

**MORMUGAO PORT TRUST**  
**ENGINEERING MECHANICAL DEPARTMENT**

Quotation no. CME/XEN(E-HR)/CONTRACT- 03/2016



An ISO 9001 : 2008 Port  
ISPS CODE Compliant

**QUOTATION**

**FOR**

**“SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF RTCC  
(REMOTE TAP CHANGER CUBICLE) FOR ON-LOAD TAP CHANGER ON 5MVA  
TRANSFORMER IN 33KV SUBSTATION ”**

Due at **3.00P.M** on **16.12.2016**

Website : [www.mptgoa.com](http://www.mptgoa.com)

**MORMUGAO PORT TRUST**  
**ENGINEERING MECHANICAL DEPARTMENT**

Quotations are invited in a sealed cover from Only Electrical Contractors holding Licenses for 33KV level and above duly super scribed as **QUOTATION FOR “SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF RTCC (REMOTE TAP CHANGER CUBICLE) FOR ON-LOAD TAP CHANGER ON 5MVA TRANSFORMER IN 33KV SUBSTATION”**

**Details about Quotation:**

Quotation invited by	CHIEF MECHANICAL ENGINEER, MORMUGAO PORT TRUST
Quotation No.	CME/XEN(E-HR)/CONTRACT- 03/2016
Name of Work	Supply, Installation, Testing and Commissioning of RTCC (Remote Tap Changer Cubicle) for On-Load Tap Changer on 5MVA Transformer in 33kV Substation.
Bidder experience	Only Electrical Contractors holding Licenses for 33KV level and above. (Copy of valid Electrical license for 33KV and above in the name of the contractor shall be submitted to the Port alongwith the quotation, failing which the offer shall not be considered.)
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 30 days of placement of order/LOA. (ii) 5% retention money deducted from the running bills.
Completion Period	The work should be completed within <b>2 months</b> from the date of receipt of the work order.
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 <b>15 days</b> 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	<b>60 Days</b> from the date of opening of the quotation.
Guarantee Period	<b>12 months</b> from the date of taking over of the work.
Date of submission of bids	16/12/2016 till 15:00 Hrs.
Date of Opening of bids	16/12/2016 at 15:30 Hrs

Address for communication and submission of bid:	<b>“Superintending Engineer (W-B)”</b> Engineering Mechanical Dept., Mormugao Port Trust, Mormugao, Goa – 403804.
Contact Details	Phone :0832-2594215, 2594578; Email : <a href="mailto:cmemgpt@gmail.com">cmemgpt@gmail.com</a> <a href="mailto:cme@mptgoa.com">cme@mptgoa.com</a>
Website	<a href="http://www.mptgoa.com">www.mptgoa.com</a>

**CHIEF MECHANICAL ENGINEER  
MORMUGAO PORT TRUST**

**TECHNICAL SPECIFICATIONS**

**2.1. GENERAL**

Mormugao Port Trust intends to install 1 no. RTCC (Remote tap Changer Cubicle) panel with accessories to connect to the existing On Load tap Changer on 5MVA transformer (33KV/3.3KV) at 33KV substation.

**2.2. SCOPE OF WORK:**

The work involves supply, erection, testing and commissioning of RTCC (Remote tap Changer Cubicle) panel with accessories for monitoring and controlling the voltage of the 5MVA, 33/3.3KV transformer through existing On Load tap Changer.

**2.3. TECHNICAL SPECIFICATIONS:**

- i) Design of indoor type "Automatic Remote Tap Changer Control Cubical Panels" ( R.T.C.C. Panel) for ETE make: 01 No. of 5 MVA, 33 / 3.3 KV transformer, having 17 Nos. of tap positions respectively on 33 KV side. The new Automatic Remote Tap Changer Control Cubical Panels shall have all features and facilities. The new RTCC Panels shall be consists of latest improved designed technology.
- ii) Manufacturing of above automatic RTCC cubical panels enclosure size approximately, Height: 2000 MM, x Breadth : 650 MM x Width : 650 MM, ( + / - 10% tolerance will be acceptable) with necessary required cutouts for installation of various Meters, Relays, Switches Push Buttons ,Connectors, Annunciator, TPI, Hooter, Space heaters and control wirings etc.
- iii) The new RTCC panel shall be self-supported, front operated, with door at back side, two hooks, two earthing studs, manufactured in IP- 45 enclosure and IP-55 protection and fabricated from 02 mm thick SS sheet steel for outer and 1.6 mm thick CRCA sheet for compartments and bottom shall be self-supporting cubicle fabricated on frame of MS channel of size 100 mm X 50 mm with detachable gland plate for cable entry etc. in bottom side only.
- iv) The enclosure of entire panel board shall be powder coated with Siemens gray shade.
- v) The wiring shall be done in Polycab / Finolex make PVC insulated, Fire retardant, malty strand copper Conductor's flexible wires in appropriate colures / circuit ferrules. The power wiring shall be carried out by 2.5 sq. mm. wires and control wirings shall be carried out by 1.5 sq. mm. wires.

- vi) The design and provisions made in panel shall have following features:-
- a) The Tap changing shall be able to change locally (from OLTC unit side) of the transformer either manually with cranking handle or electrically through drive motor and its control gears as desired.
  - b) The Tap changing shall also be able to change from remotely from RTCC panel either in AUTO mode through Automatic Voltage controller Relay or in MANUAL mode through remote RAISE / LOWER push buttons and interruptible through EMERGENCY STOP button.
  - c) One digital voltmeter, make Conserve, 0-15 KV, with inbuilt switch, operated through 11000 / 110 Volts Potential transformer, to indicate actual voltage at output of the transformer.
  - d) One digital TAP POSITION INDICATOR ( 0 TO 99 ), make ABB makes to indicate actual tap position connected shall be provided in new RTCC panel.
  - e) One duly tested, calibrated Digital Display Automatic Voltage Regulating Relay ( A.V.R. Relay ) 110 Volts AC, Model No.301-M of EMCO make, The AVR shall be programmable for upper & lower limit values of output voltage to be regulated and shall trigger the relays to operate OLTC accordingly when kept in AUTO mode. However, 110V power supply is available in the existing OLTC panel.
  - f) The Ten Point Window Annunciation System, make ABB, working on 230 Volts, AC and 30 Volts, DC used in new RTCC panel shall be indicative and operative for following features:- Features: (1) Buchholz trip, (2) Oil surge relay trip, (3) Winding temperature relay trip (4) Low oil alarm, (5) Winding temperature high, (6) Buccholz alarm, (7) Out of step, (8) Over Voltage (9) Under Voltage,(10) Oil temperature high. The system should have in built provision for Test, Accept and Reset functions along with suitable hooter alarm and output contacts for tripping of Circuit breaker / breakers
  - g) One AUTO / MANUAL rotary switch for selecting operation mode. Make: Keycee
  - h) One sequence selector switch (OFF, INDEPENDENT, MASTER, FOLLOWER) for selecting desire mode of operation. Make: Keycee
  - i) One AC supply ON / OFF Rotary switch, Make: Keycee.
  - j) Three Push Buttons Actuators for Emergency stop, Tap position Raise and Tape Position Lower respectively and its make: Siemens.
  - k) Three LED indicating lamps in appropriate colors for: ON / OFF and Tape Change in Progress indications. Make: Siemens.

- l) One space panel heater, 100 Watts, 230 V. AC, make: Bajaj.
- m) Three Din Rail Wire Terminal Connectors blocks as required for control wirings in RTCC Panel. Make: Wago.
- vii) Interfacing of various input / outputs parameters of the transformers between RTCC panel, OLTC Unit and Marshaling box of the transformer.

#### 2.4. INSTALLATION, TESTING AND COMMISSIONING

- i) The installations, testing & commissioning of new RTCC panel integrated with existing OLTC shall be installed at 33KV panel room (Control cable shall be supplied by the Port between RTCC and OLTC of HT transformer) The newly installed RTCC panel shall be conducted with complete trials & testing and all the features and functions shall be operative as provided by the original manufacturer.
- ii) The spare parts used shall be genuine one of given makes OR MPT approved makes.
- iii) All the materials, tools and tackles required for testing, installation and commissioning of RTCC Panel shall be arranged by the Contractor.
- iv) Submission of panel test reports and commissioning reports.

#### 3 LIST OF APPROVED MAKES:

Sr. No.	Item	Name of Manufacturers
1	Voltmeter and Ammeter	AE / MECO / YOKINS / NIPPEN
2	Selector switches, Push buttons, Emergency Switches	KAYCEE / L & T / GE / BCH / LEGRAND
3	HRC Fuses	L & T / GE / SIEMENS / ABB / INDO KOPP
4	Indicating light	AE / KAYCEE / VAISHNAV / L & T /SIEMENS
5	MCB	L & T / LEGRAND / SIEMENS / ABB / SCHNEIDER
6	Sub Distribution Board	L & T / LEGRAND / SIEMENS / SCHNEIDER / HENSEL
7	EL MCB	L & T / SCHNEIDER / LEGRAND / SIEMENS / ABB
8	FRLS PVC insulated copper conductor single/multi core	HAVELLS / FINOLEX / RPG /UNIFLEX /NICCO /RR Kables

	stranded wires of 650/1100 volt grade	
9	Steel Conduit/PVC Conduit	BEC / AKG / NIC
10	Switches, TV & Telephone Socket outlets, Boxes	MK / CLIPSAL / LEGRAND / NORTH WEST /ANCHOR
11	Light Fixtures	PHILIPS / BAJAJ / WIPRO / CROMPTON
12	Lamps and Tubes	PHILIPS / WIPRO / BAJAJ / CROMPTON
13	Ceiling fans/Wall bracket fans / Exhaust Fans	HAVELLS / CROMPTON GREAVES / USHA / ORIENTAL
14	Cable lug & Cable Gland	DOWELLS / JHONSON / RAYCHEM
15	Terminal Blocks	WAGO & CONTROLS / PHOENIX CONTACTS / OBO BETTERMANN
16	Multi-function Meter	ABB / SIEMENS / L&T / HPL SOCOMEK/CONZERVE (ENERCON)
17	DWC HDPE Pipe	DURA LINE / CARLON / EMTELLE
18	Contactors	L&T / SCHNEIDER / SIEMENS/ABB / BCH
19	MCCB	L&T / SIEMENS / SCHNEIDER / ABB
20	VCB / SF6/ Isolator	SIEMENS / AREVA / ABB / SCHNEIDER
21	Push Buttons	SIEMENS / ABB / TELEMECANIQUE / L&T / SCHNEIDER
22	Relays	L&T / ABB / SIEMENS / SCHNEIDER/AREVA
23	Timers	L&T / SIEMENS / TELEMECANIQUE/ABB
24	Indicating Light	L&T / SIEMENS / TELEMECANIQUE / ABB / GE
25	Indicating Instruments	AE / MECO / CONZERVE / L&T
26	HT Cable	FINOLEX / RPG / UNIFLEX / TORRENT / HAVELLS / UNISTAR /NICCO
27	LT Cable (XLPE and FRLS )	UNISTAR / FINOLEX/ NICCO / HAVELLS / RPG / UNIFLEX

28	Termination Kit	BIRLA 3M / RAYCHEM /DENSON
29	CTs	L&T / AREVA / JYOTI / KAPPA / PRAGATHI
30	PTs	AREVA / KAPPA / PRAGATHI
31	HT Panels	SIEMENS / SCHNEIDER / ABB / AREVA
32	LT Panels	SIEMENS / L&T / SCHNEIDER / ABB
33	Cable Trays (FRP)	LEGRAND / ERCON / NEEDO / SUMMIP
34	ACB	SCHNEIDER / SIEMENS / ABB / L&T
35	Selector Switch	KAYCEE / L&T / SIEMENS / BCH / GE / SALZAR
36	Capacitor Banks	EPCOS / L&T / SCHNEIDER
37	Trivector Meter (Digital)	L&T / SCHNEIDER / SIEMENS / HPL SOCOMEK
38	Capacitor Panels	ABB / L&T / EPCOS / SCHNEIDER
39	Power Factor Correction Relay	EPCOS / L & T / ABB
40	Elastomeric Mat	PREMIER POLYFILM LTD / POLYELECTROSAFE / CHALLENGER
41	MS & GI Conduits Accessories	STEEL MARK / NIC
42	Transformer	ABB / SCHNEIDER / SIEMENS
43	Compact substation	ABB / SCHNEIDER / SIEMENS
44	Elevators	OTIS/ JOHNSON / THYSSENKRUPP/ MITSUBISHI HYUNDAI/OMEGA/SCHINDLER
45	Items not covered above	As per samples approved

**CHIEF MECHANICAL ENGINEER  
MORMUGAO PORT TRUST**



## **4 GENERAL TERMS AND CONDITIONS**

### **4.1 Validity:**

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

### **4.2 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

### **4.3 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

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.

### **4.4 Completion Period:**

The entire work shall be completed within **2 months** from the date of receipt of work order.

### **4.5 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.

### **4.6 Payment Terms:**

i. 100% payment shall be made on 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.

#### **4.7 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.

#### **4.8 Other terms and conditions**

- i) All tools and tackles shall be arranged by the Contractor at their own cost.
- ii) 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.
- iii) 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.
- iv) Necessary Entry passes shall be obtained by the Contractor at their own cost with the approval of Port Officials.
- v) 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.
- vi) 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.
- vii) 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.
- viii) Address for communication and submission of bid: Executive Engineer (E/M), 2nd floor A.O. Bldg, Headland Sada, Engineering Mechanical Dept., Mormugao Port Trust, Mormugao, Goa – 403804. Phone: 0832-2594215. 2594578 and Mobile:9890014172
- ix) Further amendments if any, visit our Website [www.mptgoa.com](http://www.mptgoa.com)

**CHIEF MECHANICAL ENGINEER**

**SCHEDULE – ‘A1’**

**SCHEDULE OF PRICES AND QUANTITIES**

Sr No	Description	Unit	Qty	Unit Rate in (Rs.)		Amount in (Rs.)
				In fig.	In words	
1	Supply, Installation, testing and commissioning of RTCC panel as per the technical specification in Schedule - 'A'.					
a)	Supply	No.	1			
b)	Installation, testing and commissioning	No.	1			
<b>Total</b>						

(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