



## INSTITUTE OF PHYSICS

*(AN AUTONOMOUS RESEARCH INSTITUTION OF DEPARTMENT OF ATOMIC ENERGY  
GOVERNMENT OF INDIA)*

P.O. SAINIK SCHOOL, BHUBANESWAR-751005

### **Notice Inviting Tender (N.I.T)**

**In a e-Tender mode only on the Central Public Procurement  
Portal of Govt. of India under two cover system**

### **FOR**

**“REPAIR & MAINTENANCE OF 33/0.4 KV, 750 KVA TRANSFORMER AT  
IOP, BHUBANESWAR”**



## **NOTICE INVITING TENDER**

**TenderNo. NIT/IOP/72/2023-24**

1.0 E-tenders are invited by the “Director”, Institute of Physics, Bhubaneswar-751005, Orissa, comprising of technical and financial bid separately, from Sealed tenders are invited from reputed Transformer manufacturers cum repairing units for the work “Repair & Maintenance of 33/0.4 KV, 750 KVA transformer”

Name of the work	:	Repair and Maintenance of 33/0.4KV, 750 KVA Transformer
Estimated cost	:	Rs.9,32,000/- (Rupees Nine Lakh Thirty two thousand only) excluding taxes
Earnest Money Deposit (EMD) (Refundable)	:	Rs.33,000/-
Period of Completion of the work	:	90 days
Cost of Tender Paper	:	Nil
Type of Tender	:	Two bid
Mode of publishing of tender	:	<a href="https://eprocure.gov.in/eprocure/app">https://eprocure.gov.in/eprocure/app</a> <a href="https://www.iopb.res.in/tenders">https://www.iopb.res.in/tenders</a>
Mode of submission of tender	:	Online through Central Public Procurement Portal of Government of India ( <a href="https://eprocure.gov.in/eprocure/app">https://eprocure.gov.in/eprocure/app</a> )

### **2.0 Important dates:**

Last Date of receiving of tender Document	:	03.01.2024 up to 18.00 Hours
Opening of tender.	:	04.01.2024 at 18.00 hours
Contact Person	:	Shri Arun Kanta Dash Email- arundash@iopb.res.in SO/D, IOP, Bhubaneswar

**Note:** In case the last date of sale and/or the date of receipt and opening of tender is declared as a holiday, the respective date shall be treated as postponed to the next working day.

The details of general tender terms & conditions can be downloaded from <https://eprocure.gov.in/eprocure/app> or Tender Free View Link from IOP, Bhubaneswar Website- [www.iopb.res.in/tenders/](http://www.iopb.res.in/tenders/)

रेजिस्ट्रार/REGISTRAR  
भौतिकी संस्थान/INSTITUTE OF PHYSICS  
भुवनेश्वर/BHUBANESWAR

## **INSTITUTE OF PHYSICS, BHUBANESWAR**

### **Instruction for Online Bid Submission**

The details of tender notification can be downloaded from <https://eprocure.gov.in/eprocure/app> or Tender Free View Link from [www.iopb.res.in/](http://www.iopb.res.in/)

1. Vendors should obtain the USER ID and PASSWORD from **CPP Portal** by clicking on “<https://eprocure.gov.in/eprocure/app>” link in the homepage.
2. For further details on e-Tender participation, please contact Help desk as mentioned below:-

*Telephone: 0120-4200 462/ 0120-4001 002/ 0120-4001 005/ 0120-6277 787*

*Email: **support-eproc(at)nic(dot)in.***

3. Tenders should be submitted only through **CPP portal** and obtain the Tender Acknowledgement copy as a proof of successful submission.
4. Tender documents for viewing only are also available in Institute of Physics web-site address: [HYPERLINK-  
http://www.iopb.res.in/tenders/](http://www.iopb.res.in/tenders/)
5. All corrigendum and addendum will be published on IOP, BBSR website and CPP Portal.
6. IOP,BBSR is publishing all its public and limited tender on IOP,BBSR website.
7. *For any query regarding tender terms & conditions please send email to [arundash@iopb.res.in](mailto:arundash@iopb.res.in)*

## **INSTRUCTIONS FOR ONLINE BID SUBMISSION**

The bidders are required to submit soft copies of their bids electronically on the CPP Portal, using valid Digital Signature Certificates. The instructions given below are meant to assist the bidders in registering on the CPP Portal, prepare their bids in accordance with the requirements and submitting their bids online on the CPP Portal.

More information useful for submitting online bids on the CPP Portal may be obtained at:

<https://eprocure.gov.in/eprocure/app>.

### **REGISTRATION**

Bidders are required to enroll on the e-Procurement module of the Central Public Procurement Portal (URL: <https://eprocure.gov.in/eprocure/app>) by clicking on the link "Online bidder Enrollment" on the CPP Portal which is free of charge. As part of the enrolment process, the bidders will be required to choose a unique username and assign a password for their accounts. Bidders are advised to register their valid email address and mobile numbers as part of the registration process. These would be used for any communication from the CPP Portal. Upon enrolment, the bidders will be required to register their valid Digital Signature Certificate (Class III Certificates with signing key usage) issued by any Certifying Authority recognized by CCA India (e.g. Sify / nCode / eMudhra etc.), with their profile. Only one valid DSC should be registered by a bidder. Please note that the bidders are responsible to ensure that they do not lend their DSC's to others which may lead for misuse. Bidder then logs in to the site through the secured log-in by entering their user ID / password and the password of the DSC / e-Token.

### **SEARCHING FOR TENDER DOCUMENTS**

There are various search options built in the CPP Portal, to facilitate bidders to search active tenders by several parameters. These parameters could include Tender ID, Organization Name, Location, Date, Value, etc. There is also an option of advanced search for tenders, wherein the bidders may combine a number of search parameters such as Organization Name, Form of Contract, Location, Date, Other keywords etc. to search for a tender published on the CPP Portal. Once the bidders have selected the tenders they are interested in, they may download the required documents / tender schedules. These tenders can be moved to the respective 'My Tenders' folder. This would enable the CPP Portal to intimate the bidders through SMS / email in case there is any corrigendum issued to the tender document. The bidder should make a note of the unique Tender ID assigned to each tender, in case they want to obtain any clarification / help from the Helpdesk.

### **PREPARATION OF BIDS**

Bidder should take into account any corrigendum published on the tender document before submitting their bids. Please go through the tender advertisement and the tender document carefully to understand the documents required to be submitted as part of the bid: Please note the number of covers in which the bid documents have to be submitted, the number of documents - including the names and content of each of the document that need to be submitted. Any deviations from these may lead to rejection of the bid.

## **TECHNICAL BID**

## **TENDER CALL NOTICE**

e-Tenders are invited by the “Director”, Institute of Physics, Bhubaneswar-751005, Orissa, comprising of technical and financial bid separately, from Reputed Transformer manufacturers cum repairing units for the “**Repair and Maintenance of 33/0.4KV, 750 KVA Transformer**”

Name of the work	Estimated Cost	Cost of the tender paper	EMD required for the work	Time for completion
“Repair and Maintenance of 33/0.4KV, 750 KVA Transformer”	Rs.9,32,000/- (Rupees Nine Lakh thirty two thousand only) excluding GST	Nil	Rs.33,000/- (Rupees Thirty three thousand ) only	90 days from the date of issue of work order

Bidders may download the Tender Documents and submit their bids as per the procedure mentioned in the tender document .

**The tender papers will be received on 03.01.2024 at 18.00 hrs and Technical Bid will be opened on 04.01.2024 at 18.00 hrs.** (In case that day becomes a non-working day tenders (Technical Bid) shall be opened on next working day at the same time). The bidders or their authorized representative may remain present at the time of opening the tender (technical bid).

**Date and time for opening of tender (Price bid): After evaluation of technical bid it will be intimated to the technically successful bidders.**

The tender paper should accompany with the following documents at the time of submission:

1. The bidder should have been a Transformer manufacturer cum repairing unit. Work order copy of supply/repair to be submitted.
2. The bidder should have been manufacturing Power/ Distribution Transformers of rating 750KVA or more. The bidder should have the experience of repair (rewinding) of at least 03 distribution transformers of capacity 33/0.4 KV, 750 KVA or more during past 03 years. Copy of work order with job completion certificate to be submitted.
3. The bidder should have their Manufacturing unit or Local office in Bhubaneswar. The address with telephone no. of the same has to be furnished.
4. Copy of PAN card, GST certificate
5. Valid license for repairing / manufacturing of power & distribution transformer
6. List of similar type of works in hand/ continuing.
7. List of equipments, accessories and infrastructure facilities possessed by the bidder.
8. EMD amounting to Rs.33,000/- (Rupees Thirty three thousand ) only in shape of demand draft or bankers cheque drawn in favor of the Institute of Physics, Bhubaneswar.
9. Any other document as mentioned in the section of special instructions to the tenderer of the tender document.
10. If worked for Institute of Physics copies of the work orders is to be attached.

11. Technical Bid, annexure of this tender document duly signed with seal in all pages along with other requirements as mentioned above from 1 to 9 to be uploaded in technical bid of e-tender process.

12. Price Bid duly filled in and uploaded in the CPP Portal.

In the absence of any of the documents listed above the tender papers will not be considered.

***E-Tenders should be submitted in e-tendering process with two Cover bid system, i.e. “Technical bid” and “Price bid”. The tender duly filled in & signed on each page, accepting the terms and conditions, may be uploaded in CPP portal***

- Note: 1) The tenderer is requested to go through the tender documents in detail and visit the work site to make himself conversant regarding the work before filling up the tender paper.
- 2) Authority, Institute of Physics reserves the right to reject any or all tenders without assigning any reason thereof.

  
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**PART - II**  
**SPECIAL INSTRUCTIONS TO TENDERERS**



## **PART-II: SPECIAL INSTRUCTIONS TO TENDERERS:**

1. **Introduction:** e-Tenders are invited on two part basis (i.e. 1.Technical Bid & 2. Price Bid), by the “Director, Institute of Physics, Bhubaneswar, Orissa for the work of “Repair and Maintenance of 33/0.4KV, 750 KVA Transformer”. The tender paper consists of the following:

### **TECHNICAL BID**

Part-I	-	Tender Notice
Part-II	-	Special Instructions to tenderers
ANNEXURE	-	I (Form for the credential of the bidder)
Draft for EMD		

PRICE BID - Schedule of quantities and rates

### **2. Acceptance of Tenders:**

The Authority of Institute of Physics, Bhubaneswar reserves the right to reject any or all tenders without assigning any reasons therefore. The lowest or any tender will not necessarily be accepted. Any tender not supported by the information requested in tender documents or not complying the provisions in the tender is liable to be rejected.

### **3. Compliance with specification and tender clarifications:**

Each bid shall deemed to be in full compliance with every clause of the specifications asked, unless exceptions are clearly defined and set forth in a separate sheet.

The tenderer shall note that if any clarifications regarding specifications, conditions of contract, schedule of quantities and scope of work required, he should contact Institute of Physics, Engineer-in-Charge. No claim on account of any ambiguity in any respect will be entertained after issue of work order.

### **4. Sub Contractors:**

The contractor shall not sublet any/ whole part of the work without written consent of the competent authority of Institute of Physics.

### **5. PRICES:**

The tenderers shall bid for the works in Indian Rupees for the Items listed in PRICE BID – Schedule of quantities and Rates.

Each tenderer shall submit unit prices and total price (as per schedule of quantities and rates). The quantities mentioned in this schedule (Price Bid – Schedule of quantities and Rates) shall be considered approximate only and the unit price entered in the schedule shall apply to the actual quantities measured in the completed work in accordance with the specifications. The prices quoted by the tenderer shall include the full cost of material, labour, equipment, transportation,

overheads, insurance, profit and other costs associated with the completion of the work involved under the items and shall account for the full scope of the work.

Income Tax and GST at the prescribed rate shall be deducted at source from your bill and will be deposited with the concerned authority. Necessary TDS certificate will be issued in your favor.

The tenderer's prices shall include all insurance, taxes and duties, all traveling, transportation and accommodation costs of all his staff including supervisory personnel.

6. **Miscellaneous Works:**

In addition to the items of work specifically set out in the form of tender schedule to be performed by the contractor as per the agreement, the contractor shall at the request of Engineer, whose decision in this regard shall be final, perform such works and supply such materials, facilities and services which are contingent to the work covered by the contract or are required for the completion of the works.

7. **Co-ordination of Works:**

The contractor shall plan his works suitably so as to avoid interference with the operations of the existing systems and the work will be carried out with minimum shut down of PDBs to be connected.

8 **Information to be included with the tender:** The tender shall be submitted as mentioned below:

8.1 **PRICE-BID:** Price bid in excel format requires to duly fill in and upload in the CPP Portal. In this bid the bidder is required to quote his rates/ prices for the works mentioned in the scope of work & technical specifications. The rates/ price should be inclusive of all material cost, labor, services, charges for the plant/ machinery/ tools & tackles required for work excluding Govt. duties, taxes, levies up to IOP site basis. No charges towards quantity variation, escalation, site difficulties, other hidden cost even though they may not have been explicitly mentioned in the scope and schedule of works shall be payable extra or separately. It is mandatory on bidder to quote all items rate as asked for in the BOQ/ Price schedule. Failure to adhere to this condition will lead to rejection of tender. The bidders should quote unconditional rates, neatly written without any overwriting/ white fluid/ erasing and duly signed & stamped at all pages.

8.2 **TECHNICAL-BID:** In this bid, the bidder should submit his company profile, organizational setup, credentials, list of plant, machinery & tools in his possession, copies of work orders successfully executed during last three years and earnest money draft. No deviations in respect of tender conditions are acceptable. **The bidder is required to attach entire tender conditions including the annexure (excluding Price Bid) duly signed & stamped on each page as a token of acceptance to the tender conditions with this bid.** This envelope is to be super scribed as *“Repair and Maintenance of 33/0.4KV, 750 KVA Transformer”*.

The following specific conditions/ documents are essential for pre-qualification:

8.2.1 The bidder should have been a Transformer manufacturers cum repairing unit. Work order copy of supply/repair to be submitted.

8.2.2 The bidder should have been manufacturing Power/ Distribution Transformers of rating 750KVA or more. The bidder should have the experience of repair (rewinding) of at least 03 distribution transformers of capacity 33/0.4 KV, 750 KVA or more during past 03 years. Copy of work order with job completion certificate to be submitted.

8.2.3 The bidder should have their Manufacturing unit or Local office in Bhubaneswar. The address with telephone no. of the same has to be furnished.

- 8.2.4 The full tender document (including all annexure & drawings) duly signed by the bidder on each page with seal has to be submitted as a token of acceptance of the terms and conditions mentioned therein. .
- 8.2.5 List of similar type of works in hand/ continuing.
- 8.2.6 List of similar works executed earlier shall be submitted in Annexure-II.
- 8.2.7 Details of any deviations from the specifications.
- 8.2.8 Copy of GST & PAN under IT act.
- 8.2.9 Valid license for repairing / manufacturing of power & distribution transformer
- 8.2.10 Draft for EMD
- 8.2.11 List of equipment's, accessories & infrastructure facilities possessed
- 8.2.12 Company Profile

09 **Terms of Payment:** 90% of the total work order value will be paid after supply, installation, testing and successful commissioning of all equipments. Balance 10% will be retained as security deposit (defect liability period), which will be refunded after successful completion of one year from the date of work (defect liability period). No interest shall be paid on EMD/Security deposit. However the amount towards security deposit can be released against submission of Bank guarantee for the equivalent amount valid for the defect liability period (with one month more) by the contractor issued by a Nationalized/Schedule Bank.

10 **Penalty for the delay in completion:** If the contractor fails to execute and complete the work within the time specified i.e. 3 months from the date of work order or within the period of extension granted, except is so far as the delay is on the IOP account, the contractor shall accept reduction in the total amount payable to him by the IOP at the rate of **0.5% (Half percent) per week** of the contract value for the actual pay occasioned and until the work shall have been completed under the contract. Subject to maximum deduction of 5% of the total value of the work.

11 **Proof of Ability:** The contractor shall submit the details of similar works executed by him in the form given in the Annexure-II as a proof of his ability to carry put the specified work. At least three numbers of similar works should have been executed by the contractor during last three years. The copy of the work order with detailed work schedule and completion certificate is to be submitted for consideration of the same work as experience.

12 **Increase or Decrease in Scope of Work:** The contractor shall carry out extra work at their quoted prices in their tender document for respective items of work so long as the entire total cost of the work executed is within the limits of  $\pm 10\%$  of the contract value. **The quantities mentioned in schedule of quantities are indicative only and actual requirement may vary in field.**

13 **Guarantee:** All supplied materials including hardware's and work executed by the contractor shall be guaranteed for 24 months from the date of commissioning.

14. **VALIDITY:** The tenders submitted should remain valid for acceptance for a period of 180 days from the date set for opening of the tender. The tenderer shall not be entitled during the said period of validity to revoke or cancel his tender or vary the tender given or any item thereof. In case of tenderer revoking or canceling his tender, varying any terms in regard thereof, the earnest money paid by the tenderer along with the tender shall be forfeited by the Institute of Physics.

15 **EMD:** An earnest money of Rs.33,000/- has to be deposited along with the technical bid. The EMD shall be only in the form of Bank Draft in favor of Institute of Physics, payable at Bhubaneswar. No Cheque/ cash shall be accepted. EMD of technically disqualified bidders will

be returned within 30 days from the date of evaluation of the technical bids. EMD of successful bidder will be retained by IOP during pendency of the contract. No interest shall be paid on such EMD.

16. **Escalation:** No escalation over and above items' rates quoted by the bidder shall be paid during the execution of contract.

17. **Rights reserved by IOP:** Institute of Physics reserves the right to reject any or all the tenders in full or in part without assigning any reasons whatsoever, and the decision of the Institute in this regard will be binding on all the bidders. Tenders not complying any of the provisions stated in this tender document are liable to be rejected. **Director, IOP reserves the right to accept or reject any tender, either in full or part, without assigning any reasons thereof and does not bind himself to accept the lowest tender.**

18. **Entry and exit of materials from IOP campus:** Materials belonging to the contractor/ IOP whether consumable or non consumable should be brought inside the IOP campus with proper entry at the main gate and any material to be taken out with proper gate pass issued by the Institute.

19. **Termination of the contract:** The Director, IOP reserves the right to terminate the contract on account of poor workmanship, failure to mobilize site, non-compliance of set norms/ specifications for the works, delay in progress of work, violation of any contract provisions by the contractor. In such cases the contractor is liable to pay liquidated damages amounting to 10% of the total work value.

20. **Fabrication work:** All repair work required for the transformer is to be intimated to EIC-IOP before carrying out any work on that. IOP representatives will inspect the same before and after the repair of the defective part of the transformer and after that only the transformer should be assembled.

21. **Communication Address of Bidder:** Bidder should mention their detailed contact address, telephone & Fax number, E-mail address, name of authorized contact person for this tender, mobile phone number etc. in their letter head pad and same is to be attached along with the technical bid. The address with telephone no. of the Local office at Bhubaneswar has to be furnished.

22. **Dispute:** Any dispute arising out of this contract will be subjected to jurisdiction of Bhubaneswar.

23. **Statutory condition:** Tender once submitted will remain with the Institute and will never be returned to the bidders. The bids will be IOP property.

### **TECHNICAL BID PART-III**

**01. Eligibility of the Bidder:** The bidder should have been a Transformer manufacturers cum repairing unit. The bidder should have been manufacturing Power/ Distribution Transformers of rating 750KVA or more. The bidder should have the experience of repair (rewinding) of at least 03 distribution transformers of capacity 33/0.4 KV, 750 KVA or more during past 03 years. The bidder should have their Manufacturing unit or Local office in Bhubaneswar. The address with telephone no.of the same has to be furnished.

**02. Submission of documents:-**

Tender has to be submitted in the enclosed annexure duly filled in item wise separately for materials, spares, labor charges etc. Specification and description mentioned in the tender document are not exhaustive. Any other item(s) felt necessary may be included and quoted voluntarily at the end of the scheduled enclosed for better assessment of the repairing cost.

**03. Price:-**

The price quoted should be firm and final. The rate and total should be entered both in figures and words and any correction should be attested under the Seals of the Firm. No revision of rates from that originally quoted will be allowed within the validity period. The rate should be quoted at work site inclusive of all taxes and duties.

**04. Transportation :-**

Transportation of the required materials from IOP Campus, Bhubaneswar to the work site, return of surplus and dismantled materials, loading of goods at IOP Campus, Bhubaneswar as well as unloading at contractor stores shall have to be arranged by the contractor and this rate is included in the price bid as stated above.

**05. Site facilities:** - The contractor shall arrange its site office and also stores conveniently at the works location, to store the materials for the execution of the works. Besides the above electricity, water etc. shall have to be arranged by the contractor without any extra financial cost to IOP.

**06. Watch & Ward:** - The contractor shall be responsible for arranging suitable watch & ward of the equipment/ materials issued to him as well as of installations from the time of issue to the final takeover of the installation for operation by IOP. Any loss, damage, theft to the materials / Equipment / Installation shall be compensated by the Contractor.

**08. Tools, Tackles & Consumables:** - All required tools, tackles, consumables required for the execution of the work, shall have to be arranged by the contractor without any extra financial cost to IOP. If the contractor fails to mobilize sufficient number of tools & Tackles on time, the IOP Engineers reserve the right to engage the same in the interest of the work at the risk and cost of the contractor.

**09. Quality and Workmanship:-** The Contractor shall have to comply applicable IS norms. The work shall be executed under the direct supervision of the IOP engineers' and if any work is found unsatisfactory by IOP engineers, the contractor shall have to dismantle the same and rectify without any extra financial cost to IOP.

**10. Technical bid:-**

Repairing should of such standard that the repaired transformer should pass the required tests of the relevant ISS

**11. Documents:-**

The following document's Xerox copy duly self-attested is to be submitted

- i) Valid license for repairing / manufacturing of power & distribution transformer
- ii) Valid insurance certificate to cover fire, burgling, riots etc to the unit
- iv) Evidence for repairing of power & distribution transformer during last three years
- v) List of testing equipment's available duly & copies of testing certificates from the Govt. Testing Laboratory
- vi) List of repairing machineries available

**12. Testing:-**

Following tests are to be carried out by the repairer in presence of IOP representative during the process of repairing

- i) Measurement of winding resistance
- ii) Ratio, Polarity & Phase relationship
- iii) Load loss (Full load & No loss)
- iv) Impedance voltage (Short circuit)
- v) All category of insulation resistance
- vi) Induced over voltage withstand (DBDF)
- vii) Separate source voltage withstand (High Voltage)
- viii) Transformer oil BD value
- ix) Temperature rise

**13. Inspection: -** The authorized representative IOP will inspect the works at any stage (min-two stages) during the execution of works. Bidder is to extend full co-operation to carry out the same smoothly. During the inspection local hospitality of IOP representatives is in bidder's scope.

**15. Guarantee: -** Guarantee to the repaired transformer should be covered for a period 24 months from the date of delivery after repair and re-installation at IOP site.

**16. Completion of work:-**The work should be completed within the stipulated contract period as would be stipulated in Work order.

**20. Scope of the Work:-**

IOP reserves the right to alter, reduce or increase the scope of works or allot the work in splitted manner amongst two or more bidders and without assigning any reason thereof, what so ever the decision of the IOP will be final. If the rates of this tender is not reasonable as per the internal estimate of the company, then IOP reserves the right to cancel the tender without assigning any reason thereof, what so ever the decision of the IOP will be final.

**21. Acceptance:-**

The successful bidder / bidders on receipt of the work order/ letter of intent should intimate its acceptance within 15 (fifteen) days of receipt of order, failing which the order will be automatically cancelled with forfeiture of earnest money deposit as applicable.

**ANNEXURE-II**

**WORKS COMPLETED AND IN PROGRESS DURING THE LAST 3 YEARS (INCLUDING ALL WORKS AWARDED)**

{ADD ADDITIONAL SHEETS, IF NECESSARY}

Sl. No.	Name of Work	Date of start	<u>Date of Completion</u>		Reason for delay & compensa tion levied if any	Tender ed Cost	Net Amount received	Name  Designation &  Complete address of the Authority for whom the Work was done
			<u>Stipulated</u>	<u>Actual</u>				

**Signature of the tenderer with seal**



**SCHEDULE OF QUANTITIES**  
**FOR**  
**REPAIR & MAINTENANCE OF 33/0.4 KV, 750 KVA TRANSFORMER AT IOP,**  
**BHUBANESWAR**

The bidder is requested to quote their rates of following materials required for repair of the transformer with the following specification:

Make: Crompton Greaves Ltd. Bombay, Transformer Standard – 2026-1997, KVA-750, No load Volts: HV-33000V, LV-433V, AMPS: HV-13.1A, LV-1000A, Diagram No.T223V7524D, Maker's Sl. No.V7524, Type of Cooling-ONAN, Frequency-50Hz, Impedance Volt-5.39%, Connection Symbols-Dyn11, Core & Winding-1380Kg, Weight of Oil – 1160Kg, Total Weight – 3300Kg. Oil in Ltr.- 1330ltr. Year of Mfg. – 1990, Insulation Levels- L1 170 AC70/L1-AC3.

Sl. No.	Description of work	Unit	Rate / Unit
1.	Supply and Replace the insulation of HV winding copper conductor with existing conductor.	Kg.	
2.	Supply and Replace of insulation of LV winding strip copper conductor with existing conductor	Kg.	
3.	Supply and rewind/replace the defective HV winding with New HV copper conductor	Kg.	
4.	Supply and rewind/replace the defective LV winding with New LV copper conductor	Kg.	
5.	Supply and to provide the Insulation of new HV winding copper conductor	Kg.	
6.	Supply and to provide the Insulation of new LV winding copper conductor	Kg.	
7.	Supply and to provide New insulting press board to be required for the windings.	Kg.	
8.	Supply and Replacement of new EHV Grade transformer oil	Ltr.	
9.	Filtration charges for new EHV grade transformer oil	Ltr.	

10.	Supply and Replacement of new gaskets of RC 70 grade for all joints of the entire transformer.	L.S	
11.	Cleaning & spray painting of tank, radiators, conservator, tap changer, marshalling box etc. with one coat of primer & two coats of approved paint and inside the tank with epoxy paint.	L.S	
12.	Supply, Replacement of 36 KV 250 Amp HV Bushing with all modification works if required like cutting, welding or any other works etc.	Nos.	
13.	Supply, Replacement of 36 KV 250 Amp HV Stud with all modification works if required like cutting, welding or any other works etc.	Nos.	
14.	Supply, Replacement of LV EPOXY CAST Bushing with Metal parts. Rating 1KV/1000Amps. with all modification works if required like cutting, welding or any other works etc.	Nos.	
15	Supply and replacement of Buchholz relay	Nos.	
16	Supply and replacement of Breather with Silica gel.	Nos.	
17	Supply and replacement of explosion vent viewing glass and diaphragm	Nos.	
18.	<p>Following tests are to be carried out by the repairer in presence of IOP representative after complete rectification of the transformer problem and before dispatch of the transformer from factory/workshop/repair site:</p> <ul style="list-style-type: none"> <li>i) Measurement of winding resistance</li> <li>ii) Ratio, Polarity &amp; Phase relationship</li> <li>iii) Load loss (Full load &amp; No loss)</li> <li>iv) Impedance voltage (Shut circuit)</li> <li>v) All category of insulation resistance</li> <li>vi) Induced over voltage withstand (DBDF)</li> <li>vii) Separate source voltage withstand (High Voltage)</li> <li>viii) Transformer oil BD value</li> <li>ix) Temperature rise</li> </ul> <p>Two representatives of IOP will visit the repair site for inspection in two stages and their local hospitality is</p>	L.S	

	in bidder's scope.		
19.	Labour, Tanking, Testing & Supervision charge	L.S	
20	Transformer radiator welding(at one point)	LS	
21.	<p>Dismantling of Transformer with transportation from IOP, Bhubaneswar to repair site. The scope of job involves the following:</p> <ol style="list-style-type: none"> <li>1. Disconnection of LV (4x3 ½ core x 400Sqmm PVCA) cables and HV (01x03 core x 300Sqmm 33KV XLPE) cable.</li> <li>2. If any cable terminal sockets or cable glands needs to be cut, same is to be provided and redone during reinstallation of transformer after repair.</li> <li>3. Removal of neutral &amp; Body earthing.</li> <li>4. Removal/opening of foundation fixing accessories to make free the transformer for movement.</li> <li>5. Dismantling of transformer parts (if required) to facilitate for easy transportation.</li> <li>6. Sliding/Moving of the transformer from transformer foundation to outside the periphery for easy lifting and loading on the transport vehicle.</li> <li>7. Mobile Cranes required for lifting and loading the transformer is to be arranged by the bidder.</li> <li>8. Transport vehicle is to be arranged by the bidder for transport the transformer from IOP to repair site and the transformer has to be transported on bidder's responsibility.</li> </ol>	L.S	
22.	<p>Erection of Transformer with transportation from repair site to IOP, Bhubaneswar, The scope of job involves the following:</p> <ol style="list-style-type: none"> <li>1. Reconnection of LV (4x3 ½ core x 400Sqmm PVCA) cables and HV (01x03 core x 300Sqmm 33KV XLPE) cable.</li> <li>2. If any cable terminal sockets or cable glands were cut, same is to be provided and redone during reinstallation of transformer after repair.</li> <li>3. 33KV HV Insulation- Booting is to be provided on the HV terminals during reconnection of HV cable.</li> </ol>	L.S	

	4. Fixing of neutral & Body earthing. 5. Transformer parts (if any) dismantled to be re-assembled as per original structure. 6. Mobile Cranes required for lifting and placing the transformer on foundation is to be arranged by the bidder 7. Transport vehicle is to be arranged by the bidder for transport the transformer from repair site to IOP and the transformer has to be transported on bidder's responsibility		
Total (A)			
23	Buy-Back offer for the Copper conductors of defective HV/LV winding going to be replaced.	Kg.	
24	Buy-Back offer for the Transformer oil to be replaced during/after repair work	Ltr.	
25	Buy-Back offer for major spares going to be replaced (if any) with details.	Nos.	
Total (B)			
<b>Total Amount (A-B)</b>			