NOT FOR SALE/FOR WEB BASED TENDERING OLY

Power Transmission Corporation of Uttarakhand Limited

Tender Notice No. 04/2014-15

Sealed and separate tenders in two parts (Part-I & II) are invited from reputed and experienced firms/contractors or equivalent authority of following works. The tenders documents shall be down loaded from our internet website www.ptcul.org.

Tenders shall be received through Registered/Speed Post only (acknowledgement due) addressed to Executive Engineer, Electricity Test & Commissioning Division, PTCUL, 132KV S/s Campus, Kathgodam, Haldwani, District - Nainital in the office upto 02:00 PM on specified date. The department shall not own any responsibility regarding the postal delay in the receipt of the tender.

The Part-II of the tenders, belonging to only those tenders who qualify for the work/supply on the basis of the documents supplied by them in Part-I, shall be opened publicly same day. All other terms and conditions shall be as per tender documents.

Part I & II shall contain the following:-

(A) Part-I :- Part-I of the Tender shall contain the following:-

(i) **Cost of Tender Documents**:- In the form of Bank Draft/Banker Cheque in favour of Executive Engineer, Electricity Test & Commissioning Division, PTCUL, Haldwani payable at Haldwani.

(ii) **Earnest Money**: - In the form of FDR/CDR/NSC/TDR duly pledged in favour of Executive Engineer, Electricity Test & Commissioning Division, PTCUL, Haldwani payable at Haldwani.

(iii) **Experience Certificate**: - Experience Certificate regarding similar work issued by Government Department or Semi-Government Enterprises must be furnished with Part-I.

(iv) **Registration**: - The Firm/Contractor/Supplier must be registered in Sales Tax, Income Tax and Service Tax Department. Photocopy of Registration must be furnished with Part-I.

(v) **Financial Turn Over**: - Bidders Turnover of last two financial years shall not be less than Rs. 10.00 Lacs.
Relevant documents in support of above must be furnished with Part-I. If these documents are not furnished along with the Tender in Part-I, the offer will be liable to be rejected summarily.

(B) Part-II: - Part-II of the Tender shall contain Techno-Commercial and Price Bid.

(a) **Description of Supply**: - Procurement of Numerical Differential Protection Relay for various Feeders and Transformers of Kumaon Zone.
(b) **Earnest Money** :- Rs. 7500/-
(c) **Cost of Tender Document** :- Rs. 250.00 + 13.50 % VAT
(d) **Last Date of Downloading of Tender** :-20/02/2015
(e) **Last Date of Submission of Tender** :- 28/02/2015 at 17:00 PM
(f) **Opening Date of Tender** :- 02/03/2015 at 03:30 PM

"Save Electricity in the interest of Nation"

Executive Engineer (T&C)
PTCUL, Haldwani

TECHNICAL SPECIFICATION FOR NUMERICAL DIFFERENTIAL PROTECTION RELAY

The relay shall

i) Be triple pole numerical type. And suitable for three winding transformers. Have 3 instantaneous high set over-current units.

ii) Have second harmonic restraint or other inrush proof feature and be stable under normal over fluxing condition.

iii) Have fifth harmonic by pass filter or similar other arrangement to prevent mal-operation of the relay under operating conditions.

iv) Be suitable for rated current of 1A and include necessary ICTs for ratio & phase angle correction.

v) Have operating current setting sufficiently low (15% or less) so as to cover practically the whole of the transformer against all types of faults.

vi) Have adjustable bias setting range of 20- 50%.

vii) Have maximum operating time of 30milli seconds at 5 times the rated current.

viii) Have in built feature for zero sequence current filtering to avoid abnormal tripping.

ix) Not be affected by the CT saturation.

x) Be provided with necessary terminals & links to measure current in restraining circuits & in the operating circuits of all the phases under load without making any wiring changes.

xi) Cover the lightning arrestors (proposed to be provided very close to the transformer) in the zone of protection.

xii) The Scheme shall have in-built features of disturbance recorder and event logger.

   i. For disturbance recorder and event logger features, it shall have 8 analog and 16 digital channels (out of which at least 8 shall be external digital inputs). It shall have its own time generator and the clock of the time generator shall be such that the drift is limited to $\pm$0.5 seconds/day, if allowed to run without synchronization. Further, it shall have facility to synchronize its time generator from Time Synchronization Equipment

   ii. Having output of following types.
      - voltage signal: (0-5V continuously settable, with 50m Sec. minimum pulse duration)
      - Potential free contact (Minimum pulse duration of 50 m Sec.)
      - IRIG-B
      - RS232C

   iii. The recorder shall give alarm in case of absence of synchronizing pulse within specified time.

   a. The disturbance recorder shall meet the following requirements:
   Frequency response shall be 5 Hz on lower side and 250 Hz or better on upper side.

   b. Scan rate shall be 1000 Hz/Channel or better.

   c. Pre–fault time shall not be less than 100 milliseconds and the post fault time shall not be less than 2 seconds (adjustable). If another system disturbance occurs during one post-fault run time, the recorder shall also be able to record the same. However, the total memory of acquisition unit shall not be less than 5.0 seconds.

   d. The event logger shall meet the following requirements:

   e. The time resolution shall be 1milli second.

   f. Open with up to 40 changes in any one 10milli seconds interval.

   g. The date and time should be printed to the nearest 1milli second followed by a message describing the point which has operated.

   h. Events occurring whilst a previous event is in process of being printed are to be stored to await printing.

xiii) Display resolution of differential/pickup current should be 0.01A (10mA).

xiv) Relay must conform to latest international standards and protocols and must have KEMA certification.

xv) Relay must have under and over frequency, under and overvoltage, rate of change of frequency and voltage features also with at least 9 stages for settings.

xvi) Communication Protocol : IEC 61850