MORMUGAO PORT TRUST

ENGINEERING MECHANICAL DEPARTMENT

Quotation no. CME/XEN(E)/ELC/T-38/17/170

An ISO 9001 : 2008 Port
ISPS CODE Compliant

QUOTATION FOR

"REPLACEMENT OF AMF PANEL AT PORT HOSPITAL"

Due at **3.00P.M** on **20.06.2017**

Website : www.mptgoa.com

MORMUGAO PORT TRUST
ENGINEERING MECHANICAL DEPARTMENT

Quotations are invited in a sealed cover from authorize firms duly super scribed as **QUOTATION FOR "REPLACEMENT OF AMF PANEL AT PORT HOSPITAL".**

Details about Quotation:

Quotation invited by	CHIEF MECHANICAL ENGINEER, MORMUGAO PORT TRUST
Quotation No.	**CME/XEN(E)/ELC/T-38/17/170**
Name of Work	REPLACEMENT OF AMF PANEL AT PORT HOSPITAL
Document Cost	Rs.500/- in the form of DD from Nationalized/Scheduled Banks in favour of the Financial Advisor & Chief Accounts Officer, MPT, payable at Vasco, Goa to be submitted along with the quotation, otherwise the offer *shall not be considered.* (*Quotation* Document *Fee* is *not refundable)*
Security Deposit	10 % of the contract value. Two parts: (i) 5% on contract value – to be furnished within 10 days of placement of order/LOA. (ii) 5% retention money deducted from the running bills.
Completion Period	The work should be completed within **45 days** from the date of receipt of the work order/LOA.
Liquidated Damages	For delay in supply/work Liquidated Damages, equivalent to 1% of the total contract value/per week or part thereof subject to maximum 10% are liable to be deducted from any moneys due or become due to the Contractor
Payment terms	100% payment shall be made within **15 days** after satisfactory completion of work on producing invoice complete in all respect. The contractor shall furnish their bank account number PAN card, MICR number Name of the Branch along with Bill for arranging payment made through E.C.S. by the Trust.
Bid Validity	**60 Days** from the date of opening of the quotation.
Date of submission of bids	20/06/2017 till15:00 Hrs.
Date of Opening of bids	20/06/2017 at 15:30 Hrs
Address for communication and submission of bid:	Executive Engineer (E-HL), Engineering Mechanical Dept., Mormugao Port Trust, Electrical Section, 1st Floor, Mormugao, Goa – 403804.
Contact Details	Phone :0832-2594241: Email : trevor.silveira@mptgoa.com
Website	**www.mptgoa.com**

CHIEF MECHANICAL ENGINEER

SCHEDULE – 'A'

TECHNICAL SPECIFICATION

1.0. GENERAL

Mormugao Port Trust invite the quotation for the work of "**REPLACEMENT OF AMF PANEL AT PORT HOSPITAL".**

2.0 SCOPE OF WORK:

1.1 Disconnecting 6 nos cables, (4 nos 3.5C x 240 sq mm, 1 no 3.5C x 150sqmm and 4C x 25 sq mm 1 no) removal and shifting the existing panel to new location in the same room and connecting back the disconnected cables.

1.2 Disconnecting 6 nos of cables (size 3.5 X 240 sq mm) and dismantling existing AMF panel and shifting the panel to MM division.

1.3 Design, Supply, Installation, Testing and Commissioning of new AMF panel after connecting 6 nos cables (size 3.5 X 240 sq mm) for 320 KVA Diesel generator.

2.1 TECHNICAL SPECIFICATIONS:-

The work involves Design, Supply, Installation, Testing and Commissioning of AMF Panel Indoor type, 630 Amps ACB EDO type.

The AMF panel shall be indoor type, floor mounted, dust and vermin proof in CRCA sheet steel construction with a thickness of not less than 2.5mm should be used for load bearing members and not less than 2.0 mm for non load bearing members as per the relevant standards. The panel shall have doors at the front and back for proper maintenance. The panel shall have steel channel fabricated kick-plate and bolted type cable gland plate fitted at the bottom. All the joints shall have provided with neoprene gaskets. The panel should have powder coating with a thickness of not less than 50 microns.

The Panel is to be manufactured at the supplier's works as per relevant IS codes and shall be CPRI approved. Panel to be installed at MPT site in the minimum down time. It should incorporate LED type phase indicators, KWH/KVAH/digital Energy Meter, Power Factor Meter, Ammeter, Voltmeter and Frequency meter, each with suitable rotary selector switches. It should be designed for Automatic and Manual mode functioning with suitable 'On Panel' controls. The Panel should incorporate a battery charging system for the DG set battery and should have provision for internal illumination.

General Features

When mains are healthy, the Mains ACB should be ON.

When Mains supply is unhealthy i.e. phase failures, under voltage, overvoltage, unbalance voltage and no voltage, the mains ACB Should trip. The DG should start automatically, develop the voltage and connect the DG Breaker to load.

Similarly, on resumption of power supply, the generator breaker is to be opened after 3 minutes, mains breaker is to be closed and then generator is to be switched off after 2-3 minutes (cool time) go on standby mode again.. The system must have **fail proof** electrical interlocking and if required, mechanical interlocking as well, to ensure that only one breaker is closed at any given time.

The system should be able to detect any single phasing or change in phase sequence in the main supply and in such a case, should switch over to generator supply. The system should also have provision for visual audio alarm indication and annunciation facility.

The complete schematic drawing should be submitted for approval of the Port, within 4 weeks of placement of order.

The entire unit should be pre-wired, pre-assembled and mock tested at Bidder's works. Installation at MPT site will have to be done in minimum time of not more than three or four days during which time alternate arrangements would have to be made by the Bidder to maintain power supply to the building. All components/switchgear to be supplied should be sourced from reputed manufacturers. Control relays/components should be DIN rail mounting type. All wiring should be properly ferruled and should terminate in duly numbered DIN rail mounted connector blocks.

All internal components shall be provided with suitable identification labels suitably engraved. Labels shall be fixed on buttons, indication lamps etc.

The period of installation of New AMF Panel should be kept to a bare minimum. All the arrangements required to maintain the Power supply to the affected areas during the period of execution of work, such as provision of standby generator, temporary cable of adequate size, changeover switch of adequate rating, etc should be arranged by the Bidder.

System Operation

1. Auto Mode

a. A line voltage monitor shall monitor supply voltage on each phase. When the mains supply voltage fails completely or falls below set value (variable between 80 to 95%

of the normal value) on any phase, the monitor module shall initiate start up of diesel engine. To avoid initiation due to momentary disturbance, a time delay adjustment between 0 to 5 second shall incorporated in startup initiation.

b. A three attempt starting facility shall be provided 6 seconds ON, 5 seconds OFF, 6 seconds ON, 5 seconds OFF, 6 seconds ON. If at the end of the third attempt, the engine does not start, it shall be locked out of start and a master timer shall be provided for this function. Suitable adjustment timers are to be incorporated which will make it feasible to vary independently ON-OFF setting periods from 1-10 seconds. If alternator does not build up voltage after the first or second start as may be further starting attempt will not be made until the starting facility is reset.

c. Once the alternator has built up voltage, the alternator circuit breaker shall close connecting the load to the alternator. The load is now supplied by the alternator.

d. When the main supply is restored and is healthy as sensed by the line voltage monitor setting, both for under voltage and unbalance, the system shall be monitored by a suitable timer which can be set between 1 minute to 10 minute.

e. The diesel alternator set reverts to standby for next operation as (a), (b) and (c) above.

2. Manual Mode

a. In a manual mode, it shall be feasible to start-up the generator set by the operator on pressing the start push button.

b. Three attempts starting facility shall be operative for the start-up functions.

c. Alternator circuit breakers closing and trip operations shall also be through operator only by pressing the appropriate button on the panel and closure shall be feasible only after alternator has built up full voltage. If the load is already on ‘mains’, pressure on ‘close’ button shall be ineffective.

d. Engine shut down, otherwise due to faults, shall be manual by pressing a ‘stop’ button.

3. Test Mode

a. When under ‘test’ mode, pressing of ‘test’ button shall complete the start up sequence simulation and start the engine. The simulation will be that of mains failure.

b. Engine shall build up voltage but the set shall not take load by closing of alternator circuit breaker. When the load is on the mains, monitoring of performance for voltage/frequency etc. shall be feasible without supply to load.

c. It during test mode, the power supply has failed; the load shall automatically get transferred to alternator.

d. Bringing the mode selector to auto position shall shut down the set as main supply is ON. If the main supply is not available at that time, the alternator shall take load.

Engine shut down and alternator protection equipments:-

Following shut down and protection system shall be integrated in the control panel:-

a) Engine:-

i. Low lubrication oil pressure shut down. This shall be inoperative during start up and acceleration period.
ii. High coolant (water) temperature shut down.
iii. Engine over speed shut down.

b) Alternator protection:-

i. Over load
ii. Short circuit
iii. Earth fault
iv. Over voltage

2.2 INSTALLATION & COMMISSIONING

a) The Contractor shall commence and complete the work as per the BOQ and proper care should be taken of the charged electrical installation. The work is to be carried out as per the site conditions and relevant IS standards
b) The Contractor shall commence 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.
c) The work should be carried out with utmost safety precaution with minimum possible disruption of power supply.

d) The installation of the various equipments shall be carried as per IER and relevant standards amended upto date. The work has to be carried out in co-ordination and liasoning with the Electricity department for obtaining necessary approval and shutdown for carrying out the work and as directed by the EIC.

2.3 Detailed specification of AMF Panel for 320KVA Diesel Generator Set:

A	**Switch Gears**
	• 2 nos. 630A, 4 pole, Electrical operated Drawout type ACB with Micrologic 2.0 and breaking capacity of 50KA with electronic microprocessor release for O/C & E/F and shunt trip under voltage facility for Mains and DG Supply with Mechanical Interlock. **Make: ABB-EMAX/Siemens 3WL/L&T-U-Power/Scheniders**
B	**AMF Logic**
	• One Main supply voltage monitor • One Alternator supply voltage monitor • Restoration timer • Impulse Automatic Engine Start/Stop Logic & Engine Fails to Start Alarm. • Mains and Generator Voltage, Current & Frequency monitoring. • One Set of control relays for the automatic control system. • Battery voltage sensing & monitoring • Engine protections for: LLOP, HWT, Over Speed, Full load, maximum load warning etc **Make: DEEPSEA/DIEF/COMAP**
C	**Battery Charger**
	• SMPS based Automatic float cum boost battery charger • One DC Ammeter • One DC Voltmeter • Selector Switch for Auto/Manual & float/Boost **Make: Dubas / Ruttonsha**
D	**CTs for Metering** **Make: Newtek / AE / Indcoil**
E	**Metering**
	• Digital Ammeter with selector switch • Digital Voltmeter with selector switch • Digital Frequency meter **Make: Rishabh / MECO / AE**
F	**Metering**
	• Digital KWH meter • Digital KW/ PF Meter **Make: Conzerv / Rishabh / AE**

G	**Indications**
	• DG ON • DG load ON • Mains ON • Mains load ON • Phase Indications **Make: Schneider / Teknik**
H	**MCBs/Fuses** **Make: Schneider / Legrand / Havells**
I	Push Buttons (AMF Module Bypass Mode)
	• Engine Start/Stop • Generator ACB Close/Trip • Mains ACB Close/Trip • Fault accept/Reset

3.0 GENERAL TERMS AND CONDITIONS

3.1 MINIMUM ELIGIBILITY CRITERIA (MEC)

Bidders are advised to quote strictly as per the Price Bid.

The following should accompany the Quotation in sealed cover, viz.

i) Tender document issued by the Port duly initialled on each page with rubber stamp of the Bidder.

ii) Copy of a valid Electrical Contractors License

iii) Certificate of Registration with PF Commissioner/ESI authorities and Service Tax.

iv) Price Bid duly filled in.

v) The bidders shall enclose the copy of work order copies for similar works, successful completion certificates with performance from clients indicating the date of completion, value of work done, etc.

vi) The bidder should have experience in 'Similar Works during last 7 years ending last day of month previous to the one in which tenders invited should be either of the following:-

a) **One** similar completed work of contract value not less than **Rs.3.67 lakhs**

(or)

b) **Two** similar completed works of contract value not less than **Rs. 2.30 lakhs each**

(or)

c) **Three** similar completed works of contract value not less than **Rs.1.84 lakhs each**

'SIMILAR' Works – means ""Design, Supply, Installation, Testing and Commissioning of AMF panel at Government/PSU/other reputed organizations"

vii)

3.2 Validity:

The validity period for the offer shall be 60 days from the date of opening of the quotation.

3.3 Price:

The offered rates shall be inclusive of all taxes and duties. Service Tax shall be paid as applicable. If, any new tax will be imposed by State / Central Govt. and same will be reimbursed on producing documentary proof.

3.4 Security deposit:

i) Security deposit shall consist of two parts:

a) The DD of 5% of the contract value rounded off to nearest 100 rupees, shall be submitted within 10 days of issue of Letter of Acceptance/P.O.

b) The balance 5 % shall be recovered as Retention Money from the running bills. Thereafter, the total of 10% (DD 5% and 5 % Retention money) shall be returned after completion of Guarantee period of one year.

ii) The contractor shall furnish the Security Deposit in the form DD from Nationalized/Scheduled Banks in favour of the Financial Advisor & Chief Accounts Officer, MPT, payable at Vasco, Goa within 10 days from the date of issue of Work Order. This Security Deposit shall be converted to Performance Guarantee during the guarantee period.

3.5 Completion Period:

The work should be completed within **45 days** from the date of receipt of the work order/LOA.

3.6 Guarantee Period:

The Contractor shall give the guarantee for a period of **12 months** from the date of taking over of the work. Any defect observed during the guarantee period, the same shall be replaced by the Contractor, free of cost. However, The Security Deposit shall be converted to Performance Guarantee during the guarantee period.

3.7 Payment Terms:

i. 100% payment shall be made within **15 days** after satisfactory completion of work on producing invoice complete in all respect.

ii. The contractor shall furnish their bank account details for the payment through ECS by the Trust. A copy of the PAN card, Service Tax Registration no., EPF& ESI shall be furnished. MICR number Name of the Branch along with Bill for arranging payment made through E.C.S. by the Trust.

3.8 Liquidated Damages:

In the event of failure by the contractor to complete the execution of the work within the time stipulated in the contract or by the expiry of any period of extension granted by the Board's terms thereof, the contractor shall pay the Board as Liquidated Damages for delay to complete the work, a sum of 1% of contract price per week or part thereof

subject to a maximum of 10% and the Board shall have the power to deduct this amount from the payment of the amounts due to the contractor or from his deposit.

3.9 Other terms and conditions

i) All tools and tackles shall be arranged by the Contractor at their own cost.

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

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

iv) The Bidders is advised to visit the site and get acquainted regarding the nature of the work involved at site conditions before quoting the rate.

v) The technical specification Schedule 'A' and Schedule of prices and quantities Schedule 'A1' to be read in conjunction to ensure the actual supply and works involved.

vi) Necessary Entry passes shall be obtained by the Contractor at their own cost with the approval of Port Officials.

vii) The Trust will not be responsible for any loss or damage of the men/materials/ tools/plants engaged by the firm during the work at site or transportation.

viii) The Contractor shall take utmost care during the execution of the work, if any damage to Port property, the cost of the damage shall be deducted from the Contractor's bill.

ix) The power supply shall be provided by the Port on free of cost for execution of the work, however, the Contractor shall take power supply from the nearest source by their own arrangement.

x) Address for communication and submission of bid: Executive Engineer (E-HL),1st floor A.O. Bldg, Headland Sada, Engineering Mechanical Dept., Mormugao Port Trust, Mormugao, Goa – 403804. Phone: 0832-2594241 and Mobile: +919552550287.

xi) Further amendments if any, visit our Website www.mptgoa.com

CHIEF MECHANICAL ENGINEER

SCHEDULE – 'A1'

SCHEDULE OF PRICES AND QUANTITIES

Sr. No.	Description	Qty	Unit	Rate / Unit in (Rs.)		Amount (Rs)
				In figure	In words	
1	Disconnecting 5nos of cables, removal & shifting of existing panel & connecting back the cables	1	no			
2	Design, Supply, Installation, Testing & Commissioning of AMF Panel as per technical specifications					
	a) Supply	1	no			
	b) Installation, testing and commissioning	1	no			
3	Disconnecting, removal and shifting of existing panel at MM division	1	No			

(In Words
Rupees_____only)

Date: **Signature:**

Place: **Name:**

Address:

Office Seal of firm

Note: The offered rates shall be inclusive of all taxes and duties. Service Tax shall be paid as applicable. If, any new tax will be imposed by State/Central Govt. and same will be reimbursed on producing documentary proof.

APPENDIX - I

BANK DETAILS FOR ECS PAYMENT

1. Name of the Bank and Branch :

2. Account Number :

3. MICR Number :

4. Type of Account :

5. IFSC Number :

6. CST / VAT Number :

7. Copy of PAN Card :

8. TIN Number :

9. Service Tax Regn. No.:

10. EPF No. :

11. ESI Regn. No.

Firm's Sign and Seal

Place:

Date: