**INDIAN INSTITUTE OF TROPICAL METEOROLOGY, PUNE**

**TENDER NOTICE [Advt. No. CE/HPC/02/2010 ]**

The Director, Indian Institute of Tropical Meteorology, Pune-411008 (India) invites Sealed tenders under **TWO BID SYSTEM**, i.e., separate sealed tenders (Part-I –Technical Bid, Part-II Commercial Bid) from reputed Indian/foreign manufacturers/ authorized dealers OR their authorized Indian agents for supply, installation, commissioning and Demonstration of following items:

| Sl. No | Tender Reference No | Description of Items | | EMD IN(Rs) | Cost of Tender in(Rs.) |
|---|---|---|---|---|---|
| 1 | CE/HPC/HTBP 01/2010/ | 22 kV HT Breaker Panels, | JOB | 1,00,000 | 1,000 |
| 2 | CE/HPC/TF/ 02/2010 | 22/0.433 kV, 1600 kVA Outdoor ONAN Transformer . | (2nos.) | 90,000 | 1,000 |
| 3 | CE/HPC/UPS/ 03/2010 | 1) 200kVA UPS (n+1) configuration | (4nos.) | 3,50,000 | 2,000 |
| | | 2) 200kVA UPS(n+1) configuration compatible with Existing UPS 2 No. | (2nos.) | | |
| | | 3) 60kVA UPS | (1nos.) | | |
| 4 | CE/HPC//DG/ 04/2010 | Minimum rating 600 kVA DGSET | (3nos.) | 3,30,000 | 2,000 |
| | | 600 kVA Synchronizing Panel For 4 X 600 KVA DG set | (1 nos) | | |
| | | HSD Buffer Tank & Fuel Transfer system for 4 x 600 kVA DG sets & 1 x 250 kVA DG set | JOB | | |
| 5 | CE/HPC/EE/ 05/2010 | External Electrical Work | JOB | 5,00,000 | 5,000 |

Last Date of Issue of Tender :22.04.2010,
Due Date for Receipt of Tender : 28/04/2010 up to 1500hrs,
Date of Opening of Technical Bid : 28/04/2010 16.00 hrs .

For details, please visit our website **http://www.tropmet.res.in .** Tender documents can be either obtained on payment in the form of Demand Draft from Nationalized Bank Drawn in favour of Director IITM payable at pune, from the Administrative Officer, or may be downloaded from our website. IITM will not be responsible for postal or any delay and reserves the right to reject any or all tenders without assigning any reasons.

**Administrative Officer**

# TENDER DOCUMENTS

FOR

(TECHNICAL SPECIFICATIONS - PART 1)

FOR

TRNSFORMER

AT

INDIAN INSTITUTE OF TROPICAL METEOROLOGY,PASHAN, PUNE.

# TENDER NOTICE

1 Sealed item rate quotations are invited from reputed Transformer Vendors.

| | | |
|---|---|---|
| Name of Owner | : | INDIAN INSTITUTE OF TROPICAL METEOROLOGY PUNE |
| Name of Work | : | SUPPLY OF 22/0.433 kV, 2 No. 1600 kVA ONAN TRANSFORMER ON BUY BACK BASIS WITH EXISTING 11/0.433kV , 750 KVA USS & 500 KVA ONAN TRANSFORMER |
| Cost of Tender documents | : | Rs. 1000/– (Non Refundable) in the form of Demand Draft from Nationalized Bank drawn in favour of "Director Indian Institute Of Tropical Meteorology , Pune" |
| Earnest Money Deposit | : | Rs 90,000/ ( Ninty Thousand only) in form of Demand Draft / Bank Guarantee from Nationalized Bank drawn in favour of "Director Indian Institute Of Tropical Meteorology, Pune". |

2 The tender forms will be issued upto **22/04/2010** during office hrs on payment of cost of tender document in the form of Demand Draft from Nationalized Bank at the address given below.

Administrative Officer' s Office,
Indian Institute of Tropical Meteorology,
Dr Homi Bhabha Road,
Pashan, Pune–411 008.

3 Pre-Bid meeting on – **23/04/2010 (1100 hrs.)**

4 Duly completed tenders shall be submitted in sealed envelopes at the office of owner on address given below on **28/04/2010 (1500 hrs.)** and opened on **28 /04 / 2010 (1600 hrs.)**

M/s Indian Institute of Tropical Meteorology,
Dr. Homi Bhabha Road,, Pashan,Pune-411 008
**Tel No 020-25904200**

Contact Person : A . K . Saxena.
Civil Engineer.
**Tel.No 020-25904335**

5 The owner reserves right to accept or reject any or all the quotations without assigning any reasons shall not be bound to accept lowest quotation.

## Instructions To Bidders

1 The Tender is to be filled properly and all relevant information asked for shall be provided for in due format.
2 **The schedule of Rates shall be given in two sets.**
3 **All total amounts shall be written in words as well as figures.**
4 Bidders are requested to give deviations / comments / assumptions clearly in deviation pages based on the site observations.
5 **Bidders are requested to specify the makes of materials to be considered.**
6 Duly completed tender shall be submitted to following address given below in sealed envelopes

INDIAN INSTITUTE OF TROPICAL METEOROLOGY
PASHAN, PUNE -411008

**Due Date and Time: 28/04/2010 – 1500 hrs**

8 The soft copy of technical bid duly filled tenders shall be submitted to IITM in the form of CD.

## PROJECT INFORMATION :

| | | |
|---|---|---|
| **OWNER** | : | **Indian Institute of Tropical Meteorology, Pune** |
| **PROJECT** | : | HPC BUILDING ( HPC UPGRADATION ) |
| **AVG. RAIN FALL** | : | 60 Cms. |
| **TEMPERATURES** | : | 40° |
| **INCOMING SUPPLY** | : | 22000V 3 Phase, 3 Wire. |
| **DISTRIBUTION** | : | 415 Volts, 3 Phases, 4 Wire. |

## SCOPE :

DESIGN, FABRICATION, ASSEMBLY, SHOP TESTING & SUPPLY OF 2 NOS, 22/0.433 kV , 1600 KVA ONAN TYPE, DISTRIBUTION TRANSFORMER WITH ON LOAD TAP CHANGER & RTCC ON BUY BACK BASIS WITH EXISTING TRANSFORMERS AS BELOW.

1) 1 X750 KVA ONAN 11KV/0.433 KV TELAWANE MAKE UNITISED SUBSTATIONAS AS PER DETAILS ATTACHED HEREWITH. (1 ½ YEAR OLD).
2)
3) 1 X 500 KVA EXISTING (EMCO MAKE) ONAN TRANSFORMER (MANUFACTURED IN 1986) 11 KV/0.433 KV.

VENDOR SHOULD VISIT SITE AND OBSERVE THE CONDITION OF TRANSFORMER BEFORE SUBMITTING THE TENDER.

VISITS OF SERVICE ENGINEER FOR INSTALLATION AND PRE- COMMISSIONING CHECKS FOR EACH SET OF TRANSFORMER IS NECESSARY.

# TECHNICAL SPECIFICATIONS OF DISTRIBUTION TRANSFORMERS

## 1. SCOPE

This specification covers the requirements at distribution transformer and related equipment accessories.

## 2. CODE & STANDARDS

a) The design, manufacture and performance of equipment shall comply with all applicable regulations and safely codes in the project area. Nothing in these specifications shall construe to relieve VENDOR of such responsibility.
b) The equipment shall confirm to the latest editions of applicable standards mentioned in the document. However in case of complication the specification shall govern.

## 3. CONSTRUCTIONAL FEATURES :

All material used shall be of best quality and class suitable for working under conditions specified like temperature, overloads, short-circuits, without distortion or deterioration.

## 4. TANKS :

a) The exterior of the tank and other steel surfaces exposed to weather shall be thoroughly cleaned and a have priming of zink chromate applied. The tank shall be painted with 2 coats of oil and weather resistant, non-fading colour of approved shed.
Interior or tank shall be finished with oil insoluble paint after sand blasting.
b) Steel bolts, nuts and other hardware shall be galvanized or stain less steel.
c) The tank together with radiator's, conservator, bushing and other fittings shall be designed to withstand permanent distortion & shall be tested for
i) Full vacuum of 760mm of Hg.
ii) Internal gas pressure of 0.35 kg / $cm^2$ with oil operating level.
e) The tank cover shall be sloped so that it dose not retain water.
f) The material used for gaskets shall be cork neoprene or equivalent.

## 5. CORE :

a) The magnetic circuit shall be constructed from high grade cold rolled non-aging grain oriented, silicon steel laminated core.
b) The insulation coat from core to bolt and core to clamp plate shall be suitable to withstand voltage upto 2000V for one minute.

## 6. WINDINGS :

a) Windings shall be copper only unless specifically asked for or approved by purchaser.
b) The winding shall be subjected to shrinking and seasoning so that no further shrinking takes place during service.
c) The core and winding assembly shall be vacuum dried and impregnated with oil immediately.

## 7. TERMINATION & EARTHING:

a) The transformer shall have cable either bushing or cable end boxes as specified in the DATASHEET.
b) Special arrangements shall be provided if necessary for connections of multiple cables on L.T. side in the end boxes.
c) All internal connections shall be done & secured properly and insulation shall be provided wherever necessary.

d) Connecting strips in the disconnecting chamber shall be easily approachable for disconnection.
e) The neutral i.e. start point shall be brought out to a separate bushing. Arrangement shall be made for cable connection in the BOX and shall be brought on the tank / box outside for earth connection.
f) The framework, Core clamps and winding clamps shall be securely connected to tank by copper strip.
g) Whenever busduct termination is specified by in data sheet A, flanged bushing connection shall be suit the busduct.

## 8. BUSHINGS :

a) Bushing shall comply with applicable standards. All type test certificates from manufacturers shall be furnished.
b) All fittings of steel or iron shall be galvanised.
c) Bushing for 400 Amps. and above shall be non-ferrous flanges & hardware.
d) Bushing shall be provided with connector clamps if OH connections are specified.

## 9. CABLE BOXES & DISCONNECTING CHAMBER :

a) Whenever specified cable end box suitable size for no. and size of cables specified by purchaser shall be provided.
b) Arrangements for connecting specified no. of cables shall be made.
c) All cable termination arrangements like drilled gland plates, Cable luges, brass hardware, sealing ends, body earth terminals etc. shall be provided. Glands shall be provided if specified in data sheet.
d) Disconnecting chamber on HV side shall be provided whenever specified to enable removal of transformer without disturbing the joints.
e) The disconnecting chamber shall be air/oil insulated complete with seal of insulators, easily removable connectors link removable covers, etc.
f) Proper clearances shall be provided in the disconnecting chamber so as to carry out H.V. tests separately on transformer and cables.

## 10. INSULATING OIL :

Transformer shall be supplied with full quantity of fresh transformer oil of required dielectric strength and complying with latest standards.

## 11. FITTINGS & ACCESSORIES:

a) For all onan transformers following fixtures shall be provided.
b) BUSHING TERMINALS either external or with cable end boxes as specified.
c) Neutral bushing on transformer body outside.
d) Rating & Terminal marking plates.
e) Two earthing terminals.
f) Lifting lug –
    i. Complete Transformer.
    ii. Top Cover.
    iii. Core & Oil.
g) Oil level indicator with minimum oil level marking.
h) Drain cum sampling valve.
i) Filter Valves.

j) Oil filling hole with cap.
k) Thermal meter pocket.
l) Conservator and breather, Air release devise.
m) Base frame with channels & wheels.
n) Jacking plates.
o) Explosion for vent with diaphragm.
p) 10% extra oil in sealed drums.
q) Equalizing pipe for transformer rated 500 KVA & above.
r) Inspection cover for transformer rated 750 KVA & above.

12. OPTIONAL FEATURES :

a) Dial type thermometer for alarm (HIGH) & trip (too high) Contact for Oil temperature. (Potential free.)
b) Magnetic Oil level indicator with potential free alarm contacts rated minimum 0.5 Amp. at 220 V D.C.
c) Buchholz relay (i.e. gas actuated) double float type with valve between relay and conservator, Air releases cock.
d) Winding temperature indicator with alarm contacts rated minimum 0.5 Amp, at 220 V D.C.

13. MARSHALLING BOX :

a) Whenever optional fittings in clause 12 are provided. Vendor shall provide marshaling box for all potential free contacts/terminals of devise provided on transformer.
b) The marshaling box shall be outdoor weather proof tank mounted box fabricated from 14/16 SWG sheet - steel, hinged doors ped locking arrangement sloping top removable plate etc.
c) All potential free contacts shall be brought to marshaling box with either P.V.C. insulated wires in G.I Flexible pipes armored cable not less then 1.5 Sq. mm Cu.
d) Amp. rating terminal strip shall be provided in the box with sufficient spare terminals.

14. TAP CHANGER :

14.1 OLTC with RTCC shall be provided as indicated in Data sheet
The Off Load Tap changer shall comprise of operating handle or wheel accessible from ground level.
Tap Position indicator.
Ped locking arrangement.

14.2 For OLTC all details with details of RTCC panel and AVR shall be furnished.

14.3 Steps shall be provided as indicated in Datasheet.

15. LOSSES :

a) The transformer shall be designed for minimizing losses particularly, No load losses. Losses shall be as per New ECBC norms or better.
b) The bids shall be evaluated taking into account losses based on the formula indicated in datasheet and tolerance taken in to consideration.
c) The losses exceeding losses indicated in the offer are not primarily acceptable. In case the losses are found excess at the time of testing vendor shall pay penalty to purchase as per charges indicated in DATA SHEET.

16. TESTS :

All routine and type tests asked for shall be carried out by vendor in presence of representative of owner and consultant.
Following tests shall be carried out on all transformers and shall be included in the quotation.

Megger Test.
Vector Group.
No load & Load Losses (O.C. & S.C. tests.)
Winding Resistance.
Separate source Voltage with stand.
Induced Voltage Test.
Ratio Test.
Magnetic Balance.
% Impedance.

Following tests shall be carried out if specifically asked for by the purchaser. Charges for the same shall be indicated separately.

Heat Run Test.
Impulse Test.
Short circuit with stand Test.
Insulating Oil breakdown test.

## 17. SPARES :

Bidder shall quote item wise prices for recommended spares to be kept in stocks separately.

## 18. REJECTION :

a) The Transformer can be rejected if during testing following condition arise.
b) No load losses exceed guaranteed value by 10%.
c) Load losses exceed guaranteed value by 10% However; losses shall not exceed limits given in ECBC Norms.
d) Impedance value differs the guaranteed value by + /- 10% or more.
e) Oil or winding temperature rise is more by $5^{O}$ C than specified value.
f) Transformer is not manufactured in accordance with specification. PURCHASER Reserves right of retaining the rejected transformer until VENDOR replaces it with new acceptable transformers at extra cost.

Total Losses exceed the Max limit indicated by ECBC.

# DATA SHEET
# FOR
# POWER TRANSFORMER

**CLIENT :** **PROJECT :.**

## GENERAL

| | | | | |
|---|---|---|---|---|
| 1. | DESIGNATION | | | STEP DOWN DISTRIBUTION TRANSFORMER STANDARD |
| 2. | INSTALLATION | | | outdoor |
| 3. | QUANTITY REQUIRED | | | 2 No. |
| 4. | RATING | | | 1600kVA |
| 5. | PHASES & FREQUENCY | | | 3 PHASE. 50 Hz |
| 6. | TYPE OF COOLING | | | ONAN |
| 7. | NO LOAD VOLTAGES | HV | KV | 22kV |
| | | LV | KV | 0.433 KV |
| 8. | VECTOR GROUP | | | Dyn 11 |
| 9. | PERCENTAGE IMPEDANCE | % | | TO BE PROVIDED BY VENDOR 6.00% APPROXIMATE |

## SYSTEM

| | | | | |
|---|---|---|---|---|
| 10. | NORMAL | HV | | 22000V |
| | VOLTAGE | LV | | 415 V |
| 11. | HIGHEST SYSTEM | HV | | 24000 V |
| | VOLTAGE | LV | | 433 V |
| 12. | SYSTEM NEUTRAL | HV | | |
| | | LV | | EFFECTIVELY EARTHED |
| 13. | TRANSFORMER | HV | | N.A |
| | NEUTRAL | LV | | EFF. EARTHED |

## INSULATION

| | | | | |
|---|---|---|---|---|
| 14. | POWERFREQ. | HV | KV | 50 KV |
| | WITHSTAND | LV | KV | 3 KV |

## TEMPERATURE RISE

| | | | | |
|---|---|---|---|---|
| 15. | AMBIENT | | $^{O}$C | 40 $^{O}$C |
| 16. | OIL BY THERMO METER | | $^{O}$C | 50 $^{O}$C |
| 17. | WINDING BY RESISTENCE | | $^{O}$C | 55 $^{O}$C |

## TAPCHANGER

| | | | | |
|---|---|---|---|---|
| 18. | ON LOAD TAP CHANGER | | | OLTC |
| 19. | TAPCHANGER ON HV / LV | | | HV |
| 20. | TOTAL TAPPING RANGE | | | + 7.5 TO – 12.5% |
| 21. | STEPS | % | | 1.25% |

22. **TAP CHANGER ACCESSORIES**

| | | | | |
|---|---|---|---|---|
| a) | OSR | | | YES |
| b) | PRV | | | YES |

23 **RTCC PANEL WITH VOLTAGE SENSING**

| | | | | |
|---|---|---|---|---|
| | AVR RELAY, TAP CHANGE INDICATOR, HOOTER, LAMPS ETC. | | | YES |

24. **BUSHINGS**

| | | | | |
|---|---|---|---|---|
| | A. VOLTAGES CLASS | HV | KV | 22 kV |
| | | LV | KV | 0.433 kV |
| | B. POWER FREQ. | HV | KV | 50 kV |
| | WITHSTAND | LV&N | KV | 3 |
| | C. MINIMUM CLEARANCE | | | |
| | **IN AIR** | | | |
| | 1. HV PH TO PH | mm. | | 280 |
| | 2. LV PH TO PH | mm. | | 25 |
| | 3. HV PH TO EARTH | mm. | | 140 |
| | 4. LV PH TO EARTH | mm. | | 19 |
| | D. BUSHING TERMINALS | Y / N | | YES |

25. **CABLE END Box's**

| | | | |
|---|---|---|---|
| A. HV LINE END | | | CABLE END BOX |
| B. LV LINE END | | | 2500A BUS DUCT CONNECTION. |
| C. NEUTRAL LV | | | BUSHING ON BOX |
| D. SIZE OF CABLES WITH NOS | | | N/A |
| E. END TERMINATION GLAND | | | NA. |

26. **WHEELS**

| | | | |
|---|---|---|---|
| A. PLAIN / FLAGED | | | PLAIN |
| B. UNI DIRETIONAL / BIDIRECTIONAL | | | BIDIRECTIONAL |

27. **OPTIONAL FITTINGS (CL.12)**

| | | | |
|---|---|---|---|
| A. DIAL TYPE OIL TEMP. | | | |
| INDICATOR WITH CONTACT | | | YES |
| B. MAGNETIC OIL LEVEL INDICATOR. | | | YES |
| C. BUCHOLZ RELAY | | | YES |
| D. WINDING TEMP INDICATORS | | | YES |
| E. OFF CIRCUIT TAP CHANGER | | | OLTC TO BE PROVIED |
| F. SUITABLE MARSHALING BOX | | | YES |

28. **LOSSES :**

| | | | |
|---|---|---|---|
| LOAD LOSSES | | | TO BE FURNISHED BY BIDDER LOSSES SHALL BE LOW & WILL BE TAKEN IN TO ACCOUNT FOR BID EVALUATION. |
| NO LOAD LOSSES | | | |

29. **SPARES**

| | | | |
|---|---|---|---|
| | | | SPARES TO BE INDICATED BY BIDDER SEPERATELY. |

# DATA SHEET FOR
# BUY BACK 11/0.433 KV, 750 KVA UNITISED SUBSTATION

| | |
|---|---|
| CATEGORY | UNITISED SUB STATION |
| RATING (KVA) | 750KVA |
| NO OF PHASES | 3 |
| FREQUENCY (HZ) | 50 |
| VOLTAGE RATION (KV) | 11/0.433 |
| VECTOR GROUP | DYN 11 |
| TAPPING MODE | OFF CIRCUIT TAP CHANGER |
| TAPPTING RANGE | +5% TO – 5% |
| STEP % | 2.5% |
| INSULATION | CLASS – H |
| STANDARD | Is 2026 |
| COLLING | ONAN |
| TEMINIATION HV /LV | CABLE ENTRY GLANDS IN ENCLOSURE BOTTOM |
| TEMP.RISE (C) | 90 |
| COLORSHADE | SIEMENS GREY, EPOXY POWER COATED |
| DIMENSION (L X B X C) (MM) | 3.00 X 3.00 X 2.2 MTR. (Canopy -200 and sand -500) |
| CURRENT DENSITY HV +LV | |
| APPROX.WEIGHT (KGS) | 5500 Kgs Approx. |

## FITTINGS & ACCESSORIES

| | | |
|---|---|---|
| 1 | Enclosure with Louvers | YES |
| 2 | Inspection Windows/Panels | YES |
| 3 | Warming Plate | YES |
| 4 | Neutral Bushing brought outside | YES |
| 5 | Lifting lugs /Hooks | YES |
| 6 | Earthing Terminals (4 Nos.) | YES |
| 7 | Bi-directional roller wheels | YES |
| 8 | Off circuit Tap links for Transformer | YES |
| 9 | Tapping link operation door | YES |
| 10 | Digital Temperature Indicator | YES |
| 11 | Rating and diagram plate | YES |
| 12 | Cooling | YES |
| 13 | 1250Amps, 3 Pole, ACB Make – Schneider | YES |
| 14 | 11kV SF6 Load break switch make-Schneider | YES |
| 15 | 750kVA, 11/0.433 KV Oil Cooled Type Transformer | YES |

**500 KVA 11kV/0.433 kV ONAN transformer manufacturing 1986. – 1 Nos.**

## APPROVED LIST OF MATERIAL

| | | |
|---|---|---|
| **B. SUBSTATION** | | |
| TRANSFORMER ONAN 750 KVA AND ABOVE | : | VOLTAMP / CROMPTON / KIRLOSKAR / RAYCHEM |
| | | |

## LIST OF IS STANDARD

| | | TRANSFORMER , OLTC |
|---|---|---|
| 1 | IS : 3347 - 1979 | Dimensions for porcelain transformer bushings for use in normal and lightly polluted atmosphere |
| 2 | IS : 1271 - 1985 | Thermal evaluation and classification of electrical insulation. |
| 3 | IS : 10028 - 1985 | Code of practice for selection, installation and maintenance of transformers. |
| 4 | IS : 2026 - 1994 | Power transformer. |
| 5 | IS : 1180 - 1989 | Outdoor type three phase distribution transformers upto and including 100 KVA 11KV. |
| 6 | IS : 10561-1983 | Application guide for power transformers. |
| 7 | IS : 8468-1977 | On load tap changers. |
| 8 | IS : 3637 - 1966 | Specification for gas operated relays (Buchholz's). |
| 9 | IS : 335 – 1993 | Specification for new insulating oils. |

## DEVIATIONS FROM GENERAL CONDITIONS OF SUPPLY

All deviations from general condition of contract shall be filled in hereby the bidder.

| SECTION | CLAUSE NO. | DEVIATION |
|---|---|---|

The bidder hereby certificates that the above mentioned are only deviations from general conditions of contract of enquiry.

DATE Signature And Seal of Bidder

## DEVIATIONS FROM TECHNICAL SPECIFICATIONS

All deviations from specification shall be filled in hereby the bidder.

| SECTION | CLAUSE NO. | DEVIATION SPEC. NO. |
|---|---|---|

The bidder hereby certificates that the above mentioned are only deviations from technical specifications of this enquiry.

DATE Signature And Seal of Bidder

## TERMS & CONDITIONS ENQUIRY NO:

## CE/HPC/TF/2010/02

1) The Tenderers are requested to give detailed sealed tender in two Bids i.e.
Part – I Technical Bid.
Part - II Commercial Bid, both the bids addressed to the Director, Indian Institute of Tropical
Meteorology, Dr. Homi Bhabha Road, NCL Post, Pashan, Pune – 411 008, INDIA.

2) This tender is not transferable.

3) **If a request is made to IITM for Tender Documents a sum of Rs.1000 (Rs. One Thousand only) (Non-refundable) has to be paid in the form of Demand Draft drawn in favour of "The Director, Indian Institute of Tropical Meteorology, Pune". In case the bidders download the Tender Documents from the website of the Institute, the document fee Rs.1000 (Rs. One Thousand only) in the form of Demand Draft is required to be enclosed while submitting the tender. Otherwise tender will not be considered.**

4) Tenders addressed to the Director, Indian Institute of Tropical Meteorology, Pune 411008 are to be submitted for each item in duplicate in two separate cover, under two bids system. Superscribed with Tender No. **CE/HPC/TF/2010/02** for purchase of **"TRANSFORMER" – Qty 02 No.** due on **28/04/2010.(1500hrs.)**

5) You have to submit two separate bids in two separate envelopes and you may keep both the bid envelopes in an envelope for sending to us.

One envelope will contain only the TECHNICAL SPECIFICATIONS of the indented equipment.

Another envelope will contain only the financial bid in which price and any other information, which has financial implications, will only be given.

The main envelope, which will contain both the bids, should be super scribed with our tender enquiry No.**CE/HPC/TF/2010/02** due on **28/04/2010.(1500hrs)**

6) Please indicate page nos. on your quotation ex. If the quotation is containing 25 Pages, please indicate as 1/25, 2/25, 3/25 ---- 25/25.

7) Cost of the items should be mentioned clearly in the Commercial Offer (Part-II) only. The optional and any other essential items / accessories required for the maintenance of the equipment for the next three years should also be specified in the offer separately.

8) Last date for the receipt of completed tender is up to **1500 hrs**. on **28/04 / 2010.** Tenders will be opened at **1600 hrs**. on **28/04/2010** in the presence of the representatives of the vendors present.

9) The tender must be valid for a period of at least 90 days from the date of opening.

10) The purpose of certain specific conditions is to get or procure best Equipment / service etc. for IITM. The opinion of Technical Committee shall be guiding factor for Technical short listing.

11) Supplier shall finally warrant that all the stores, equipment and components supplied under the SUPPLY ORDER shall be new and of the first Quality according to the specifications and shall be free from all the defects (even concealed fault, deficiency in the design material and workmanship).

12) Tender must clearly indicate the features offered, unit price, VAT tax, transport, transit-insurance, installation charges. Institute cannot furnish any certificate for exemption or reduction in VAT tax or any other duty/tax. The vendor should mention the price of the equipment and the duties/taxes to be paid such as customs duty/excise duty/VAT taxes etc. separately.

13) The complete equipment including operational manuals should be supplied within stipulated period mentioned in the supply order and the vendor should install and commission the equipment within **fifteen days** after the delivery of the equipment.

14) i) As this Institute is exempted from payment of Custom Duty and Excise Duty, exemption certificate will be issued on request.

ii) The Institute is exempted from payment of Octroi Duty. Necessary certificate will be issued on request, if required.

15) The equipment must carry comprehensive on-site warranty for **One Year** from the date of commissioning the equipment after the acceptance tests. Warranty period will stand extended
for a period of total downtime of the Transformer.

Further, optional quotation should be quoted separately for extendable warranty by two more years i.e. 1+1 year.

16) The vendor has to furnish a Bank Guarantee to the extent of 10% of the order value from a nationalized bank in the prescribed format valid for the entire period of warranty including extension if any.

17) No advance will be paid.

18) The prices shall be quoted as per the annexure.

19) The payment terms shall be as follows:

i) 70% payment against delivery.

ii) 20% payment after satisfactory installation, commissioning and successful completion of acceptance tests and training.

iii) 10% payment after execution of Bank Guarantee from a Nationalized Bank and successful completion of acceptance test. The Bank Guarantee will remain valid until the expiry of warranty period including the extensions if any.

20) The prices quoted should be firm and irrevocable and not subject to any change whatsoever, even due to increase in cost of raw material components and fluctuation in the foreign exchange rates and excise duty.

21) Vendor should arrange appropriate training to the users free of charge.

22) Indicate the names of the Indian reputed Organizations where you have supplied the similar equipment and may attach the satisfactory performance report of the Transformer from user Organization.

23) a) If you have supplied identical or similar equipment to other Institutes under Ministry of Earth Sciences and Ministry of Science & Technology, the details of such supplies for the preceding three years should be given together with the prices eventually or finally paid.

b) Based on the above information IITM will have its option to obtain details of the equipment, their performance, after sales services etc. for evaluation of the tender, directly from the concerned Labs. /Scientists etc.

24) The Institute is autonomous scientific research organization under the Ministry of Earth Sciences and is a recognized center for studies leading to M.Sc. and Ph.D. of the University of Pune and various other Universities. As such, all possible concessions / discounts / rebates applicable for educational Institutions may be given.

25) The vendor should have appropriate facilities and trained personnel for supply, installation, commissioning and warranty-maintenance of the equipment to be supplied. Detailed information in this regard may be furnished.

26) Kindly attach a of copy of your latest DGS&D, New Delhi registration Certificate under the compulsory Scheme of Ministry of Finance regarding the registration of Indian Agent of foreign supplier wherever it is applicable.

27) The Tenderer is required to furnish the Permanent Account Number (PAN) & Service Tax Number Allotted by the Income Tax Department.& other concern department. If registered with the National Small Industries Corporation, the registration number, purpose of registration and the validity period of registration' etc. should also be provided in Technical Bid for Indian Agents.

28) Vendor should clearly mention the following:

- **Make and model of every item quoted.**
- Delivery period.
- Company profile with a list of those institutes/users should be attached where vendor has supplied the equipments in question in past.
- A letter of AUTHORISED REPRESENTATIVE from the Principal should invariably be attached with quotation
- A copy of latest Income Tax clearance Certificate from Income Tax Department (INDIA)

29) Discount offered should be mentioned clearly in the commercial bid only.

30) The Tenderers are requested to quote for Educational Institutional Price for Equipment and Software, since we are eligible for the same.

31) Acceptance tests to be prescribed later will be carried out after installation and the items will be taken over only after successful completion of the acceptance tests.

32) The Equipments are required to be installed at **IITM**, **Pune** and subsequently Training is to be provided to the concerned persons of the Institute.

33) The item should be supplied with manuals and the manuals including technical / Electronic drawings / circuit diagrams should be complete in all respects to operate the system without any problem.

34) The Tenderer has to state in detail the Electrical Power is needed to house the system and to run the tests. i.e. pre-installation facilities required for installation may please be intimated in the technical bid.

35) Goods should not be dispatched until the Vendor receives a firm order.

36) The Date and Time of opening for Part-II (Commercial Bid) will be intimated only to pre-qualified and technically acceptable Tenderers for the item at a later date.

37) **Earnest Money Deposit:**

a) The Earnest Money Deposit of Rs. **90,000/ (Ninty Thousand only)** must be paid / sent along with your technical bid in the form of a Demand Draft, Banker cheque or Bank Guarantee (from a Nationalized Bank only) drawn in favour of The Director, Indian Institute of Tropical Meteorology, Pune payable at Pune, otherwise your bids will not be considered. The Earnest Money of successful bidder will be returned only after installation, commissioning, satisfactory demonstration and on acceptance of the equipment by the user Scientist / HOD as per the terms of our purchase order. If the successful bidder fails to fulfill the contractual obligations before the due date, he will forfeit the EMD.
The Earnest Money of the unsuccessful bidder whose technical bid has not been found suitable will be returned within 20 days after receipt of Technical Committee recommendations.

b) Those who are registered with Central Purchase Organization (e.g. DGS&D), National Small Industries Corporation or the concerned Ministry / Department need not to furnish EMD along with their bids.

38) Part and incomplete tenders are liable to be rejected.

39) Conditional Offers will not be considered.

40) The tenders must be clearly written or typed without any cancellations / corrections or overwriting.

41) **Fax /E-mail /Telegraphic /Telex tenders will not be considered.**

42) IITM will not be responsible:
a) For delayed / late quotations submitted / sent by Post / Courier etc.
b) For submission / delivery of quotations at wrong places other than the Office of Director, IITM, Pune

43) If the supplier fails to Supply, Install and Commission the system as per specifications mentioned in the order within the due date, the Supplier is liable to pay liquidated damages of one percent value of the Purchase Order awarded, per every week delay subject to a maximum of 10% for every week beyond the due date and such money will be deducted from any money due or which may become due to the supplier.

44) In case of any dispute regarding part-shipment, non-compliance of any feature etc., the Director, Indian Institute of Tropical Meteorology, Pune will be the final authority to decide the appropriate action and it will be binding on the vendor.

45) Last Date and Time for receipt of Tenders: **Upto 1500 hrs. on 28/04/2010.**

46) Date and Time of opening of Tenders:**At 1600 hrs. on 28/04/2010.** (Part - I Technical Bid only)

47) **ACCESS TO WORK :**
Owner / Engineer or their authorized representative shall have access to works being carried out at all reasonable times. No person, not authorized by owner/engineer except representatives of public authorities shall be allowed at work site at any time.

48) **SUB-CONTRACT :**
The complete work included in the contract shall be executed by the contractor and the contractor shall not sub-contract/sub-let work or part thereof without prior written consent from owner/engineer. However, contractor shall not be relieved from the responsibility of execution of works as per contract under any circumstances.

49) **COMPLETION CERTIFICATE:**

The work shall be deemed to have been completed on written certificate by Engineer that they have been virtually completed. The "Defect Liability Period" shall commence from the date of such certificate.

Contractor shall be responsible for injury to person animal or things for all damages caused to property from operations or neglect of himself or his employees / subcontractors. The contractor shall indemnify owner / Engineer and their employees and hold them harmless in respect of any and all expenses arising from such injury or damage and claims arising there of.

50) **INSURANCE & INDEMNITY**

Contractor shall have valid PF, ESI registration. All laws related to Labour, PF, ESI, Medical insurance etc, shall be adhered to by contractor. No child Labour shall employ by contractor.

51) **EXTENSION OF TIME:**

If in the opinion of owner/engineer the work is delayed (a) by force majored, (b) by reasons beyond control of contractor, extension of time for carrying out the works can be sanctioned by owner/engineer on written request from contractor with due reasoning / supporting.

Force Majored shall mean & include compliance with statutory laws & regulation, Government order or change in orders, war & war like conditions acts of civil & military authorities, fires, floods, earthquakes and other acts of God, sabotage, revolt, Strikes & lockout of more than 2 weeks. How ever contractor & owner in such case should devise means of expediting the progress for performance as per contract.

52) **TECHNICAL SCRUTINY OF FINAL BILL:**

The owner shall have right to get works and bills technically scrutinized at the time of payment of final bill. Owner shall be entitled to recover any money found to be over paid or over certified during such scrutiny.

53) **PERFORMANCE GUARANTEE:**

The contractor shall guarantee performance of plant and equipment and workmanship against fault for a period of 12 months called as "Defect Liability Period".

54) Director reserves the right to reject any or all tenders without assigning any reason.

(Venkatachalam.G )
Administrative Officer
For Director
Email: venkat@tropmet.res.in
Tel: 020-25904203

## ANNEXURE –'A'

# BID SECURITY FORM

Whereas 1 (hereinafter called " the Bidder") has submitted its bid dated (date of submission of bid) for the supply of _____ (name
and/or description of the goods)(hereinafter called "the Bid").

KNOW ALL PEOPLE by these presents that WE ___ _____ (name of bank) of (name of the country), having our registered office at (address of bank)(hereinafter called "the Bank"), are bound unto (name of Purchaser)
(hereinafter called "the Purchaser") in the sum of _____ for which
payment well and truly to be made to the said Purchaser, the Bank binds itself, its successors, and assigns by these presents. Sealed with .the Common Seal of the said
Bank this ___ day of 20___ THE CONDITIONS of this obligation are:

1. If the Bidder withdraws it's bid during the period of bid validity specified by the Bidder on the Bid Form; or

2. If the Bidder, having been notified of the acceptance of it's bid by the Purchaser during the period of bid validity:
   a) fails or refuses to execute the; Contract Form if required; or
   b) fails or refuses to furnish the performance security, in accordance with the Instruction to Bidders.

We undertake to pay the Purchaser up to the above amount upon receipt of its first written demand, Without· the Purchaser having to substantiate its demand, provided that in its demand the Purchaser will note that the amount claimed by it is due to it, owing to the occurrence of one or both of the two conditions, specifying the occurred condition or conditions.

This guarantee shall remain in force up to one year after the period of the bid validity, and any demand in respect thereof should reach the Bank not later than the above date.

(Signature of the Bank) Name of Bidder.

**CLIENT** : – Indian Institute of Tropical Meteorology
**PROJECT** : –IITM HPC UPGRADATION

| DESCRIPTION | Supply<br>AMOUNT Rs. Ps. | Installation<br>AMOUNT Rs. Ps. |
|---|---|---|
| | | |
| SECTION - 'I' : RS. | | |
| BOQ FOR 1600kVA 22kV/433 V DISTRIBUTION | | |
| TRANSFORMER(OIL FILLED) | | |
| | | |
| SECTION - 'II' : RS. | | |
| BOQ FOR BUY BACK FOR EXISTING | | |
| DISTRIBUTION TRANSFORMER AND USS | | |
| | | |
| | | |
| TOTAL ( SECTION I –SECTION II) : RS. | | |

## Bill of Quantities

Client :-IITM

Project: -HPC UPGRADATION

BOQ FOR 1600kVA 22kV/433 V DISTRIBUTION TRANSFORMER(OIL COOLED)

SECTION-I

| | | | | Supply | |
|---|---|---|---|---|---|
| Sr. No. | Description | Unit | Qty. | Rate | Amount |
| 1 | Manufacture, factory testing and supply of outdoor type 1600kVA, 22000V/433Volt, Dyn11, Oil cooled ONAN type Distribution Transformer with accessories like Conservator tank, Bucholz's relay, PRV, OSR, Oil temp Indicator With OLTC/ RTCC panel, and cable End Box on HT side, Busduct termination On LT side. Transformer should manufactured as per I.S. standards, Losses as per ECBC Norms, Tech. specifications and Data sheet attached. | Set | 2 | | |
| | **Total Quoted Price** | | | | |
| | **Taxes & Duties** | | | | |
| | Customs / Excise Duty. | | | | |
| | VAT | | | | |
| | Insurance. | | | | |
| | Freight & Forwarding. | | | | |
| | Octroi. | | | | |
| | **Final Cost** | | | | |
| | Delivery period | | | | |
| | Payment Terms | | | | |
| | Inspection | | | | |
| | Validily | | | | |
| | Warranty | | | | |
| | Makes Considered | | | | |

## Bill of Quantities

Client :-IITM

Project: -HPC UPGRADATION

BOQ FOR BUY BACK EXISTING 750kVA 11kV/433 V DISTRIBUTION TRANSFORMER(OIL COOLED)

SECTION-II

| | | | | BUY BACK | |
|---|---|---|---|---|---|
| Sr. No. | Description | Unit | Qty. | Rate | Amount |
| 1 | Dismentalling removing and Buy Back of outdoor type 750kVA(1 ½ YEAR OLD), 11000V/433Volt Unitised Substation with Dyn11, Oil cooled ONAN type Distribution Transformer with Off Circuit Tap Changer. H.T. & LT.Breaker ( As per Data sheet Given in Tender Specifications) | Set | 1 | | |
| 2 | Dismentalling removing and Buy Back of EMCO MAKE outdoor type 500 kVA, 11000V/433Volt with Dyn11, Oil cooled ONAN type Distribution Transformer with Off Circuit Tap Changer.(Manufactured in 1986) | Set | 1 | | |
| | **Total Quoted Price** | | | | |

Client :-IITM
Project: -HPC UPGRADATION

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## LOWEST COST CRITERIA

| | Particulars | Rs/- |
|---|---|---|
| A | Basic cost of Supply of 22 kv/0.433 kV 1600 KVA transformer as per details | |
| B | Basic cost of Buy back for 11/0.433KV 750 kVA USS as per details | |
| c | Basic cost of Buy back for 11/0.433KV 500 kVA existing transformer as per details | |
| D | Total cost for commercial comparision D=( A - ( B+C )) | |

# TENDER DOCUMENTS

FOR

(PRICE BID – PART 2)

FOR

TRANSFORMER

AT

INDIAN INSTITUTE OF TROPICAL METEOROLOGY,PASHAN, PUNE.

**CLIENT** : – Indian Institute of Tropical Meteorology
**PROJECT** : –IITM HPC UPGRADATION

| DESCRIPTION | Supply<br>AMOUNT Rs. Ps. | Installation<br>AMOUNT Rs. Ps. |
|---|---|---|
| | | |
| SECTION - 'I' : RS. | | |
| BOQ FOR 1600kVA 22kV/433 V DISTRIBUTION | | |
| TRANSFORMER(OIL FILLED) | | |
| | | |
| SECTION - 'II' : RS. | | |
| BOQ FOR BUY BACK FOR EXISTING | | |
| DISTRIBUTION TRANSFORMER AND USS | | |
| | | |
| | | |
| TOTAL ( SECTION I –SECTION II) : RS. | | |

## Bill of Quantities

Client :-IITM

Project: -HPC UPGRADATION

BOQ FOR 1600kVA 22kV/433 V DISTRIBUTION TRANSFORMER(OIL COOLED)

SECTION-I

| | | | | Supply | |
|---|---|---|---|---|---|
| Sr. No. | Description | Unit | Qty. | Rate | Amount |
| 1 | Manufacture, factory testing and supply of outdoor type 1600kVA, 22000V/433Volt, Dyn11, Oil cooled ONAN type Distribution Transformer with accessories like Conservator tank, Bucholz's relay, PRV, OSR, Oil temp Indicator With OLTC/ RTCC panel, and cable End Box on HT side, Busduct termination On LT side. Transformer should manufactured as per I.S. standards, Losses as per ECBC Norms, Tech. specifications and Data sheet attached. | Set | 2 | | |
| | **Total Quoted Price** | | | | |
| | **Taxes & Duties** | | | | |
| | Customs / Excise Duty. | | | | |
| | VAT | | | | |
| | Insurance. | | | | |
| | Freight & Forwarding. | | | | |
| | Octroi. | | | | |
| | **Final Cost** | | | | |
| | Delivery period | | | | |
| | Payment Terms | | | | |
| | Inspection | | | | |
| | Validily | | | | |
| | Warranty | | | | |
| | Makes Considered | | | | |

## Bill of Quantities

Client :-IITM

Project: -HPC UPGRADATION

BOQ FOR BUY BACK EXISTING 750kVA 11kV/433 V DISTRIBUTION TRANSFORMER(OIL COOLED)

SECTION-II

| | | | | BUY BACK | |
|---|---|---|---|---|---|
| Sr. No. | Description | Unit | Qty. | Rate | Amount |
| 1 | Dismentalling removing and Buy Back of outdoor type 750kVA(1 ½ YEAR OLD), 11000V/433Volt Unitised Substation with Dyn11, Oil cooled ONAN type Distribution Transformer with Off Circuit Tap Changer. H.T. & LT.Breaker ( As per Data sheet Given in Tender Specifications) | Set | 1 | | |
| 2 | Dismentalling removing and Buy Back of EMCO MAKE outdoor type 500 kVA, 11000V/433Volt with Dyn11, Oil cooled ONAN type Distribution Transformer with Off Circuit Tap Changer.(Manufactured in 1986) | Set | 1 | | |
| | **Total Quoted Price** | | | | |

Client :-IITM
Project: -HPC UPGRADATION

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## LOWEST COST CRITERIA

| | Particulars | Rs/- |
|---|---|---|
| A | Basic cost of Supply of 22 kv/0.433 kV 1600 KVA transformer as per details | |
| B | Basic cost of Buy back for 11/0.433KV 750 kVA USS as per details | |
| c | Basic cost of Buy back for 11/0.433KV 500 kVA existing transformer as per details | |
| D | Total cost for commercial comparision D=( A - ( B+C )) | |