



आईएसओ 9001-2015 पत्तान
AN ISO 9001-2015 PORT

MORMUGAO PORT AUTHORITY
ENGINEERING MECHANICAL DEPARTMENT
ELECTRICAL HARBOUR SECTION

NOTICE INVITING BUDGETORY OFFERS

Name of Work	" Filtration, hot oil circulation, Dissolved Gas analysis of 21 oil type transformers installed at Port"
Date of submission of budgetary quotation	On or before 30/08/2023 at 15:00 Hrs-
Address for communication:	Executive Engineer (E-HR), 2nd floor, Mechanical Engineering Department, Mormugao Port Authority, Admin. Building, Headland sada Vasco-de-Gama Goa - 403804
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EXECUTIVE ENGINEER (E-HR)
MORMUGAO PORT AUTHORITY

Sub: "Filtration, hot oil circulation, Dissolved Gas analysis of 21 oil type transformers installed at Port"

Ref: Budgetary Quotation No. CME/XEN (E-HR)/ 23/ B6

Mormugao Port Authority intends to carry out work of Filtration, hot oil circulation, Dissolved Gas analysis of 21 oil type transformers installed at Port.

As such, it is requested to kindly furnish budgetary quotation for the same (Scope of work, technical specifications and Price Schedule are enclosed)

Your budgetary quotation should reach to this office on or before 30/08/2023 at 15:00 Hrs.

Thanking you,

Yours sincerely,

EXECUTIVE ENGINEER (E-HR)

Name of work: **"Filtration, hot oil circulation and Dissolved Gas analysis of 21 oil type transformers installed at Port"**

TECHNICAL SPECIFICATIONS

2.0 GENERAL

Mormugao Port Authority proposes to carry out the work of Filtration, hot oil circulation and Dissolved Gas analysis of 21 oil type transformers installed at Port at various locations in the Port along with calibration of Buchholz relay of transformer.

2.1 SCOPE OF WORK

- 2.1.1 Filtration, hot oil circulation and Dissolved gas analysis of 21 nos transformer has to be carried out on the power transformers as per the list enclosed at BOQ. Transformer should be switched off during the filtration process and the connected breaker has to be ensured to be pulled out.
- 2.1.2 The On Line Tap Changer (OLTC) oil has to be filtered and topped up as required.
- 2.1.3 The transformer tank, core and winding has to be cleaned with hot oil circulation at 50 C and cleaning oil to be drained out.
- 2.1.4 Dehydration of transformer winding should be done to remove moisture from the core and windings.
- 2.1.5 On completion of hot oil, circulation / filtration, the oil should be tested for dielectric strength for not less than 30 KV (BDV) for one minute with 2.5mm gap. Testing has to be carried out in the presence of Engineer-in-charge.
- 2.1.6 After completion of work, the transformer has to be put back in service and the normal functions of transformers shall be demonstrated satisfactorily to the site in-charge.
- 2.1.7 Transformer oil required for topping up/filling shall be supplied by the Port.
- 2.1.8 Disposal of old removed oil is in the scope of contractor.
- 2.1.9 The contractor has to supply and replace the Silica gel of all the transformers.
- 2.1.10 The contractor shall make his own Transportation arrangement for shifting of Transformer oil filtration unit in different location of transformer available in the Furnishing Division.

- 2.1.11 The dissolved gas analysis of all transformer has to be carried out and certificates submitted accordingly.
- 2.1.12 The calibration of Buchholz relay, transformer oil testing equipment, winding temperature indicator and Oil temperature indicator has to be carried out and the required calibration certificate has to be provided by the contractor.
- 2.1.13 The gaskets of 3 no's of transformer indicated in the BOQ has to be replaced in order to arrest the oil leakage. The gasket replacement work includes:
- Removal of top cover of transformer by disconnecting the Bus duct.
 - Drain the transformer oil from unit to suitable container so as to refill it back.
 - Arresting the oil leakage at transformer by replacing gasket at top cover, Buchholz relay, tap changer mechanism, HT LT bush, drain plug etc. **(Supply of gasket is in the contractor scope)**
 - Refitting the top cover with proper gaskets and necessary fastener to firmly secure the removed cover.
- 2.1.14 The contractor shall take adequate care while carrying out above work in such a way not to damage the components/spares in the transformers.
- 2.1.15 All other items / material which are required for completion of the work shall be supplied by the contractor.
- 2.1.16 After successful completion of the work, the contractor shall submit the test reports along with calibration certificates. The necessary Testing instruments shall have valid calibration certificates traceable to national or international standards, the same has to be submitted to MPA.

3) Qualification Criteria:

- Only Electrical contractors possessing a valid Electrical license to work on minimum 650V lines issued by the licensing board shall be eligible to quote for the enquiry.
- The Bidder shall have successfully carried out work of Filtration of transformer oil during last 7 (Seven) years ending last day of month

previous to the one in which quotations are invited for Central Govt. / State Govt. / Port Sector / PSU or any reputed organization.

4) COMPLETION PERIOD:

All the jobs as per contract, have to be completed within **60 days** from the date of issue of letter of acceptance.

5) SPECIAL TERMS AND CONDITIONS

- i. The Contractor shall commence and complete the work as per the BOQ and technical specifications. The work and quantity is to be carried out as per the site conditions and relevant IS standards.
- ii. The Contractor shall complete the work in all respect to the satisfaction of the Engineer-In-Charge or his representative.
- iii. The work should be carried out with utmost safety precaution with minimum possible disruption of power supply. The contractor has to ensure that that cables are disconnected on both the sides.

6) OTHER TERMS AND CONDITIONS

- i. The firm is advised to visit the site and get acquainted regarding the nature of the work involved at site conditions before quoting the offer.
- ii. The firm should engage skilled service personnel with the relevant required tools and instruments for commissioning the same.
- iii. The Contractor personnel engaged in the work shall follow all safety, security and General Rules enforced by Mormugao Port Authority (MPA) and the firm will only be responsible for the same.
- iv. MPA will not be responsible for any loss or damage of the men / materials / tools / plants engaged by the firm during the work at site / transportation.
- v. No advance payment will be made.
- vi. Final payment will be made only after satisfactorily completion of the work.
- vii. Necessary entry passes shall be obtained by the firm at their own cost with the approval of Port Officials.
- viii. Necessary electrical power supply required for testing of cables will be



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provided by MPA at free of cost at nearest possible point. However, the firm should make his own arrangements to take power supply from the nearest source of supply.

PRICE SCHEDULE (BILL OF QUANTITIES – BOQ)

Name of the Work: **“Filtration, hot oil circulation and Dissolved Gas analysis of 21 oil type transformers installed at Port”**

Sr.No	Description	Unit	Quantity	Rate/Unit (Rs.) In Fig	Applicable GST %	Amount (Rs)
I	Filtration and hot oil circulation of 21 transformers					
1.	2 nos of 5MVA, 33KV/ 3.3KV, Transformers at Substation A. Make:- Electric Transformer and Equipment (4800 Litres per transformer)	litre	9600			
2.	1 no of 2MVA, 33KV/440V, Power Factor Correction transformer at Substation A, Make:- Trinity Transformer Industry (1900 Litres)	litre	1900			
3.	3 nos of 630 KVA , 3.3KV/ 415 V, Transformers at Substation A. Make:- NGEF (1144 Litres per transformer)	litre	3432			
4.	2 nos of 315 KVA, 3.3KV/ 415 V, Transformer at Berth no. 10. Make:- 1 no. The Indian Transformers Ltd. And 1 no. NGEF (450 Litres per transformer)	litre	900			
5.	1 no of 500 KVA, 3.3KV/ 415 V, Transformer at Berth no. 10. Make:- Pactil Transformer (545 Litres)	litre	545			
6.	1 no of 630 KVA, 3.3KV/ 433 V Transformer at Jetty Substation. Make:- Kirloskar Electric Co. Ltd (1250 litres)	litre	1250			
7.	1 no of 500 KVA, 3.3KV/415V Transformer at Jetty Substation. Make:- The Indian Transformers Ltd (490 litres)	litre	490			
8.	2 no of 500 KVA, 11KV/433 V, Transformer at Harbour Substation Make:- Current Electricals Ltd. (710 Litres per transformer)	litre	1420			
9.	1 no. 630 KVA transformers 3.3 KV / 415 V containing 1040 litres at Administrative Building S/s.	litre	1040			
10.	2 no. 800 KVA transformers 11 KV / 415 V each at Administrative	litre	2020			



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	Building S/s. containing 1010 Litres per transformer					
11	1 no. 650 KVA, 415 V Automatic voltage Regulator(AVR) containing 800 Litres at Administrative Building S/s	litre	800			
12	1 no. 250 KVA, 11 KV / 433V transformer containing 465 Litres at Baina W/S S/s	litre	465			
13	1 no. 500 KVA transformer 11 KV / 415 V containing 610 Litres at Headland S/s	litre	610			
14	1 no. 500 KVA transformer 11 KV / 415 V containing 490 Litres at Hospital S/s	litre	490			
15	1 no. 500 KVA/ 415V Automatic voltage Regulator(AVR) containing 355 Litres at Hospital S/s	litre	355			
II	Replacement of silica GEL in 21 transformers	kg	21			
III	Dissolved Gas Analysis for 21 transformers	no	21			
IV	Calibration					
a.	Calibration of Winding temperature indicator or Oil temperature indicator of transformer	no	40			
b.	Calibration of Buchholz relay of transformer	no	15			
c.	Calibration of transformer oil testing equipment. Make: Udey Model: HP 211	No	1			
V	Replacement of Gasket of transformer of ratings 650KVA/630KV/500KVA/315KVA as per scope of work listed at 2.1.13	no	5			
			Total			

Total (In Words)

Rupees _____ only.

Note:

1. The offered rates shall be exclusive of GST.
2. Payment will be done as per the actual work carried out during the execution.