



MORMUGAO PORT TRUST

ENGINEERING MECHANICAL DEPARTMENT

ADMINISTRATIVE OFFICE, HEADLAND-SADA GOA-403804

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Ref. No.CME/PROJ/LIFTS/2017/

/10/2017

To,
Asst. Director (EDP),
HL/MPT.

Kindly arrange to upload the following Request for Budgetary Quotation on Port web site.

BUDGETARY QUOTATION

Sr. No.	Item Description
1.	NAME OF THE WORK: <u>Replacement of 1 no. 8 passenger Elevator at AO Building, including 3 years Comprehensive Annual Maintenance Contract after completion of 1 year free guarantee period.</u>

Chief Mechanical Engineer

Encl: 1) Notice Inviting Budgetary Offers

MORMUGAO PORT TRUST
ENGINEERING MECHANICAL DEPARTMENT

NOTICE INVITING BUDGETORY OFFERS

Name of Work	Replacement of 1 no. 8 passenger Elevator at AO Building, including 3 years Comprehensive Annual Maintenance Contract after completion of 1 year free guarantee period.
Date of submission of budgetary quotation	on or before 21.10.2017 at 1430 Hrs.
Address for communication:	“Superintending Engineer (E-P)” Engineering Mechanical Dept., Mormugao Port Trust, Power House, Baina Workshop, Mormugao, Goa – 403802.
Contact Details	Phone :0832-2594208/29/69 Email : xenproj.mgpt@gmail.com
Website	www.mptgoa.com

CHIEF MECHANICAL ENGINEER
MORMUGAO PORT TRUST

TECHNICAL SPECIFICATION

2.1 GENERAL

Mormugao Port Trust proposes to install 1 No. 8 Passenger Elevator at Administrative Office Bldg, Headland including 3 years Comprehensive Annual Maintenance Contract after completion of 1 year free guarantee period.

2.2 SCOPE OF WORK

The scope of work broadly involves:

- i) Design, supply, installation, testing & commissioning of 1 No. 8 Passenger Elevator with VVVF drive along with gearless motor including control panel and accessories, as per Technical specification detailed below.
- ii) Provision of Automatic Rescue Device (ARD), for rescue operation in the event of Power failure. ARD shall automatically take the Elevator car to the nearest floor and open the door to facilitate safe rescue of the stranded passengers from the Elevator. **The Batteries provided for the ARD should be of appropriate rating to perform 1 to 2 rescue operations, before getting completely discharged.**
- iii) LED light fittings shall be provided in the hoist way as per safety norms.
- iv) Carrying out all necessary civil works for making the elevator hoistway provision ready to install the Elevator and to carry out any other work required to complete the installations of the proposed Elevator like providing structural support for guide rails, foundation for motors and panels, providing ladder to facilitate Elevator maintenance in Pit etc. and including arrangement of scaffolding for erection of the Elevator.
- v) Providing wiring as required for Elevator shaft lighting, power supply for elevator machine from the supply point provided by MPT and provision of switch, socket, Bulbs, MCBs with enclosures as required.
- vi) Comprehensive Annual Maintenance and Servicing Contract for three years after expiry of one year free guarantee period, which would include free monthly periodical service visits during the tenure. If any break down occurs, the same has to be attended immediately during the CAMC period.

2.3 DETAILED TECHNICAL SPECIFICATION:

2.3.1 The installed elevator shall be as per specifications given below:

Item no	Description	Specification
1	Elevator Approved make	OTIS/ JOHNSON / THYSSENKRUPP/ MITSUBISHI / HYUNDAI/OMEGA/SCHINDLER
2	Elevator type	MRL (Machine room less)/ With Machine Room Passenger elevator
3	Quantity	1
4	Machine	PM Synchronous Gearless Motor (Located in shaft on top of guide rails/in the existing machine room)
6	Capacity	544 kg, to carry 8 person
7	Speed	Rated 0.85 – 1.0 m/s , Silent & Jerk free
8	Voltage - Power Mains	3ph, 415Volts, 50Hz
9	Voltage - light Mains	1 ph, 230Volts, 50 Hz
10	Control Panel	Electronic Motor protection Relay to be provided including overload, short circuit, Phase reversal, Phase unbalance, Rotor stalling, Leakage current, low voltage, over voltage, Frequency mismatch, Overheating etc to protect the motor and fault code should be displayed in the display board separately.
11	Number of stops	G + 4 (All openings on same side)
12	No. of entrance	One location (front)
13	Total Elevator Travel Height (Rise)	Approx. 14 m
14	Existing Hoist way dimensions	1857 mm (W)x 2967 mm(D)
15	Existing door opening(cutout)	730 mm (W) x 2000 mm (H)
16	Pit Depth	17800mm
17	Car & Hoistway Door Type	Centre Opening doors
18	Door Opening	800 mm (W) x 2000 mm (H)
19	Overhead	5000 mm
20	Location of machine room	Located in shaft on top of guide rails/placed above in hoist way
21	Traction media	Flat Coated Steel Belt/ Stainless steel Wire ropes
22	Control system	PLC based simplex Selective and collective control.
23	Drive	VVVF Drive
24	Flooring	Granite floor finishing and floor matting to be provided as per approved colour

25	Levelling accuracy	(+/- 1 mm)
26	Electric light	LED
27	Pit ladder	To be provided by the Elevator agency
28	Controls and indications inside the car	Dot Matrix (LED) Scrolling Car position indicator display panels. Display Board should display the direction & floor numbers in the car in a visible manner
		Stainless steel Buttons with LED illumination with Braille markings for car call registration
		On/Off switch for Fan and light to be provided
		Emergency stop button to be provided.
		Emergency Alarm Button and Emergency light to be provided along with maintenance free battery to provide with backup upto 3 hrs.
		Non-stop Button has to be provided to by-pass landing calls in the Attendant mode condition.
		Door open and Door close button shall be provided
		Fire alarm button to be provided
		On/Off key have to be provided.
		Auto/Attendant key have to be provided for the operator's use.
		Wired communication module complete with indication sign displaying instructions regarding the use of the rescue service.
29	Control on landings	Dot matrix landing operating panels is to be provided at all floors to display the car direction and floor numbers along with Flush type/ surface type Buttons for registering calls along with visual indicators.
30	Maintenance controls	On top of cabin and in machine room
31	Car Finish	Stainless Steel #4 (Hairline)
32	False ceiling finish	Stainless Steel #4 Mirror , with LED lamps, high speed crossflow Fan
33	Hand rail	Steel hand rail on rear car panels
34	Car Door Finish	Stainless Steel #4 (Hairline)
35	Landing Door Finish	Stainless Steel #4 (Hairline)
36	Announcement system	To be provided with Music and floor announcement in English and also with the reprogramming facility.

37	Overload Warning	Overload warning device with display is to be provided in a visible manner. Elevator should not be able to proceed with overload indication on (i.e. Door should be open condition on that floor itself during over load)
38	Fire rated doors	Fire rating-60 mins. The Fireman's switch to be provided at Ground floor
39	Standard Features	Anti- nuisance Car Call Protection, Overload Device, Nudging, Emergency Firemen's Service, Emergency Car Light Unit, Infrared Curtain Door Protection, Door Time Protection, Emergency Alarm Button, Extra Door Time of Lobby & Parking, Door Open/Close Button, Manual Rescue Operation, Belt Inspection Drive, Auto Fan Cut Off,
40	Car Safety Provision	Emergency key opening at all Landing doors & brake mechanism to be provided for manual raising or lowering of the Elevator in case of emergency
		Terminal Limits have to be provided
		Over speed governor with barricade have to be provided
		Auto Rescue Device have to be provided with Announcement system to enable Automatic evacuation to nearest floor
		Buffers have to be provided
		Re-leveling function to be provided.
		Earthquake sensor to be provided
		Door sensors (Button) /Infra Red Sensor/ Full Screen Sensor/prevaling Sensor to instantly stop and closing of car and landing door on sensing an obstruction and to retract.
		Digital Display Board should display code for Maintenance on the landing face plate at every floor whenever required during maintenance period.
		Door closing force limiter
		Overload device preventing start of journey when cabin load exceeds rated load
		Push to Talk intercom between cabin & Ground FI
		Motor overload and phase failure protection device
Suitable safety provision for bringing the car to rest in the event of rope breaking or loosening shall be provided		
41	Fire alarm	Fire alarm switch have to be provided at Gr. floor.
42	Installation and Equipment Warranty	12 Months
43	CAMC	3 Years

2.3.2 CAR OPERATING PANEL

The car operating panel shall be flush mounted and shall have:-

- a) A bank of Vandal proof Stainless steel push button to correspond to the various landing levels being served.
- b) An emergency stop switch for stopping the car independently of the regular operating service.
- c) An emergency alarm button and emergency light to be provided along with maintenance free battery.
- d) A switch also shall be provided inside the car for the car fan apart from its automatic function.
- e) The door open and close buttons shall be provided in the panel.
- f) A non-stop button should be provided for bypassing landing calls, which shall remain registered till they are answered.
- g) Hall Call shall be displayed inside the car.
- h) Communication facilities shall be provided in the Elevator cabin to call operating /maintenance staff in case of emergency.
- i) The Auto/Attendant key shall be provided to switch between the modes.
- j) On/Off key shall be provided.

2.3.3 CAR POSITION INDICATORS

A Dot Matrix (LED) Scrolling Car position indicator display panels shall be provided with Stainless steel face plate which shall indicate the landing at which the car is stopping or passing including Up and Down scrolling indicators for indicating the direction of the car.

2.3.4 CALL REGISTERED LIGHTS

Each car and hall button shall be provided with registered lights which shall illuminate when corresponding button in the face plate is momentarily pressed and remain illuminated until call is answered.

2.3.5 HALL POSITION INDICATOR

A Dot Matrix (LED) Scrolling hall position indicator shall be provided on all landings indicating the position and direction of the car in the hoist way at all times.

2.3.6 CAR SAFETY PROVISION:

- a. The emergency key opening should be provided at all landing floors to facilitate the forced opening of the elevator door in case of an emergency. A brake release device shall be provided for manual movement of the car in the shaft for emergency rescue operation.
- b. The Elevator shall be provided with the automatic stopping limits arrangement to take care of the over travel on either sides. The terminal limit switches shall be provided in the hoist way to stop the car and prevent its travel beyond the normal operational limits
- c. Over speed governor with barricade to stop the elevator in case the elevator runs beyond the rated speed shall be provided.
- d. In the event of Power failure during normal operations Automatic Rescue Device (ARD) shall automatically move the stalled Elevator to the nearest landing to facilitate the rescue of the passengers from the Elevator. The Batteries provided for the ARD should be of appropriate rating to perform 1 - 2 rescue operations, before getting completely discharged.
- e. Spring Buffer to be provided in the pit for safety.
- f. Releveling function shall be provided to correct stopping errors.
- g. Door sensors (Button) /Infra Red Sensor/ Full Screen Sensor/prevaling Sensor to instantly stop and closing of car and landing door on sensing an obstruction and to retract.

2.4 WORKS

A. CIVIL WORKS:

- i) The contractor is required to take all measurements on site and shall be responsible for ensuring accuracy and consistency of installation with existing site measurements and features.
- ii) The material at all stages of transportation, handling and storage shall be kept clean and free from damage and breaking, bending and distortion. Site work shall be restricted to fixings and other operations that cannot be undertaken in the workshop. Bars, sharp edges and angles, coarse file marks, excess weld metal and similar imperfections from all classes of work shall be removed. The material shall not be allowed to rust or otherwise deteriorate between supply and installation. Fixing and installation shall be provided a means that prevents corrosion due to contact with incompatible metals and other materials. Hot dipped galvanizing work to be in accordance with relevant IS.
- iii) While making holes, it shall be done in such a manner that it does not deform or damage the material.

- iv) The structure shall be installed in place, taking care not to cause any major damage to the existing structure.
- v) The tender price shall include all the civil works required to complete the full installation of the Elevator. These shall include:
 - a) **The modification of the available site for making ready the Elevator pit and all other required civil works.**
 - b) **Grouting for the guides, rails and any structural supports of the elevator structure including cutting and making good of holes in walls etc.**
 - c) **Providing and fixing of frames for landing doors including slots for door locks as may be required.**
 - d) Providing slots for landing operating panel.
 - e) Providing of Pit ladder for maintenance purpose.
 - f) Making good of any damages related to the structural works including plastering and painting to match the existing surface.
 - g) The Contractor shall provide all the frame work necessary for Elevator car and counter weight.
 - h) The spring buffers under the car and the counter weight shall also provided by the Contractor. The doors and guides shall be designed to ensure effort free operation.

B. ELECTRICAL WORKS:

- i) Necessary power and control wiring shall be done as per IE Rules and relevant Indian standards.
- ii) The main power will be provided in the machine room of the Building from where the contractor will have to carry out the required Power and control circuit wiring separately including of installation of required MCCB/RCCB.
- iii) Double copper earthing shall be carried out as per requirements of Indian Electricity Rules and as per relevant IS standard.

iv) The Elevator shaft shall be provided with LED light fittings for proper illumination to carry out maintenance work. 5 Amps sockets may be provided inside the Elevator shaft, if required, to facilitate maintenance.

v) The trailing cable shall contain ten spare cores apart from that required for actual operation in addition to two pairs of screened cores for telephone communication.

2.5 ERECTION & COMMISSIONING

The Contractor shall commence the erection of equipment immediately after receipt of the equipment and complete the work to the satisfaction of the Chief Mechanical Engineer or his representative. Necessary scaffolding and safety measures for entire erection shall be done by the contractor.

2.6 TESTS

Necessary tests shall be carried out as per relevant IS standards to the satisfaction of the Chief Mechanical Engineer or his representative. The relevant test certificates as per IS for the materials supplied shall be submitted to the Chief Mechanical Engineer or his representative before handing over of the Elevator.

2.7 MANUALS, DRAWINGS AND GUARANTEE

The Contractor shall supply 3 sets of detailed mechanical and electrical drawings with operation and maintenance manuals along with the equipments. The Elevator shall be guaranteed for 12 months from the date of acceptance and free maintenance shall be done during the guarantee period.

2.8 TRAINING

The Contractor shall arrange to train minimum 3 personnel of the Port to enable them to acquaint themselves with normal operations, trouble shooting and emergency operations of the Elevator.

2.9 APPROVAL OF INSTALLATION AND COMPLETION CERTIFICATE

Approval of installation/Completion certificate shall be obtained from the electrical inspectorate of Local / State Government for installation and commissioning of Elevator and made available to the Port at no extra cost before handing over the Elevators, if required.

2.10 COMPREHENSIVE ANNUAL MAINTENANCE CONTRACT (CAMC)

The contractor, whose offer for Design, Supply, Installation, Testing & Commissioning of Elevator is accepted, shall maintain the Elevators comprehensively for a period of 3 years from the date of expiry of free guarantee period of one year. Maintenance work, including emergency breakdown repair service, shall be performed by trained service person of the Elevator contractor during regular working hours. This service shall not be subcontracted. The Contractor shall include in his price for a periodic preventive maintenance during the guarantee and maintenance period.

The scope of CAMC of Elevator shall include:

- i. Contractor shall carry out monthly periodic visits during which he shall regularly examine, lubricate and adjust the equipments and generally carry out planned maintenance in a systematic and controlled manner using developed techniques and expertise.
- ii. Repairs or replacement of parts:- Contractor shall repair or replace any parts of the Elevator which in his opinion are defective at his own cost for ensuring smooth service. Only genuine parts, as used in the manufacturing and installation of the original equipment shall be provided.
- iii. Examine periodically all safety devices and governors and make all customary safety checks.
- iv. Emergency minor adjustment call service: - Contractor shall provide emergency minor adjustment CALL-BACK service at no extra charges under the CAMC. This CALL-BACK service shall be extended round the clock on all working days as well as on holiday and is to be attended within 24 hours. The service and breakdown reports to be submitted on the day of service/breakdown or the next day to the CME's representative.
- v. All the replaced parts shall conform to relevant IS standards or applicable Rules and regulations made thereunder.
- vi. Get the Elevator inspected by any local authority of Govt. agency, if required, as per rules and get the shortcomings pointed out and rectified.
- vii. The latest wiring diagram of the installed Elevator shall be maintained in the machine room.

2.10.1 CERTIFICATE OF SAFETY:

Contractor shall periodically, examine safety devices and governor of the equipment and in addition shall conduct an annual no load safety test on the equipment.

The contractor shall submit a safety Certificate of the Elevator within 10days of the last day of the annual inspection of the Elevator.

2.10.2 AVAILABILITY OF AUTHORIZED REPRESENTATIVE:

The contractor shall ensure availability of his authorized representative at Goa to receive emergency calls and take remedial actions. The representative should attend the call immediately to ensure the restoration of the services promptly. If shutdown of Elevator continues for more than 48 hours the service charges on pro-rata basis per day shall be deducted from the monthly bill along with a penalty of Rs. 500/- per day for delay beyond 48 hours shall be imposed and the amount of penalty shall be recovered from the bills or Security Deposit or any other sum due to the contractor. If the penalty is imposed on the contractor for consecutive 5 months during the CAMC period the same shall be construed as default of the contractor in performing the obligations under the contract.

2.10.3 RESPONSIBILITY OF ACCIDENT AND HAZARDS:

The contractor shall be responsible for any accident or hazard that take place during the maintenance period of 1 year free guarantee period and 3 years CAMC period. The Contractor shall also be responsible for payment of compensation and penalties payable to effected parties as a result of legal action.

PRICE SCHEDULE (BILL OF QUANTITIES)

Sr. No.	Description	Unit	Qty	Rate Rs.	Amount Rs. Ps.	Applicable GST
	PART A					
1	Design, Supply, Installation, testing & Commissioning of 1 No. lift, 8 persons carrying capacity with VVVF Drive along with gearless motor, ARD including Control panel and accessories as per technical specification at Administrative Office Building/MPT					
	a) Supply, Installation, Testing and Commissioning.	No.	1			
	Total Amount 'PART A'					
	PART B					
	Comprehensive Annual Maintenance Contract (CAMC)					
	1st year CAMC	LS	1			
	2nd year CAMC	LS	1			
	3rd year CAMC	LS	1			
	Total Amount 'PART B'					
	Net Total (PART A + PART B)					

Note: 1. The offered rates shall be inclusive of all taxes and duties, GST shall be extra as applicable.

2. The total prices will be evaluated based on Overall price quoted i.e. Total price mentioned in the Price schedule = Part - A + NPV of Part - B