



North Eastern Electric Power Corporation Ltd.
(A Government of India Enterprise)
An ISO 9001, 14001 & OHSAS 18001 Corporation

CONTRACT AND PROCUREMENT CELL

KOPILI H.E. PLANT:: DIMA HASAO DISTRICT: UMRONGSO – 788931

Phone: 03670-288241/ 288254, Fax: 03670-288254/288240.

Notice Inviting Tender no. : KHEP/ C&P (E)/ 2018/307 Dated 16.08.2018

Sealed tender with minimum 120 (one hundred twenty) days validity are invited from the Manufacturer /Authorized dealer of manufacturer /reputed supplier for supply and delivery at site of the following diagnostic tools as per the description of items and quantity required for Kopili Power Station of Kopili Hydro Electric Plant , NEEPCO Ltd. ,Umrongso, Dima Hasao District , Assam .

Sl. No.	Description of item	Qty
1	<u>Mercury in glass thermometer:</u> Range: 0 to 120°C, 12 inch long Purpose: To measure temperature	5 Nos.
2	<u>Binocular:</u> Size of lens: 35 mm or above Magnification: 7 x	2 Nos.
3	<u>Telescopic earthing rod (Suitable for earthing the HV & EHV system):</u> (PORTABLE EARTHING EQUIPMENT ‘F’ CLASS INSULATED, SUITABLE UPTO 400KV SYSTEM) <ul style="list-style-type: none">• Common operating pole with operating socket- 1 no.(1.2m long)• Extension handles- 4Nos.(Each 1.4m long)• Line end clamps- 3 Nos. Suitable from 19MM to 65MM Conductors (This covers ACSR Moose conductor)• Earth end clamps- 3Nos.• Flexible Braided & Transparent Sheathed copper conductor 32 Sqmm, 10mtr long- 3 Nos.• Nylon Carrying case (For Rods) - 1No.• Nylon Carrying Case (For Accessories)-1 No.	2 Sets.
4	<u>Analog multi-meters (AVO meters):</u> The instrument shall be suitable for measurement of the following: DC voltage: 0-1000 volts with a lowest scale of 0-100 millivolts AC voltage: 0-1000 volts with a lowest scale of 0-3 volts DC current: 0-10 amperes with a lowest scale of 0-50 microamps AC current: 0-10 amperes with a lowest scale of 0-10 microamps Resistance: 0-20 mega-ohms 0-200 kilo-ohms 0-2 kilo-ohms Accuracy: •DC range +1% of full scale •AC ranges +2% of full scale at 50 Hz Resistance Accuracy: +/- 10% DC ranges: 20,000 ohms per volt AC ranges: 100-2000 ohms per volt The instrument must be equipped with high speed cut out with fuse for overload protection.	2 Nos.

5	<p><u>SF6 (Sulphur Hexafluoride) Gas Detector:</u> The instrument shall be portable, hand held easy to use gas leak detector capable of detecting traces of SF6 gas. Sensitivity: 3 to 5 ppm of Gas in air Indication: Visual- LED Audio- Beeper Response: Instantaneous</p>	1 No.
6	<p><u>DC Earth Fault locator:</u> The DC earth fault locator shall be capable of locating the earth faults in live unearthed DC systems. It shall be suitable for locating the fault without losing the integrity of the system. It shall be capable of detecting earth faults where fault resistance is as high as 25 kilohms. The instrument shall operate by injecting a low frequency low voltage signal to the DC system at the main DC DB from a transmitted unit and tracing it with an inductive receiver and sensing head to the fault. Frequency of injected 10-12Hz to avoid signal interference with the DC ripples Open circuit signal not more than 15V strength. Receiver sensitivity 25kilo ohms fault resistance Both the transmitter and receiver shall be battery operated and portable. The instrument shall also be capable of detecting earth faults in machine windings. Cable earth fault locator The locator shall be able to detect the faults in the cable & give location of faults.</p>	1 No.
7	<p><u>Dew Point Meter:</u> Range of measurement for: -30 to +50 deg C (dew point) -20 to +70 deg C (Temperature) 0 to 100 % RH (Relative Humidity) Accuracy: Dew Point: $\pm 1^{\circ}\text{C}$ to $\pm 4^{\circ}\text{C}$ in different ranges Temperature: $\pm 0.5^{\circ}$ RH: $\pm 2\%$ RH (+2 to +98 %RH) Resolution: 0.1 % RH 0.1 Deg C (to + 200 Deg C) 1.0 Deg C (above 200 Deg C) Type: Portable handheld type , Display: LCD Accessories: Probe, Hard Carrying Case, Battery Loaded in the Instrument</p>	1 No.
8	<p><u>Buchholz Relay testing kit:</u> The kit must include a test pump and hose to generate sufficient pressure so as to operate buchholz relay and check its operation. Carrying case to be provided.</p>	1 No.
9	<p><u>Three phase transformer turns ratio meter :</u> GENERAL DESCRIPTION:</p> <ol style="list-style-type: none"> The test set should be fully automatic for finding out the Turns ratio & Voltage ratio of three phase & single phase Power Transformers, Auto transformers up to 400 kV class & 315 MVA, Rectifier Transformer, CT 's, VT's etc. The test set should be able to give direct readings of the ratio of test object automatically i.e. Microprocessor/PC based without any bridge balancing method involved. The test set should be able to take the measurements automatically. For three phase transformer measurement of the three phases to be conducted simultaneously & automatically without any manual changeover of phases. Phase changeover should be automatic through instrument's internal circuit. Instrument should have provision for detecting & displaying the following electrical parameters. 	1 No.

4. Data Display:

- i) Turns/ Voltage ratio of all three phase
- ii) Phase angle deviation of all three phase
- iii) Display & detection of vector group of transformer under test
- iv) % Error of all three phase
- v) Excitation current of all three phase
- vi) Pass / Fail comparison with nominal value

5. Display:

Back lit graphic display / bright red LED easily readable with large character size viewable in direct sunlight and low light level. Display parameters ratio, excitation current, phase angle deviation.

- 6. The test voltage to be applied on the object under test should be independent of the supply frequency to avoid any variation in the frequency during the testing.
- 7. The accuracy, reliability, steadiness and the repeatability of the readings should not be affected with the test voltages.

8. Input power supply:

230V \pm 10%, 50 Hz, Single phase.

9. Excitation voltage for Test:

The instrument should have at least three ranges of test voltage output (8-10V, 40V and 80-100V)

- 10. The test set should have necessary provision for storage of minimum 50 complete test results for retrieval and analysis in the associate laptop PC. The required software for Measurements and data storage should also to be supplied along with the test set. The software should be user friendly and compatible with Windows 7/8/10.

11. Operator control:

Key pad/ Menu driven for setup, data input, result storage.

- 12. Internal test record storage with RS-232 Interface

13. Environmental conditions:

Operating Temp.: 0°C to 50°C. Humidity: 0-90% non-condensing.
Storage Temp: 0°C to 50°C and Ambient temp.: 0°C to 50°C.

14. Protection:

Instrument should be protected against following: Transformer high excitation current due to shorted turns/ faults, incorrect connection, transient voltage protection, Surge voltage protection etc.

The ranges, resolution, accuracy of the test set for different parameters should be at least as per the points mentioned below:

- 15. Ratio Range: 0.8 to 9999 or better (Auto Range)
Resolution: 4 digit or better &

Accuracy For: i) Range 0.8 to 2000: $\pm 0.1\%$ rdg. or better

ii) Range 2001 to 4000: $\pm 0.25\%$ rdg. or better

iii) Range 4001 to 9999: $\pm 0.5\%$ rdg or better

16. Phase angle Range: ± 90 degrees or better

Resolution: 0.1 degree &

Accuracy: (\pm) 0.2 degree or better

17. Current reading range: 0 - 2 Amp

Accuracy: ± 1 mA or less

18. The instrument should have detachable test leads for avoiding damage to the cables as well as to the instrument.

19. The test set should have safety monitoring system to ensure perfect grounding of test system while test is under progress and the accessories required for the same are also to be supplied along with the instrument.

20. The test kit shall meet all the relevant safety specifications as per applicable standards.

The Test equipment shall be offered complete with the items mentioned below:

21. Main equipment i.e. Transformer Turns Ratio meter, Power supply cord, Storage case and bag for cables

22. Cable Set:

Power Supply lead

15 meter single phase set with suitable clip termination

15 meter three phase set with suitable clip termination

Safety ground lead 10 meter (min) with clamp

Necessary computer interface cable

23. Two sets of operating and maintenance manuals in English language. One additional set of all the above documentation in soft copy.

24. Three sets of calibration reports from NABI Accredited Lab covering full range of the equipment with following details should be provided: Calibration date, periodicity, calibration validity duration & next calibration due date. Traceability details of standard used for calibration. All documents should be endorsed by authorized signature.

25. **Performance & Warranty/Guarantee certificate:** The Supplier shall guarantee the product performance for 24 months from the date of successfully commissioning at Kopili Power Station, Umrongso works and shall provide spares and services during guarantee period to maintain the three phase TTR in working condition.

26. **Live Demonstration:**

Live demonstration of offered meter shall be called during technical evaluation if required.

27. **Installation/Commissioning/Acceptance:**

	<p>Installation/ Commissioning of the instrument to be done at Kopili Power Station work by supplier's representative free of charge.</p> <p>Demonstration of all features of TTR & all accessories to satisfaction of NEEPCO for their efficient and effective use for at least five no. of jobs.</p> <p>Instrument shall be accepted only after successful commissioning at Kopili Power Station, Umrongso.</p> <p>28. Spares: All types of spares for the Turn Ratio Meter and its accessories should be available for at least five years trouble free operation to be included after supply of the instrument. The vendor shall provide list of spares and drawing of parts/details of spares.</p> <p>Supplier should also provide any other attachment /accessories required for smooth functioning of the instrument.</p>	
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Terms and Conditions:

1. The bid should be submitted in Sealed Envelope super scribed with “**Tender for Supply of diagnostic tools , NIT no. KHEP/ C&P (E)/ 2018/ 307 Dated 16.08.2018**”.
2. Bidder should state their Tax payer Identification Number, GST Registration No. and PAN without which Bids may be summarily rejected.
3. Authorized dealers should submit valid authorized dealership certificate along with the tender.
4. Documentary evidence (supply order copy) regarding execution of supply orders for similar materials to Government / PSUs during the last three years have to be submitted along with the bid. Non-submission of copy of certificate or supply orders may result in disqualification.
5. **Price Basis:** The Price shall be quoted on FOR Umrongso basis indicating all charges towards freight , insurance and GST. All prices and rates shall be clearly indicated both in figures and in words.
6. **Taxes:** Applicable Taxes will be paid at actual prevailing at the time of dispatch against submission of documentary evidence.
7. **Tender Fee:** Tender Fee of Rs 1,000.00 (nonrefundable) in the form of Demand draft/banker cheque drawn in favour of NEEPCO Ltd, Umrongso have to be submitted along with the offer.
8. **Earnest Money Deposit :** EMD @ 2% of quoted value in the form of DD duly pledged in favour of NEEPCO Ltd. , Umrongso (SBI branch code: 4812) should be submitted along with the tender. Tenders without EMD shall be summarily rejected.
 - i) EMD submitted by successful bidder shall be retained as security deposit towards satisfactory execution of the order and will be released only after delivery of the entire quantity of the items to the satisfaction of the Corporation.
 - ii) EMD of all unsuccessful bidders will be returned only after finalization of the bid.
 - iii) If the bidder withdraws the bid while it is under consideration, his EMD shall be forfeited along with other action as per norms of the Corporation.

9. **Delivery Period:** The materials shall be delivered at site within 4(four) weeks from the date of order.
10. **Liquidated damage:** LD @ 0.5% (Half percent) on the contract value for per week of delay in delivery subject to a maximum of 10% on the contract value shall be applicable.
11. **Guarantee / Warranty :**
 - 11.1 The items to be supplied shall be warranted / guaranteed as per manufacturer's norms.
 - 11.2 The successful bidder shall supply the materials to the satisfaction of the consignee. Defective items shall be replaced by the supplier at free of cost immediately on intimation.
12. **Payment:** 90% payment inclusive of all taxes shall be made on receipt of materials at site in full & good condition and against submission of bill. Balance 10% shall be released after the expiry of warranty/Guarantee period of the supplied equipment.
13. **Submission of Bid:**
 - 13.1 The duly signed bid should be submitted in sealed envelope superscripted with "**Tender against NIT No. KHEP/C&P(E)/2018/307 dtd. 16 .08.2018**" at the office of the undersigned by means of registered post or in person only under the bidder's letter head with details like complete address, telephone/ fax no. , dealing person etc. so as to reach at this end on or before the due date. Offer received through fax / mail / etc. shall not be acceptable.
 - 13.2 A signed copy of the tender specification must be submitted along with the bid in acceptance of NIT conditions. **The tender may be downloaded from Corporation's website www.neepco.gov.in .**
14. The bids will be opened at the time and date mentioned below in presence of authorized representative (if any) of the bidders. No electronic recording device will be permitted during opening of the bids.
 - i) **Last Date and Time of receipt of bids : 15:00 hrs of 5th September, 2018.**
 - ii) **Date and Time of opening of bids : 15:30 hrs of 5th September, 2018.**
15. In the event of holiday/ bandh etc. on the stipulated bid opening date, the bids received shall be opened in the very next working day.
16. Bids received later than the prescribe time limit shall be disposed off as per Corporation's norms for late receipt of bids.
17. All texts and amounts of the bid shall be legibly written. The language and currency applicable are English and Indian currency respectively. In case of any discrepancy between figures and words, the amount indicated in words will be considered. In case of any discrepancy between unit rate and total amount, the total amount evolved by multiplying unit rate and quantity shall be considered. In case of discrepancy between lump sum amount and breakup, the lump sum amount shall prevail. In such case the bidder shall adjust the breakup as and when requested for billing purpose.
18. If any bidder withdraws his bids before finalization , his/her EMD will be forfeited.
19. **The bidders have to quote against all the items as mentioned in the documents indicating makes of the items. If any bidder fails to quote any item their bid will not be considered for further processing and their bid shall be rejected.**
20. Any action on the part of the bidder to revise the price or to change the structure of the price at his own instance after opening of the bid and within the validity of the offer shall not be acceptable.

21. The Corporation does not bind itself to accept the lowest tender and reserves the right to waive any formality in regard to submission of tender or to reject any or all tenders without assigning any reason thereof in the interest of the Corporation.

Sd/-
Sr. Manager (E), C&P,
KHEP: NEEPCO Ltd. :: Umrongso
Dima Hasao District:: Assam :: Pin-788931
