

**TRANSMISSION CORPORATION OF TELANGANA LIMITED**

O/o. Divisional Engineer/Telecom,  
Metro,132KV GIS Narayanaguda,  
Hyderabad.

**Lr.No.DE/TC/Metro/Hyd/Tech/F. No.TENDERS /D.No.701/2023-24, Dt: 20 -11-2023**

**TENDER NOTICE**

Sealed Tenders are invited from the contractors for the following work.

Specification No.	Description of work	Bid security (Rs.)
<b>02 /2023-24</b> of DE/TC/Metro/Hyd.	Rectification of 24F OPGW cable on 220KV Shapurnagar – Miyapur D/C line between Terminal tower ie. Loc. No. 1 to Shapurnagar boom at 220KV SS Shaprnagar pertaining to Telecom Sub-division, Erragadda.	2.5% of quoted value.

**TERMS AND CONDITIONS**

1. Detailed tender specification can be downloaded from TSTRANSCO website [www. tstransco.in](http://www.tstransco.in).
2. The following DD's are to be enclosed scrupulously along with the specification:  
Demand Drafts (DDs): 1. A DD for Rs.590/- towards cost of each specification drawn on any scheduled bank in favor of the **“Superintending Engineer/ Telecom/ TSTRANSCO/ Metro, Hyderabad”** payable at Hyderabad and  
2. A DD @ 2.5% of quoted value towards Bid security drawn on any scheduled bank in favor of the **“Superintending Engineer/ Telecom / TSTRANSCO/ Metro, Hyderabad”** payable At Hyderabad.
3. The filled in tenders duly signed and superscripting on the envelope as mentioned in specification shall be dropped in the Tender box kept in the O/o. Divisional Engineer/ Telecom / Metro / TSTRANSCO / 132KVGISS Narayanguda / Hyderabad, Opp. Melkote Park, Hyderabad-500 029.
4. The Tender not accompanied with Cost of specification and Bid security will be liable for rejection. The tenders received after due date and time will be summarily rejected.
5. The Divisional Engineer, Telecom, Metro, Hyderabad reserves the right to reject any tender or the entire tenders without assigning any reasons.
6. The successful tenderer should have to pay an amount equal to 10% of quoted value towards performance security. Out of 10% of Performance security , 5% ( Bid security will be adjusted in to the performance security) have to pay while entering the agreement with the undersigned and remaining 5% will be deducted from the bill.
7. Last date for receipt of filled in sealed tenders in tender box : **11.12.2023 at 14:00 hrs.**  
Date & Time of opening of the tenders : **11.12.2023 at 16:00 hrs.**
8. For further details please contact this office (Ph No.040 -23431327) during working days from 10.30 hrs to 17.00 hrs or visit website [www.tstransco.in](http://www.tstransco.in).

U.NARSIMULU  
DIVISIONAL ENGINEER,  
TELECOM, METRO, HYDERABAD.

**Copy to:**

The Asst. Divisional Engineer/Telecom/Erragadda  
The Notice board of DE/TC/Metro/Hyderabad.  
The Accounts Officer, O/o SE/TC/Metro/Hyderabad

**Copy submitted to:**

The Chief Engineer/Telecom/Vidyuth Soudha, Hyderabad.  
The Superintending Engineer/Telecom/Metro/Hyderabad.

# TRANSMISSION CORPORATION OF TELANGANA LIMITED

## BID DOCUMENT

TENDER SPECIFICATION No. **02/2023-24** OF DE/TELECOM/METRO/HYDERABAD.

### **NAME OF THE WORK:**

Rectification of 24F OPGW cable on 220KV Shapurnagar – Miyapur D/C line between Terminal tower ie. Loc. No. 1 to Shapurnagar boom at 220KV SS Shaprnagar pertaining to Telecom Sub-division, Erragadda.

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## SECTION - I

### SALIENT FEATURES OF THE BID

- Specification No. : **02 / 2023-24** of DE / TC / Metro / Hyd.
- Name of the Work : Rectification of 24F OPGW cable on 220KV Shapurnagar – Miyapur D/C line between Terminal tower ie. Loc. No. 1 to Shapurnagar boom at 220KV SS Shapurnagar pertaining to Telecom Sub- division, Erragadda.
- Officer to whom the bid will be addressed : The Divisional Engineer, Telecom, TSTRANSCO, Metro, Hyderabad.
- Schedule Available Date : **From 20-11-2023.**
- Bid Submission closing Date & time : **On 11-12-2023 at 14:00 Hrs**
- Date of Opening of Tender : **On 11-12-2023. at 16.00 Hrs**
- Bid Security to be paid : DD worth rupees equal to **2.5%** on quoted value, should be drawn in favour of **SE/ Telecom /Metro /TSTRANSCO/ Hyderabad** payable at Hyderabad.
- Bid cost to be paid : DD worth **Rs.590/-** should be drawn in favour of **SE/ Telecom /Metro /TSTRANSCO/ Hyderabad** payable at Hyderabad.

#### Superscription on the bid cover

- a. Specification No.
- b. Due date and time for submission
- c. Date and time of opening
- d. Bid Cost particulars
- e. Payment of bid security
  - i. If paid give details DD No.....,dt..... for Rs. ....
  - ii. Mention if permanent bid security is available
  - iii. If exempted give details
- f. Whether 90 days validity offered ..... (yes/no).
- g. Whether bid is made accepting payment terms Clause ... (yes/no)
- h. Whether delivery is as per delivery schedule indicated . (yes/no)

The Bidder is expected to examine all instructions, forms, terms and technical specifications in the bidding documents. Failure to furnish all information required by the bidding documents or to submit a bid not substantially responsive to the bidding documents in every respect will be at Bidder's risk and may result in the rejection of its bid.

U.NARSIMULU  
DIVISIONAL ENGINEER,  
TELECOM, METRO, HYDERABAD.

## SECTION – I I

### GENERAL TERMS AND CONDITIONS OF CONTRACT

#### 1 **Scope Of Work:**

This specification covers rectification of 24F OPGW cable on 220KV Shapurnagar – Miyapur D/C line between Terminal tower ie. Loc. No. 1 to Shapurnagar boom at 220KV SS Shaprnagar pertaining to Telecom Sub-division, Erragadda.

#### 2 **Cost Associated with Bidding:**

The Bidder will bear all costs associated with the preparation and submission of bid, and the TSTRANSCO, will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.

#### 3 **Documents Constituting the Bid:**

The bid prepared by the Bidder will comprise the following components:

- i. A Bid Form and Price Schedule completed in accordance with Clause No. 4 and 5.
- ii. Documentary evidence establishing that the Materials / equipment and ancillary services to be supplied by the Bidder are as per the Technical specification of the bidding documents; and
- iii. Bid Security in accordance with Clause No.11.
- iv. Tax clearance certificate.

All the schedules will be duly filled but not necessary in the sheets attached to the specification. Unless full details required in the schedules are furnished the Bids will be liable for rejection.

#### 4. **Bid Form:**

The Bidder will complete the Bid form and the appropriate Price Schedule furnished in the bidding documents.

#### 5. **Bid prices:**

- 5.1. The prices quoted will be Firm and in Indian rupees only. Bids will be called for with prices ,GST and other legally permissible duties and levies wherever applicable, handling charges to cover the transport by road to site, unloading at destination, for this specification covers Rectification of 24F OPGW cable on 220KV Shapurnagar – Miyapur D/C line between Terminal tower ie. Loc. No. 1 to Shapurnagar boom at 220KVSS Shaprnagar pertaining to Telecom Sub-division, Erragadda.
- 5.2. Even though composite price is given the break-up for all the duties, GST, taxes, freight, packing and forwarding, Testing, Installation & Commissioning etc., will be furnished.

#### 6. **Variable prices & price variation basis:**

The prices shall be quoted on firm basis only.

#### 7. **Taxes and Duties**

- 7.1. A bidder will be entirely responsible for quoting the correct taxes and duties, other local taxes or levies if any, license fees, etc., he has to incur until completion of the contract. For the purpose of evaluation the bidder should clearly indicate the Excise Duty, GST and any other taxes and levies payable in the respective columns provided in the price schedule. Failure to furnish the details as prescribed in the price schedule will be loaded as indicated in the evaluation criteria.
- 7.2. If the rates of statutory levies assumed by the Bidder are less than the actual rates prevailing at the time of bidding, the Assigner will not be responsible for such errors. If the rates of statutory levies assumed by the Bidder are later proved to be higher than the actual / correct rates prevailing at the time of bidding, the difference will be passed on to the credit of the Assigner.

## 8. **Statutory Variations:**

Any variation up or down in statutory levy or new levies introduced after signing of the contract under this specification will be to the account of TSTRANSCO provided that in cases where delivery schedule is not adhered to by the contractor and there are upward variation / revision after the agreed delivered date the contractor will bear the impact of such levies and if there is downward variation / revision the TSTRANSCO will be given credit to that extent.

## 9. **Documents Establishing Bidder's Eligibility and Qualifications:**

The Bidder will furnish as part of its bid, documents establishing the bidder's eligibility to bid and its qualification to perform the contract if its bid is accepted.

The documentary evidence of the bidder's qualifications to perform the contract if its bid is accepted will establish to the Assigner's satisfaction .

- a) That the bidder has the financial, technical and production capability necessary to perform the contract.
- b) That the bidder meets the qualification criteria listed in section IV In addition the bidder may furnish full particulars regarding execution of similar type works in question made so far to TSTRANSCO and to other reputed utilities during the last five years.

## 10. **Documents establishing conformity about OFC works execution to bidding documents.**

The bidder will furnish as part of its bid, documents establishing conformity to the bidding documents about 24F OPGW OF Cable works execution, which the Bidder proposes to execute under the contract.

The documentary evidence of conformity of the 24F OPGW OF Cable services executed to bidding documents may be in the form of literature, drawings, and data, and will consist of:

- a) a detailed description of the 24F OPGW OF Cable works executed
- b) the bidder should specifically mention about furnishing the test certificates and a specimen form of test certificate should be furnished along with the bid
- c) a list giving full particulars, including available sources and special tools etc., necessary for the proper execution of the work entrusted by the Assigner.

## 11 **Bid Security**

11.1. The Bidder will furnish, as part of its bid, a Bid Security for an amount of 2½ % of the total estimated price offered against the bid or the amount specified by the TSTRANSCO. This amount should be paid by way of a crossed demand draft drawn on any schedule bank in favour of the **SE/ Telecom/ Metro/ TSTRANSCO/ Hyderabad** and payable at Hyderabad. The crossed DD should invariably be furnished along with the bids. Alternatively the bidders may furnish a B.G. in original in lieu of DD as per the proforma attached. Fax / photocopies of the bid security will not be accepted and will be rejected.

11.2 The fact of having enclosed bid security by DD/B.G along with the bid or the fact of the bidder having permanent bid security should be clearly superscribed on the bid envelope.

Bids, which do not have the above superscription, will be rejected and returned to the respective bidders unopened.

11.3 Unsuccessful Bidders' Bid Security will be discharged or returned as promptly as possible but not later than thirty (30) days after the expiration of the period of bid validity prescribed by the TSTRANSCO.

**11.4** The successful Bidder's Bid Security will be discharged upon the Bidder signing the contract and upon submission of the performance guarantee.

**11.5** The Bid Security may be forfeited:

- a)** if a Bidder:
  - i** Withdraws its bid or alters its prices during the period of bid validity specified by the Bidder on the Bid Form, or
  - ii.** Does not accept the correction of errors; or
  - iii.** Offers post Bid rebates, revisions or deviations in quoted prices and / or conditions or any such offers which will give a benefit to the Bidder over others will not only be rejected outright but the original Bid it self will get disqualified on this account and the Bidder's BID SECURITY will be forfeited.
- b)** In the case of a successful Bidder, if the Bidder fails:
  - i.** To sign the contract in accordance with Clause No. 24.
  - ii.** To furnish performance security in accordance with Clause No.25.

**11.6** In case where the Bid Cover Contains superscription of having furnished Bid Security by way of DD/BG but if the same is not found within, such Bids will be rejected and bidder will run the risk of being banned.

**12. Period of validity of bids.**

Bids will remain valid for the period of ninety (90) days from the date of bid opening prescribed by the TSTRANSCO. A bid valid for a shorter period will be rejected. The bidders should clearly superscribe on the sealed envelopes of the bids about the validity. Bids not containing superscription of validity will be rejected and returned unopened.

**13. Tax clearance certificates:**

Copies of Income Tax, Sales Tax, GST and Turnover Tax certificates for the latest period from the appropriate authority will invariably be enclosed to the bid. In the case of proprietary or partnership firm it will be necessary to produce the certificate / certificates for the proprietor or proprietors and for each of the partners as the case may be. If the Bidder has already produced the certificate during the calendar year in which the bid is made, it will be sufficient, if particulars are given in full.

**14. Service Conditions**

**14.1.** The equipment / materials offered will be entirely satisfactory for operation under the climatic conditions indicated below:

- |           |  |              |
|-----------|--|--------------|
| <b>a)</b> | Maximum ambient air temperature (in shade)     | 45 deg.C     |
| <b>b)</b> | Maximum ambient air temperature (under sun)    | 50 deg.C     |
| <b>c)</b> | Maximum daily average ambient air temperature  | 35 deg.C     |
| <b>d)</b> | Maximum yearly average ambient air temperature | 30 deg.C     |
| <b>e)</b> | Maximum humidity                               | 100%         |
| <b>f)</b> | Altitude above M.S.L.                          | Up to 1000 M |
| <b>g)</b> | Average No. of thunder storm days per annum    | 50           |
| <b>h)</b> | Average No. of dust storm days per annum       | Occasional   |
| <b>i)</b> | Average No. of rainy days / annum              | 90           |
| <b>j)</b> | Average Annual Rain fall                       | 925 mm       |
| <b>k)</b> | Normal tropical monsoon period                 | 4 months     |
| <b>l)</b> | Maximum wind pressure                          | 150 kg/Sq. M |

**14.2** Due consideration will be given to any special devices or attachments put forwarded by the Bidder which are calculated to enhance the general utility and the safe and efficient operation of the equipment / material.

## **5. Sealing and Marking of Bids.**

- 15.1** The sealed cover as well as the outer envelope should be superscribed as Given in the salient features of the bid.
- 15.2** The Bidder will invariably complete the Bid in full. Details to be furnished by the bidder and schedule of prices attached to the specification and enclose the same to the bid without fail.
- 15.3** The time of actual receipt in the office only will count for the acceptance of the bid and either the date of bid, date stamp of post office or date stamp of any other office will not count. The TSTRANSCO will not be responsible for any postal or any other transit delays.

## **16 Late Bids**

Any bid received by the Assigner after the deadline for submission of bids prescribed by the Assigner will be rejected and returned unopened to the Bidder.

## **17. Opening of Bids by the Assigner.**

- 17.1.** The Assigner will open all the bids meeting above criteria in the presence of Bidders' authorized representatives who choose to attend, at the time, on the date, and at the place specified. The representatives who are present will sign a register evidencing their attendance.
- 17.2.** The Bidders' names, bid prices, discounts, and the presence or absence of requisite Bid Security and any other details the Assigner, at its discretion, may consider appropriate, will be announced at the opening.
- 17.3.** Bids that are not opened and read out at bid opening will not be considered further for evaluation, irrespective of the circumstances.

## **18. Preliminary Examination**

The Assigner will examine the bids to determine whether they are complete, whether any computational errors have been made, whether required sureties have been furnished, whether the documents have been properly signed, and whether the bids are generally in order.

## **19. Evaluation and Comparison of Bids.**

The bid may be rejected for the following reasons:

- 1.** Not in the prescribed form
- 2.** Insufficient bid security or bid not accompanied by the required bid security or proof of permanent bid security / exemption and specification Cost.
- 3.** Bids not properly signed
- 4.** Bids without Bid Cost/Bid Security.
- 5.** The bidder is a vendor who is banned from further business transactions and the period of ban is still in force.
- 6.** Bid received after the due date and time.
- 7.** The bid is through telegram or fax.

\* Bids will be examined for completeness and for any computational errors.

\* The Assigner's evaluation of a bid shall take into consideration one or more of the following factors.

- a)** Execution time offered in the bid;
- b)** Deviations in payment schedule from that specified in the general terms and conditions of the contract and technical deviations.
- c)** Other specific criteria indicated in the Bidding documents.



**20. Award Criteria:**

The Assigner will award the contract to the successful Bidder/Bidders whose bid has / have been determined to be substantially responsive.

Negotiation if necessary would be held limiting to L4 only and specified quantities will be ordered on different firms to meet the requirements of the TSTRANSCO.

However it is not binding on TSTRANSCO to accept the lowest or any other Bid. It reserves the right to place orders on different Bidders.

**21. Assigner's Right to Vary Quantities at Time of Award**

The Assigner reserves the right at the time of contract award to increase or decrease the quantity of services originally specified in the Schedule of Requirements without any change in unit price or other terms and conditions.

**22. Assigner' Right to Accept Any Bid and to Reject any or All Bids.**

The Assigner reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids at any time prior to contract award, without thereby incurring any liability to the affected Bidder or Bidders. The Assigner will inform the affected bidder / bidders of its reasons.

**23. Notification of Award.**

Prior to the expiration of the period of bid validity, the Assigner will notify the Successful Bidder in writing by registered letter or by cable, to be confirmed in writing by registered letter, that its bid has been accepted.

The notification of award will constitute the formation of the contract.

Upon the successful Bidders' furnishing of the performance security, the Purchaser enters into contract with successful Bidder / Bidders. The Assigner will notify each unsuccessful Bidder and will discharge its Bid Security.

**24. Signing of Contract:**

The Assigner notifies the successful Bidder that its bid has been accepted. Within 15 (fifteen) days of receipt of notification of award of Contract, the successful Bidder will sign and date the contract. Failure to comply with this stipulation will entail cancellation of the contract besides forfeiture of the bid security.

**25. Performance Security:**

Within Fifteen (15) days of receipt of the notification of Contract award. The successful Bidder will furnish to the Assigner the performance security for an amount 5% of the contract value for proper fulfillment of the contract, which will include the warranty period, and completion of performance obligations including warranty obligations. The performance security will cover 60 days beyond the date of completion of performance obligations including warranty obligations.

In the event of any failure in the executed work, the rectification works has to be carryout during the warranty period.

The proceeds of the performance security will be payable to the purchaser as compensation for any loss resulting from the contractor's failure to complete its obligations under the contract.

The performance security will be...

- a) A bank guarantee issued by a scheduled bank acceptable to the Assigner, in the form provided in the bidding documents.
- b) A banker's Cheque or crossed DD or Pay Order payable at the Head quarter of the Assigner in favour of the Assigner drawn on any scheduled bank.

The performance security will be discharged by the Assigner and returned to the contractor not later than **sixty (60) days** after the expiry date.

Failure of the successful Bidder to comply with the above requirement will entail cancellation of the award and forfeiture of the Bid Security.

In cases where the performance security is not yet paid, the bid security will be forfeited and the balance to make up the performance security deposit will be deducted from pending payments, if any, due to the Tenderer from TSTRANSCO on other orders. In addition, the company will also become liable for being blacklisted by TSTRANSCO.

**26. Execution:**

The date of completion of work will be reckoned from the date of commencement of work.

**27. Inspections and tests:**

- i) The respective site Engineer in Charge will inspect the material & tools utilized before execution of work. The work shall be carried out only after obtaining approval from the concerned Engineer which complies with the specification.
- ii) The inspection and acceptance of any quantity of materials will in no way relieve the contractor of its responsibility for meeting all the requirements of this specification and will not prevent subsequent rejection if such materials are later found to be defective.
- iii) The contractor will give advance intimation to enable the Assigner to depute his representative for witnessing the work of rectification of 24F OPGW cable on 220KV Shapurnagar – Miyapur D/C line between Terminal tower i.e. Loc. No. 1 to Shapurnagar boom at 220KV SS Shapurnagar pertaining to Telecom Sub-division, Erragadda.
- iv) Should any inspected or tested materials / equipment & tools fail to conform to the specification, the Assigner may reject the materials and the contractor will either replace the rejected materials or make alterations necessary to meet the specifications requirements free of cost to the Assigner.

**28. Name Plate:**

Equipment should be provided with name plate giving full details of manufacture, capacities and other details as specified in the relevant ISS or other specification stipulated.

**29. Transportation:**

The contractor is required under the Contract to transport the Materials / equipment to a specified place of destination, transport to such place of destination, including insurance and storage, will be arranged by the contractor, and the related costs will be included in the Contract Price only.

**30. Warranty:**

- 30.1.** The contractor will warrant for the executed work for a minimum period of 12 months from the date of completion of the work. In the event of any failure in the executed work, the rectification works have to be carried out during the warranty period with free of cost to the Assigner.
- 30.2.** The contractor warrants that the Materials/ equipment supplied under the contract are new, unused of the most recent or current models, and that they incorporate all recent improvements in design and materials unless provided otherwise in the contract. The contractor further warrants that all Materials / equipment supplied under this contract will have no defect, arising from a design.

- 30.3.** All the material will be of the best class and will be capable of satisfactory operation in the tropics under service conditions indicated in clause 14.1 without distortion or deterioration.
- 30.4.** The entire designs and construction will be capable of withstanding the severest stress likely to occur in actual service and of resisting rough handling during transport.
- 30.5.** The Assigner will promptly notify the contractor in writing of any claims arising under this warranty.
- 30.6** "Upon receipt of such notice, the contractor will within 15 days rectify the problem, free of cost at the ultimate destination. No claim whatsoever will lie on the Assigner for the rectified work thereafter".
- 30.7.** If the contractor, having been notified, fails to remedy the defect(s) within the above period, the Assigner may proceed to take such remedial action as may be necessary, at the Contractor's risk and expense duly deducting the expenditure from subsequent bills / bank guarantee and without prejudice to any other rights which the Assigner may have against the contractor under the contract.

### **31. Payment**

- 31.1.** Unit rate per installation of fiber optic cable shall interalia includes all related works by activities including associated accessories, tools and tackles, machinery etc., The BOQ in the price schedule indicates the total fiber optic route length where fiber optic cable shall be installed. Accordingly, unit rate shall include all working allowances and wastage hardware and accessories requires for installation of optical fiber cable. The owner/employer shall not entertain any claim or payment towards installation of hardware/accessories any additional length of cable for working allowances on wastage etc., The payment shall be made on prorata based and actual fiber optic route length executed including cable service loops by excess cable as stipulated above.

**95%** payment will be made within **45 days** reckoned from the date of successful completion of the work specified in the Schedule of Requirement certified by the concerned Asst. Divisional Engineer/Telecom in Charge and Counter Signed by the Divisional Engineer/Telecom Concerened. The balance 5% will be released against submission of DD/Bank guarantee covering the performance guarantee period of **12 months** reckoned from the date of completion of the work.

- 31.2.** The 100% payment mentioned above is subject to on submission of performance security as per Clause 25 by the contractor.
- 31.3.** The performance guarantee to be executed in accordance with this specification will be furnished on a stamp paper of value Rs.100/-. The Bank Guarantee will be extended if required suitably in accordance with the provisions of clause No.25.
- 31.4.** If the contractor has received any over payments by mistake or if any amounts are due to the TSTRANSCO due to any other reason, when it is not possible to recover such amounts under the contract resulting out of this specification, the TSTRANSCO reserves the right to collect the same from any other amount and / or Bank Guarantees given by the company due to or with the TSTRANSCO.
- 31.5.** When the contractor does not at any time, fulfill his obligations in rectifying etc. in part or whole promptly to the satisfaction of the TSTRANSCO Officers, the TSTRANSCO reserves the right not to accept the bills against subsequent dispatches made by the contractor and only the contractor will be responsible for any demurrages, wharfages or damage occurring to the consignments so dispatched.

### **32. Penalty for Late Completion**

In case of delay in completion of works, whatever be the reasons, the Assigner will, without prejudice to its other remedies under the Contract, deduct from the Contract Price, as liquidated damages, a sum equivalent to 0.5% per week or part thereof for the portion of works not completed, subject to a maximum of 5% of the total value of the contract. Once the maximum is reached the Assigner may consider termination of the contract.

The Successful Completion of work certified by the concerned ADE/Telecom will be taken as the date of completion of work. The subjected work are not confirming to the specification would be treated as uncompleted. For penalty, the number of days would be rounded of to the nearest week and penalty calculated accordingly. The penalty specified above will be levied and would be adjusted against subsequent pending bills.

### **33. Termination for Default**

The Assigner, without prejudice to any other remedy for breach of contract, by written notice of default sent to the contractor, may terminate this contract in whole or in part:

- i. If the contractor fails to execute the work within the period(s) specified in the Contract, or within any extension thereof granted by the Assigner.
- ii. If the contractor fails to perform any other obligations under the contract.
- iii. If the contractor, in the judgment of the Assigner has engaged incorrupt or fraudulent practices in competing for or in executing the contract.

In the event the Assigner terminates the contract in whole or in part, the Assigner may execute the work, upon such terms and in such manner, as it deems appropriate services similar to those undelivered, and the contractor will be liable to the Assigner for any excess costs for such similar services. However, the Contractor will continue performance of the contract to the extent not terminated

### **34. Jurisdiction**

All and any disputes or differences arising out of or touching this contract will be decided by the Courts or Tribunals situated in Assigner's Headquarters only. No suit or other legal proceedings will be instituted elsewhere.

U.NARSIMULU  
DIVISIONAL ENGINEER,  
TELECOM,TSTRANSCO,  
METRO, HYDERABAD.

## SECTION – III

### TECHNICAL SPECIFICATIONS

Technical Specification for rectification of 24F OPGW cable on 220KV Shapurnagar – Miyapur D/C line between Terminal tower ie. Loc. No. 1 to Shapurnagar boom at 220KV SS Shapurnagar pertaining to Telecom Sub-division, Erragadda.

#### **INTENT OF SPECIFICATION:**

The Intent of this specification is, this specification covers rectification of 24F OPGW cable on 220KV Shapurnagar – Miyapur D/C line between Terminal tower ie. Loc. No. 1 to Shapurnagar boom at 220KVSS Shapurnagar pertaining to Telecom Sub-division, Erragadda.

The bidder can do survey for the above locations to assess exact quantity and type of hardware fittings required for laying of OPGW Cable prior to the submission of the bids without any additional financial commitment to TSTRANSCO. It is the total responsibility of the bidder to assess the quantity of hardware fittings required and quote for fulfilment of the project on turnkey basis. The bidder shall do survey for any unavailble information on laying of 24F OPGW cable and as certain the exact quantity of hardware fittings required before submission of the bid. The bidder is total responsible for execution of the project in all aspects. Any additioanl financial proposal at a later date during execution of the works is not acceptable once the bid is submitted and finalized and contract is awarded to the successful bidder.

#### **2.0 Scope Of Work:**

##### **2.1 The Scope of Work includes the following:**

Rectification of 24F OPGW cable on 220KV Shapurnagar – Miyapur D/C line between Terminal tower ie. Loc. No. 1 to Shapurnagar boom at 220KVSS Shapurnagar pertaining to Telecom Sub-division, Erragadda. The work executed shall confirm in all respects to high standards of engineering, design and workman ship and shall be capable of performing in continuous commercial operation upto the Bidder's guarantee, in a manner acceptable to the Assigner.

The Bidder shall use his own tools & instruments for rectification of 24F OPGW cable on 220KV Shapurnagar – Miyapur D/C line between Terminal tower ie. Loc. No. 1 to Shapurnagar boom at 220K SS Shapurnagar pertaining to Telecom Sub-division, Erragadda work as per the requirement. It is the total responsibility of the bidder for the safety of his staff and material and the bidder shall not cause any loss or damage to TSTRANSCO's property and TSTRANSCO will recover the amount if any equal to such loss or damage from the contractor.

##### **2.2. Guarantee:**

The system shall be guaranteed for trouble free operation for twelve (12) months from the commissioning date. In case of failure within this period, the contractor shall rectify the problem at no extra costs to the Assigner.

#### **3.0 Test Requirements:**

Routine tests shall be carried out for checking the Wideband connectivity between **220 KVSS Shapurnagar to Miyapur** to show that the Guaranteed performance figures are achieved and that the cable laying and associated accessories meets the requirement of this specification. The General particulars, and guarantees stated in Guaranteed Technical Particulars and the relevant ITU-T or equivalent Indian Standard shall be complied with.

##### **3.1 The contractor shall be responsible for the following:**

Rectification of 24F OPGW cable on 220KV Shapurnagar – Miyapur D/C line between Terminal tower ie. Loc. No. 1 to Shapurnagar boom at 220KVSS Shapurnagar pertaining to Telecom Sub-division, Erragadda as per the requirement.

**4 Standards:**

- 4.1** Unless otherwise specified elsewhere in this specification the rating, performance and testing of the cables and accessories shall confirm to the latest revisions, available at the time of placement of order, of all relevant standards.

**5. Climatic Conditions**

The work to be executed against this specification shall be suitable for satisfactory continuous operation under the climatic conditions given in the section-II of the Spec.

**6. Test Equipment And Special Tools**

The contractor shall utilize his own test equipment & tools and accessories for rectification of 24F OPGW cable on 220KV Shapurnagar – Miyapur D/C line between Terminal tower ie. Loc. No. 1 to Shapurnagar boom at 220KV SS Shaprnagar pertaining to Telecom Sub-division, Erragadda work as per the requirement.

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## GUARANTEED TECHNICAL PARTICULARS FOR

### Stringing of 24F OPGW Fibre Optic Cable

#### 1. OPGW OF Cable Installation requirements

OPGW cables shall be installed in live-line as well as off-line conditions. The tentative bill of quantities for both live- line as well as off-line OPGW cable stringing have been specified in the appendices and the actual quantities for both types shall be finalized during project execution after detailed survey.

Supervision of Installation – The Contractor shall supervise the stringing at site as per the approved stringing procedure. Site visit for supervision shall be carried out as per instruction of Employer. However, the contract price shall be adjusted as per the actual requirement. The Supervision / Inspection work in Contractor's scope shall mainly include inspection as per stringing procedure, proper location of drum site, installation of stringing blocks/pulleys, proper sagging, proper installation of hardware, proper tension as per Sag-Tension chart, provision of service loops of OPGW in jointing locations etc.

##### 1.1.1.1.1 Operating conditions

Since OPGW shall be located at the peak of the EHT transmission line support structure, it will be subjected to Aeolian vibration, Galloping and Lightning strikes. It will also withstand for fault currents. Therefore, its electrical and mechanical properties shall be compatible to withstand for fault currents.

##### 1.1.1.1.2 Installation

OPGW installed under off line as well as live-line condition, shall be generally in accordance with the IEEE Guide to the Installation of Overhead Transmission Line Conductors (IEEE STD. 524 with latest revisions), with additional instructions and precautions for fibre optic cable handling. The stringing procedure shall be submitted by the Contractor prior to stringing for Employer's approval.

The OPGW cable sections shall normally be terminated & spliced only on tension towers. In exceptional circumstances, and on Employer specific approval, cable may be terminated on Suspension towers, but in this case tower strength shall be examined to ensure that tower loads are within safe limits and if required, necessary tower strengthening shall be carried out by the Contractor.

##### 1.1.1.1.3 Hardware Installation

The scope of supply of the optical cable includes the assessment, supply and installation of all required fittings and hardware such as Tension assembly, Suspension assembly, Vibration dampers, Reinforcing rods, Earthing clamps, Downlead clamps, splice enclosure etc. The Bidder shall provide documentation justifying the adequacy and suitability of the hardware supplied. The Contractor shall determine the exact requirements of all accessories required to install and secure the OPGW.

The OPGW hardware fittings and accessories shall follow the general requirements regarding design, materials, dimensions & tolerances, protection against corrosion and markings as specified in clause 4.0 of EN 61284:1997 (IEC 61284). The shear strength of all bolts shall be at least 1.5 times the maximum installation torque. The OPGW hardware & accessories drawing & Data Requirement Sheets (DRS) document shall consist of three parts: (1) A technical particulars sheet (2) An assembly drawing i.e. level 1 drawing and (3) Component level drawings i.e. level 2 & lower drawings. All component reference numbers, dimensions and tolerances, bolt tightening torques & shear strength and ratings such as UTS, slip strength etc shall be marked on the drawings.

The fittings and accessories described herein are indicative of installation hardware typically used for OPGW installations and shall not necessarily be limited to the following:

- (a) Suspension Assemblies: Preformed armour grid suspension clamps and aluminium alloy armour rods/reinforcing rods shall be used. The suspension clamps shall be designed to carry a vertical load of not less than 25 KN. The

suspension clamps slippage shall occur between 12kN and 17kN as measured in accordance with type test procedures.

The Contractor shall supply all the components of the suspension assembly including shackles, bolts, nuts, washers, split pins, etc. The total drop of the suspension assembly shall not exceed 150 mm (measured from the center point of attachment to the center point of the OPGW). The design of the assembly shall be such that the direction of run of the OPGW shall be the same as that of the conductor.

- (b) Dead End Clamp Assemblies: All dead end clamp assemblies shall preferably be of performed armoured grip type and shall include all necessary hardware for attaching the assembly to the tower strain plates. Dead end clamps shall allow the OPGW to pass through continuously without cable cutting. The slip strength shall be rated not less than 95% of the rated tensile strength of the OPGW.
- (c) Clamp Assembly Earthing Wire: Earthing wire consisting of a 1500 mm length of aluminium or aluminium alloy conductor equivalent in size to the OPGW shall be used to earth suspension and dead end clamp assemblies to the tower structure. The earthing wire shall be permanently fitted with lugs at each end. The lugs shall be attached to the clamp assembly at one end and the tower structure at the other.
- (d) Structure Attachment Clamp Assemblies: Clamp assemblies used to attach the OPGW to the structures, shall have two parallel grooves for the OPGW, one on either side of the connecting bolt. The clamps shall be such that clamping characteristics do not alter adversely when only one OPGW is installed. The tower attachment plates shall locate the OPGW on the inside of the tower and shall be attached directly to the tower legs/cross – members without drilling or any other structural modifications.
- (e) Vibration Dampers: Vibration dampers type 4R Stockbridge or equivalent, having four (4) different frequencies spread within the Aeolian frequency bandwidth, shall be used for suspension and tension points in each span. The Contractor shall determine the exact numbers and placement(s) of vibration dampers through a detailed vibration analysis as specified in technical specifications. Vibration damper clamps shall be made of aluminium or aluminium alloy, shall support the dampers during installation and shall maintain the dampers in position without damage to the OPGW and without causing fatigue. Armour or patch rods made of aluminium or aluminium alloy shall be provided as required to reduce clamping stress on the OPGW. The vibration damper body shall be hot-dip galvanized mild steel/cast iron or shall be permanent mould cast zinc alloy.

### **1.1.2 Fibre Optic Splice Enclosures (Joint Box)**

All splices shall be encased in Fibre Optic Splice Enclosures. Suitable splice enclosures shall be provided to encase the optical cable splices in protective, moisture and dust free environment. Splice enclosures shall comply with ingress protection class IP 66 or better. The splice enclosures shall be designed for the storage and protection of required number of optical fibre splices and equipped with sufficient number of splice trays for splice trays for splicing all fibres in the cable. No more than 6 fibres shall be terminated in a single splice tray. They shall be filled with suitable encapsulate that is easily removable should re-entry be required into the enclosures.

Splice enclosures shall be suitable for outdoor use with each of the cable types provided under this contract. Splice enclosures shall be appropriate for mounting on transmission line towers above anti-climb guard levels at about 10 metres from top of the tower and shall accommodate pass-through splicing. The actual mounting height and location shall be finalized after Survey. Contractor shall be responsible for splicing of fibres and installation of splice enclosures.



### 1.1.2.1 Optical Fibre Splices

Splicing of the optical fibre cabling shall be minimized through careful contractor planning. There shall be no mid-span splices allowed. All required splices shall be planned to occur on tower structures. All optical fibre splicing shall comply with the following:

- (a) All fibre splices shall be accomplished through fusion splicing.
- (b) Each fibre splice shall be fitted with a splice protection sheath fitted over the final splice.
- (c) All splices and bare fibre shall be neatly installed in covered splice trays. No more than six (6) fibres shall be installed in each splice tray.
- (d) For each link, bi-directional attenuation of single mode fusion splices, shall not average more than 0.05 dB and no single splice loss shall exceed 0.1 dB when measured at 1550 nm.
- (e) For splicing, fibre optic cable service loops of adequate length shall be provided so that all splices occurring at tower structures can be performed at ground level.

### 1.1.3 Optical Fibre Termination and Splicing

Optical fibre terminations shall be installed in Fibre Optical Distribution Panels (FODP) designed to provide protection for fibre splicing of preconnectorized pigtails and to accommodate connectorized termination and coupling of the fibre cables. The contractor shall provide rack/wall mounted fibre optic distribution panels (FODPs) sized as indicated in the appendices and shall terminate the fibre optic cabling up to the FODPs. The location of FODP rack shall be fixed by the Contractor, with the Employer's approval.

### 1.1.4 Service Loops

For purposes of this specification, cable and fibre service loops are defined as slack (extra) cable and fibre provided for facilitating the installation, maintenance and repair of the optical fibre cable plant.

- (a) Outdoor Cable Service Loops: In – line splice enclosures installed outdoors and mounted on the utility towers, shall be installed with sufficient fibre optic cable service loops such that the recommended minimum bend radius is maintained while allowing for installation or maintenance of the cable to be performed in a controlled environment at ground level.
- (b) Indoor Cable Service Loops: FODPs shall provide at least three (3) metres of cable service loop. Service loops shall be neatly secured and stored, coiled such that the minimum recommended bend radius' are maintained.
- (c) Fibre Units Service Loops: For all fibre optic cable splicing, the cable shall be stripped back a sufficient length such that the fan-out of fibre units shall provide for at least one (1) metre of fibre unit service loop between the stripped cable and the bare fibre fan-out..
- (d) Pigtail Service Loops: Connectorised pigtails spliced to bare fibres shall provide at least 1 metre of service loop installed in the FODP fibre organizer and at least one (1) metre of service loop to the couplings neatly stored behind the FODP coupling panels.
- (e) Fibre Service Loops: At least 0.5 metre of bare fibre service loop shall be provided on each side of all fibre splices. The bare fibre service loops shall be neatly and safely installed inside covered splice trays.

### 1.1.5 Methodology for Installation and Termination

All optical fibre cable termination, installation, stringing and handling plans, guides and procedures, and engineering analysis (e.g. tension, sag, vibration etc.) shall be submitted to the Employer for review and approval in the engineering/design phase of the project, prior to establishing the final cable lengths for manufacture. Installation procedures including details of personnel and time required shall be documented in detail and submitted to Employer for approval. All installation practices shall be field proven and ISO accredited.

All cable segments shall include service loops as specified in this specification. The maximum allowable stringing tension, maximum allowable torsional shear stress, crush strength and other physical parameters of the cable shall not be exceeded. The preventative measures to be taken shall be documented in details and submitted to Employer in advance of installation.

Optical fibre attenuation shall be measured after installation and before splicing. Any increase in attenuation or step discontinuity in attenuation shall not be acceptable and shall constitute a cable segment failure. In the event of cable damage or any fibre damage, the complete section (tension location to tension location) shall be replaced as mid-span joints are not acceptable.

Any or all additional steel work or modifications require to attach the fibre cabling to the overhead transmission/distribution line towers shall also be carried out by the contractor. It shall be the Contractors responsibility to provide adequate communications among all crew members and support staff to ensure safe and successful installations.

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**SECTION –I V**  
**QUALIFYING REQUIREMENTS OF BIDDER**

- 1. Supply & Service Record**
  - 1.1** Bidders should have designed, supplied & developed as the case may be and tested & commissioned the similar work specified in the section V – Schedule of requirements in any one year (a continuous period of 12 months) within 5 years prior to the date of bid opening.
  - 1.2** The similar work performed as in schedule of requirements shall be in satisfactory operation for atleast 1 year (a continuous period of 12 months) within 5 years prior to the date of bid opening.
  - 1.3** The supply and service record claimed by the bidder shall be supported by clientele certificates issued by a Senior Officer of the utility/ organization to which the equipment is supplied and commissioned .
- 2** Bidders who meet the requirement stated at para (1) above, except for successful operation for one year can also participate in the bidding provided they have a valid on going association/collaboration with a firm who in turn completely fulfils the specified requirements. The Bidder shall furnish, along with his Bid, an undertaking jointly executed by the Bidder and the Collaborator for the satisfactory design, manufacture, testing and performance of the equipment/ material offered. Bidder shall also furnish documentary evidence for his collaborator meeting the qualifying requirements in the proforma enclosing performance certificates.
- 3.** The Bidder/ associates / consortium members should furnish a brief write up, backed with adequate data, explaining his available capacity (both technical and financial such as profit and loss statement, balance sheet and auditors reports of latest, Bankers certificate, credit facility, BG limits, solvency certificate etc.), for manufacture and supply of the required material, within the specified time of completion, after meeting all their current commitments. The Bidder / associates / consortium members should furnish certificates of Income Tax verification from the appropriate income tax authority.
- 4.** Even though the Bidders meet the above qualifying criteria, they are subject to be disqualified if they have
  - i)** made misleading or false representations in the forms, statements and attachments submitted in proof of the qualification requirements and/or.
  - ii)** record of poor performance such as not properly completing the contract, inordinate delays in supply completion, litigation history or financial failures etc.
- 5** Bids not satisfying qualification requirements specified herein will be rejected.
  - a.** Not withstanding anything stated above, the Assigner reserves the right to asses Bidder's capability and capacity to perform the contract should circumstances warrant such as assessment in the overall interest of the Assigner.

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## **SECTION - V**

### **SAMPLE FORMS**

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**1.1 BID FORM**

**Date :**

**TO:** (Name and Address of Purchaser)

Gentlemen and / or Ladies :

Having examined the Bidding documents, the receipt of which is hereby duly acknowledged, we, the undersigned, offer to execute the work of .....  
.....  
(Description of work) in conformity with the said bidding documents for the sum of ..... (total bid amount in words and in figures) or such other sums as may be ascertained in accordance with the schedule of prices attached herewith and made part of this Bid.

We undertake, if our Bid is accepted, to deliver the materials/ equipment in accordance with the technical particulars specified stringing of OPGW OF Cable with in the stipulated period fixed by the Assigner.

If our Bid is accepted, we will obtain the guarantee of a bank in a sum equivalent to 5% of the Contract Price for the due performance of the contract, in the form prescribed by the Assigner.

We agree to abide by this Bid upto ..... (for the Bid Validity period) specified in Clause 12 of Section II and it will remain binding upon us and may be accepted at any time before the expiration of that period.

Until a formal contract is prepared and executed, this Bid, together with your written acceptance thereof and your notification of award, will constitute a binding contract between us.

We understand that you are not bound to accept the lowest or any bid you may receive.

We certify/confirm that we comply with the eligibility requirements of the bidding documents.

Dated this ..... Day of ..... 2023.

(Signature) (in the capacity of)

Duly authorized to sign Bid for and on behalf of

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**1.2 PRICE SCHEDULE**

**NAME OF THE WORK:** Rectification 24F OPGW cable on 220KV Shapurnagar – Miyapur D/C line between Terminal tower i.e. Loc. No. 1 to Shapurnagar boom at 220KV SS Shapurnagar pertaining to Telecom Sub-division, Erragadda.

**(TO BE FILLED IN AND SIGNED BY THE TENDERER)**

S.No.	Description	Qty.	Unit	Unit Rate (Rs.)	Total Amount (Rs.)
1	Supply of Tension assembly (Dead end clamps and Grounding clamps are part of Tension assembly) for OPGW cable	3	Set		
2	Stringing of One (1) No. 24F/48F OPGW Cable On 132KV, 220KV and 400KV lines ( Without Jointing/Splicing) (OFF LINE/LIVE LINE) (For O&M rectification works with sectional lengths upto 5 Kms only)	0.2	Km		
3	Fixing of tension clamp set of OPGW OFC on 132KV & 220KV towers	3	Set		
4	Fixing of ADSS/OPGW OFC Splice box on 132KV & 220KV towers along with fixing of Down lead Clamps and other accessories	2	Each		
5	Fixing of vibration dampers for ADSS/OPGW OFC on 132KV & 220KV line.	2	Set		
6	Splicing charges for OPGW/ADSS OF Cable laid on 132KV, 220KV, 400KV Lines, substations and offices	48	Each		
7	Dismantling of 24/48F OPGW cable from 132KV, 220KV, 400KV lines	0.12	Km		
8	<b>Total (S.No.1 to 7)</b>				
9	<b>GST@18% on S.No.8</b>				
10	<b>Grand Total (8+9)(Rs.):</b>				
	<b>Or Say:</b>				

Singature of Contractor

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DIVISIONAL ENGINEER,  
TELECOM, METRO, HYDERABAD

### 1.3 SCHEDULE – Bill of Materials

#### TO BE FILLED UP AND SIGNED BY THE TENDERER)

#### BILL OF MATERIALS.

1. Please furnish bill of materials for each type of equipment.
2. Make and type of each individual mounted / loose equipment to be supplied shall be indicated in the detailed bill of materials.

#### NOTE:

- 1) Please note that for any short comings from that specified the bid price will be loaded at the unit price if given in unit price schedule or at the highest rates quoted for that item among other bids.
- 2) Tenders without detailed Bill of materials are liable for rejection.

Date:

Witness

Signature :

1)Name &  
Address

Name :

Place:

2)Name &  
Address

Status:

Whether authorised attorney of  
bidding company

Name of tendering company with  
seal:

**2. PERFORMANCE SECURITY FORM.**

**To:** ..... (Name of Assigner)

**Whereas** ..... (Name of Contractor)  
(herein after called "the contractor") has undertaken, pursuance of Contract No. ....  
Dated .....2023 to execute .....  
.....(Description ofwork )  
(Hereinafter called "the Contract").

And whereas it has been stipulated by you in the said Contract that the Contractor will furnish you with a Bank Guarantee by a recognized Bank for the sum specified therein as security for compliance with the contractor's performance obligations in accordance with the Contract.

And Where as we have agreed to give the Contractor a Guarantee:

Therefore We hereby affirm that we are Guarantors and responsible to you, on behalf of the Contractor, up to a total of ..... (Amount of the Guarantee in words and Figures) and we undertake to pay you, upon your first written demand declaring the Contractor to be in default under the Contract and without cavil or argument, any sum or sums within the limit of ..... (Amount of Guarantee) as aforesaid, without your needing to prove or to show grounds or reasons for your demand or the sum specified therein.

This guarantee is valid until the .....day of .....2023.

Signature and Seal of Guarantors

.....

Date ..... 2023.

Address .....

**NOTE: This will be executed on a Rs.100/- non-judicial stamp paper by a scheduled Bank.**



### 3. PROFORMA FOR PERFORMANCE STATEMENT

Bidders shall furnish here a list of similar orders executed/ under execution for the last five years by him to whom a reference may be made by the Purchaser in case he considers such a reference necessary.

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Sl. No.	Name of Client & Description of Order	Value of Order	Period of Supply & Commissioning	Name & Addresses to whom reference may be made
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Name of the Firm :

Signature of the Bidder :

Designation :

Date :