to be used in the equipment at the line of initial delivery of equipment to facilitate identification and development of indigenous equivalents to be used after the expiry of the warranty period.

24. **Product Support.** The following Product Support clause will form part of the contract placed on successful Bidder:-

(a) The Seller agrees to provide Product Support for the stores, assemblies/sub-, fitment items and consumables, Special Maintenance Tools(SMT)/Special Test Equipments (STE) subcontracted from other agencies/ manufacturer by the Seller for a maximum period of 20 years including 01 year of warranty period after the delivery of equipment.

(b) In the event of any obsolescence during the above mentioned period of product support in respect of any component or sub-system, mutual consultation between the Seller and Buyer will be undertaken to arrive at an acceptable solution including additional cost, if any.

(c) Any improvement/modification/ up gradation being undertaken by the Seller or their sub suppliers on the stores/equipment being purchased under the Contract will be communicated by the Seller to the Buyer and, if required by the Buyer, these will be carried out by the Seller at Buyer's cost.

25. **Engineering Support Package (ESP) clause.** The following ESP clause will form part of the contract placed on successful Bidder –

(a) **Repair Philosophy.** The Engineering Support Philosophy shall conform to the repair philosophy as follows:

(i) **Unit level repairs.** These are repairs carried out within the unit holding this equipment with tools generally held within the unit or supplied by the manufacturer with each equipment or as per scaling of 1:10 or any other scaling recommended by the manufacturer as per population held in the unit. These pertain to cleaning, lubrications, minor repairs and replacement of components and minor assemblies that can be carried out in field without any sophisticated tools or test equipment. For carrying out such repairs, the manufacturer is required to provide the following:-

(aa) Table of Tools and Equipment (TOTE) with each equipment including operators manual.

(ab) Scaling of special tools and spares as mentioned above including Maintenance manual.

(ii) **Field Repairs.** These are repairs carried out in the field by technicians specially trained for this purpose and where the required special tools and spares have to be provided. These repairs comprise replacement of major assemblies and other components beyond the scope of unit level repairs. Normally a field work shop that carries out such repairs looks after three to four units holding the said equipment. The manufacturer is required to provide the following:-

(aa) Quantity and specification of spares that need to be stocked for a population of ordered equipment.

(ab) Special Maintenance Tools and Test Equipment that need to be provided to each such field work shop. (The total number of such facilities would also have to be stated based on deployment pattern of the concerned equipment to carryout total costing).

(iii) **Base overhaul.** All repairs including repairs to components, subassemblies and overhaul of the complete equipment are carried out by this facility. Depending on the population of the equipment, one to five such facilities may be established in India for this purpose (The actual No would have to be stated for costing).The manufacturer is required to provide the following:-

(aa) All Special Maintenance Tools, jigs, fixtures and test equipment for carrying out repairs up to component level.

(ab) Quantity and specification of spares, sub assemblies as per population expected to be maintained.

(ac) Oils and lubricants necessary for overhaul.

(ad) All necessary technical literature.

(ae) Calibration facilities for test equipment. This level of repair defines stripping and rebuilding of equipment in a Base workshop.

(b) **Manufacturers Recommended List of Spares (MRLS).** Based on the explanation given above, Bidders are requested to provide MRLS to sustain the equipment for a period of 05 years for various levels of repair as per format given at Form DPM-19 (Available in MoD website and can be given on request). Bidders will be required to provide these both with Technical and Commercial proposals. (In case where the equipment has been in usage the spares would be sought by Buyer, on the recommended list to be furnished by the maintenance agency, based on the exploitation of the equipment, and NOT as per MRLS). While with the commercial proposal, the actual costs of each component/spare will be provided, in the case of Technical Proposal these will be reflected as Low Cost/ Medium Cost/High Cost. A guideline for this purpose is as under:-

(i) Low Cost. Less than 2 % of the unit cost of the equipment/sub system.

(ii) Medium Cost. 2 to 10% of the unit cost of the equipment/sub system.

(iii) **High Cost.** Greater than 10 % of the unit cost of equipment/subsystem. If the complete equipment comprises a number of different sub systems, for e.g. it is coming mounted on a vehicle or is provided with a stand for mounting or is inclusive of a generator or an air conditioner or has a sight, the MRLS must be provided separately for each such sub system.

(c) **Special Maintenance Tools and Test Equipment.** This is to be formulated in a similar manner as explained for MRLS. A suggested format is given at Form DPM-17 (Available in MoD website and can be given on request) and is to be included in both Technical and Commercial Proposals. The cost column may be left blank in the Technical Proposal.

(d) **Technical Literature.** The details of technical literature to be supplied with the system should be listed as per the suggested format at Form DPM-18 (Available in MoD website and can be given on request). This should be provided with both Technical and Commercial Proposals. The cost column may be left blank in the Technical Proposal.

(e) **Miscellaneous Aspects.** (Applicable only when trials are required) – In cases where the equipment is required to undergo trials, the equipment will also be put through Maintenance Evaluation Test. Based on this evaluation and in consultation with the supplier, the MRLS may be refined. During user trials it may be brought out that the equipment is acceptable subject to carrying out certain modifications / improvements.

(f) **Maintainability Evaluation Trials (MET).** This is carried with a view to facilitate provisioning of effective engineering support during life cycle of the equipment. This would involve stripping of the equipment and carrying out recommended tests and adjustments and establishing adequacy of maintenance tools, test equipment and technical literature. MET details will be given as per format given at Form DPM-20 (Available in MoD website and can be given on request). To facilitate this process the Bidder is required to provide the following :-

(i) Technical Literature.

(aa) User Handbook/Operators Manual in English and Hindi.

(ab) Design Specifications.

(ac) Technical Manuals.

-Part I Tech description, specifications, functioning of various systems.

-Part II Inspection/Maintenance tasks repair procedures, materials used, fault diagnosis and use of Special Maintenance Tools (SMTs)/Special Test Equipment (STEs).

-Part III Procedure for assembly/disassembly, repair up to component level, safety precautions.

-Part IV Part list with drawing reference and List of SMTs/STEs Test Bench.

(ad) Manufacturers Recommended List of Spares (MRLS).

- (ae) Illustrated Spare Parts List (ISPL) and along with the prices in the Commercial offer.
- (af) Technical Manual on STE with drawing reference.
- (ag) Complete Equipment Schedule.
- (ah) Table of Tools & Equipment (TOTE) & carried spares.
- (ai) Rotable list, norms of consumption, mandatory/ non mandatory spares list for each system.

- (ii) One set of Gauges
- (iii) One set of Special Maintenance Tools (SMTs).
- (iv) One set of Special Test Equipment (STEs).
- (v) Servicing Schedule.
- (vi) Condemnation limits.
- (vii) Permissive repair schedule.
- (viii) Packing specifications /instructions.
- (ix) Design Specifications.
- (x) Any additional information suggested by the OEM.

(g) Vendors quoting lesser ESP / MRLS in terms of range and depth will have to make good the deficiency. The vendors quoting surplus items in ESP / MRLS should agree to buy back the surplus spares.

26. **Price Variation (PV) Clause**. This is a firm and fixed price contract and will not be subject to any adjustment during the performance of contract for any reason whatsoever. However, taxes and levies, as per current rates will be applicable, provided the supplies are made during the original delivery period.

PART V – EVALUATION CRITERIA & PRICE BID

1. **Evaluation Criteria.** The broad guidelines for evaluation of Bids will be as follows:
 - (a) Only those Bids will be evaluated which are found to be fulfilling all the eligibility and qualifying requirements of the RFP, both technically and commercially. All items in a Particular Group being bid for are to be quoted for.
 - (b) In respect of Two-Bid system, the technical Bids forwarded by the Bidders will be evaluated by the Buyer with reference to the technical characteristics of the equipment as mentioned in the RFP. The compliance of Technical Bids would be determined on the basis of the parameters specified in the RFP. **The unpriced ‘Q’ bids will be evaluated along with the technical bid to ensure uniform compliance with clear statement of required taxes and terms of payment amongst various bidders.** T- Bids that are not accompanied by with un-priced Q- Bids are liable for rejection. The Price Bids of only those Bidders will be opened whose Technical Bids would clear the technical evaluation.
 - (c) In cases where only Indian Bidders are competing, L-1 bidder will be determined by the F.O.R. prices at destination excluding levies, taxes and duties levied by Central/ State/ Local Governments such as Excise Duty, VAT, Service Tax, Octroi/ Entry Tax etc on the final product, as quoted by the bidders. The evaluation and comparison of responsive bids shall be done on the prices of the goods/ equipment offered and other charges such as *Installation, Commissioning, Training, Packing & Forwarding, Freight, Insurance, AMC (if specifically called for L-1 evaluation) but excluding levies, taxes and duties levied by Central/ State/ Local Governments such as Excise Duty, VAT, Service tax, Octroi/ Entry Tax, Custom Duties etc* on the final product, which will be paid extra as per actual, wherever applicable.
 - (d) The Lowest Bid will be decided upon the lowest cumulative price of all items in the Scope of Supply as stated in Part II of the RFP) as per the Price Format given at Para 2 below (will include quoted price of *Installation, Commissioning, Training, Packing & Forwarding, Freight, Insurance etc*).
 - (e) It is however, mandatory that all such *levies, taxes and duties levied by Central/ State/ Local Governments such as Excise Duty, VAT, Service tax, Octroi/ Entry Tax, Custom Duties etc* are clearly indicated and quantified including the rate at which they are chargeable) in the Q- Bids. Bids that do not detail these taxes and levies are likely to be rejected.
 - (f) The bidders must indicate separately the relevant Taxes and Duties likely to be paid in connection with delivery of finished/ completed goods specified in the RFP. In the absence of this, the total cost quoted by them will be taken into account in the ranking of bids.
 - (g) Levies, taxes and duties levied by Central/ State/ Local Governments such as Excise Duty, VAT, Service Tax, Octroi/ Entry Tax etc on final product will be paid

by the buyer on actual, based on relevant documentary evidence. Taxes and duties on input items will not be paid by the Buyer and they need not be separately indicated in the bids. Bidders are required to include the same in the pricing of their product.

(h) If a Bidder is exempted from payment of any duty / tax upto any value of supplies from them, they should clearly state that no such duty/ tax will be charged by them up to the limit of exemption which they may have. If any concession is available in regard to rate/quantum of any duty/ tax, it should be brought out clearly.

(i) Any changes in levies, taxes and duties levied by Central/State/ Local governments such as Excise Duty, VAT, Service Tax, Octroi/Entry Tax, etc on final product upward as a result of any statutory variation taking place within the contract period shall be allowed re-imburement by the Buyer, to the extent of actual quantum of such duty / tax paid by the Seller.

(j) Similarly, in case of downward revision in any such duty/ tax, the actual quantum of reduction of such duty/ tax shall be reimbursed to the Buyer by the Seller. All such adjustments shall include reliefs, exemptions, rebates, concession etc, if any, obtained by the seller. Section 64-A of Sales of Good Act will be relevant in this situation.

(k) In import cases, all the foreign quotes will be brought to a common denomination in Indian Rupees by adopting the exchange rate as BC Selling rate of the State Bank of India on the date of the opening of Price Bids.

(l) If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price will prevail and the total price will be corrected. If there is a discrepancy between words and figures, the amount in words will prevail for calculation of price.

(m) The Lowest Acceptable Bid will be considered further for placement of contract after complete clarification and price negotiations as decided by the Buyer. The Buyer will have the right to award contracts to different Bidders for being lowest in particular items. The Buyer also reserves the right to do Apportionment of Quantity, if it is convinced that Lowest Bidder is not in a position to supply full quantity in stipulated time.

(n) Any other criteria as applicable to suit a particular case.

2. **Price Bid Format.** The Price Bid Format is given below and Bidders are required to fill this up correctly with full details:

PART A- “COST OF MATERIAL”

<u>Sl.</u>	<u>DESCRIPTION OF ITEMS</u>	<u>QTY (Nos)</u>	<u>MAKE</u>	<u>UNIT RATE (IN RS.)</u>	<u>VALUE (IN RS.)</u>
A.	<u>COST OF MATERIAL</u>				
1.	Basic Cost of Item / items (Item wise as listed)				
2.	Any Other Charges such as Packing and Forwarding, etc				
3.	Total Material Cost of Equipment (Add 1+2)				
4.	Details of Taxes On Material				
	(a) VAT / GST @ ____%				
	(c) Custom Duty @ ____%				
	(d) Any other Taxes/ Cess / Levies on material @ ____%				
5	Total of taxes on Materials (4(a) + ...4(d))				

PART B – “SERVICES / WORK”

<u>Sl.</u>	<u>DESCRIPTION OF ITEMS</u>	<u>U O M</u>	<u>VALUE (IN RS)</u>
1.	Delivery/ Installation / Testing /Trials/ Commissioning Charges	Lumpsum	
2.	Training of personnel	Lumpsum	
3.	Any other charges such as:	Lumpsum	
	(a) Freight/ Transportation	Lumpsum	
	(b) Transit Insurance	Lumpsum	
	(c) Any other such charges	Lumpsum	
4.	Total of Services/ Work	Lumpsum	
5.	Details of Taxes on Services/ Work		
	(a) Service Tax / GST @ ____% on SIs -----	Lumpsum	
	(b) Any other Taxes/ Cess / Levies on services/ work @ ____%	Lumpsum	
6	Total of Taxes on Services / Work (Add 5(a) + 5(b))		

PART C – “TOTAL SUMMARY TABLE”

PRICE SCHEDULE – TENDER SUMMARY			
SI	Part	Total Rs in Figures	Total Rs in Words
1.	Part A – Cost of Material		
2.	Part B – Services/Work		
3.	Total Basic Cost of Equipment including delivery/ installation/ commissioning and training (SI 1 + SI 2) [Basis for L-1 evaluation]		
4.	Taxes on Material		
5.	Taxes on Services / Work		
GRAND TOTAL			
Terms Of Payment		Accepted	Not Accepted
Warranty Period (12 months)		Accepted	Not Accepted
Delivery Period (24 months)		Accepted	Not Accepted
Terms and Conditions of RFP		Accepted	Not Accepted
Validity of Bids (120 days)		Accepted	Not Accepted

Note: If errors, omissions, ambiguities, inconsistencies or other defects are found in the contractor's documents, they and the works shall be corrected at the contractor's cost notwithstanding any consent or approval of the engineer/consignee. Therefore any variation in any quantity of materials or works services due to contractors design shall not be adjusted.

3. **Additional information in Price Bid on Taxes and Duties (not is scope of L-1 determination).** Pse ensure that following details are clearly furnished in the Bids:

- (a) If Excise Duty is being claimed extra , then mention the following –
 - (i) Total value of items on which Excise Duty is leviable
 - (ii) Rate of Excise Duty (item-wise if different ED is applicable)
 - (iii) Surcharge on Excise duty, if applicable
 - (iv) Total value of excise duty payable.
- (b) If VAT/GST is being claimed as extra, then mention the following –
 - (i) Total value on which VAT/GST is leviable
 - (ii) Rate of VAT/GST
 - (iii) Total value of VAT/GST leviable
- (c) If Service Tax/GST is being charged as extra, the mention the following –
 - (i) Total value of Services on which Service Tax/GST is leviable
 - (ii) Rate of Service Tax /GST leviable
 - (iii) Total value of Service Tax/GST leviable
- (d) If, Custom Duty is being charged as extra, then mention the following –
 - (i) CIF value of stores to be imported
 - (ii) Rate of Customs Duty payable
 - (iii) Total amount of Customs Duty Payable
- (e) Details of Octroi / Entry Taxes
- (f) Details of any other Taxes / Duties

EMD BANK GUARANTEE FORMAT

Whereas (hereinafter called the "Bidder") has submitted their offer dated.....for the supply of (hereinafter called the "Bid") against the Buyer's Request for proposal No. KNOW ALL MEN by these presents that WEof..... having our registered office at are bound unto (hereinafter called the "Buyer) in the sum offor which payment will and truly to be made to the said Buyer, the Bank binds itself, its successors and assigns by these presents.

Sealed with the Common Seal of the said Bank this..... day of20.....

The conditions of obligations are –

(1) If the Bidder withdraws or amends, impairs or derogates from the Bid in any respect within the period of validity of this tender.

(2) If the Bidder having been notified of the acceptance of his tender by the Buyer during the period of its validity.

a) If the Bidder fails to furnish the Performance Security for the due performance of the contract.

b) Fails or refuses to accept/execute the contract. WE undertake to pay the Buyer up to the above amount upon receipt of its first written demand, without the Buyer having to substantiate its demand, provided that in its demand the Buyer will note that the amount claimed by it is due to it owing to the occurrence of one or both the two conditions, specifying the occurred condition or conditions. This guarantee will remain in force upto and including 45 days after the period of tender validity and any demand in respect thereof should reach the Bank not later than the above date.

.....
(Signature of the authorized officer of the Bank)
Name and designation of the officer
Seal, name & address of the Bank and address of the Branch

Performance Bank Guarantee Format

From:
Bank _____

To,
The Director General
Naval Project, Mumbai
Lion Gate, Naval Dockyard
Mumbai

Dear Sir,

Whereas you have entered into a contract No. _____ dated _____ (hereinafter referred to as the said Contract) with M/s _____, hereinafter referred to as the "seller" for supply of goods as per Part-II of the said contract to the said seller and whereas the Seller has undertaken to produce a bank guarantee for (%) of total Contract value amounting to _____ to secure its obligations to the President of India. We the _____ bank hereby expressly, irrevocably and unreservedly undertake and guarantee as principal obligors on behalf of the seller that, in the event that the Director General Naval Projects, Mumbai declares to us that the goods have not been supplied according to the Contractual obligations under the aforementioned contract, we will pay you, on demand and without demur, all and any sum up to a maximum of _____ Rupees _____ only. Your written demand shall be conclusive evidence to us that such repayment is due under the terms of the said contract. We undertake to effect payment upon receipt of such written demand.

2. We shall not be discharged or released from this undertaking and guarantee by any arrangements, variations made between you and the Seller, indulgence to the Seller by you, or by any alterations in the obligations of the Seller or by any forbearance whether as to payment, time performance or otherwise.

3. In no case shall the amount of this guarantee be increased.

4. This guarantee shall remain valid for months from the date of JRI acceptance of test consignment in India or until all the store, spares and documentation have been supplied according to the contractual obligations under the said contract.

5. Unless a demand or claim under this guarantee is made on us in writing or on before the aforesaid expiry date as provided in the above referred contract or unless this guarantee is extended by us, all your rights under this guarantee shall be forfeited and we shall be discharged from the liabilities hereunder.

6. This guarantee shall be a continuing guarantee and shall not be discharged by and change in the constitution of the Bank or in the constitution of M/s _____.
Notwithstanding anything contained herein above:-

- (a) Our liability under this guarantee is restricted to Rs. _____.
- (b) The guarantee is valid up to _____ (Date).
- (c) We are liable to pay guarantee amount or part thereof, if and only if , we receive a written claim or demand on or before _____ (Date).

7. This Bank guarantee is being executed in favour of DGNP(MBI) with following account details:

(a)	Name of Bank & Branch	State Bank of India, Mumbai Main Branch, Fort, Mumbai
(b)	Account No	10996685587
(c)	IFSC Code	SBIN0000300
(d)	MICR Code	400002010
(e)	GSTIN/UIN no	27MUMD08102D1DX

Yours faithfully,

For _____ Bank
(Authorized Signatory / Attorney)

Place: _____

Date: _____