



PARADIP PORT TRUST  
INVITATION OF BUDGETARY OFFER  
FOR

Annual Maintenance Contract (AMC) of Power & Distribution Transformers  
under port Electrical Division of Paradip Port Trust.

SUBMISSION OF BUDGETARY OFFER  
ON OR BEFORE Dt.16/11/2018

EXECUTIVE ENGINEER (ELECT.)  
PORT ELECTRICAL DIVISION – II  
PARADIP PORT TRUST,  
PARADIP, JAGATSINGHPUR,  
ODISHA – 754142

Contact No.9777180842

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## **REQUEST FOR BUDGETARY OFFER**

### **(A) GENERAL INFORMATIONS:**

<b>Sl. No.</b>	<b>Item</b>	<b>Details</b>
1.	Name of Work	Annual Maintenance Contract (AMC) of Power & Distribution Transformers under port Electrical Division of Paradip Port Trust.
2.	Department / Organization	ELECTRICAL & MECHANICAL DEPARTMENT / PARADIP PORT TRUST
3.	Executive Division	Port Electrical Division.
4.	Officer Inviting the Offer	Executive Engineer
5.	Immediate Next Authority	Superintending Engineer
6.	Sanctioning Authority	Dy. Chairman, PPT
7.	Executing Authority	Executive Engineer

### **(B) OTHER INFORMATIONS:**

<b>Sl. No.</b>	<b>Item</b>	<b>Date</b>	<b>Time</b>
1	Publication date	26/10/2018	1700 hrs.
2.a)	Document download start date	26/10/2018	1700 hrs.
b)	Document download end date	16/11/2018	1700 hrs.
3.a)	Start date for seeking Clarification on-line	-	-
b)	Last date for seeking Clarification on-line	-	-
4.	Date of uploading response to Clarifications sought	-	-
5.	Offer Submission end date	16/11/2018	1700 hrs.
6.	Offer Validity period	120 days	
7.	Currency of Offer	Indian Rupee	
8.	Language of Offer	English	

**Budgetary offer for the work** : Annual Maintenance Contract (AMC) of Power & Distribution Transformers under port Electrical Division of Paradip Port Trust.

### **SCOPE OF WORK**

Name of the Work: Annual Maintenance Contract (AMC) of Power & Distribution Transformers under port Electrical Division of Paradip Port Trust.

The Scope of this work includes the following:

The Port Electrical Division of Paradip Port Trust has a vast network of distribution system which provides power supply to different areas of PPT. There are around 45 nos substations situated inside Harbour & Township area. There are around 67 nos. of different rating of transformers are available with PPT which includes installed capacity and standby spares. The AMC envisages all the required tasks to ensure the following:

- 1) Maximum system (transformer) reliability.
- 2) Maintain the life expectancy of the transformer.
- 3) Compliance of safety rules & regulations.
- 4) Preventive, corrective & schedule maintenance of transformer.
- 5) Breakdown maintenance of transformer.
- 6) Maintaining un-interrupted power supply by transformer.

The following different ratings of Power & Distribution Transformers are covered under the scope of AMC of subjected work:

Sl. No.	Rating of Transformer.	Below 5 years. (Nos.)	5-10 Years. (Nos.)	10-15 Years. (Nos.)	15-20 Years. (Nos.)	Above 20 Years. (Nos.)	Total Quantity. (Nos.)
1	5 MVA, 33/11 Kv	02			02	04	08
2	1 MVA, 11/0.433 Kv.	01	03	02	06	10	22
3	750 KVA, 11/0.433 Kv.		04		03	06	13
4	500 KVA, 11/0.433 Kv.		01	01	01	13	16
5	300 KVA, 11/0.433 Kv.					04	04
6	250 KVA, 11/0.433 Kv.	01			02	01	04
<b>Total</b>							<b>67</b>

1. The Contractor shall have to carry out complete Overhauling/Corrective maintenance of different rating of Power & Distribution Transformers as mentioned below.

### POWER & DISTRIBUTION TRANSFORMER

SL.NO.	Description of work	Remarks
1	Replacement of all gaskets by new one.	As per requirement.
2	Primary & Secondary side terminal maintenance.	Considering the situation & gravity of the work, action will be taken.
3	Replacement of oil seals of bushings.	As per requirement.
4	Filtration of Transformer oil, if required replaced by new oil.	As per requirement.
5	Replacement of new bushing, stud, PG clamp etc. including all other accessories.	Considering the situation, action will be taken.
6	Replacement of new Nylon washer in radiator, air valve, Bochholz's relay, conservator tank, filter valve and bushing stud.	As per requirement.
7	Replacement of nut, bolt & spring washer by new etc.	As per requirement.
8	Painting of Transformer with red oxide primer followed by two coats of final painting with smoke grey enamel paint.	As per requirement.
9	Repairing/ overhauling of OFF-LOAD & ON-LOAD tap changer.	As per requirement & considering the situation.
10	Arresting of oil leakage in transformer.	Considering the situation, action will be taken.
11	Replacement of Silica gel.	As per requirement.
12	Repairing / overhauling of RTCC panel.	Considering the situation & gravity of the work.
13	Overhauling/ repairing of AVR unit.	Considering the situation & gravity of the work.
14	Replacement of Spare Transformer in case of major failure.	Immediate action will be taken to restore the power supply
15	Arresting of oil leakage	Considering the situation & gravity of the work, action will be taken.
16	Replacement of crack bushing or stud.	Considering the situation & gravity of the work, action will be taken.
17	Replacement of PG clamp.	Considering the situation & gravity of the work, action will be taken.
18	Repairing of tap changer unit, if possible.	Considering the situation & gravity of the work, action will be taken.

2. The Contractor shall have to carry out preventive maintenance of Power & Distribution Transformer on daily basis to avoid /minimise breakdown and report shall be submitted to EIC on daily basis. The following works shall have to carry out as per the schedule mentioned below, which includes;

**PREVENTIVE MAINTENANCE SCHEDULE**

**POWER TRANSFORMER**

SL.NO.	Description of work	Periodicity
1	Checking & cleaning of external surface of tank.	Monthly
2	Checking of Transformer oil leakage.	Daily.
3	Checking of insulation resistance value.	Half Yearly.
4	Checking & cleaning of bushing & studs.	Quarterly
5	Checking of function of OLTC as well as RTCC panel.	Quarterly
6	Checking of silica gel in breather and replacement if necessary.	Daily.
8	Checking & tightening of neutral and body earth connections.	Monthly
9	Checking of oil color, smell & taking up preventive measure.	Half Yearly.
10	Checking of W.T.I	Daily.
11	Checking of O.T.I	Daily.
12	Checking of oil BDV value ,acidity & water content of transformer oil.	Yearly.
13	Checking of Primary & Secondary terminal box as well as the tightness of all bolted connections.	Half Yearly.
14	Checking & testing of Buchholz's relay.	Monthly
15	Checking of Transformer oil level in conservator tank & gauge glass.	Daily.
16	Measurement of earth resistance, checking of earthing system & rectification, if required.	Half Yearly.
17	Measurement of load currents in each phase & neutral current.	Monthly
18	Checking & monitoring of load balance of transformer.	Monthly
19	Checking of function of RTCC unit.	Monthly
20	Checking & cleaning of transformer yards with all nests, shrubs.	Daily.
21	Painting of rusted part of transformer.	Daily.
22	Checking & tightening of control connections in marshalling box.	Monthly
23	Checking of oil level in oil cap under silica gel breather, if required to be top up as per specified level.	Monthly
24	Checking the operation of AVR unit.	Monthly

## DISTRIBUTION TRANSFORMER

SL.NO.	Description of work	Periodicity
1	Checking & cleaning of external surface of tank.	Monthly
2	Checking of Transformer oil leakage.	Daily.
3	Checking of insulation resistance value.	Half Yearly.
4	Checking & cleaning of bushing & studs.	Half Yearly.
5	Checking of function OFF-LOAD tap changer switch.	Half Yearly.
6	Checking of silica gel in breather and replacement if necessary.	Daily.
8	Checking & tightening of neutral and body earth connections.	Monthly
9	Checking of oil color , smell & preventive measures.	Half Yearly.
10	Checking of W.T.I	Daily.
11	Checking of O.T.I	Daily.
12	Checking of oil BDV value, acidity & water content of transformer oil.	Yearly.
13	Checking of Primary & Secondary terminal box as well as the tightness of all bolted connections.	Half Yearly.
14	Checking of Buchholz's relay.	Monthly
15	Checking of oil level in oil cap under silica gel breather, if required to be top up as per specified level.	Monthly
16	Checking of Transformer oil level in conservator tank & gauge glass.	Daily.
17	Measurement of earth resistance, checking of earthing system & rectification, if required.	Yearly.
18	Measurement of load currents in each phase & neutral current.	Monthly
19	Checking & monitoring of load balance of transformer.	Monthly
20	Checking & cleaning of transformer yards with all nests, shrubs.	Daily.
21	Painting of rusty part of transformer.	Daily.
22	Checking & tightening of control connections in marshalling box.	Monthly

3. Breakdown maintenance shall be attended as & when the situation warrants with a failure/faults. The breakdown maintenance shall be attended at the highest priority so as to make good the faulted transformer. If the fault requires more time for rectification, then contractor shall replace the defective transformer with a spare transformer in good condition and shall put it into operation. In case of breakdown of transformer in a certain location, the Contractor shall have to carry out the work such as repairing/replacement of transformer by spare unit including supply of manpower, crane, trailer, tools & Tackles

whatever required for completing the work in all respect in co-ordination/ liaison with EIC.

4. The contractor shall have to arrange the testing machine / kits for checking of BDV value and other parameter at his own cost or may test transformer oil periodically at Govt. test laboratory / NABL laboratory at his own cost.
5. The Contractor shall maintain the spare transformers available at Electrical Workshop in healthy condition always for immediate replacement to meet emergency requirement.
6. The Contractor shall maintain sufficient stock of all the spares required for transformer maintenance to meet the requirement.
7. The Contractor shall maintain a daily work progress Register, spares & Material Inventory Register, Breakdown Register, History Register, Site Instruction Register and Preventive & Corrective Maintenance Work Register and submit before concerned EIC as and when desired.
8. The Contractor shall have to attend the breakdown promptly and resume the power within 01(one) day. If the Contractor fails to execute the work in stipulated time period, in that case penalty @ 5000/- in each occasion will be deducted from their bill.
9. The Contractor shall have to engage his workmen to carry out the preventive & corrective maintenance work on daily basis at PPT & will keep close co-ordination with concerned EIC in day-to-day activities.
10. After taking over the AMC, the contractor shall give in writing within 30 days to EIC a list of material kept as spare for preventive & corrective maintenance of all the transformer installed and standby.
11. For organizing and implementing the maintenance schedule it is suggested that contractor shall depute at least one qualified & experienced supervisor for the said work for smooth functioning of the system.
12. In case of burnt of transformer winding or damage of core laminations, PPT will take decision considering the situation/condition of transformer for repairing/ devolution.
13. The work will be awarded initially for a period of a period of one (01) year. Further 2 years extension may be granted subject to satisfactory performance of the contractor. No price escalation is allowed for the extension period. Accordingly the contractor has to furnish the offer.
14. Payment Terms:-
  - (i) The payment towards preventive & corrective maintenance of transformer (Refer BOQ no-1 to 2) shall be paid on monthly basis.
  - (ii) The payment towards overhauling of transformers (Refer BOQ no-3 to 8) shall be paid as per actual execution of quantity.
  - (iii) The payment towards supply of material (Refer BOQ no-9 to 10) shall be made as per actual quantity of supply.

## **BILL OF QUANTITY**

Name of the work: - Annual maintenance contract of Power & Distribution Transformer under Port Electrical Division of Paradip Port Trust.

SL. No	Description	Unit	Qty.	Unit Rate (in Rs.)	Total Amount (in Rs.)
1	Preventive & Corrective Maintenance of Power Transformers at all substations.	Monthly	36		
2	Preventive & Corrective Maintenance of Distribution Transformers at all substations.	Monthly	36		
3	Complete overhauling of 1 MVA, 11/0.433 kV Distribution Transformer including servicing & all required material component.	nos.	22		
4	Complete overhauling of 750 kVA, 11/0.433 KV Distribution Transformer including servicing & all required material component.	nos.	13		
5	Complete overhauling of 500 kVA, 11/0.433 kV Distribution Transformer including servicing & all required material component.	nos.	17		
6	Complete overhauling of 300 kVA, 11/0.433 kV Distribution Transformer including servicing & all required material component.	nos.	04		
7	Complete overhauling of 250 kVA, 11/0.433 kV Distribution Transformer including servicing & all required material component.	nos.	03		
8	Complete overhauling of 5 MVA, 33/11 kV Power Transformer including servicing & all required material component.	nos.	08		
9	Supply of new Transformer oil confirm to IS-335	Litre	1000		
10	Supply of new silica gel.	Kg.	20		
<b>Total</b>					

(Rupees.....) only

N.B: Applicable GST shall be mentioned separately.



**NOTE:**

1. GST if any, percentage may be mentioned as extra.
2. Any query in this regard may be raised to the following email id prior to dt----- (up to -----hrs.) which will be clarified by dt. ----- by uploading in the website for facilitating submission of a competitive budgetary offer.
3. Budgetary offers shall be submitted to the following address (through email or by Registered Post):  
Executive Engineer (Elect),  
Port Electrical Division – II,  
Paradip Port Trust.  
PO:- Paradip,  
Dist:- Jagatsinghpur  
Odisha – 754142  
Contact No. 9777180842  
Email Id: [rnsahooeppt@gmail.com](mailto:rnsahooeppt@gmail.com)