

**CENTRAL ELECTRICITY REGULATORY COMMISSION
CHANDERLOK BUILDING, 36, JANPATH,
NEW DELHI - 110001**

F.No. 2/5(3)/2017Estt/CERC

Dated 6th February 2017

Sub: NIT for Engagement of Consultant for conducting a study into incidences for “Tower Collapse in various parts of the country”

Central Electricity Regulatory Commission invites tenders for Engagement of Consultant for conducting a study into incidences for “Tower Collapse in various parts of the country as per enclosed Terms of Reference.

2. **Manner of Submission of tender:** The tender must be submitted in the prescribed pro-forma provided in **Annexure- II** and **Annexure- III** Tenders not in the prescribed pro-forma shall be rejected.

2.1 **Technical Bid:** The Technical bid, in the pro-forma prescribed at Annexure-II is to be placed in a sealed cover and **superscribed as “Technical Bids”**

2.2 **Financial Bid:** The Financial bid is to be furnished in the prescribed Proforma given in Annexure –III and placed in a sealed cover **superscribed as “Financial Bid”**.

2.3 Two separate sealed covers containing the Technical Bid and the Financial Bid should be placed in another sealed cover and addressed to the Assistant Chief (Admin), CERC. The cover should be **superscribed as “Tender for Engagement of Consultant for conducting a study into incidences for “Tower Collapse in various parts of the country.”**

3. **Last date of receipt of tender:** The tender, complete in all respects, should reach the Assistant Chief (Admin), CERC, Ground Floor, Chanderek Building, 36, Janpath, New Delhi-110001 by **12.00 noon, on Monday, the 27th February 2017.**

5. **The Tender shall be opened at 2.30 PM on the same date.**

Sd/-
(Kamal Kishor)
Assistant Chief (Admin)

Engagement of Consultant by Central Electricity Regulatory Commission (CERC) for conducting a study into incidences for “Tower Collapse in various parts of the country”

Terms of Reference (ToR)

1.0 Introduction:

- 1.1 The Electricity Regulatory Commissions Act, 1998 paved way for creation of the Regulatory Commissions at the Centre and in the States. Under the provisions of this Act, the Central Government constituted Central Electricity Regulatory commission (CERC) in July, 1998.
- 1.2 The Electricity Act, 2003 has significantly enlarged the spectrum of responsibility of CERC. Under the ERC Act, 1998 only the tariff fixation powers were vested in CERC. The new law of 2003 has entrusted on the CERC several other responsibilities in addition to the tariff fixation powers, for instance, the powers of licensing development of markets, introduction of open access, specifying grid codes adjudication of disputes setting performance standards and ensuring their compliance, etc.
- 1.3 Following are the statutory functions of CERC:
 - (a) To regulate the tariff of generating companies owned or controlled by the Central Government; to regulate the tariff of generating companies other than those owned or controlled by the Central Government specified in clause (a), if such generating companies enter into or otherwise have a composite scheme for generation and sale of electricity in more than one State;
 - (b) To regulate the inter-State transmission of electricity;
 - (c) To determine tariff for inter-State transmission of electricity;
 - (d) To issue transmission licenses and trading licenses with respect to inter-State operations;
 - (e) To adjudicate upon disputes involving generating companies or transmission licensee in regard to matters connected with clauses (a) to (d) above and to refer any dispute for arbitration;
 - (f) To levy fees for the purposes of this Act;
 - (g) To specify Grid Code having regard to Grid Standards;
 - (h) To specify and enforce the standards with respect to quality, continuity and reliability of service by licensees;

- (i) To fix the trading margin in the inter-State trading of electricity, if considered, necessary;
- (j) To discharge such other functions as may be assigned under this Act.

1.4 The Commission while discharging the above statutory functions has, vide order dated 14.6.2016 in petition no. 9/SM/2014 and 10/SM/2015, observed that there is need for comprehensive review of tower designs considering the changing wind regime, structural and workmanship aspects and material used. Therefore, the reasons for tower collapse need to be further investigated by an Independent Agency, preferably an academic or research institution with particular reference to the tower design and strengthening of existing towers to prevent tower failure. The Commission further directed the Staff to process the case expeditiously to entrust the investigation to an Independent Agency at the earliest after following the required procedure.

1.5 In view of the above, there is a need for detailed investigation into the incidences of transmission tower collapse of EHV transmission lines.

2.0 Objective:

To conduct investigation into the incidences of tower collapse in various parts of the country for establishing reasons of failure of towers of EHV transmission lines and verification of structural and foundation design.

3.0 Scope of the work assigned to the Consultant:

The Consultant shall

- (i) Investigate and establish reasons of failure of towers of EHV transmission lines;
- (ii) Review and verify structural & foundation design implemented vis-a-vis design specified by POWERGRID for total 8 nos. of towers in 4 transmission lines as given at *Annexure-I (2 nos. of tower in each transmission line)*;
- (iii) Identify flaws in tower fabrication of transmission towers;
- (iv) Conduct Non-destructive Testing (NDT) & Coupon Testing for tower and foundation (If needed);
- (v) Conduct Static and Failure Analysis for different loading conditions of transmission towers;
- (vi) Review O&M practices for EHV transmission lines;
- (vii) Recommend measures to avoid incidences of transmission tower failure in future.

Note: POWERGRID shall provide all necessary information (design specifications, wind zone, soil properties, test reports and criteria levels etc.) required for investigation in respect of transmission towers before commencement of investigation.

4.0 Deliverables and duration of the Investigation Work:

The Investigation Work shall be completed within a period of 90 days from the date of award of work which will be completed in two parts:

Part 1: The consultant shall be required to complete the following activities in 60 days' time as under:

- (i) Submit a draft report on the investigation by the end of 45 days from the date of award of work or submission of full information from POWERGRID to the Consultant, whichever is later;
- (ii) Submit the draft final report including recommendations to avoid transmission tower failure in future after discussion with CERC Staff by the end of 60 days from the date of award of work or submission of full information from POWERGRID to the Consultant, whichever is later.

Part 2: Consideration by the Central Electricity Regulatory Commission

- (i) A presentation before the Staff of the Commission and finalisation after incorporating the suggestions of CERC, if any, by the end of 90 days from the date of award of work or submission of full information from POWERGRID to the Consultant, whichever is later.

5.0 Payment Schedule:

- (i) 20% of the professional fee as advance of the total fee of the investigation at the time of signing agreement/acceptance of the offer, subject to production of Bank Guarantee for equal amount to be valid till the end of the agreement;
- (ii) 30% of the professional fee on submission of draft report;
- (iii) 40% of the professional fee on submission of the final report after incorporating suggestions/comments of the Staff; and
- (iv) Balance 10% of the professional fee shall be payable (after adjustment of advance, if any) on successful completion and acceptance of the final report by the "CERC".

6.0 Qualification/Experience Criteria:

- (i) The bidder must be an Academic Institution/Research Organization having experience of working with Statutory Bodies and/or Power Sector Utilities;

- (ii) The bidder should have completed at least two (2) assignments in the last five (5) years related to transmission system, and
- (iii) The bidder must have work experience in the area of transmission line & tower design, fabrication, installation, commissioning and testing.
- (iv) The bidder should have turnover of at least Rs. 1.00 crores per annum during last two years.
- (v) The firm should have a valid Registration No., PAN No., Service Tax No.

7.0 Application and Evaluation Criteria:

- (i) The formats of Technical and Financial Bid is at **Annexure – II** and **Annexure – III**.
- (ii) The bidder is required to submit two (2) copies of bids for Technical Offer (each of which will be treated as original) along with soft copy (in word format in a pen drive) and one copy of Financial Offer, duly sealed in separate envelopes.
- (iii) Technical component will carry 70% weightage and financial evaluation 30% weightage.
- (iv) The bids of the eligible bidders as per Clause 6 will be scrutinized by Consultancy Evaluation Committee (CEC) and shortlisted bidders will be called for interaction with the CEC (to be supplemented with a presentation not exceeding 6 slides). Their technical performance will be evaluated based on the following criteria:

Technical Parameters	Marks
No. of assignment completed in last five years in transmission area	30
Understanding of the issues and approach to be followed	30
Work experience in the area of transmission line & tower design, fabrication, installation, commissioning and testing	40
Total Technical Score	100

- (v) The minimum qualifying marks in the Technical Evaluation is 70% of the total score for technical component.
- (vi) Only those bidders, who qualify technically as per Clause 7(v), would be considered for Financial Evaluation.
- (vii) Weight for Financial Evaluation Proposal with the lowest quoted price (excluding optional items) will be given a financial score of 100 and other proposals would be given financial scores that are inversely proportional to their prices.
- (viii) The total score will be obtained by weighting the Technical and Financial scores.
- (ix) Only successful bidder would be communicated the award of consultancy assignment.

- (x) The right to reject any or all bids rests with the CERC without assigning any reason.
- (xi) The 'CERC' and the Consultant both would have option to terminate the contract by giving a notice of one month or the equivalent remuneration in lieu thereof. In such cases, the Consultant shall be paid fees after taking into consideration the part of work completed prior to such foreclosure, termination or cancellation of the engagement as may be decided by the 'CERC', and the decision of the 'CERC' shall be conclusive and binding. The fees so fixed and paid shall be deemed to be final payment in such cases.
- (xii) The consultant shall abide with the Contract as per **Annexure - IV**.
- (xiii) The name and designation of the Contact person for seeking clarifications on technical matters, if any, is given below:
 - Shri M.M. Chaudhari
 - Deputy Chief (Engineering)
 - Central Electricity Regulatory Commission (CERC),
 - Chanderlok Building,
 - 36, Janpath, New Delhi - 110001
 - Ph: 91-11-23353503

8.0 Other Terms and Conditions:

- (i) The firm shall not appoint any sub-contractor for this work under any circumstances.
- (ii) The bidder shall not be reimbursed the TA/DA expenses incurred for the site visits. The TA/DA charges for site visit for investigation of 8 towers of 4 transmission lines as per Annexure-I shall be included in the quoted price.
- (iii) Income Tax, if applicable, shall be deducted at source from all accepted payments, in accordance with the provisions of Income Tax Act, 1961 as amended from time to time.
- (iv) The firm shall not disclose or divulge any business secrets, information, facts relating to CERC acquired or gained while discharging their professional duties (under this agreement) or after termination of contract without the prior written permission of CERC. The firm shall, however, disclose conflict of interest, if any, before undertaking this assignment.
- (v) The firm should not have been indicted or convicted by court of law. No adverse orders should have been passed against the firm by any Regulatory or Statutory or Government authorities.
- (vi) The firm should not have been barred from appointment by any Govt. /Semi Govt. / entities/quasi judicial bodies.

- (vii) No investigation by any authority as stated above should be pending against the firm.
- (viii) Time is the essence of the Contract, therefore, no delay is allowed. However, in case of delay, liquidated damages @ 1% of the rate of the Contract would be levied for each day of delay subject to maximum of 10% of the value of the Contract.

9.0 Earnest Money Deposit:

The bidder shall furnish EMD of Rs. 1,00,000/- (Rupees One Lakh only) in the form of Demand Draft/Banker's Cheque from a scheduled commercial bank, drawn in favour of Central Electricity Regulatory Commission.

/ ANNEXURE - I /

1. **Farakka – Sagardighi** (ER2) – 400 kV, S/C Horizontal, Twin Moose, Approx. 55 KM (Year of Commissioning – 1994)
2. **Abdullapur - Bawana** (NR2) – 400 kV, D/C Vertical, Triple Snowbird, Approx. 167 KM (Year of Commissioning – 2000)
3. **Meerut - Moga** (NR2) – 765 kV, S/C Horizontal, Quad Bersimis, Approx. 337 KM (Year of Commissioning – 2015)
4. **Satna – Bina Ckt-II** (WR2) – 765 kV, S/C Delta, Quad Bersimis, Approx. 275 KM (Year of Commissioning – 2012)

**DETAILED PROPOSAL FOR INVESTIGATION
(TECHNICAL)**

Two (2) copies of the proposal along with project summary to be submitted to Assistant Secretary (P&A), CERC

I. GENERAL INFORMATION:

1. Title of the Proposed Investigation :
2. Name and address of the Organization/ Institution/research organization :
3. Name & Designation of the Key Person :
4. Contact address of the Key Person (e-mail/fax/telephone)
:
5. Net-worth/Turnover of the Organization/ Institution
:
6. PAN No of the Organization/ Institution :

II. TECHNICAL SPECIFICATIONS:

7.
 - i. Department(s) of the organization/Institution(s) where the investigation will be carried out
 - ii. Other department(s), if any, which will collaborate in this investigation
8. Brief of the works carried out during last 5 years in the area of transmission system
9. Detailed Approach & Methodology for undertaking the work
10. Facilities available for the proposed work in the applicants' organization/institution
11. Previous experience of the proposer in this or related field
12. Details of works undertaken in the area of in the area of transmission line & tower design, fabrication, installation, commissioning and testing.

**DETAILED PROPOSAL FOR STUDY
(FINANCIAL)**

I. GENERAL INFORMATION:

1. Title of the Proposed Investigation
2. Name and address of the Organization/Institution
3. Name & Designation of the Key Person
4. Contact address of the Key Person : (e-mail/fax/telephone)
5. Net-worth/Turnover of the Organization/ Institution :
6. Certificate of authorization in case of Institutes/other organizations (Format enclosed at **Appendix-'A'**)

II. Fee Proposed:

07. Amount of Fee proposed for:

Components	Basis	Amount (in Rs.)
(I) Consultant Charges		
(II) Misc./Others (if any)		
(iii) NDT and coupon testing for towers and foundations, if needed.		
TOTAL		

(The amount quoted is inclusive of TA/DA, etc., but is exclusive of statutory levies and taxes)
(RUPEES _____)

Signature of the Principal Investigator /
Head of the Study Team

CERTIFICATE

The undersigned agree to abide by the conditions of the grants and certify that available facilities for proposed work shall be extended to the investigator/study team.

Signature of Executive Authority
Investigator/of the Organisation

Signature of the Principal
Head of the Study Team

Name and
Designation

Name and Designation

Date

Date

Signature of Co-investigator
Name and Designation
Date

Official stamp of
Organization/Institution

**On Rs.50 Stamp Paper
AGREEMENT**

This agreement made on this day of [here give the date of the agreement] at New Delhi BETWEEN [here give the Name and address of the consultant] hereinafter referred to as “the consultant” of one part and the **Central Electricity Regulatory Commission, 3rd and 4th Floor Chanderlok Building, 36 Janpath, New Delhi -110001** (herein after called "the CERC") of the other part.

WHEREAS

- (A) the CERC, on being satisfied that there is a need to appoint a **[Consultant]** for “Investigation into towers collapse in various parts of the country” invited quotations vide notice [here give the No and date of the notice]
- (B) the [consultant] responded to the above notice and submitted his quotations vide his letter [here give the No and date of the quotation of the consultant]
- (C) the CERC, on scrutiny of the responses received in response to its above mentioned notice dated [here give the date of the notice inviting quotations] including the one received from the [consultant] has decided to engage the consultant for the above said assignment.
- (D) the consultant has agreed, to take up the above said assignment.

NOW THIS AGREEMENT WITNESSETH AS UNDER:

That the Parties to this Agreement have agreed to terms and conditions mentioned below:

1. Definitions:

- (i) “Confidential information” means any and all information communicated to the consultant by the CERC duly marked so.
- (ii) “Person” shall include any company or body corporate or association or body of individuals, whether incorporated or not, or artificial juridical person;

2. Nature of work: The consultant shall be engaged as **[Consultant]** for “Investigation into towers collapse in various parts of the country” in accordance with the Terms of Reference (**Annexure-I**) attached hereto and which shall be deemed to be a part of this agreement for all intents and purposes.

3. Commencement and duration of assignment: The above assignment shall commence with effect from [the date of this agreement] and shall be valid for a period of 90 days which may be extended with the mutual consent of the parties without any financial commitment.

4. Obligations of the consultant:

- (i) The consultant shall adhere to the time-frame specified in the Terms of Reference and submit the deliverables to the Staff of the Commission.
- (ii) The consultant shall make the presentations before the CERC as required by the Commission.
- (iii) The consultant shall ensure that the interim and final findings of the study and the contents of his interim and final reports to the CERC are not disclosed to any person unless expressly authorized by the CERC.

5. Entitlements of the Consultant:

- (i) The consultant shall be entitled to Rs. [Here give the amount payable and the schedule of payment and any other provision such as TDS, etc.]
- (ii) The consultant shall be paid as per clause 5 of Terms of Reference (**Annexure-I**).
- (iii) The consultant shall not be entitled to any other remuneration or reimbursement or perquisites or facilities.

6. Restrictive terms:

- (i) The consultant further affirms and confirms that the current assignment is not and shall not be, in conflict with any of its present obligations to any party with whom he/she/it has association.
- (ii) The consultant further affirms and confirms that he/she/it shall hold all Confidential Information in confidence and with the same degree of care he/she/it uses to keep his/her/its own similar information confidential, but in no event shall it use less than a reasonable degree of care; and shall not, without the prior written consent of CERC, disclose such information to any person for any reason at any time;
- (iii) CERC shall be entitled to, without prejudice to any other right for civil or criminal proceedings, receive from the consultant a compensation for the damages for violation by him/her/it of any of the terms of the agreement which shall be limited to the total fee of the assignment.

7. Penalty for Late Submissions:

The time line for deliverables is to be strictly adhered to. For any delay, except where extension is allowed, 1% penalty per day will be levied for value of work executed after the due date of completion, subject to a ceiling of 10% of contracted amount.

8. Termination of contract:

At the option of the CERC:

- (i) Without any notice: The assignment may be terminated by the CERC, any time, with immediate effect, under any of the following circumstances:

- (a) It has come to notice that the consultant has been convicted for an offence involving moral turpitude or unethical professional practices.
- (ii) With one month notice: The assignment may be terminated by the CERC, under any of the following circumstance, by giving one months' notice and after providing an opportunity to the consultant to offer explanation:
 - (a) It has come to the notice of the CERC that the consultant/professional has resorted to fraud or suppression of material information or submission of false information or unethical means to secure the assignment.
 - (b) It has come to the notice of the Commission that there is a material change in the circumstances of the Consultant based on which the assignment was awarded to the consultant
 - (c) The consultant has failed, without any valid justification, to adhere to the time-frame specified by the CERC in the assignment.
 - (d) The consultant has violated any of the provisions of the agreement.

At the option of either parties

- (iii) Both the parties namely, the CERC and the Consultant have the option to terminate the assignment by giving a notice of one month or the equivalent remuneration in lieu thereof.

10. Effect of termination:

On pre-mature termination of the assignment, the CERC shall pay the consultant the remuneration for the work performed by him/her/it till the date of termination of the Contract.

Provided that in case of any dispute as to what is the entitled remuneration for the work the matter shall be referred to arbitration under the provisions of this agreement.

11. Notice:

Any notice between the parties shall be in writing and posted to the other party to the last known address.

12. Arbitration:

- (i) Any difference, dispute, claims which may arise between the parties hereto as to the construction or true intent and meaning of any of the terms and conditions herein contained or as to any payment to be made in pursuance hereof or as to any other matter arising out or as to any other matter arising out of or connected with or incidental to these presents or as to the rights, duties and obligations of any of the parties, such difference, dispute or claim shall be mutually settled amicably by arbitration through a sole arbitrator appointed by the CERC.

(ii) The arbitration shall be conducted in accordance with the Arbitration and Conciliation Act, 1996 or any statutory amendments thereof. The venue of such arbitration will be Delhi/New Delhi.

(iii) Arbitration shall be subject to English language.

12. Jurisdiction:

In respect of any legal proceedings arising as a result of or relating to or incidental to this agreement, the courts in Delhi/New Delhi alone shall have exclusive jurisdiction.

IN WITNESS WHEREOF, the Parties above named have executed this Agreement of the day, month and year mentioned hereinabove.

Signed by, [the consultant/Professional party or on behalf of] in the presence of

Signed by, on behalf of the CERC in the presence of.