

**TENDER SPECIFICATION**

**STN-1399/2025**

**FOR**

**Van Mounted UG Cable Fault Locating Test  
Equipment up to 33KV along with Diagnostics**

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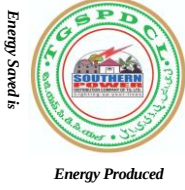
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**NOTE:**

1. Payment terms, Delivery period, Performance Bank Guarantee, Taxes and Duties” should be in line with the terms and conditions of the specification. If any bidder does not meet any one of the conditions, such tender will not be considered. Please note that the conditional offers are also not considered. Hence the bidder shall submit the tender in line with the terms and conditions of the specification.
2. The bidders shall check the website [www.tgsouthernpower.org](http://www.tgsouthernpower.org) and [www.tender.telangana.gov.in](http://www.tender.telangana.gov.in) for amendments, if any, upto one day prior to the date of tender opening. The amendments shall be binding on the bidders.
3. The purchaser will not be responsible for any damage that may be caused to the samples at any time.
4. The bidder shall furnish required Bid Security amount and validity as per specification. If the bidder fails to furnish bid security amount and bid validity as stipulated in the specification, such tender bid will not be considered for further evaluation.
5. The prospective bidders shall attend the pre-bid meeting (date and time in NIT) for any queries. The discussed queries shall be submitted in the form of a letter during pre bid meeting or within 24 hrs of pre bid meeting. Any new queries received after pre bid meeting are not liable to be considered.
6. The bid evaluation will be carried out based on the documents uploaded through [www.tender.telangana.gov.in](http://www.tender.telangana.gov.in) against this tender.
7. The Bids received with any details pertaining to prices in the offline mode will be liable for rejection.
8. In e-procurement commercial stage, if F&I charges are applicable then mention whether F&I charges entered are exclusive/inclusive of GST in the remarks section. If not mentioned in remarks, F&I charges will be considered as inclusive of GST.
9. EMD Exemption is considered only for Government Firms.

Ph : 040 – 23431033, 23431448 Fax : 040 - 23431034

SD/-  
CHIEF ENGINEER (P&MM)

**SECTION- I****SOUTHERN POWER DISTRIBUTION COMPANY OF TELANGANA LTD.****e-Procurement Tender Notice**

TGSPDCL intends to float tender for procurement of a) 11KV LV CTs of ratio 600-300/1-1-0.577A,0.2S Class (b) LT TVR 200/5A 0.5S class accuracy DLMS & IRDA port Meters with Box (c) Van mounted cable fault locating test equipment upto 33KV along with diagnosis and safety standards (d) 11KV 125/5A CTPT sets of 0.2S class accuracy on e-procurement platform.

For further details of each item above, please visit [www.tgsouthernpower.org](http://www.tgsouthernpower.org),  
[www.tender.telangana.gov.in](http://www.tender.telangana.gov.in).

Phone: 040-23431360, 1033, 1035, 1026

**SD/-**  
**CHIEF ENGINEER (P&MM)**

**ONLINE VERSION**  
**Tender Notice No: STN-1399/2025**

| Notice Inviting Tender Details |                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|--------------------------------|--------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| S. No                          | Description                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 1                              | Department Name                                                                                              | TGSPDCL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 2                              | Office                                                                                                       | Purchases & Material Management Wing, Corporate Office, TGSPDCL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 3                              | Tender Number                                                                                                | STN-1399/2025                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 4                              | Tender Subject                                                                                               | Van Mounted UG Cable Fault Locating Test Equipment upto 33KV along with Diagnostics                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 5                              | Delivery Schedule                                                                                            | The delivery of materials shall <b>commence</b> and complete within <b>3 (Three)</b> months from the date of receipt of purchase order                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 6                              | Tender Type                                                                                                  | Open                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 7                              | Tender Category                                                                                              | NA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 8                              | Bid Security (INR)                                                                                           | (i) 2% of the Ex-works quoted value ( <b>plus with GST @18%</b> ) (or)<br>(ii) Exemption letter of Bid Security in case of Govt. firms.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 9                              | Bid Security Payable to                                                                                      | In the form of DD in favour of Pay Officer/TGSPDCL /Hyd or BG from Nationalized/Scheduled Bank as per format 2(a). <b>The validity of the bank guarantee shall be upto bid validity +45 days from the date of tender opening.</b>                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 10                             | Processing Fee (INR)                                                                                         | NIL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 11                             | Transaction Fee                                                                                              | <u>Transaction fee:</u> All the participating bidders who submit the bids have to pay an amount @ 0.03% of their final bid value online with a cap of Rs.10,000/- for quoted value of purchase upto Rs.50 crores and Rs.25000/- if the purchase value is above Rs.50 crores & service tax applicable as per GST as levied by Govt. of India on transaction fee through online in favour of M/s. TSTS. The amount payable to M/s. TSTS is non refundable.<br><u>Corpus Fund:</u> Successful bidder has to pay an amount of 0.04% on quoted value through demand draft in favour of Managing Director, TSTS, Hyderabad towards corpus fund at the time of concluding agreement. |
| 12                             | Transaction Fee Payable to                                                                                   | TSTS, Hyderabad                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 13                             | Date & Time of pre-bid meeting with manufacturer                                                             | <b>08-07 -2025 at 12:00 Hrs.</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 14                             | Schedule Sale opening date                                                                                   | 26-06 -2025 from 18:00 Hrs                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 15                             | Schedule Sale closing Date                                                                                   | 23-07 -2025 Upto 13:00 Hrs.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 16                             | Bid Submission Closing Date & time                                                                           | 23-07 -2025 Upto 13:00 Hrs                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 17                             | Bid submission                                                                                               | On Line                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 18                             | Pre-Qualification & Technical Bid Opening Date (Qualification and Eligibility Stage and Technical Bid Stage) | 23-07 2025 at 15:00 Hrs.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 19                             | Price Bid Opening Date (Financial Bid Stage)                                                                 | 29-07- 2025 at 12:00 Hrs                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 20                             | Place of Tender Opening                                                                                      | O/o CHIEF ENGINEER/P&MM<br>TGSPDCL., 4 <sup>th</sup> Floor, Corporate Office,<br>Mint Compound, Hyderabad – 500 004.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 21                             | Officer Inviting Bids/ Contact Person                                                                        | CHIEF ENGINEER/P&MM/TGSPDCL/HYDERABAD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 22                             | Address/E-mail id                                                                                            | O/o. CHIEF ENGINEER/P&MM<br>TGSPDCL., 4th Floor, Corporate Office,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

|    |                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|----|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    |                                | Mint Compound, Hyderabad – 500 004<br>Email id:cgmpmm@tssouthernpower.com                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 23 | Contact Details/Telephone, Fax | Ph. No. 040-23431448, Fax No. 040-23431034                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 24 | Eligibility Criteria           | As per Section VI                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 25 | Procedure for Bid Submission   | <p><b>Bids shall be submitted online on <a href="http://www.eprocurement.gov.in">www.eprocurement.gov.in</a> platform</b></p> <ol style="list-style-type: none"> <li>1. The participating bidders in the tender should register themselves free of cost on e-procurement platform in the website <a href="http://www.eprocurement.gov.in">www.eprocurement.gov.in</a>.</li> <li>2. Bidders can log-in to e-procurement platform in Secure mode only by signing with the Digital certificates.</li> <li>3. The bidders who are desirous of participating in e-procurement shall submit their technical bids, price bids as per the standard formats available at the e-market place.</li> <li>4. The bidders should scan and upload the following documents in support of technical bids. The bidders shall sign on all the statements, documents certificates uploaded by him, owning responsibility for their correctness/authenticity: <ol style="list-style-type: none"> <li>a) Bid Security should be furnished <ol style="list-style-type: none"> <li>i) <b>In the form of DD in favour of Pay Officer/TGSPDCL/ Hyderabad</b> (or) Alternatively BG from Nationalized/Scheduled bank in favor of CHIEF ENGINEER/P&amp;MM/TGSPDCL/Hyd as per format-II enclosed (or )</li> <li>ii) If exempted give details of Bid Security Exemption (in case of Govt. Organization)</li> </ol> </li> <li>b) Quantity offered</li> <li>c) Proof of manufacturer-SSI, Department of Industries, Govt. of India Enterprise etc</li> <li>d) Latest “GSTR 3 B Returns Certificate”</li> <li>e) <b>Financial Turnover certified by CA for last 5 years</b></li> <li>f) <b>Details of previous supplies along with PO copies and delivery challan copies for qualification requirement as per tender document.</b></li> <li>g) <b>Performance Certificates issued by Head of Purchasing Authority (as per spec)</b></li> <li>h) Copies of relevant purchase order copies mentioned in the performance certificates in support of the above.</li> <li>i) Drawings, Guaranteed Technical Particulars of the product, other relevant documents attached to the bid.</li> <li>j) BIS certificate</li> <li>k) ISO certification</li> <li>l) Type Test Certificates in full shape</li> <li>m) Duly filled and signed proforma as per Format A</li> </ol> </li> </ol> <p>6. The rates should be quoted <b>in online</b> only</p> |

|    |                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|----|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    |                                     | <p>7. After uploading the documents the copies of the uploaded statement, certificates, documents, original Demand Drafts in respect of processing fee, testing charges and Bid Security (except the Price bid/offer/break-up of taxes) are to be submitted by the bidder to the CHIEF ENGINEER/ P&amp;MM/ TGSPDCL so as to reach before the date and time of opening of the technical bid. Failure to furnish any of the uploaded documents, certificates, before the date and time of opening of technical bid will entail in rejection of the bid. The Department shall not hold any risk on account of postal delay. Similarly, if any of the certificates, documents, etc., furnished by the tenderer are found to be false / fabricated / bogus, the bidder will be disqualified, blacklisted, action will be initiated as deemed fit and the Bid Security will be forfeited.</p> <p>8. The department will not hold any risk and responsibility regulating non-visibility of the scanned and uploaded documents.</p> <p>9. The Documents that are uploaded online on e-market place will only be considered for Technical Bid Evaluation.</p> <p>10. Important Notice to Contractors, Suppliers and Department users</p> <p>(i) In the endeavor to bring total automation of processes in e-Procurement, the Govt. has issued orders vide G.O.Ms.No. 13 dated. 5.7.2006 permitting integration of electronic Payment Gateway of ICICI/HDFC Banks with eProcurement platform, which provides a facility to participating suppliers/ contractors to electronically pay the transaction fee online using their credit cards.</p> |
| 26 | Rights reserved with the Department | TGSPDCL reserves the right to accept or reject any or all of the tenders received without assigning any reasons therefore. The TGSPDCL also reserves the right to split the tender and place orders on more than one tenderer at its discretion                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 27 | General Terms and Conditions        | As per tender documents.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

SD/-  
**CHIEF ENGINEER (P&MM)**  
**TGSPDCL**

**SECTION-II**  
**SALIENT FEATURES OF THE BID**

**SUPERSCRPTION ON THE TENDER COVER**

Specification No : **STN- 1399/2025**  
Material : *Van Mounted UG Cable Fault Locating Test Equipment upto 33KV along with Diagnostics*

Officer to whom the bid will be addressed: **CE/P&MM, Corporate Office/TGSPDCL/Hyd**

Superscription on the bid cover and the outer envelope :

- a. Specification No. : **STN-1399 /2025**
- b. Due date and time for online submission : **upto 12:00 Hrs**
- c. Date and time of online opening : **at 15:00 Hrs**
- d. Payment of bid security
  - i) If paid give details; **DD/BG** No. \_\_\_\_\_ Dt. \_\_\_\_\_ for Rs. \_\_\_\_\_
  - ii) If exempted give details
- e. Whether 90 days validity offered .....(yes/no).
- f. Whether bid is made accepting payment terms Clause....(yes/no).
- g. Whether delivery is as per delivery schedule indicated....(yes/no)
- h. Whether the sample (if specified) has been enclosed/sent...(yes/no)
- i. Whether the quotation is in two parts .... (Yes/no)

**Content of Bidding Documents:**

The materials / equipment required, bidding procedures, and contract terms are prescribed in the bidding documents as listed below:

- a. Notice Inviting Bids.
  - b. Salient features of the contract.
  - c. Standard General terms and conditions of contract.
  - d. Standard Technical specification and drawings wherever necessary.
  - e. Qualification Requirements.
  - f. Schedule of requirements (Delivery Schedule)
  - g. Manufacture's Authorization Form
- SAMPLE FORMS.**
- h. Bid Form and Price Schedules
  - i. Bid Security Form
    - i. Contract Form
    - ii. Performance Security form
  - i. Performance Statement
  - j . Details to be furnished by the Manufacturer (Format-A)
  - k. Schedule of Deviations (Technical & Commercial)

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.

Deviations from standard bidding document

- i. General terms and Conditions of Contract
- ii Technical

The above deviations supersede the existing terms of GCC and Technical Specification

**SD/-**  
**CHIEF ENGINEER (P&MM)**  
**TGSPDCL**

## SECTION-III GENERAL TERMS AND CONDITIONS

### A. Introduction

#### 1. Definitions

In this Contract, the following terms will be interpreted as indicated:

- (a) "The Contract" means the agreement entered into between the Purchaser and the Supplier, as recorded in the contract Form signed by the Parties, including all attachments and appendices thereto and all documents incorporated by reference therein.
- (b) "The Contract Price" means the price payable to the Supplier under the Contract for the full and proper performance of its contractual obligations.
- (c) "The Materials/equipment" means all of the equipment, machinery, and/or other materials which the Supplier is required to supply to the Purchaser under the Contract.
- (d) "The Services" means those services ancillary to the supply of the Materials / equipment, such as transportation and insurance, and any other incidental Services, such as installation, commissioning, provision of technical assistance, training, and other such obligations of the Supplier covered under the Contract.
- (e) "GCC" means the General Terms and Conditions of Contract contained in the section.
- (f) "The Purchaser" means the organization purchasing the Materials / equipment.
- (g) Vendor is a supplier who has registered with the purchaser for supply of materials/equipment.
- (h) "The Supplier" means the firm supplying the Materials / equipment and Services under this Contract.
- (i) "Day" means calendar day.

#### 2. Applicability

These General Conditions of contract will apply to the extent that they are not superseded by provisions of Salient features of the Bid.

#### 3(a) Standards

The Materials / equipment supplied under this Contract will conform to the Standards mentioned in the Technical specifications, and, when no applicable standard is mentioned, the authoritative standards appropriate to the Materials / equipment' i.e., BIS, such standards will be the latest. All material will be of the best class and will be capable of satisfactory operation under tropical conditions without distortion or deterioration.

#### 3(b) Interchangeability:

All similar materials and removable parts of similar equipment will be interchangeable with each other. A specific confirmation of this should be furnished in the bid.



**4. Scope of Work:**

This specification covers design, manufacture, testing and delivery FADS (Free At Destination Stores) of the materials described at Section-IV and Technical Specification at section-V.

**5. Eligible Bidders:**

**The Manufacturers/authorized dealers who have registered themselves with department of industries of State/Central Govt. with full manufacturing and testing facilities for supply of the material/equipment listed in Section No. IV of Bid specification.**

**B. THE BIDDING DOCUMENTS**

**6. Contents of Bidding Document:**

6.1 The Materials / equipment required, bidding procedures, and contract terms are prescribed in the bidding documents as listed below:

1. Notice Inviting Bid
2. Technical Specifications
3. Schedule of Requirements (Delivery Schedule)
4. Bid Form and Price Schedules (online only)
5. Salient Features of the Bid
6. General Terms and Conditions of Contract
7. Qualification Requirements
8. Bid Security
9. Performance Security Form
10. Schedule of Deviations

6.2 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 responsive to the bidding documents in every respect will be at Bidder's risk and may result in the rejection of its bid.

**7. Clarification of Bidding Documents**

A prospective Bidder requiring any clarification of the bidding documents may notify the Purchaser in writing or by cable (hereinafter, the term cable is deemed to include telex and facsimile) at the Purchaser's address. The Purchaser will respond in writing to any request for clarification of the bidding documents, which it receives no later than fifteen (15) days prior to the deadline for the submission of bids. Written copies of Purchaser's response (including an explanation of the query but without identifying the source of inquiry) will be put on Website of the purchaser or intimated by mail.

**8. Amendment to Bidding Documents:**

8.1 At any time prior to the deadline for submission of bids, the Purchaser, for any reason, whether at its own initiative or in response to a clarification requested by a prospective Bidder, may modify the bidding documents by amendment.

8.2 All such amendments also would be made available on the website of TGSPDCL and e-procurement website and such amendments will be binding on the respective Bidders.

- 8.3 In order to allow prospective Bidders reasonable time in which to take the amendment into account in preparing their bids, the Purchaser, at its discretion, may extend the deadline for the submission of bids.

## **C. PREPARATION OF BIDS**

### **9. Language of Bid:**

The bid prepared by the Bidder including all correspondence and documents relating to the bid exchanged by the Bidder and the Purchaser, will be in English.

### **10. Cost Associated with Bidding:**

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

### **11. Documents Constituting the Bid:**

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

- i. Bid Security in accordance with Clause No.19.
- ii. A Bid Form and Price Schedule (only for online submission) completed in accordance with Clause No.12 and 13.
- iii. Documentary evidence establishing in accordance with Clause No.18 that the Bidder is eligible to bid and is qualified to perform the contract if its bid is accepted.
- iv. 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
- v. Tax clearance certificate
- vi. Schedule of Deviations
  - (a) Commercial
  - (b) Technical

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.

### **12. Bid Form:**

The Bidder will complete the Bid form and the appropriate Price Schedule (only for online submission) furnished in the bidding documents, indicating the Materials/equipment to be supplied, a brief description of the Materials / equipment, quantity and prices.

### **13. Bid Prices:**

- 13.1 The prices quoted shall be **FIRM**. Bids will be called for with prices FADS inclusive of packing and forwarding, GST and other legally permissible duties and levies wherever applicable, handling charges to cover the transport by road from destination railway station to site/stores and insurance (transit and storage at site for 45 days).
- 13.2 Even though composite price is given the break-up for all the duties, taxes, freight, insurance, packing and forwarding etc., shall be furnished.

- 13.3 It is the responsibility of the Bidder to inform himself of the correct rates of duties and taxes leviable on the materials at the time of bidding.
- 13.4 The proforma credit available to the bidder on the purchases of inputs (raw materials) consequent to the introduction of “MODVAT” Scheme may be taken into account while quoting the prices.
- 13.5 The Bidder shall indicate on the appropriate Price Schedule (online submission) the unit prices (where applicable) and total bid price of the Materials / equipment it proposes to supply under the contract.

Prices indicated on the price schedule (online) shall be entered separately in the following manner.

The price of the Materials / equipment quoted EX-WORKS and all other duties and taxes payable on the finished Materials / equipment with individual breakup for Taxes and Duties, packing and forwarding, freight and insurance etc.

#### **14. Taxes and Duties**

- 14.1 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 GST and any other levies payable. Failure to furnish the details leads to loading as indicated in the evaluation criteria.
- 14.2 If the rates of statutory levies assumed by the Bidder are less than the actual rates prevailing at the time of bidding, the Purchaser 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 Purchaser.
- 14.3. Deemed Export Benefits: This is not applicable for local purchases with TGSPDCL funds.

#### **15. 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 TGSPDCL provided that during delivery schedule. In cases where delivery schedule is not adhered to by the supplier and there are upward variation / revision after the agreed delivered date the supplier will bear the impact of such levies and if there is downward variation / revision, the TGSPDCL will be given credit to that extent.

In case of subvendor items Taxes & Duties are inclusive in tender price. No Statutory variation is applicable. Further price variations in respect of sub-vendor items will be considered on tender prices”.

This is allowed only once during delivery period i.e. at the time of delivery of goods at factory”.

#### **16. Bid Currencies:**

Prices shall be quoted in Indian Rupees; and will be paid in Indian Rupees Only.

#### **17. Quantity to quote:**

Bidder shall quote a minimum quantity of at least 20% of the total quantity indicated in the bid Specification. Offers less than the minimum prescribed are liable for rejection.

#### **18. Documents Establishing Bidder’s Eligibility and Qualifications**

The Bidder shall furnish, as part of its bid, documents establishing the Bidder's eligibility to bid and its qualifications 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 Purchaser'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 supply of the material in question made so far to TGSPDCL during the last 5 years and other reputed utilities.

#### **18.1 Documents Establishing Materials / equipment Conformity to Bidding Documents.**

The Bidder shall furnish as part of its bid, documents establishing conformity to the bidding documents of all Materials / equipment and services, which the Bidder proposes to supply under the Contract.

The documentary evidence of conformity of the Materials / equipment and the services to bidding documents may be in the form of literature, drawings, and data, and will consist of:

- (a) a detailed description of the essential technical and performance characteristics of the Materials /equipment;
- (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 current prices of spare parts, special tools etc., necessary for the proper and continuing functioning of the Materials / equipment following commencement of the use of the Materials / equipment by the Purchaser; and
- (d) an item-by-item commentary on the Purchaser's Technical Specifications demonstrating substantial responsiveness of the Materials / equipment and services to those specifications, or a statement of deviations and exceptions to the provisions of the Technical Specifications.

For purposes of the commentary to be furnished pursuant to above, the Bidder will note that standards for workmanship, material, and equipment, as well as references to brand names or catalogue numbers designated by the Purchaser in its Technical Specifications, are intended to be descriptive only and not restrictive. The Bidder may substitute alternative standards, brand names, and/or catalogue numbers in its bid, provided that it demonstrates to the Purchaser's satisfaction that the substitutions ensure substantial equivalence to those designated in the Technical Specifications.

#### **19. Bid Security**

- 19.1 The Bidder shall furnish, as part of its bid, a Bid Security in the amount of 2% (**plus GST @18%**) of the Total Ex-works value of the materials offered against the bid. This amount should be paid by way of a crossed demand draft drawn on any schedule bank in favour of the Pay Officer, TGSPDCL and payable at headquarters of the Purchaser. 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.

- 19.2 The fact of having enclosed bid security by **DD/BG** along with the bid should be clearly super scribed on the bid envelope.
- 19.3 Submission of BID SECURITY by way of cheque, cash, money order, call deposit will not be accepted and will be considered as disqualification.
- 19.4 Payment of BID SECURITY will be waived at the discretion of the TGSPDCL in the case of fully owned Government undertaking of the Central or State Government. Such undertakings should immediately apply and obtain exemption before submitting their Bids. They need only refer to the details of such exemption in their Bids. Exemption accorded by any organization other than TGSPDCL will not be considered.
- 19.5 Requests for exemption from payment of BID SECURITY will not be entertained in any other case.
- 19.6 Any bid not secured as above will be rejected by the purchaser.
- 19.7 Unsuccessful Bidders' Bid Security will be discharged or returned as promptly as possible but not later than thirty (30) days after the expiry of the period of bid validity prescribed by the Purchaser.
- 19.8 The successful Bidder's Bid Security will be discharged upon the Bidder signing the contract.
- 19.9 **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 pursuant to Clause No.30.2; 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 itself 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.37.
    - ii. To furnish performance security in accordance with Clause No.38.
- 19.10 In cases where the Bid Cover Contains superscription of having furnished Bid Security by way of **DD/B.G.** but if the same is not found within, such Bids will be rejected and bidder will run the risk of being banned.

**Note : The bidder shall furnish required Bid Security amount and validity (The validity of the bank guarantee shall be upto bid validity +45 days from the date of tender opening ) as per specification. If the bidder fails to furnish bid security amount and bid validity as stipulated in the specification, such tender bid will not be considered for further evaluation.**

## 20. Period of Validity of Bids.

- 20.1 Bids shall remain valid for the period of ninety (90) days from the date of bid opening prescribed by the Purchaser. A bid valid for a shorter period will be rejected.

The bidders should clearly super scribe on the sealed envelopes of the bids about the validity. Bids not containing superscription of validity will be rejected and returned unopened.

- 20.2 In exceptional circumstances, the Purchaser may solicit the Bidder's consent to an extension of the period of validity. The request and the responses there to will be made in writing (or by cable). The Bid Security provided under **Clause No.19** will also be suitably extended. A Bidder may refuse the request without forfeiting its Bid Security.

## 21. Tax Clearance Certificates:

Copies of Income Tax, Sales Tax 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.

## 22. Service Conditions

- 22.1 The equipment / materials offered will be entirely satisfactory for operation under the climatic conditions indicated below:

|     |                                                |                   |
|-----|------------------------------------------------|-------------------|
| (a) | Maximum ambient air temperature (in shade)     | 45 <sup>0</sup> C |
| (b) | Maximum ambient air temperature (under sun)    | 50 <sup>0</sup> C |
| (c) | Maximum daily average ambient air temperature  | 35 <sup>0</sup> C |
| (d) | Maximum yearly average ambient air temperature | 30 <sup>0</sup> C |
| (e) | Maximum humidity                               | 100%              |
| (f) | Altitude above M.S.L.                          | Up to 1000M       |
| (g) | Average No. of thunder storm days per annum    | 50                |
| (h) | Average No. of dust storm days per annum       | Occasional        |
| (i) | Average No. of rainy days / annum              | 90                |
| (j) | Average Annual Rain fall                       | 925mm             |
| (k) | Normal tropical monsoon period                 | 4 months          |
| (l) | Maximum wind pressure                          | 150 kg/Sq.M.      |

- 22.2 Due consideration will be given to any special devices or attachments put forward by the Bidder which are calculated to enhance the general utility and the safe and efficient operation of the equipment / materials.

## 23. Format and Signing of Bid.

- 23.1 The Bidder shall prepare an original, clearly marking "ORIGINAL BID".
- 23.2 The original of the bid shall be typed and shall be signed by the Bidder or a person or persons duly authorized to bind the Bidder to the contract. The person or persons signing the bid will initial all pages of the bid, except for printed literature.
- 23.3 Any interlineations, erasures, or overwriting will be valid only if they are initialed by the person or persons signing the bid.

## D. Submission of Bids

### 24. Submission, Sealing and Marking of Bids.

24.1 The tenderers are required to submit their bids in two parts as under:

- (i) Part-I (a) : Bid Security, Transaction Fee, Technical & Qualification Requirements.
- (b) : Technical Bid shall contain full technical particulars and commercial terms and conditions but without prices. This should not contain any cost information whatsoever.

Part-II : Price Bid – containing Price **(shall be on-line only)**

**Bids received with any details pertaining to prices in the offline mode will be liable for rejection.**

- (ii) The Part-I of the tender should be furnished in a sealed cover superscribing tender enquiry number, name of material, name of the bidder and date of tender opening.
- (iii) Part-I of the bid will be opened on the due date of tender opening. In case the bidders have been granted Bid Security exemption (clause-19.4), documentary evidence for the same must be furnished. The firms whose Bid Security is not received as specified in the tender document, the price bids will not be opened and their bids will be rejected summarily.
- (iv) The price bids of only those bidders whose technical bids, on examination, are determined to be technically and commercially acceptable and meeting the specified Qualification Criteria will be opened at a later date.

### Sealing and Marking of Bids.

24.2 The Bidder shall seal the bid in envelope.

### 24.3 The envelopes will be addressed to the Purchaser:

24.4 The sealed cover as well as the outer envelope should be super scribed as follows:

- (a) Bid Enquiry No.
- (b) Due date and time for online submission.
- (c) Date and time for online opening.
- (d) Payment of Bid Security
  - (i) If paid, give details: D.D. No. Date:
  - (ii) If not paid or exempted, give details.
- (e) Whether 90 days validity offered.....YES / NO
- (f) Whether the quotation is made accepting Payment terms clause .... YES/NO
- (g) Whether the delivery is as per delivery schedule indicated.... YES/NO
- (h) Whether the sample (if specified) has been enclosed/ sent... YES/NO
- (i) Whether the bid is quoted in two parts (clause 24.1).... (YES/NO)

24.5 Bids not super scribed as above are liable to be rejected.

24.6 The Bidder shall 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. .

- 24.7 The bids shall be in bound volumes (With the documents in the volume not detachable). All pages of the bid except in-amended printed literature shall be initiated by the person/persons signing the bid. The page number shall be referred in Index. All pages including literature, type test reports of the bid shall be numbered and the page numbers shall be continuous. Soft copy of the technical and commercial bids and designs with drawings shall be given in Floppy disc/ CD also. Summary sheet in the given format on the top of the bid duly signed and sealed by the bidder.
- 24.8 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 TGSPDCL will not be responsible for any postal or any other transit delays.
- 24.9 Telegraphic quotations will not be entertained under any circumstances. Clarification, amplifications, and / or any other correspondence from the Bidder subsequent to the opening of bid will not be entertained. The Bidders are advised to ensure that their bids are sent in complete shape at the first instance itself.
- 24.10 The inner envelopes shall also indicate the name and address of the Bidder to enable the bid to be returned unopened in case it is declared "late".
- 24.11 If the outer envelope is not sealed and marked as required above, the Purchaser will assume no responsibility for the bid's misplacement or premature opening.

**25. Deadline for Submission of Bids.**

- 25.1 Bids together with modifications if any, or other withdrawals must be received by the Purchaser not later than the deadline for submission of bids specified in the Salient features of the Bid.
- 25.2 The Purchaser may, at its discretion, extend this deadline for the submission of bids by amending the bidding documents in which case all rights and obligations of the Purchaser and Bidders previously subject to the deadline will thereafter be subject to the deadline as extended.

**26. Late Bids**

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

**26.2 Modification and Withdrawal of Bids.**

The Bidder may modify or withdraw its bid after the bid's submission, provided that written notice of the modification, including substitution or withdrawal of the bids, is received by the Purchaser prior to the deadline prescribed for submission of bids.

The Bidder's modification or withdrawal notice will be prepared, sealed, marked, and dispatched. A withdrawal notice may also be sent by cable, but followed by a signed confirmation copy, postmarked not later than the deadline for submission of bids. No bid may be modified after the deadline for submission of bids.

No bid may be withdrawn in the interval between the deadline for submission of bids and the expiration of the period of bid validity specified. Withdrawal of a bid during this interval may result in the forfeiture of its Bid Security.



## **E. Opening and Evaluation of Bids**

### **27. Opening of Bids by the Purchaser**

- 27.1 The Purchaser will open all bids meeting above criteria, at the time, on the date, and at the place specified.
- 27.2 The Bidders' names, bid modifications or withdrawals, discounts, and the presence or absence of requisite Bid Security and such other details as the Purchaser, at its discretion, may consider appropriate, will be announced at the opening.
- 27.3 Bids that are not opened and read out at bid opening will not be considered further for evaluation, irrespective of the circumstances.

### **28. Clarification of Bids**

During evaluation of the bids, the Purchaser may, at its discretion, ask the Bidder for a clarification of its bid. The request for clarification and the response shall be in writing, and no change in the prices or substance of the bid shall be sought, offered, or permitted.

### **29. Preliminary Examination**

- 29.1 The Purchaser 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.
- 29.2 Arithmetical errors will be rectified on the following basis. If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price will prevail, and the total price will be corrected. If the Supplier does not accept the correction of the errors, its bid will be rejected, and its Bid Security may be forfeited. If there is a discrepancy between words and figures, the amount in words will prevail. If the supplier does not accept the correction of the errors, its bid will be rejected and its Bid Security may be forfeited.
- 29.3 The Purchaser may waive any minor informality, nonconformity, or irregularity in bid which does not constitute a material deviation, provided such waiver doesn't prejudice or affect the relative ranking of any Bidder.
- 29.4 Prior to the detailed evaluation, the Purchaser will determine the substantial responsiveness of each bid to the bidding documents. For purposes of these Clauses, a substantially responsive bid is one, which conforms to all the terms and conditions of the bidding documents without material deviations. Deviations from, or objections or reservations to critical provisions, such as those concerning Bid Security, and Taxes and Duties will be deemed to be a material deviation. The Purchaser's determination of a bid's responsiveness is to be based on the contents of the bid itself without recourse to extrinsic evidence.
- 29.5 If a bid is not substantially responsive, it will be rejected by the Purchaser and may not subsequently be made responsive by the Bidder by correction of the nonconformity.

**Note : Payment terms, Delivery period, Performance Bank Guarantee, Taxes and Duties” should be in line with the terms and conditions of the specification. If any bidder does not meet any one of the conditions, such tender will not be considered. Please note that the conditional offers are also not considered. Hence the bidder shall submit the tender in line with the terms and conditions of the specification.**

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

- 30.1 The Purchaser will evaluate and compare the bids, which have been determined to be Substantially responsive.
- 30.2 The Purchaser's evaluation of a bid will take into consideration one or more of the following factors

All the bids, which are opened, read out and considered for evaluation will be checked for qualification requirements in respect of technical and commercial aspects. Such of the bids, which do not meet the qualification requirements, will not be evaluated further. The bid is to be checked for its conformity to the technical specification. If it does not meet the technical specification, the Bid will not be evaluated further. However, if in the opinion of the purchaser the bidder has offered equipment / material better than the technical specification the same may be considered. 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 bid security exemption
  3. Bids not properly signed
  4. The bidder is a vendor who is banned from further business transactions and the period of ban is still in force.
  5. Bid received after the due date and time
  6. The bid is through telegram or fax
- Further, the purchaser may enquire from the bidder in writing for any clarification of the bid. The response of the bidder will also be in writing. However no change in the prices or substance of the bid will be sought, offered or permitted.
  - Bids will be examined for completeness and for any computational errors.
  - Arithmetical errors will be rectified on the following basis.
    - Where there is a discrepancy between the unit price and total price, the unit price will prevail and the total price will be corrected accordingly.
    - Where there is a discrepancy between words and figures, the amount in words will prevail.
    - Failure on the part of the bidder to agree to the above corrections will result in rejection of his offer and forfeiture of his bid security.
  - It will be ensured that the required sureties have been furnished and that the documents have been properly signed.
  - The purchaser's evaluation of a bid will take into consideration one or more of the following factors

- (a) Delivery schedule 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) The cost of components, mandatory spare parts, and service;
- (d) The availability of spare parts and after-sales services for the equipment offered in the Bid;
- (e) The projected operating and maintenance costs during the life of the equipment;
- (f) The performance and productivity of the equipment offered;
- (g) Other specific criteria indicated in the Bidding documents.

In addition the Purchaser's evaluation of a bid will take into account the net landed cost of the material at the final destination. For the purpose of evaluation net landed cost is arrived at by adding all elements of the basic price, allowable discount, excise duty, any other levies, packing & forwarding, freight charges, insurance (transit & storage) as quoted by the bidder, interest on advance if any, erection, servicing and other charges, **inclusive of GST** as called for.

In addition any variation up or down in taxes and duties / new levies introduced subsequent to bid opening and before award will be considered for comparison purposes.

The following criteria may be adopted for taxes and duties for evaluation

- a. It is the responsibility of the bidder to quote all taxes and duties correctly without leaving any column unfilled. Where taxes and duties are not applicable, the bidder should enter "NA". If no duty / tax is leviable the same may be entered as "NIL". If any column is left blank or filled vaguely like "as applicable", the same will be loaded with the maximum of the other eligible Bids.
- b. Where there is an exemption of GST, the documentary evidence to that effect will be enclosed by the supplier.
- c. The bidders for supply and works shall invariably possess the TIN number and PAN Number for the bids above Rs. 5.00 lakhs and this must be verified before entering into contract.
- Prior to detailed evaluation, the responsiveness of each bid will be determined. A substantially responsive bid is one that conforms to all the terms and conditions of the bidding documents without material deviations. For this purpose superscription, qualification requirement, bid security, validity, delivery, payment terms, price schedule, taxes and duties will be deemed to be the critical provisions and deviations in any one of these items will be deemed to be a material deviation.

The purchaser may waive any minor informality, non-conformity or irregularity in the bid which does not constitute a material deviation, provided such waiver does not affect the relative ranking of any bidder. The purchaser will clearly indicate in the bid specification the methodology for evaluation of bids.

- (a) Bid price, which will include all, costs of manufacture and services at manufacturing place as well as, Transportation to destination stores, packing and forwarding, insurance and all Taxes & other legally permissible duties & levies payable.
  - (b) Delivery schedule offered in the bid.
  - (c) Deviations in payment schedule from that specified in the general terms and conditions of the contract.
  - (d) The cost of components, mandatory spare parts, and service
  - (e) The availability of spare parts and after-sales services for the equipment offered in the Bid;
  - (f) The projected operating and maintenance costs during the life of the equipment;
  - (g) The performance and productivity of the equipment offered; and/or
  - (h) Other specific criteria indicated in the Bid Specification.
- 30.3(a) The Purchaser's evaluation of a bid will take into account the Net Landed Cost of the Material at destination stores inclusive of all taxes and duties and **inclusive of GST** quoted by the Bidder. It is the responsibility of the bidder to quote all Taxes and Duties correctly without leaving any column unfilled. Where not applicable the column may be filled as "NA". If no duty / tax is leviable, the same may be filled as "NIL". If any column is left blank, the same is loaded with maximum of other eligible Bids.
- 30.3(b) Any statutory variations of taxes and duties and new levies imposed after opening of the bid and before award of the contract will be taken into consideration for the purpose of evaluation.
- 30.4 A substantially responsive bid is one, which conforms to all the terms and conditions of the bidding documents without material deviations. For this purpose superscription, qualification requirement, bid security, validity, delivery, payment terms, price schedule, taxes and duties will be deemed to the critical provisions and deviations in any one of these things will be deemed to be a material deviation.
- 31. Contacting the Purchaser.**
- 31.1 From the time of the bid opening to the time of contract award, if any Bidder wishes to contact the Purchaser on any matter related to the bid, it should do so in writing.
- 31.2 Any effort by a Bidder to influence the Purchaser in its decisions on bid evaluation, bid comparison, or contract award will result in the rejection of the Bidder's bid.
- F. Award of Contract.**
- 32. Post Qualification**
- 32.1 In the absence of pre-qualification, the Purchaser will determine to its satisfaction whether the Bidder that is selected as having submitted the lowest evaluated responsive bid is qualified to perform the contract satisfactorily.

- 32.2 The determination will take into account the Bidder's financial, and production capabilities. It will be based upon an examination of the documentary evidence of the Bidder's qualification submitted by the Bidder, as well as such other information as the Purchaser deems necessary and appropriate.

**33. Award Criteria:**

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

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

**34. Purchaser's Right to Vary Quantities at Time of Award**

- 34.1 The Purchaser reserves the right at the time of contract award to increase or decrease **upto 50% of** the quantity of Materials / equipment and services originally specified in the Schedule of Requirements without any change in unit price or other terms and conditions.
- 34.2 The purchaser reserves the right to vary the ordered quantity by +/- **50%** during the execution of the contract.

**35. Purchaser's Right to Accept Any Bid and to Reject Any or All Bids**

The Purchaser 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 or any obligation to inform the affected Bidder or Bidders.

**36. Notification of Award**

- 36.1 Prior to the expiration of the period of bid validity, the Purchaser 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.
- 36.2 The notification of award will constitute the formation of the Contract.
- 36.3 Upon the successful Bidder's furnishing of the performance security, the Purchaser enters into contract with successful Bidder / Bidders. The Purchaser will notify each unsuccessful Bidder and will discharge its Bid Security.

**37. Signing of Contract:**

The Purchaser notifies the successful Bidder that its bid has been accepted. Within 30 (thirty 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.

### 38. Performance Security:

- 38.1 Within Fifteen (15) days of receipt of the notification of Contract award. The successful Bidder will furnish to the Purchaser the performance security for an amount 10% 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 correction of defects or replacement of defective material during the warranty period, the warranty for the corrected / replaced material will be extended to a further period of 12 months and the Performance Bank Guarantee for proportionate value will be extended 60 days over and above the extended warranty period.

- 38.2 The proceeds of the performance security will be payable to the Purchaser as compensation for any loss resulting from the Supplier's failure to complete its obligations under the Contract.

- 38.3 The performance security will be...

(a) A bank guarantee issued by a **nationalized bank/Scheduled bank** acceptable to the Purchaser, 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 Purchaser in favour of the Purchaser drawn on any scheduled bank.

- 38.4 The performance security will be discharged by the Purchaser and returned to the Supplier not later than sixty (60) days after the expiry date.

- 38.5 **Failure of the successful Bidder to comply with the above requirement will entail cancellation of the award and forfeiture of the Bid Security and the balance to make up the performance security deposit will be deducted from pending payments if any due to the tenderer from TGSPDCL on other orders in addition the company will also become liable for being blacklisted by TGSPDCL**

### 39. Corrupt or Fraudulent Practices

It is essential that the Purchaser as well as Bidder / supplier / contractor for the purposes of this provision, the terms set forth below as follows:

- (i) "Corrupt practice" means the offering, giving, receiving or soliciting of any thing of value to influence the action of a public official in the procurement process or in contract execution, and
- (ii) "Fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the purchaser, and includes collusive practice among Bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the purchaser of the benefits of free and open competition;
- (iii) Will reject a proposal for award if it determines that the Bidder recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question;
- (iv) Will declare a firm ineligible, either indefinitely or for a stated period of time, to be awarded a contract if it at anytime determines that the firm has engaged in corrupt or fraudulent practices in competing for, or in executing, a contract.

#### **40. Use of Contract Documents and Information:**

- 40.1 The Supplier will not, without the Purchaser's prior written consent, disclose the Contract, or any provision thereof, of any specification, plan, drawing, pattern, sample, or information furnished by or on behalf of the Purchaser in connection therewith, to any person other than a person employed by the Supplier in the performance of the Contract. Disclosure to any such employed person will be made in confidence and will extend only so far as may be necessary for purposes of such performance.
- 40.2 The Supplier will not, without the Purchaser's prior written consent, make use of any document or information except for purposes of performing the Contract.
- 40.3 Any document, other than the Contract itself, will remain the property of the Purchaser and will be returned ( in all copies) to the Purchaser on completion of the supplier's performance under the Contract if so required by the Purchaser.
- 40.4 The Supplier will permit the Purchaser or his authorized representative to inspect the Supplier's accounts and records relating to the performance of the Supplier and to have them audited by auditors appointed by the Supplier.

#### **41. Patent Rights**

The Supplier will indemnify the Purchaser against all third-party claims of infringement of patent, trademark, or industrial design rights arising from use of the Materials / equipment or any part thereof.

#### **42. Places / Locations:**

Particulars of site location and nearest rail heads to which the equipments / material have to be supplied will be given to successful Bidders.

#### **43. Delivery:**

Delivery period will be reckoned from the date of signing of the contract. The delivery quoted will be firm, definite, unconditional and on the basis of receipt of materials at destination in good condition without any bearing on the procurement of raw materials or any similar prerequisites. The commencement date and date of delivery will be indicated. The preferred delivery time, which is the essence of this specification, is indicated in the schedule. Final deliveries are however, subject to confirmation at the time of Contract. Delay in delivery of materials FADS – (Free At Destination Stores) due to non-availability of railway booking, non-allotment of wagons and any such reasons will not be considered. It is the responsibility of the supplier to make alternative arrangements for transporting the materials by road or rail so as to see that the material reaches the destination within the stipulated period. The Purchaser reserves its right to defer the delivery date at any time after orders are placed without any change in the conclusion of contract other conditions supply. The delivery period, which will be reckoned from the date of the Contract, will be guaranteed under penalty as in **Clause 59**.

#### **44. Inspections and Tests**

- (i) The supplier will keep the Purchaser informed in advance of the time of the starting and the progress of manufacture of equipment in its various stages so that arrangement could be made for inspection. The accredited representative of the TGSPDCL will have access to the supplier's or his subcontractor's work at any time during working hours for the purpose of inspecting the materials during manufacturing of the materials/equipment and testing and may select test samples from the materials going into plant and equipment. The supplier will provide the

facilities for testing such samples at any time including access to drawings and production data at no charge to Purchaser. As soon as the materials are ready the supplier will duly send intimation to TGSPDCL by Registered Post and carry out the tests in the presence of representative of the TGSPDCL.

- (ii) The TGSPDCL may at its option get the materials inspected by the third party if it feels necessary and all inspection charges in this connection will be borne by the TGSPDCL. In case of materials not of acceptable quality or not conforming to the specification, the materials will be rejected. You have to re-offer the material for inspection. In such a case the 2nd inspection charges are to the suppliers account. In case the materials are rejected in the 2nd inspection also, the TGSPDCL reserves the right to cancel the order.
- (iii) The dispatches will be affected only if the test results comply with the specification. The dispatches will be made only after the inspection by the TGSPDCL Officer is completed to the TGSPDCL satisfaction or such inspection is waived by the competent authority.
- (iv) The acceptance of any quantity of materials will in no way relieve the supplier 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.
- (v) The supplier will give 15 days advance intimation to enable the Purchaser to depute his representative for witnessing the acceptance and routine tests.
- (vi) Should any inspected or tested materials / equipment fail to conform to the specification, the Purchaser may reject the materials and supplier will either replace the rejected materials or make alterations necessary to meet specifications requirements free of costs to the Purchaser.
- (vi) In the case of transformers, instrument transformers and meters, inspection will be conducted every year, for the first
- (vii) 5 years on a 2% sample of the quantities supplied. Samples will be collected at random to establish that the guaranteed technical parameters are as per the submitted bid by the supplier. In the case of non-adherence, the purchaser may take suitable action on the supplier including cancellation of vendor registration and banning further dealings, depending on the gravity of the deviation. These random inspections may be entrusted to a third party.
- (viii) Inspection not carried out due to non-readiness of the material even after contacting / confirmed over phone from the supplier about availability of material and physical verification at the supplier premises, the charges @ 0.21% of Ex-works price of material offered for inspection (inclusive of service tax and all other taxes & duties, travelling expenses, boarding and lodging charges at the place of inspection and all incidental charges) shall be paid by supplier subject to a maximum of Rs. 10,000.00 .

#### 45. **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. The contract No. and date and year of supply and the words “TGSPDCL” must be etched on the name plate.

#### 46. **Packing**

- 46.1 The Supplier will provide such packing of the Materials / equipment as is required to prevent their damage or deterioration during transit to their final destination, as indicated in the Contract. The packing will be sufficient to withstand, without limitation, rough handling during transit and exposure to extreme temperatures, salt and precipitation during transit, and open storage. Packing case size and weights will take into consideration, where appropriate, the remoteness of the



Materials / equipment' final destination and the absence of heavy handling facilities at all points in transit.

- 46.2** The packing, marking, and documentation and outside the packages will comply strictly with such special requirements as will be expressly provided for in the Contract and in any subsequent instructions ordered by the Purchaser. The supplier will be required to make separate packages for each consignee, each package will be marked on three sides with proper paint / indelible ink with the following;

1. Contract Number
2. Supplier's name
3. Packing list reference number

- 46.3** The supplier, whenever dispatches material to a destination should prepare the following information in the form of packing slip in quadruplicate and send the same to the consignee and obtain his acknowledgement. The consignee will return to the supplier one copy of the packing slip with his remarks. The proforma of packing slip will be as follows:

#### **PACKING SLIP**

1. Contract No. & Date.
2. Quantity allotted to the stores and rate applicable.
3. Quantity so far supplied to the stores and the rate applied.
4. Quantity now supplied and the rate applied.
5. Total quantity supplied under the Contract with rates applied.
6. Programme for supplying the balance quantity to the Stores.

#### **47. Delivery Documents**

- 47.1** Delivery of the Materials/equipment will be made by the Supplier in accordance with the terms specified in the contract.

The latest test certificates containing the result of the tests as per the relevant ISS or other specification stipulated must be submitted to the CHIEF ENGINEER (P&MM) and got approved by him.

- 47.2** Documents to be submitted by the Supplier are specified as under...

- (i) Insurance certificate;
- (ii) Supplier's certificate certifying that the defects if any pointed out during inspection have been rectified (3 copies).
- (iii) Manuals in Six sets and one set of reproducible drawings.

The Purchaser will receive the above documents soon after the dispatch of materials and if not received, the supplier will be responsible for any consequent expenses.

#### **48. Insurance**

- 48.1** The Materials / equipment supplied under the Contract will be fully insured against loss or damage incidental to manufacture or acquisition, transportation and delivery and also storage for **45** days at destination stores.

- 48.2** The bidder shall a) Initiate and pursue insurance claim till settlement, and b) Promptly arrange for repair and/or replacement of any damaged items in full irrespective of settlement of insurance claim by the under Writers. c) All costs because of insurance liabilities covered under the contract will be to supplier's account. The supplier shall provide the Purchaser with a copy of all insurance policies and documents taken out by him in pursuance of the 'Contract'. Such copies of documents shall be submitted to the purchaser immediately after such insurance coverage. The supplier shall

also inform the Purchaser in writing at least sixty (60) days in advance, regarding the expiry, cancellation and/or change in any of such documents and ensure revalidation/renewal etc., as may be necessary well in time.

The risks that are to be covered under the insurance shall be comprehensive and shall include but not limited to, the loss or damage in transit, storage, due to theft, pilferage, riot, civil commotion, weather conditions, accident of all kinds, fire, flood, war risk (during ocean transportation) bad or rough handling etc. The scope of such insurance shall cover the entire contract value.

The insurance will be in an amount equal to 100% FADS value of Materials / equipment on all risks basis. The policy will have a provision for extension to cover further storage if necessary at destination stores / site at TGSPDCL cost. **The insurance beneficiary shall be TGSPDCL.**

#### **49. Transportation**

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

#### **50. Incidental Services**

The Supplier may be required to provide any or all of the following services, including additional services, if any.

- (a) Performance or supervision of on-site assembly and/or start-up of the supplied Materials / equipment;
- (b) Furnishing of tools required for assembly and/or maintenance of the supplied Materials / equipment;
- (c) Furnishing of a detailed operations and maintenance manual for each appropriate unit of the supplied Materials / equipment;
- (d) Performance or supervision or maintenance and/or repair of the supplied Materials / equipment, during warranty period, provided that this service will not relieve the Supplier of any warranty obligations under this contract; and
- (e) Training of the Purchaser's personnel, at the Suppliers' plant and/or on-site, in assembly, start-up, operation, maintenance, and/or repair of the supplied Materials / equipment.

#### **51. Spare Parts**

The Supplier may be required to provide any or all of the following materials, notifications, and information pertaining to spare parts manufactured or distributed by the Supplier.

- (a) Such spare parts as the Purchaser may choose to purchase from the Supplier, provided that this election will not relieve the supplier of any warranty obligations under the contract; and
- (b) In the event of termination of production of the spare parts:
- (c) Advance notification to the Purchaser of the impending termination.

- (d) Time to permit the Purchaser to procure needed requirement; and following such termination, furnishing at no cost to the Purchaser, the blueprints, drawings, and specifications of the spare parts, if requested.

## **52. Warranty**

- 52.1 The supplier will warrant for the satisfactory functioning of the material/equipment as per specification for a minimum period of **5 Years** from the date of receipt of the material/equipment in good condition.
- 52.2 The Supplier 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 the special guarantee sought in technical specification. The supplier further warrants that all Materials / equipment supplied under this Contract will have no defect, arising from a design and / or materials as required by the Purchaser's specifications or from any act of omission of the Supplier, that may develop under normal use of the supplied Materials / equipment.
- 52.3 All the materials will be of the best class and will be capable of satisfactory operation in the tropics under service conditions indicated in **clause 22** without distortion or deterioration. No welding filling or plugging of defective parts will be permitted, unless otherwise specified, they will conform to the requirements of the appropriate Indian, British or American Standards. (Where a standard specification covering the material in question has not been published, the standards of the American Society for testing of Materials should be followed).
- 52.4 The entire designs and construction will be capable of withstanding the severest stresses likely to occur in actual service and of resisting rough handling during transport.
- 52.5 Unless otherwise specified the warranty period will be **5 Years** from the date of acceptance of the Materials / equipment. The Supplier will, in addition, comply with the performance guarantees specified under the contract. If, for reasons attributable to the Supplier, these guarantees are not attained in whole or in part, the supplier will at its discretion either, Make such changes, modifications, and/or additions to the Materials / equipment or any part thereof as may be necessary in order to attain the contractual guarantees specified in the contract at its own cost and expense and to carry out further performance tests as per the relevant standards.
- 52.6 The Purchaser will promptly notify the supplier in writing of any claims arising under this warranty.
- 52.7 "Upon receipt of such notice, the Supplier will within 30 days repair or replace the defective Materials / equipment or parts thereof, free of cost at the ultimate destination. The supplier will take over the replaced parts/Materials/equipment at the time of their replacement. No claim whatsoever will lie on the Purchaser for the replaced parts/Materials /equipment thereafter". In the event of any correction of defects or replacement of defective material during the warranty period, the warranty for the corrected/replaced material will be extended to a further period of 12 months.
- 52.8 If the Supplier, having been notified, fails to remedy the defect(s) within the above period, the Purchaser may proceed to take such remedial action as may be necessary, at the Supplier's risk and expense duly deducting the expenditure from subsequent bills / bank guarantee and without prejudice to any other rights which the Purchaser may have against the Supplier under the Contract.

## **53. Payment**

- 53.1 “100% payment will be arranged on or after 30 days from the date receipt of material/equipment at the destination/stores (i.e.103 entry in SAP module) duly transferring the said amount to the bank account of the supplier by the purchaser bank. The supplier will have to predefine the Bank details while entering into contract for electronic transfer of payments.

**Note:**

- i) The date of delivery would be the date on which the stores officer certifies the receipt of materials at stores in good condition 103 entry in SAP module in respective of the date of check measurement.
  - ii) Form 13 shall be issued subject to material taken into stock in good condition (i.e., 105 entry in SAP module).
  - iii) The supplier should invariably submit test certificates as soon as despatch is made so that the test certificates can be checked up and approved well before it becomes due for payment. Routine Test Certificates of the entire lot shall be submitted to the Consignee.
  - iv) The performance guarantee to be executed in accordance with this specification shall be furnished on a stamp value of Rs.100/- The performance guarantee shall be from any Nationalized/Scheduled Bank. Performance Guarantee to the extent of 10% value of purchase order valid upto 2 months over and above the guarantee period to draw 100% payment.  
The performance guarantee has to be extended suitably by you in accordance with the guarantee clause, so that the last consignment against the order is covered by the guarantee.
  - v) If you have received any over payments by mistake or if any amounts are due to the TGSPDCL due to any other reason, when it is not possible to recover such amounts under the contract resulting out of the subject specification, the TGSPDCL reserves the right to collect the same from any other amounts and/or bank guarantee given by you due to or with the TGSPDCL.
  - vi) When you do not at any time, fulfill your obligations in replacing / rectifying etc., of the damaged/ defective materials in part or whole promptly to the satisfaction of the TGSPDCL officers, the TGSPDCL reserves the right not to accept the bills against subsequent despatches made by the supplier and only the supplier will be responsible for any demurrages, wharfages or damages occurring to the consignment so despatched.
- 53.2 The 100% payment mentioned above is subject to on submission of performance security as per **Clause-38** by the supplier.
- 53.3 The supplier should invariably submit test certificates and other documents, the purchaser specifies as soon as dispatch is made so that they can be checked and approved well in advance.
- 53.4 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.38**.
- 53.5 If the supplier has received any over payments by mistake or if any amounts are due to the TGSPDCL due to any other reason, when it is not possible to recover such amounts under the contract resulting out of this specification, the TGSPDCL reserves the right to collect the same from any other amount and / or Bank Guarantees given by the company due to or with the TGSPDCL.

- 53.6 When the supplier does not at any time, fulfill his obligations in replacing/rectifying etc., of the damaged/defective materials in part or whole promptly to the satisfaction of the TGSPDCL Officers, the TGSPDCL reserves the right not to accept the bills against subsequent dispatches made by the supplier and only the supplier will be responsible for any demurrages, wharfages or damage occurring to the consignments so dispatched.

#### **54. Prices**

Prices charged by the Supplier for Materials / equipment delivered and Services performed under the Contract will not vary from the prices quoted by the supplier in its bid, with the exception of any price adjustment authorized in the contract.

#### **55. Change Orders**

The Purchaser may at any time, by a written order given to the Supplier make changes within the general scope of the Contract in any one or more of the following:

- (a) Drawings, designs, or specifications, where Materials / equipment to be furnished under the Contract are to be specifically manufactured for the Purchaser;
- (b) The method of shipment or packing;
- (c) The place of delivery; and/or
- (d) The Services to be provided by the Supplier.

#### **56. Contract Amendments**

No variation in or modification of the terms of the Contract will be made except by written amendment by the Purchaser and accepted by the supplier.

#### **57. Assignment**

The Supplier will not assign, in whole or in part, its obligations to perform under this Contract, except with the Purchaser's prior written consent.

#### **58. Delays in Supplier's Performance**

- 58.1 Delivery of the Materials / equipment will be made by the Supplier in accordance with the time schedule prescribed by the Purchaser in the Schedule of Requirements.
- 58.2 If at any time during performance of the Contract, the Supplier should encounter conditions impeding timely delivery of the Materials / equipment, the Supplier will promptly notify the Purchaser in writing of the fact of the delay, its likely duration and its cause(s). As soon as practicable after receipt of the Supplier's notice, the Purchaser will evaluate the situation and may at its discretion extend the Supplier's time for performance, with or without liquidated damages, in which case the extension will be ratified by the parties by amendment of the Contract.
- 58.3 Except as provided under force majeure clause a delay by the Supplier in the performance of its delivery obligations will render the Supplier liable to the imposition of liquidated damages unless an extension of time is agreed upon without the application of liquidated damages.

#### **59. Penalty for delay in supplies**

The delivery of materials as per the agreed schedule of delivery is the essence of the contract and no extension of the time for delivery would be allowed except under recognized force majeure conditions.

For supplies made beyond the agreed delivery schedule, penalty shall be levied for an amount of equivalent to ½ % of the ex-works value of the material not delivered within the prescribed time limit for every week of delay or part thereof subject to a maximum of 5% of cost of the undelivered portion within scheduled time.

The date of certified receipt of material at destination stores in good condition will be taken as the date of delivery. For calculation of penalty, the date of receipt (i.e., 103 entry in SAP module) of material at destination stores is the “Date of Delivery” subject to the condition that, the materials is received in good condition. For penalty, the number of days would be rounded off to the nearest week and penalty calculated accordingly.

Any variation up or down in Excise Duty, or Sales Tax or other statutory levies, or new levies introduced after placing of the order, under this specification, shall be to the TGSPDCL’s account, provided that, the delivery schedules are adhered to by the supplier. In case, if there are increase in excise duty or sales tax or other statutory levies or new levies after the agreed delivery dates, the supplier shall bear the impact of these levies and if there is downward variation/revision TGSPDCL shall be given credit to that extent.

In case you do not adhere to the delivery schedule the TGSPDCL reserves the right to purchase the balance quantity from the open market and recover expenditure incurred from you. This is in addition to the right of the TGSPDCL mentioned in first para of this clause and under law

#### **60. Risk purchase:**

In case of supplier who has not adhered to the delivery schedule, the TGSPDCL reserves the right to purchase the balance quantity from the open market/floating another tender and recover the extra expenditure thus incurred from the supplier.

#### **61. Termination for Default**

61.1 The Purchaser, without prejudice to any other remedy for breach of Contract, by written notice of default sent to the Supplier, may terminate this Contract in whole or in part:

- i. If the Supplier fails to deliver any or all of the Materials / equipment within the period(s) specified in the Contract, or within any extension thereof granted by the Purchaser.
- ii. If the Supplier fails to perform any other obligation(s) under the Contract.
- iii. If the Supplier, in the judgment of the Purchaser has engaged in corrupt or fraudulent practices in competing for or in executing the Contract.

61.2 In the event the Purchaser terminates the Contract in whole or in part, the Purchaser may procure, upon such terms and in such manner, as it deems appropriate, Materials / equipment or services similar to those undelivered, and the Supplier will be liable to the Purchaser for any excess costs for such similar Materials / equipment or Services. However, the Supplier will continue performance of the Contract to the extent not terminated.

#### **62. Termination for Insolvency**

The Purchaser may at any time terminate the Contract by giving written notice to the Supplier if the Supplier becomes bankrupt or otherwise insolvent. In this event, termination will be without

compensation to the supplier, provided that such termination will not prejudice or not affect any right of action or remedy, which has accrued or will accrue thereafter to the Purchaser.

**63. Termination for Convenience**

- 63.1 The Purchaser, by written notice sent to the Supplier, may terminate the Contract, in whole or in part, at any time for its convenience. The notice of termination will specify the termination is for the Purchaser's convenience, the extent to which performance of the supplier under the Contract is terminated, and date upon which termination becomes effective.
- 63.2 However the Materials / equipment that are complete and ready for shipment within thirty (30) days after the supplier's receipt of notice of termination will be accepted by the Purchaser at the Contract terms and prices.

**64. Force Majeure**

- 64.1 The Supplier will not be liable for forfeiture of its performance security, penalty for late delivery, or termination for default if and to the extent that its delay in performance or other failure to perform its obligations under the Contract is the result of an event of Force Majeure.
- 64.2 For purposes of this clause, "Force Majeure" means an event beyond the control of the Supplier and not involving the Supplier's fault or negligence and not foreseeable. Such events may include, but are not restricted to, wars or revolutions, fires, floods, epidemics, quarantine restrictions, and freight embargoes.
- 64.3 If a Force Majeure situation arises, the supplier will promptly notify the Purchaser in writing of such condition and the cause thereof. Unless otherwise directed by the Purchaser in writing, the Supplier will continue to perform its obligations under the Contract as far as is reasonably practicable, and will seek all reasonable alternative means for performance not prevented by the Force Majeure event.

No price variance will be allowed during the period of force majeure.

**65. Settlement of Disputes**

- 65.1 If any dispute or difference of any kind whatsoever will arise between the Purchaser and the Supplier in connection with or arising out of the Contract, the parties will make every effort to resolve amicably such dispute or difference by mutual consultation.
- 65.2 If, after thirty (30) days the parties have failed to resolve their dispute or difference by such mutual consultation, then either the Purchaser or the Supplier may give notice to the other party of its intention to commence arbitration, as hereinafter provided, as to the matter in dispute, and no arbitration in respect of this matter may be commenced unless such notice is given.
- 65.3 Any dispute or difference in respect of which a notice of intention to commence arbitration has been given in accordance with this Clause will be finally settled by arbitration. Arbitration may be commenced prior to or after delivery of the Materials / equipment under the Contract.
- 65.4 Arbitration proceedings will be conducted in accordance with the following rules of procedure. The dispute resolution mechanism will be as follows:
- (a) In the case of a dispute or difference arising between the Purchaser and a Supplier relating to any matter arising out of or connected with this agreement, such dispute or difference will be settled in accordance with the Arbitration and Conciliation Act, 1996. The Arbitral Tribunal will consist of three Arbitrators one each to be appointed by the Purchaser and the supplier the Third Arbitrator will be chosen by the two Arbitrators so appointed by the parties and will act as Presiding Arbitrator. In case of failure of the two

Arbitrators appointed by the parties to reach upon a consensus within a period of 30 days from the appointment of the Arbitrator appointed subsequently, the Presiding Arbitrator will be appointed by The Institution of Engineers (India).

- (b) If one of the Parties fails to appoint its Arbitrator in pursuance of Sub-Clause (a) within 30 days after receipt of the notice of the appointment of its Arbitrator by The Institution of Engineers (India), will appoint the Arbitrator. A certified copy of the order of the Institution of Engineers (India), making such an appointment will be furnished to each to the parties.
- (c) Arbitration Proceedings will be held at Purchaser's Headquarters, and the language of the Arbitration Proceedings and that of all documents and communication between the parties will be English.
- (d) The decision of the majority of Arbitrators will be final and binding upon both parties. The cost and expenses of Arbitration Proceedings will be paid as determined by the Arbitral Tribunal. However, the expenses incurred by each party in connection with the preparation, presentation etc., of its proceedings as also the fees and expenses paid to the Arbitrator appointed by such party or on its behalf will be borne by each party itself.
- (e) Where the value of the Contract is Rs. One Crore and below, the disputes or differences arising will be referred to the Sole Arbitrator. The Sole Arbitrator should be appointed by agreement between the parties; failing such agreement, by the appointing authority namely The Institution of Engineers (India).

65.5 Notwithstanding any reference to arbitration herein,

- (a) The parties will continue to perform their respective obligations under the Contract unless they otherwise agree; and
- (b) The Purchaser will pay the Supplier any monies due to the Supplier.

## **66. Jurisdiction**

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

## **67. Notices**

- 67.1 Any notice given by one party to the other pursuant to this Contract will be sent to the other party in writing or by cable, telex, or facsimile and confirmed in writing to the other party's address.
- 67.2 A notice will be effective when delivered or on the notice's effective date, whichever is later.

## **68. Foreign Exchange**

No Foreign Exchange is available or expected for this purchase. Offers which do not require release of F.E. or procurement of import license by TGSPDCL only will be considered. Where some of the components are to be imported the manufacturer will have to make their own arrangements for import license etc., and should not look for any assistance from TGSPDCL.

**SD/-**  
**CHIEF ENGINEER (P&MM)**  
**TGSPDCL**



**SECTION – IV**  
**SPECIFICATION NO. STN-1399/2025**

**SCHEDULE OF MATERIALS**

| <b>Sl. No.</b> | <b>Description of Material</b>                                                      | <b>Qty. in (Nos.)</b> | <b>Stores</b>          |
|----------------|-------------------------------------------------------------------------------------|-----------------------|------------------------|
| 1              | Van Mounted UG Cable Fault Locating Test Equipment upto 33KV along with Diagnostics | 1 No.                 | FADS at TGSPDCL stores |

**Note: -**

- a) The tenderer should quote the rates for free at destination stores and shall fill the price schedule.
2. Delivery: To commence and complete within 3 (Three) months from the date of receipt of purchase order.
3. The technical analysis and price comparison will be carried out individually for each item.
4. Only manufacturers or their authorized dealer in India (for manufacturers outside India) need to quote against the tender and quotations from traders and manufacturer's agents are liable for rejection
5. **DEMONSTRATION : Demonstration shall be given as per the dates communicated by TGSPDCL. The bid will be evaluated only after successful demonstration on field.**

**TGSPDCL Stores:**

| <b>District</b> | <b>Store Name</b> |
|-----------------|-------------------|
| Hyderabad       | City-Hyd Stores   |

**SD/-**  
**CHIEF ENGINEER (P&MM)**  
**TGSPDCL**

## **SECTION-V**

### **TECHNICAL SPECIFICATION. . STN-1399/2025**

#### **1.0 SCOPE:**

This specification is intended to cover the design, manufacture, assembly, testing at manufacturer's works, supply, delivery, installation & commissioning of Special General-Purpose Mini-Truck/Van Mounted Single Phase Fully Automatic Cable Fault Locating Equipment along with diagnostic features like portable offline Partial discharge, Tan Delta measuring and analysis for temporary or constant monitoring of partial discharge, etc., on cables suitable for Locating Fault on Low /Medium / High Voltage underground Power Cables up to 33 KV Complete with all materials and accessories for efficient and trouble-free operation.

#### **2.0 REFERENCE STANDARDS:**

The modular fault location system for low and medium voltage underground cables including the operating devices, accessories and auxiliary equipment forming integral part thereof, shall be designed, manufactured, assembled and tested in accordance with the relevant standards, specification and codes of practices, referred to herein and shall be the latest editions including all applicable official amendments and revisions. The design, manufacture and performance of the equipment shall comply with all currently applicable statutes, regulations and safety codes.

- 2.1 Unless otherwise specified, the equipment offered shall confirm to the latest applicable Indian, IEC, British or U.S.A Standards and in particular, to the following:-

|                     |                                                                                                        |
|---------------------|--------------------------------------------------------------------------------------------------------|
| IEC 60068           | Insulation coordination                                                                                |
| IEC 61010           | Standard for safety requirements for electrical equipment for measurement, control, and laboratory use |
| IEC 61000           | Standards for measurement techniques                                                                   |
| IS 1248/ 2003       | Indicating instruments.                                                                                |
| EN 60-950           | Product Safety testing standard for "Information Technology Equipment" (known as ITE)                  |
| IEC 60529/ EN 60529 | Protection against accidental contact, foreign Objects and water                                       |

- 2.2 Equipment conforming to any other internationally accepted standards, will also be considered if they ensure performance and constructional features equivalent or superior to the standards listed above. In such case, two copies of such standards in authentic English translation, if the language of the standard is other than English shall be provided. In case of dispute, the stipulations in the English translation, submitted by the manufacturer shall prevail. Further, in the event of conflict between the stipulations of standard adopted by the manufacturer and the corresponding IEC/ Indian Standard Specification, the stipulation of Indian standard Specification shall prevail.

- 2.3 The system should support Cable Fault Location and all type of cable testing for installation, commissioning and maintenance testing in accordance with the valid IEC 60060-3, IEC-60502 and IEEE 400.2-213 standards and regulations. For commissioning test on 11KV and 33KV cables provision shall be given to perform VLF test upto  $3U_0$  with Tan delta and partial discharge measurement.

### 3.0 GENERAL REQUIREMENTS:

- 3.1. Capable of locating cable faults detecting all underground sub-transmission and distribution power cables from 433 V to 33 KV network.
- 3.2. Suitable for testing, locating & pin pointing conductor and insulation faults of low and high resistance, intermittent or flashing nature.
- 3.3. Capable to identify, locate and pin point all types of conductor and insulation faults in cables of high resistance, low resistance, intermittent / flashing faults using a microprocessor controller based on latest software and with single menu driven set. Additionally, portable offline Partial discharge, Tan Delta measuring and analysis for temporary or constant monitoring of partial discharge on cables shall be supplied.
- 3.4. Capable of locating all types of permanent and transient faults viz. core to core faults, core to earth faults, high impedance faults, core breaks, flash overs etc. in underground cables.
- 3.5. Capable to deliver high output energy that is necessary to ascertain easily to condition and breakdown faults in power cables, joints, terminations and long cable network.
- 3.6. Capable of detection of faults of different sizes and in mix cables of PVC, PILC & XLPE with Aluminum / Copper conductor.
- 3.7. Suitable to operate on all types of cable laying methods i.e. Underground (directly buried, laid in RCC duct or laid through HDPE Pipe in HDD method), above ground or partly underground & partly above ground.
- 3.8. Several runs of cables of different voltages are laid in same trench / common racks and during the cable fault identification process, nearby cables may be in charged condition, hence the accuracy of the testing set being offered shall not suffer due to these conditions.
- 3.9. All equipment should be independent and separate in nature for easy transportation.
- 3.10. The system should work on input supply of  $230V \pm 15\%$ , 50 Hz single phase supply and able to safeguard the equipment against the abnormally high / low voltage and current with a suitable protection system & isolation transformer of 5 KVA should be incorporated in power supply system.
- 3.11. The Cable Fault Locator system should be provided with mains operated 230 V centralized Air Conditioner with automatic ON/OFF mechanism for safety of the equipment.
- 3.12. Should have auto ranging facility i.e it should be capable of detecting cable end automatically even when cable length is not available and select range automatically
- 3.13. The equipment should be suitable for operation with ambient temperature up to 55°C.

### **Existing Sub-Transmission and Distribution Network:**

- 3.15. System Voltage and Frequency: The system rated voltages are 33 KV, 11 KV, 6.6KV 433Volts subject to statutory variation as per Indian Electricity Rules, 1956 as amended from time to time. The system frequency is 50 Hz ( $\pm 3\%$ )
- 3.16 Should have sufficient memory for recording 100000 and above traces including data fill-in form with details of cable type and identification, operator and any other comments.
- 3.17 **All the software to be installed in the system and the same including license and documents must be handed over to the TGSPDCL department.**

## **4.0 FUNCTIONS OF THE SYSTEM.**

- 4.1 The following functions should be performed and controlled via fully automatic centrally controlled unit by using single button/click
  - a) Integrated Insulation testing: The equipment shall be capable of insulation testing of 500 V to 1000 V digital and possible to measure capacitance and shall incorporate comparison of measurements and insulation testing L-L and L-N, 6 measurements 200 K $\Omega$  - 650M $\Omega$  or better.
  - b) DC & AC (VLF) Testing
  - c) Pre location of Fault
  - d) Breakdown Voltage recognition
  - e) Sheath testing and sheath fault location: The system should have facility of cable sheath testing with voltage ranges 0 – 5 KV, 0 – 10 KV, 0 – 15 KV and 0 – 20 KV with I<sub>max</sub> of 550 mA or better.
  - f) VLF Testing with true sine wave according to IEC/IEEE standard
  - g) Testing and Diagnosis (Tan Delta and Partial Discharge)

### **4.2 Fault Pre-Location Methods**

- a) 3 phased TDR – Time Domain Reflectometer
- b) SIM/MIM – Secondary/Multiple Impulse Method/Arc Reflection method
- c) Differential ARM method
- d) DC-SIM/MIM – Secondary/Multiple Impulse Method in DC mode
- e) Conditioning-SIM/MIM – for Wet Fault
- f) ICM – Impulse Current Method
- g) DC-ICM – Impulse Current Method in DC mode
- h) Decay method
- i) Any other methods

### **4.3 Pin-Pointing Methods**

- a) Acoustic pin-pointing
- b) Audio frequency-based pin-pointing
- c) Cable tracing

#### 4.4 **System Software**

- a) The cable fault analysis shall be done automatically via a software controlled fully automatic mega ohm-meter with 1 kV IR – test voltage and a powerful 3-phased Time Domain Reflectometer (TDR).
- b) The fault pre-location system must be integrated part of the entire system providing simultaneous control of system, HV generator and cable fault location function.
- c) Automatic features should guide and support the operator during the complete fault location and testing procedure.
- d) The system shall be based on a solid industrial PC design, equipped with core i5 processor or comparable processor and shall use Microsoft Windows as operating system for easy data communication and handshaking with other systems. The Industrial PC must be supported by a UPS with a backup of minimum 12 hours. The TDR should use at least 400 MHz sampling rate and a high dynamic range.
- e) The three phased TDR output must provide at least CAT IV/400 V input protection. A dashboard surface shall be provided to display the GPS Based Mapping system for exact determination of cable routes and fault location, existing diagnostic information and reports. The map supported system shall allow drawing the details of a cable route according to exact map records.
- f) The Cable fault location function shall be guided by a Cable Fault Location Guide that guides the operator through the entire process of cable fault location.
- g) The complete system functionality controlled by the Industrial PC shall be complemented with a back-up control feature realized by a laptop/PC that can take over the control of all pre-location functions as well as the control of all high voltage control functions in the event of a system/PC defect.
- h) GIS data including cable details and the geographical information of the cable routes shall be imported in Geojson-format.
- i) All software functions for fault analysis, cable fault pre-location, control for fault pinpointing, shall be controlled via keyboard and mouse.
- j) The geographical map shall be integrated in the same software and operating system.

4.4.1 **Control Unit:** The central control unit should be microprocessor based single unit to co-ordinate the operations of all other modules related to testing (HVDC and VLF), Pre-location, Surging, Route tracing etc. and have menu driven facility and display all the events on the screen for operator guidance. The salient features shall be as follows:

- a) The booting time shall be less.
- b) The Central Control Unit shall be with on-line help facility for guidance through complete cable fault locating sequence and shall be responsible for the operation of various units and/or functions such as Mode Selections, Testing, Burning, Surge Test and all Pre-location methods of cable faults with provision for range selection, voltage and current limit adjustment, surge sequence selection and all safety measurements like auto discharge, earth monitoring etc. with single control unit.
- c) The control unit should provide a visual indication on the display, failure of safety circuits / incorrect selection, display of Van temperature etc. with possible corrective methods. The information shall be provided in the form of graphical as well as

sentence written form on the Touch Display Screen (21.5" Min.). The hardware shall be scalable to the needs of Purchaser and have an integrated recovery system.

- d) The control unit shall be very reliable and shall be a latest operating system with latest processor (or) any other operating system not prone to viruses or system crash with frequent mains OFF & ON directly. System shall not require any externally released updates other than firmware update released by OEM of cable fault locating van and provided with jog dial. It shall have the software compatibility of automatically storing all the test data and creating history and log files with feeders names. A flexible data storage (2 TB Hard Disc, USB Drive etc.) and report generation system (Printing hard copies, PDF files etc.) shall be available and also when a cable is being tested for identification of fault all the previous testing history of the said cable should be available for usage by the operator. The operation of the system shall be simple using a Jog dial and the system shall be capable of recognizing the regularly used steps and following the same.
- e) Constant monitoring of all safety circuits such as earth monitoring circuit etc. should be inbuilt in the control unit and the data security as per the relevant IEC standards shall be maintained while transmission on to the server.
- f) The unit should have easy go operation for automatic sequence to proof test, prelocate and pin pointing, microprocessor based transient recorded / fault locator.

#### 4.4.2 **Packages** : should be included Geo Based Map, Data Base

##### **GPS BASED MAP**

- a) The unique combination of maps, including cable routes
- b) GPS-based display of the system position, the cable route and faults
- c) Roadmap display via GPS
- d) Display of the cable route and faults on the map
- e) The position of the system should be determined via GPS and displayed on the map
- f) Generates a graphical display of the cable and its accessories, the end of the cable and known fault positions, in relation to the cable layout

##### **Cable Data Base**

- a) The Cable Data Base should allow the creation of a specific data base that contains all cable details, its history and test and diagnostic results
- b) Available data should be importable from GIS systems
- c) Cable data such as geographic position, voltage levels, joints, measured values, etc. should automatically be stored and remain accessible, any time

#### 4.5 **Cable Fault Location Guide**

The Cable Fault Location Guide should be designed to guide operators through the cable fault location and testing process. Just by entering the most common cable parameters; such as nominal voltage, cable length and the available details from the manufacturer Cable Data Base, the system should determine the correct test parameters and procedures which then only need the final confirmation for application of the operator.

All performed test and measurement results shall be considered for the next following steps of the fault location approach and finally should be automatically saved in the memory and become part of the fault location sequence.

The pre-located location of the fault should be geographically displayed as the fault pin-pointing position on the GPS based map so as to identify the fault location. Reporting function should require few clicks to generate a final report.

- a) A Cable Fault Location Guide should lead the user step by step – quickly and efficiently – to the cable fault.
- b) It shall be an intelligent fault location process to help the operator by adjusting the proposed fault location procedure in dependence of the fault situation.
- c) The automatic fault analysis should provide clear graphical presentation and thus a good overview for the user.
- d) The system should also recommend the parameters of voltage levels in relation to the cable rating and the fault characteristic.
- e) The system shall contain a voltage assistant with pre-defined testing voltage parameter according to the rating of the cable.
- f) The system must select and recommend the voltage levels based on the entered cable data and the fault type.
- g) Facility for user configurable voltages levels shall be provided.
- h) The automatic cursor positioning function shall indicate the cable end and the fault position.
- i) Facility for automatic setting of method-related parameters such as pulse width, gain, pre-trigger, view range, etc. for fast and efficient fault location shall be provided.
- j) Clear graphical presentation of the measurement results with helpful functions such as zoom, superimposing of multiple graphs, individual curve movement for the analysis is required.
- k) Facility shall be given to the user to deviate in any part of the fault process instead of following the recommendation.
- l) The system shall have over voltage and under voltage protection of mains supply and HV should not get ON in case of over and under voltage.

**Note: All the software to be installed in the system and the same including license and documents must be handed over to the TGSPDCL department**

#### 4.6 The Offered System Should Consist Of Several Functional Modules

These are:

- a) Central Control Unit
- b) Mains & Safety Control Unit
- c) Industrial PC with manufacturer System Software (Windows 7 or higher) with UPS
- d) Time domain reflectometer
- e) LV connector panel

- f) HV coaxial connection sockets
- g) Cable drum rack with connection cables
- h) Operating desk with drawers
- i) Fully Automatic Multi-Functional Surge Generator

## 5.0 TECHNICAL PARAMETERS

### 5.1 VLF Testing & Diagnostics:

The VLF High Voltage Generator should be high-performance sinusoidal voltage source. The system must meet all requirements in respect of safety, robustness, ease of handling, automation and documentation and can be applied universally, e.g. for cable testing, sheath testing, generator testing, transformer testing, testing of switchgear. It should be directly operated and controlled by the system control elements. In combination with the system, it should serve as 62KV supply and provide various alternating voltages for all types of diagnostic evaluation. The generated True Sine VLF test voltage, should fully comply with all international standards and regulations. The sinusoidal voltage should be defined as symmetrical, continuous and independent of the test load parameters. Individual test procedures should be definable and stored. High voltage breakdowns should be detected automatically during the test.

#### **VLF High Voltage Testing & Tan Delta Measurement**

- a) True sinusoidal- digital technology
- b) Powerful test generator (3KW) with adjusted output voltage
- c) Manual or automatic test sequences, selectable with or without burn down mode in case of breakdown.
- d) Programmable test voltage : sine wave, square wave, DC
- e) Fully symmetrical output voltage
- f) Programmable test frequency 0.01 Hz to 1 Hz

#### **Technical Data**

##### **Output Voltage:**

|                              |   |                           |
|------------------------------|---|---------------------------|
| VLF truesinus                | : | 1 ...44kVrms (62 kV peak) |
| VLF rectangular wave voltage | : | 1....60 kV                |
| DC Voltage                   | : | +/- 60 kV                 |

##### **Tan delta measurement (viola TD) :**

|               |   |                      |
|---------------|---|----------------------|
| VLF truesinus | : | 1... 44 kVrms        |
| Load range    | : | 10 nF....10μF        |
| Accuracy      | : | 1 x 10 <sup>-4</sup> |

**Partial Discharge Measurement:** Light weight and portable PD diagnostics system that can be used in combination with a VLF generator as per IEE 400.2 to carry out partial discharge measurement and location upto 44 kVrms.

### 5.2 DC Pressure Testing (Integrated) Unit:

- a) This facility is used to pressure test the power cables and should be operational through control unit provided with auto ranging voltmeter and ammeter having digital display with possible graphical representation and timer representation through graphical format.
- b) The equipment shall have facility of automatic shut off at breakdown voltages of cables.



- c) The equipment shall have protocol facility for recording and print out of current and voltage over time. The specifications are as under.

D.C. Output Voltage : **0 - 60 kV**

Continuous current : 15 mA @ full voltage

Maximum current : 550 mA or more

Vendor has to provide required integrated digital timer for DC testing.

**5.3 H.V. Surge Generator or Impulse Generator:** It shall produce single shot surge as well as repetitive surge. The frequency of surges can be varied using a timer from central control unit. The single short surges are meant for breaking down a fault for analysis with the digital fault locator and repetitive surges for pin pointing the faults with Seismo Phone. The surge voltage range shall be continuously adjustable in the ranges mentioned below.

- (i) Surge Voltage Range:

a) 0-8 KV with output more than 2800 joules

b) 0-16 KV with output more than 2800 joules

c) 0-32 KV with output more than 2800 joules

Surge rate shall be variable 3 to 20 surges per minute

- (ii) Fault burning facility should be integrated.

- (iii) Current output : 25A or more

(iv) Impulse frequency : 3 to 20 pulses per minute

(v) Capacitor Charging Rate : 1000J/Sec min.

- (vi) Indication: precision of output KV indication meter and overheat LED indication meter should be  $\leq 1.5\%$

- (vii) Power Supply : 230 V  $\pm 15\%$ , 50 HZ with external isolating transformer of 5 KVA.

- (viii) Accessories: -

- a) 50 meters screened HV cable with clamps (assembled on a drum)
- b) 50 meter 10 sq.mm. yellow green earthing cable with clamps (assembled on a Drum)
- c) 50 meters (3 core Copper) mains supply cable with clamps (assembled on a drum)
- d) 20 meters Auxiliary cable for additional earthing

- (ix) Safety features:

- a) The instrument should be operational through Control Unit and should have protective PCBs, auto discharge, capacitor discharge, earth monitoring, capacitor charge monitors with voltage controlling device etc.
- b) Amount of energy dissipated from surge unit into cable shall be displayed on TFT screen of central control unit.
- c) All the setting should be done through the central control unit using jog dial.
- d) Earth current should not hurt the system.
- e) Provision to stop return current supply when feeder is tripped while testing with protection for isolation of system/Auto discharge.

- f) The Surge Generator shall have automatic discharge facility of cable under test in case of power failure or switch off. Emergency stop switch shall be provided.
- g) The control unit should provide a visual indication of failure of safety circuits/ incorrect selection with possible corrective methods.
- h) Warnings of service danger shall be given on the central control unit display in English and also operative functions are to be described in English.

#### 5.4 **Microprocessor Based Transient Recorder For Pre-Location Of Cable Faults:**

The fault locator will be used to prelocate the faults in power cables and having VGA colour TFT touch display. The equipment shall have impulse reflection measurement with direct, difference, comparison and average, intermittent fault location, IFL simultaneous display of all phases or memory contents in different colours, automatic adjustment of gain, range and pulse width. This unit shall have full functionality through control unit itself with auto guidance.

This system shall have advanced features which will enable the operator to know the end of the cable and also the ideal range and method of measurement. The system shall be capable of automatically locating faults and also storing unlimited curves in the memory bank along with details such a method and range selected for future reference.

The equipment shall be suitable for using in conjunction with a surge generator, HVDC Generator, VLF, PD Coupling device etc as specified above without the need for any connection/disconnection of faulty cable for any of the method Specified.

The Cable fault location function shall be guided by a Cable Fault Location Guide that guides the operator through the entire process of cable fault location.

The software package shall integrate the functionality of cable testing and diagnostic methods control, result evaluation and reporting.

Single Impulse Method / Multiple Impulse Method (SIM/ MIM) and Impulse current method for determination of high resistive faults. The TDR output must be protected against transients.

#### **SPECIFICATION OF THE INSTRUMENT : -**

- a) Memory: Sufficient to capture and store all results vendor to specify
- b) Measuring Ranges: - 0 -100 KM (min.)
- c) Sampling Rate: - 400 MHz (min).
- d) Resolution: -  $\leq 0.1$  meter (at  $v/2 = 45$  to  $150$  m/ $\mu$ s).
- e) Pulse amplitude: 20-200 V or better (bi polar) adjustable
- f) Accuracy: -  $\leq 0.1\%$
- g) Propagation velocity: 10 to 150 m /  $\mu$ s
- h) Modes: - Time Domain Reflectometer (TDR), Multiple Impulse Method (MIM), Secondary Impulse Method (SIM), Impulse Current Method (ICM), Arc Reflection Method (ARM), ARM Plus, Voltage Coupler / Decay Method, Decay Plus Method.

- i) Type of protection: - IP54.
- j) Display: - Touch Screen colour display of 21.5"
- k) Colour Setting: Automatic.
- l) Gain range Setting: Automatic
- m) Sensitivity of Input Divider: 0-80 dB
- n) Pulse width of transmitting pulse: 20ns – 1.3 ms.
- o) Output Impedance: 12-2000  $\Omega$ .
- p) Interface: PC USB Printer and data interface to download to a pen drive.

#### 5.4.1 Filter Unit For SIM/MIM:

Since pulse echo or reflection may not be suitable for high impedance or resistance faults. Thus, keeping in view, a suitable band pass filter unit should be supplied to stabilize the ARC at the flashover or the point of fault.

The offered filter must simplify the operation causing less stress, causing minimum damage on the tested cables to detect the high resistive faults. There should be complete compatibility of TDR, Surge Generator/Thumper with the filter unit. This unit must filter or stabilize the arc at the fault point and record the same in the supplied TDR to compare it with previous trace recorded without the filter unit in the same core. Suitable coupler for coupling the filter unit with the TDR and Surge generator must be supplied. The offered filter must contain switching elements necessary for the triggering and the coupling of the pulse. After the pre-location using the SIM/MIM method, there must be a decoupling element which must pass the surge generator for making it ready for use in pinpointing the cable fault. The control unit should connect automatically the filters with appropriate coupler with the surge generator and TDR when SIM/MIM mode.

#### 5.4.2 Inductive Coupler:

Inductive Coupler required for pre-location of high resistance faults with a Surge Voltage Generator according to the Impulse Current Method (ICM).

#### 5.4.3 Capacitive Coupler:

Capacitive voltage divider required for location of intermittent cable faults up to 40 KV DC to perform the Decay Method.

#### 5.4.4 Integrated Fault Conditioning Unit:

This set should be capable for conditioning of high resistive faults in cables to facilitate the fault relocation. The fault conditioning Unit should have the following features:

- a) The voltage range should be at least up to 32 KV surge pulse sequence.
- b) 2800 J Energy shall be released in every 3 sec pulses.
- c) The unit should display surge voltage, actual capacitor voltage during charging moment, discharging energy, and duration of surge application
- d) Link shall be given to activate the pre location at any time during conditioning.

- e) The Unit should be provided with a thermal overload protection and should have auto-reset feature.
- f) The Unit should be provided with safety earthing facility for safe operation.

## 5.5. PIN POINTING

5.5.1 **Surge Wave Receiver Unit( Acoustic)** :It should function as a directional acoustic listening device for pinpointing of flashover faults in underground power cables. It should have the following features:

- a) The unit should be handy & rugged, and should comprise of receivers, headphones, sensors, amplifiers and any other auxiliary item as necessary for operation of the unit. The set should provide detection of both acoustic and electromagnetic pulses emitted from an arcing fault when it is surged.
- b) The set should be able to determine the proximity and direction to the cable fault by measuring electromagnetic surge and acoustic emission.
- c) The set should be able to measure the time delay between acoustic and electromagnetic signals.
- d) In the acoustic mode the set should have Automatic Noise Suppression feature to eliminate complete background noise
- e) It should be able to pinpoint the exact location of the fault.
- f) The instrument should be rechargeable battery operated.
- g) The set should have mute feature to activate while in motion.
- h) It should have adjustable feature for adjusting the electromagnetic gain & acoustic gain.
- i) It should have an LCD display with backlit feature
- j) The unit should be provided with acoustic headphone set to receive the acoustic signal for pin pointing the fault point
- k) The LCD display should indicate the cable route through the electromagnetic signal in bar graph form & the proximity to fault point by a numeric display
- l) The communication between receiver instrument and ground microphone as well as to the headphone shall preferably be done via a wireless connection
- m) The unit should include lightweight receiver with carrying straps, handy sensor, all required and related accessories with carrying case and user's manual with complete operating and maintenance instructions with following features
  - Acoustic method including manhole distance location
  - Accurate route tracing
  - Digital indication of proximity of the fault
  - Cable depth measurement in combination with the surge coil
  - Water-resistant design
  - Integrated head phone
  - Large illuminated LCD display
  - Automatic digital filters for suppression of traffic noise

- Easy menu operation
- Lightweight

### **Specification of Instrument:**

- i. The unit shall be light weight (not more than 2 kg) battery operated instrument consisting of a receiver, amplifier, head phones wire connected and also with blue tooth & combined sensor which measures electromagnetic and acoustic signals of the flash over in a cable and to be provided in a suitable carrying case to hold all the components and sensitive to detect direction of the faults up to a minimum distance of 6 meters.
- ii. There shall be back ground interface elimination via selectable filter band.
- iii. Acoustic Mute Function: To locate fault in crowded area.
- iv. Acoustic Frequency Range: 70 Hz to 3000 Hz.
- v. Display indication:
  - a. LCD bar-graph display with back light facility/any other digital display.
  - b. Indication of signal strength of acoustic and magnetic channels
  - c. internal battery level status.
- vi. Controls: Separate controls for acoustic and magnetic signal.
- vii. Power Supply: 6X1.5 V Dry Cell / Rechargeable battery.
- viii. Accessories: Ground Microphone, connection leads, special head phone (output of 70 mW max.), caring sticks, carrying case.
- ix. The unit shall have arrangement for low resistance faults Pin pointing.
- x. Fault distance shall be displayed when reaching near the fault.
- xi. Acoustic pin pointing combined with propagation time measurement (with indication of fault distance). The amplification of acoustic channel shall be more than 65db.
- xii. Sheath fault pin pointing should be available and applicable accessories should be supplied.
- xiii. Pin pointing device shall have protection as per IP 65

### **5.5.2 Cable Route Tracer System :**

The cable route tracer system shall be user friendly and suitable to locate the exact location of underground cables and cable laid in PVC/GI Pipes along the busy roadside, Depth measurement of atleast 6 meters and ground survey of underground cables to get quick accurate results.

#### **Required Features: -**

- a) Pinpointing active power lines and other utilities where AC is present.
- b) Operation in multiple frequencies
- c) Push button depth measurement up to 6 meters.
- d) High power at low frequency suitable to solve problems in multi-point grounding situations.

### Specification of Instrument:

#### A. Transmitter:

- i) Operating Frequency > At least three frequencies (low, medium, high in frequency Range **480 Hz to 82 KHz**)
- ii) Impedance : suitable matching impedance (selectable)
- iii) Power output : 200 Watt with selectable range controlled from Central Control Unit (min. 2 ranges of 0-10 watt with increment of 0.5 watt and 0 - 200 watt with increment of 10 watt)
- iv) Indications
  - a) Meter Indication of related transmitted power
  - b) Charging status of internal rechargeable battery.
- v) Power Supply : 230 V, 50 Hz AC or 12 V, 6 Ah (MF) internal rechargeable battery and Ext 12 V DC source.
- vi) Battery Life: 40 to 50hrs

#### B. Receiver with carrying case with shoulder strap

- i) Receiving Frequency: Passive 50/60 Hz and active three frequencies matching with transmitter.
- ii) Gain : Up/Down button for automatic centering & manual control
- iii) Range : Depth measurement up to 6 m with suitable dynamic range.
- iv) Wide band -band frequency: **480 Hz to 82 KHz.**
- v) Accuracy : (1-6) % at normal condition (  $\leq 1 \text{ Sm}$  ).
- vi) Power Supply : Suitable dry and rechargeable battery.
- vii) Accessories : Suitable transmitter and receiver.
- vii) Battery Life: 40 to 50hrs

### 5.5.3 Cable Identification Instrument :

For single and multi-core cables, for identifying a particular cable from a bunch of cables for HT or LT network with help of generator, receiver and directional tong:.

#### A. Pulse Transmitter:

|                         |                                                        |
|-------------------------|--------------------------------------------------------|
| 1) Impulse voltage      | 55 or more, 15 pulse per minute(min)                   |
| 2) Impulse current      | <b>100 A or more</b>                                   |
| 3) Power Supply         | 230 V $\pm 10\%$ AC, 50Hz/60 Hz, rechargeable battery. |
| 4) Pulse indication     | LED of light up with frequency of current pulse        |
| 5) Transmitter          | Integrated in transport case                           |
| 6) Degree of protection | IP54                                                   |

**B. Receiver:**

- a) Sensitivity at direct connection of transmitter : 100% at 400  $\Omega$  loop resistance
- b) Degree of protection of receiver : IP54
- c) Sensitivity at inductive signal injection : 100 % at loop resistance < 6  $\Omega$
- d) Load current Measuring range : 100  $\pm$  5%, 50/60 Hz.
- e) Identification tongs : 150 mm opening Carrying case to be provided

**6.0 CABLE DRUM:** Rotatable cable drum should be provided for,

- a) HV Cable drum : 50 m
- b) Mains cable drum : 50 m
- c) Earthing cable drum : 50 m
- d) Auxiliary earthing drum : 20 m

**7.0 GENERATOR SET:**

Salient generator (Honda Make or better) set shall be provided with the following specifications.

- a) Rated output: 3.5/5 KVA should support All Modes
- b) Engine: Petrol Engine conforming to latest emission standards with advanced cooling mechanism.
- c) Rated voltage: 220 to 240 V
- d) Rated frequency: 50 Hz
- e) Starting: Self start by key
- f) Rack supported trolley for Electrical Generator

**8.0. TOOL SET:**

The following tool set shall be provided.

- a) Measuring wheel – 1 Nos.
- b) Earth spikes with 16 sq.mm copper cable – 3 nos.
- c) Set of spanners, screw drivers – 1 set.
- d) Discharge rod
- e) Digital multi-meter
- f) HT Meggar 5 KV (reputed make)
- g) Set of spanners, screw Driver, Allen Key set, Safety Hand Gloves shall withstand capacity upto 32kV (2 sets) etc.,
- h) Copper earthing cable
- i) Earth Protection unit

**9.0 MOUNTING, PRE WIRING AND MECHANICAL FITTINGS ON VAN:**

The concurrence for layout design of van shall be obtained from purchaser prior to assembly Steel frame for mounting the following instruments:

- i) Computer/TDR Aided fault locator
- ii) HV unit: All the equipment should be mounted on stainless steel frames.
- iii) Safety screens to be provided to isolate the HV area from operating area.
- iv) Suitable cupboards and tables for storing Files, hand held instruments, writing desk.
- v) Operating chairs

**Insulation:**

All Walls and roof will be insulated with 40mm thick thermos coal Sheet. - Fully Carpeted side Walls & Roof for Electrostatic protection.

**Flooring:**

Base of Floor - Water Proof Ply 12mm thick Screwed through base floor of 3/6 mm MS Sheet welded to floor frame. Upper Layer - Vinyl Floor Sheet 2mm thick fixed over fly.

**Doors:**

- a) Hinged type doors (Double leaf inside collapsible) shall be provided For main Compartment.
- b) Hinged Type outside open able (Ambulance type) rear doors
- c) Rear door to be provided with cable cut out section (6"x6")

**Windows:**

Adequate size of windows two-way horizontal full sliding glass of 5mm thick Toughened glass encased in Aluminium Sections slide on Aluminium 'Z' Section in crew compartment. The window shall have including robust type locking arrangement from inside. In equipment portion both sides shall have fixed Window. All glass windows should be covered with removable metal frame with metal net. (Should be Protected from Stone).

**Electrical Fitments:**

- a) 05 Nos. Light and 02 Nos. Light Battery Operated.
- b) Fan (2 nos.)
- c) Tube Lights and Fans should be mounted such that its frame shouldn't be touch or isolated from vehicle body.

**Painting:** Complete body of the Van will be Painted OFF WHITE colour with P.U. Paint after surface treatment. writing names TGSPDCL, cautions etc

**10.0 SPECIFICATIONS FOR VAN TO MOUNT CABLE FAULT LOCATOR EQUIPMENT:**

The concurrence for purchase of van shall be obtained from purchaser prior to Assembly The equipment is required to be mounted on suitable Chassis of model BS-VI or equivalent van. Van will be fabricated as per standard fabrication practice and Specifications confirming to All India Motors Vehicles Act and the complete van specification may be provided by the bidder with warranty etc of van. Provisions of Standards Fitment will be kept such as First Aid Box, Fire Extinguishers, Rear Bumpers, Stephaney, Cradle, Tool Box, Rear View Mirrors etc.

**11.0 DELIVERY CONDITIONS FOR PURCHASE OF CHASSIS/COMPLETE TRANSPORT MOTOR VEHICLE:**

The following Delivery Conditions shall be followed:

**Documents:**



Tenderer will ensure the Delivery of vehicle/s with the following documents :

- a) Vehicle will be registered as per the provisions of CMV Rule by tenderer at his end only
- b) Vehicle will be delivered duly registered with RTO Hyderabad along with the relevant vehicle documents.
- c) Operators manual
- d) Set of W/Shop Manual & Spare Part Catalogue
- e) Chassis final specification certificate with chassis no., Engine no. along with Specification/details of other units, Tyres, Batteries etc.

## 12. CERTIFICATE AND INSTRUCTION BOOK.

The following documents shall be given in English along with each equipment and also soft copy shall be submitted.

- a) Printed pamphlets /Catalogues.
- b) Instruction manuals.
- c) Drawings (Layouts and circuit diagrams) etc. of each and every unit and sets
- d) Test certificates
- e) Warrantee card
- f) Copy of type test reports of the equipment
- g) Any other relevant 'documents

## 13.0 TYPE TEST :

- 13.1 The tenderer shall furnish detailed type test reports of the Offered instrument for all the tests as per relevant standards. All the above type testes shall be carried out at laboratories which are accredited by the National Accreditation Board for testing and calibration laboratories (NABL) of Government of India/International accredited laboratories to prove that the instruments offered meet the requirements of specification.
- 13.2 The Successful tenderer shall take approval / waiver of type test from Material Specification Cell, Prakashgad, Bandra, Mumbai prior to commencement of supply. In addition to type test reports, the tenderer shall furnish detailed Calibration report of the offered instrument carried out at NABL approved Laboratories/ International accredited laboratories on all the equipment of cable fault locating system as per relevant standards to prove that the instrument offered meet the requirements of specification.
- 13.3 The list of type test reports as per applicable standards mentioned in following table shall be submitted with the offer. The offer without type test reports shall not be considered & offer will be treated as is responsive. Type testing should be carried out within 5 years from the date of opening of tender.

| Type Test Particular                          | Standard Applicable |
|-----------------------------------------------|---------------------|
| EMC Generic Emission                          | DIN EN 61000-6-4    |
| EMC immunity for industrial environments      | DIN EN 61000-6-2    |
| Environmental testing – Part 2 : Test A :Cold | DIN EN 60068-2-1    |

|                                                                   |                   |
|-------------------------------------------------------------------|-------------------|
| Environmental testing – Part 2 : Test B : Dry Heat                | DIN EN 60068-2-2  |
| Environmental testing – Part 2 : Test C : Damp heat, steady State | DIN EN 60068-2-66 |
| Environmental testing – Part 2 : Test For : Vibrations            | DIN EN 60068-2-6  |
| Safety Requirements for electrical equipment                      | DIN EN 61010-1    |
| Degrees of Protection provided by enclosures (IP Code)            | EN 60 529         |

#### 14. WARRANTY:

The equipment shall be warranty for the satisfactory performance and against failure due to bad design, bad materials and defective manufacturer or bad workmanship for a period of 5 years with 10% total contract value as performance Bank guarantee from the date of commissioning. The supplier shall repair / replace the faulty equipment / components free of cost in case of failure during the warranty period. Further, all the supplied cable fault locating machines to have comprehensive onsite guarantee (inclusive of parts and labor) from the date of supply or 5 years from the date of installation & commissioning.

**Service should be provided for the spare parts for a minimum period of 10 years post expiry of 5 years warranty period. In this connection sufficient spares should be maintained by the supplier for at least 10 years post expiry of the warranty period of 5 years warranty period.**

#### 15. PENALTY

The period of validity of the Warranty shall be: 5 years from the date of final acceptance of the Van Mounted UG Cable Fault Locating Test Instrument upto 33KV at Purchaser's Final Destination.

- a) Free maintenance services shall be provided by the supplier during the period of warranty and shall have to make monthly visits for the maintenance of the System
- b) The supplier shall attend and repair the equipments after receiving the Telephonic call / WhatsApp/Email/ written complaint within 48Hrs. and faulty spares shall be replaced within 7 working days from the date of complaint. Failure to arrange for the immediate repair/replacement will be liable for penalty of Rs.2,000 per day per item.

#### 16. GENERAL:

- a) The supplier should forward relevant technical data and operating manual of the equipment offered.
- b) A list of various clients to whom similar equipments are supplied also may be sent with the offer.
- c) **Service Center:** Full-fledged service facility should be available to provide necessary service. The supplier shall attend and repair the equipments after receiving the calls/complaints within 12 hrs of written/Email/Telephonic complaint and faulty spares shall be replaced within 15 days from the date of complaint.
- d) **Service Engineers:** The supplier shall provide good and qualified service engineers to assist TGSPDCL employees during the guarantee period hereafter.

**Spares:** The service center should be equipped with sufficient spares which suits the equipments for a minimum period of 10 years post expiry of 5 years warranty period. In this connection sufficient spares should be maintained by the supplier for atleast 10 years post expiry of the warranty period of 5 years warranty period.

- e) **Training & familiarization programme:** The supplier shall provide onsite training and familiarization programme at free of cost to the TGSPDCL employees as per specification, guaranteed technical particulars of all equipment and operational functions of all accessories. The training / familiarization programme should also cover trouble shooting techniques in the equipments/accessories/field for locating cable fault. Training and familiarization programme has to be arranged as and when requested by TGSPDCL at free of cost.

Bidder shall give clause wise compliance to the above specifications with documents as and where're quested.

- 17. DEMONSTRATION :** Demonstration shall be given as per the dates communicated by TGSPDCL. The bid will be evaluated only after successful demonstration on field.

**SD/-**  
**CHIEF ENGINEER (P&MM)**  
**TGSPDCL**

### GUARANTEED TECHNICAL PARTICULARS

| Sr. No. | Particulars                                                                                                                          | BIDDERS OFFER |
|---------|--------------------------------------------------------------------------------------------------------------------------------------|---------------|
|         | <b>Surge Generator</b>                                                                                                               |               |
| 1.      | Reference Standard – IEC or Equivalent                                                                                               |               |
| 2.      | Manufacturers Name and Address                                                                                                       |               |
| 3.      | Manufacturers Type                                                                                                                   |               |
| 4.      | Manufacturers Authorization                                                                                                          |               |
| 5.      | Voltage Range in KV - in steps i) 0-8 KV ii) 0-16 KV iii) 0-32 KV                                                                    |               |
| 6.      | Discharge Energy in Joules -2800 J (Min.) for each voltage range                                                                     |               |
| 7.      | Voltage – Adjustable                                                                                                                 |               |
| 8.      | Display -Analogue                                                                                                                    |               |
| 9.      | Cycle time- 3 to 10 seconds and single shot                                                                                          |               |
| 10.     | Input Voltage - 230 V $\pm$ 10% at 50 Hz                                                                                             |               |
| 11.     | Operating Temperature Range - Upto -10°C To 50°C                                                                                     |               |
| 12.     | Weight : not more than 150 kg.                                                                                                       |               |
| 13.     | Surge sequence: 3– 20 surges/min., single surge                                                                                      |               |
|         | <b>Microprocessor controlled cable fault pre-locator -</b>                                                                           |               |
| 14.     | TDR pulse width: 20 ns – 1.3 ms or better                                                                                            |               |
| 15.     | Measuring pulse: 20 – 200 V or better                                                                                                |               |
| 16.     | Output impedance: 12-2000 Ohm or better                                                                                              |               |
| 17.     | Sampling rate: 400 MHz or more                                                                                                       |               |
| 18.     | Input signal gain: -10 to 80 dB or better                                                                                            |               |
| 19.     | SIM/MIM: 20 TDR multi-shot measurements                                                                                              |               |
| 20.     | Display range: 0 – 100 km or more                                                                                                    |               |
| 21.     | Resolution (@ $v/2 = 80 \text{ m}/\mu\text{s}$ ): 0.1 m or better                                                                    |               |
| 22.     | Accuracy: 0.1% of measuring result                                                                                                   |               |
| 23.     | Propagation velocity factor $v/2$ range: 20 – 150 m/ $\mu\text{s}$                                                                   |               |
| 24.     | Size of screen: min 21.5"                                                                                                            |               |
| 25.     | Ambient temperature (operational): 0 to +50 °C                                                                                       |               |
| 26.     | Storage temperature: -20 to +60 °C                                                                                                   |               |
| 27.     | Power supply: 100 – 260 V, 50/60 Hz                                                                                                  |               |
| 28.     | Power consumption: Max. 300 VA                                                                                                       |               |
| 29.     | IR test: -Test voltage: up to 1,000 V<br>-Measuring range: up to 5 G-Ohm<br>-Simultaneous for: L1/N, L2/N, L3/N, L1/L2, L2/L3, L1/L3 |               |
| 30.     | Type of protection: IP 54                                                                                                            |               |
|         | <b>D.C. H.V Tester -</b>                                                                                                             |               |
| 31.     | Test voltage -0-60 KV in suitable steps 8/16/32KV                                                                                    |               |
| 32.     | DC-test (kV) / I max (mA) : 0 ...32 / 15 mA                                                                                          |               |
| 33.     | I/ P Power -230V, $\pm$ 10%, 50 Hz                                                                                                   |               |
| 34.     | Metering-Analogue                                                                                                                    |               |
| 35.     | Safety features -The instrument should be operational through separate                                                               |               |

| Sr. No. | Particulars                                                                                                                                                                             | BIDDERS OFFER |
|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
|         | <b>Fault pin-pointing set</b>                                                                                                                                                           |               |
| 36.     | Reference Standard – IEC or Equivalent                                                                                                                                                  |               |
| 37.     | Manufacturers Name and Address                                                                                                                                                          |               |
| 38.     | Manufacturers Type                                                                                                                                                                      |               |
| 39.     | Manufacturers Authorization                                                                                                                                                             |               |
| 40.     | Amplification Adjustment range -Acoustic channel > 65 dB Magnetic channel > 65 dB                                                                                                       |               |
| 41.     | Display - LCD 3 digit / 7 segment display                                                                                                                                               |               |
| 42.     | Frequency range with filter -Generally with in 70 Hz to 3000 Hz for (Acoustic), & 70 Hz to 3000 Hz with filter . Automatic Mute function for headset                                    |               |
| 43.     | Power supply – As per requirement                                                                                                                                                       |               |
| 44.     | Weight – (not more than 2.0 kg)                                                                                                                                                         |               |
| 45.     | Operating Temperature Range - upto -10 °C To 50°C                                                                                                                                       |               |
| 46.     | Accessories to be supplied - To be supplied with all the necessary and standard accessories, i.e. receiver , sensor, headphones, batteries carrying pouch along with instruction manual |               |
|         | <b>Cable Locator -</b>                                                                                                                                                                  |               |
| 47.     | Reference Standard –IEC or Equivalent                                                                                                                                                   |               |
| 49.     | Manufacturers Name and Address                                                                                                                                                          |               |
| 50.     | Manufacturers Type                                                                                                                                                                      |               |
| 51.     | Manufacturers Authorization                                                                                                                                                             |               |
|         | <b>Audio Frequency generator -</b>                                                                                                                                                      |               |
| 52.     | Power output: 200 Watt with selectable range controlled from Central Control Unit (min. 2 ranges of 0-10 watt with increment of 0.5 watt and 0 - 200                                    |               |
| 53.     | Operating Frequency> At least three frequencies (low, medium, high in frequency Range 480 Hz to 82 KHz                                                                                  |               |
| 54.     | Should consist of background noise reduction feature                                                                                                                                    |               |
| 55.     | Power supply - 230V,±10%, 50 Hz                                                                                                                                                         |               |
| 56.     | Dimensions & Wt – (not more than 5 kg & portable in size)                                                                                                                               |               |
| 57.     | Operating Temperature Range – Upto (-10 °C to 50 °C)                                                                                                                                    |               |
|         | Accessories to be supplied -To be supplied with all the necessary and standard accessories and instruction Manual                                                                       |               |
| 58.     | Indication - Analogue indication.                                                                                                                                                       |               |

| S.N. | Particulars                                                                                                                                                 | Bidders Offer |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
|      | <b>Audio frequency receiver -</b>                                                                                                                           |               |
| 59.  | Reference standard – IEC or Equivalent                                                                                                                      |               |
| 60.  | Receiving frequency - 50 Hz, & output frequency of the                                                                                                      |               |
| 61.  | Gain – Auto & Manual Control.                                                                                                                               |               |
| 62.  | Indications- LCD indication of signal & battery check                                                                                                       |               |
| 63.  | power supply : Lithium Ion                                                                                                                                  |               |
| 64.  | Power output 0-10 watts                                                                                                                                     |               |
| 65.  | Operating Frequency> At least three frequencies (low, medium, high in frequency Range 480 Hz to 82 KHz                                                      |               |
| 66.  | Dimension & weight ( not more than 3kg & portable in size)                                                                                                  |               |
| 67.  | Operating temp. range - 10°C to 50°C                                                                                                                        |               |
| 68.  | Accessories to be supplied with all the standard accessories like search coil special type of headphone connecting leads along with instruction manual etc. |               |
|      | <b>Cable Identification Instrument</b>                                                                                                                      |               |
|      | <b>Transmitter-</b>                                                                                                                                         |               |
| 69.  | i) Wattage : $\geq 10$ Watts                                                                                                                                |               |
| 70.  | ii) Frequencies : 200kHz and user configurable including 117.850 kHz,                                                                                       |               |
| 71.  | iii) Power supply - 230V, $\pm 10\%$ , 50 Hz & battery (Lithium Ion)                                                                                        |               |
| 72.  | iv) Accessories: Signal Clamp & carrying case                                                                                                               |               |
| 73.  | v) Impulse voltage : 55 or more, 15 pulse per minute(min)                                                                                                   |               |
| 74.  | vi) Impulse current: 100 A or more                                                                                                                          |               |
|      | <b>Identification Receiver</b>                                                                                                                              |               |
| 75.  | LCD Display                                                                                                                                                 |               |
| 76.  | Internal Antennas: 2 x Horizontal; and 1 x Null Antenna                                                                                                     |               |
| 77.  | Guidance : Left & Right arrows along ; Compass for providing orientation / Line directions                                                                  |               |
| 78.  | Current Measurement Function                                                                                                                                |               |
| 79.  | Sensitivity at direct connection of transmitter : 100% at 400 $\Omega$ loop resistance                                                                      |               |
| 80.  | Sensitivity at inductive signal injection : 100 % at loop resistance < 6 $\Omega$                                                                           |               |
| 81.  | Load current Measuring range : $100 \pm 5\%$ , 50/60 Hz                                                                                                     |               |
| 82.  | Depth Range : upto 6Mtr. Or higher                                                                                                                          |               |
| 83.  | Depth range in Power / RF mode : minimum 2 meter                                                                                                            |               |
| 84.  | GPS: instrument should have built in GPS                                                                                                                    |               |

| Sr No | Particulars                                                                                                                                                                                                                                                                         | BIDDERS OFFER |
|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
|       | <b>Cable, Cable drums and vehicle and other accessories -</b>                                                                                                                                                                                                                       |               |
| 85.   | HV Output cable of insulation 40kv.                                                                                                                                                                                                                                                 |               |
| 86.   | Mains cable 50 Mtr Long.                                                                                                                                                                                                                                                            |               |
| 87.   | Earthing cable 50 Mtr Long                                                                                                                                                                                                                                                          |               |
| 88.   | Cable Discharge Rods                                                                                                                                                                                                                                                                |               |
| 89.   | <b>Cable Drums</b> - Hand operated drum Suitable for Rewinding of HV cable, mains cable& Earthing cable.                                                                                                                                                                            |               |
| 90.   | Vehicle - The Surge generator, digital cable fault pre locator, D.C testing set up, arc reflection filters and cable drum forming a compact portable fault locating System shall be mounted on suitable vehicle with all necessary accessories.                                     |               |
|       | <b>VLF High Voltage Testint &amp; Tan Delta Measurement</b>                                                                                                                                                                                                                         |               |
| 91.   | True sinusoidal- digital technology                                                                                                                                                                                                                                                 |               |
| 92.   | Powerful test generator (3kW) with adjusted output voltage                                                                                                                                                                                                                          |               |
| 93.   | Programmable test frequency 0.01 Hz to 1 Hz                                                                                                                                                                                                                                         |               |
| 94.   | Output Voltage<br>VLF Truesinus : 1 ... 44 kVrms (62 kV peak)<br>Load range : 10 nF ... 10 $\mu$ F<br>Accuracy : 1 x 10 <sup>-4</sup>                                                                                                                                               |               |
|       | <b>Guarantee and training</b>                                                                                                                                                                                                                                                       |               |
| 95.   | Guarantee - All the supplied equipment's accessories shall be guaranteed for 5 years with free replacement in case of any manufacturing defects.<br><b>Service to be provided for the spare parts for a minimum period of 10 years after completion of 5 years warranty period.</b> |               |
| 96.   | Training -Successful bidder shall impart theoretical as well as practical training/ demonstration to testing engineers and staff at site, at various locations                                                                                                                      |               |

**SD/-**  
**CHIEF ENGINEER (P&MM)**  
**TGSPDCL**

## **SECTION – VI**

### **QUALIFICATION REQUIREMENTS**

1. Equipment shall be from a reputed manufacturer/Authorised Dealer who has proven track record/credential for the offered equipment meeting specified technical parameters in an Indian environment by **supplying at least 1No.** of similar cable fault locating equipments in any one of the last Five years to Indian Public Sector Undertaking / Govt. Companies. Necessary documents to that extent shall be invariably enclosed along with the bid.
2. Minimum **of 1No** systems based on similar technology shall be in good working condition from last 3 years and necessary references, documentary evidences to that extent shall be invariably enclosed along with the order.
3. All after sales service facility shall be available in Hyderabad towards offered equipment. Documentary evidences towards this, like Work Orders towards repair, AMC copies, Performance Certificates after repair, delivery challan etc. indicating complete details of the user shall invariably be enclosed along with the offer.
4. Offers from the vendors quoting as authorized representative of manufacturer can be considered provided the authorized representative have more than 10 years of associations with the same manufacture and authorized representative meets the above requirement in full including credentials in Hyderabad and availability of after sales service facility. In such case, the manufacturer shall furnish legally valid authorization in original assuring full guarantee & warrantee obligations. Adequate documents towards association shall be enclosed with the offer.
5. Its financial turnover during any one year of the last five years should have been equal or more than 100% value of the material now quoted.
6. The bidder should furnish the information on all past supplies and satisfactory performance in proforma under Form 6.
7. All bids submitted will also include the following information:
  - i. Copies of original documents defining the constitution or legal status, place of registration and principle place of business of the company or firm or partnership, etc.,
  - ii. The bidder should furnish a brief write-up, backed with adequate data, explaining his available capacity and experience (both technical and commercial) for the manufacture and supply of the required equipment within the specified time of completion after meeting all their current commitments.
  - iii. The bidder should clearly confirm that all the facilities exist in his factory for inspection and testing and these will be made available to the purchaser or his representative for inspection.
  - iv. Reports on financial standing of the Bidder such as profit and loss statement, balance sheets and auditor's report for the past three years, bankers certificates etc.
8. The bidder will furnish Type Test Results. The type tests must have been conducted on the material offered as per the relevant IS in recognized laboratory as per the latest revision of the Technical Specification and the date of Type tests will not be later than 10 years. The Bids received without type test reports will be treated as Non-Responsive.
9. Even though the bidder meets the above qualifying criteria, they are subject to be disqualified if they have...
  - a. made misleading or false representations in the forms statements and attachments submitted in proof of qualification requirements and / or
  - b. record of poor performance such as not properly completing the contract, inordinate delays in supply completion, litigation history or financial failure etc.
10. Notwithstanding anything stated above the purchaser reserves the right to assess bidder's capability and capacity to performs the contract should circumstances warrant such an assessment in the overall interest of the purchaser.

**SD/-**  
**CHIEF ENGINEER (P&MM)**  
**TGSPDCL**



SECTION-VII  
SAMPLE FORMS

**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 supply and deliver. .... (Description of Materials / equipment) in conformity with the said bidding documents in accordance with the prices quoted online and made part of this Bid.

We undertake, if our Bid is accepted, to deliver the Materials / equipment in accordance with the delivery schedule specified in the Schedule of Requirements.

If our Bid is accepted, we will obtain the guarantee of a bank in a sum equivalent to. 10% of the Contract Price for the due performance of the Contract, in the form prescribed by the Purchaser.

We agree to abide by this Bid upto ..... (for the Bid Validity Period) specified in Clause 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 as per clause of the bidding documents.

Dated this. ....day of. ....200

\_\_\_\_\_  
\_\_\_\_\_  
[Signature]

[in the capacity of]

Duly authorized to sign Bid for and on behalf of \_\_\_\_\_

## **2. (a) BID SECURITY FORM**

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

KNOW ALL PEOPLE by these presents that WE. ....(name of bank) having our registered office at. ....(address of bank)(hereinafter called "the Bank"), are bound unto. ....(name of Purchaser) (hereinafter called "the Purchaser") in the sum of \_\_\_\_\_for which payment well and truly to be made to the said Purchaser, the Bank binds itself, its successors, and assigns by these presents. Sealed with the Common Seal of the said Bank this \_\_\_\_day of \_\_\_\_ 200 .

THE CONDITIONS of this obligation are:

1. If the Bidder
  - a) withdraws its Bid during the period of bid validity specified by the Bidder on the Bid Form; or
  - a) does not accept the correction of errors in accordance with the Bid Specification, or
2. If the Bidder, having been notified of the acceptance of its bid by the Purchaser during the period of bid validity;
  - (a) fails or refuses to furnish the performance security, in accordance with the Bid Specification.
  - (b) fails or refuses to execute the Contract Form if required; or

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

This guarantee will remain in force up to and including forty five (45) days after .....(from the date of tender opening) the period of the bid validity, and any demand in respect thereof should reach the Bank not later than the above date.

. ....  
(Signature of the Bank)

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

## **2. (b) PERFORMANCE SECURITY FORM**

To: \_\_\_\_\_ (Name of Purchaser)

**WHEREAS**.....(Name of Supplier)  
(hereinafter called "the Supplier") has undertaken, in pursuance of Contract No.....dated.....2005  
to supply. ....(Description of Materials / equipment and Services)  
(hereinafter called "the Contract").

**AND WHEREAS** it has been stipulated by you in the said Contract that the Supplier will furnish you with a Bank Guarantee by a recognized Bank for the sum specified therein as security for compliance with the Supplier's performance obligations in accordance with the Contract.

**AND WHEREAS** we have agreed to give the Supplier a Guarantee:

**THEREFORE WE** hereby affirm that we are Guarantors and responsible to you, on behalf of the Supplier, 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 Supplier 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. .... 2009 .

Signature and Seal of Guarantors

.....

Date. ....2009.

.....

.....

Address:.....

.....

.....

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

### **3. CONTRACT FORM**

**THIS AGREEMENT** made the. .... day of. .... 200 Between. ....(Name of Purchaser) of the one part and. ....(Name of Supplier) of the other part:

**WHEREAS** the Purchaser invited bids for certain Materials / equipment and ancillary services viz., .....(Brief description of Materials / equipment and Services) and has accepted a bid by the Supplier for the supply of those Materials / equipment and services in the sum of. ....(Contract Price in Words and Figures)(hereinafter called "the Contract Price").

**NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:**

1. In this Agreement words and expressions will have the same meanings as are respectively assigned to them in the Conditions of Contract referred to.
2. The following documents will be deemed to form and be read and construed as part of this Agreement, viz.:
  - (a) the Bid Form and the Price Schedule submitted by the Bidder;
  - (b) the Schedule of Requirements;
  - (c) the Technical Specifications;
  - (d) the General Conditions of Contract;
  - (e) the Purchaser's Notification of Award.
3. In consideration of the payments to be made by the Purchaser to the Supplier as hereinafter mentioned, the Supplier hereby covenants with the Purchaser to provide the Materials / equipment and services and to remedy defects therein in conformity in all respects with the provisions of the Contract.
4. The Purchaser hereby covenants to pay the Supplier in consideration of the provision of the Materials / equipment and services and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

Brief particulars of the Materials / equipment and services which will be supplied/ provided by the Supplier are as under:

| Sl. No. | Brief Description of Materials / Equipment & services | Quantity to be supplied | Unit Price Rs. | Total Price Rs. | Delivery Terms |
|---------|-------------------------------------------------------|-------------------------|----------------|-----------------|----------------|
|         |                                                       |                         |                |                 |                |
|         |                                                       |                         |                |                 |                |
|         |                                                       |                         |                |                 |                |

**TOTAL VALUE:** (Rupees \_\_\_\_\_ only)

**DELIVERY SCHEDULE:**

**IN WITNESS** whereof the parties hereto have caused this Agreement to be executed on the day and year first above written.

Signed, Sealed and Delivered by the

said. ....(for the Purchaser)

in the presence of. ....

Signed, Sealed and Delivered by the

said. ....(for the Supplier)

in the presence of. ....

**NOTE:** To be executed on a Rs.100/- Non-judicial stamp paper.

**4. PROFORMA FOR PERFORMANCE STATEMENT**

Bid No. \_\_\_\_\_

Date of Opening \_\_\_\_\_

Time \_\_\_\_\_ Hours

Name of the Firm \_\_\_\_\_

| Order placed by<br>(full address of<br>purchaser) | Order No. and<br>Date | Description and<br>quantity of<br>ordered<br>equipment | Date of Completion of Delivery |        |
|---------------------------------------------------|-----------------------|--------------------------------------------------------|--------------------------------|--------|
|                                                   |                       |                                                        | As per Contract                | Actual |
|                                                   |                       |                                                        |                                |        |

| Remarks indicating reasons for late delivery, if<br>any | Has the equipment been satisfactorily<br>functioning? (Attach a Certificate from the<br>Purchaser) |
|---------------------------------------------------------|----------------------------------------------------------------------------------------------------|
|                                                         |                                                                                                    |

Signature of the Bidder \_\_\_\_\_

\_\_\_\_\_

**5. DETAILS TO BE FURNISHED BY THE MANUFACTURER (Format A)**

|                                                                                                       |   |  |
|-------------------------------------------------------------------------------------------------------|---|--|
| 1. Specification No.                                                                                  | : |  |
| 2. Name of the Material                                                                               | : |  |
| 3. Quantity to be procured                                                                            | : |  |
| 4. Last date and time for submission of Bid                                                           | : |  |
| 5. Date and time for opening of Bid                                                                   | : |  |
| 6. State whether Bid guarantee is enclosed                                                            | : |  |
| 7. State whether the quotation in two parts has been submitted.                                       | : |  |
| 8. State whether 20% minimum quantity is quoted                                                       | : |  |
| 9. Whether willing to furnish performance B.G. @ <b>10%</b> if order is placed                        | : |  |
| 10. Whether month wise delivery schedule indicated                                                    | : |  |
| 11. Prices whether Firm                                                                               | : |  |
| 12. Whether any other tax / duty payable. If so give details and the same is included / not included. | : |  |
| 13. State whether TGSPDCL terms of payment are accepted                                               | : |  |
| <b>14. Quantity offered for supply</b>                                                                | : |  |
| 15. State whether 90 days validity offered                                                            | : |  |
| 16. Whether sample is enclosed (if specified)                                                         | : |  |
| 17. Whether the material / equipment offered conforms to the relevant TGSPDCL Specification           | : |  |
| 18. Whether you have executed orders of the TGSPDCL previously for these items. (Please give details) | : |  |
| 19. Similar details in respect of supplies made to other utilities                                    | : |  |
| 20. Whether Bid guarantee exemption letter enclosed, if exempted.                                     | : |  |
| 21. Whether sales tax clearance certificate enclosed                                                  | : |  |
| 22. Whether Income-tax clearance certificate enclosed.                                                | : |  |
| 23. Whether Warranty clause accepted                                                                  | : |  |
| 24. Whether Penalty clause accepted                                                                   | : |  |
| 25. Whether delivery schedule accepted                                                                | : |  |

**6. SCHEDULE OF DEVIATION****(i) TECHNICAL**

| <b>Sl. No.</b> | <b>Requirements / Equipment</b> | <b>Specification Clause No.</b> | <b>Deviations</b> | <b>Remarks</b> |
|----------------|---------------------------------|---------------------------------|-------------------|----------------|
|                |                                 |                                 |                   |                |
|                |                                 |                                 |                   |                |

It is hereby conformed that except for deviations mentioned above, the offer conforms to all the other features specified in Technical Specification Section \_\_\_\_ of this Bid Document

Place :

Signature of the Bidder :

Date :

Name :

Business address :



**6. SCHEDULE OF DEVIATION****(ii) COMMERCIAL**

| <b>Sl. No.</b> | <b>Requirements / Equipment</b> | <b>Specification Clause No.</b> | <b>Deviations</b> | <b>Remarks</b> |
|----------------|---------------------------------|---------------------------------|-------------------|----------------|
|                |                                 |                                 |                   |                |
|                |                                 |                                 |                   |                |

It is hereby conformed that except for deviations mentioned above, the offer conforms to all the other features specified in Commercial Specification Section \_\_\_\_ of this Bid Document

Place :

Signature of the Bidder :

Date :

Name :

Business address:

**MANUFACTURERS' AUTHORISATION FORM**

No. \_\_\_\_\_ dated

To

Dear Sir,

SPECIFICATION No.

We \_\_\_\_\_ who are established and reputable manufacturers of \_\_\_\_\_ (name & descriptions of Materials / equipment offered) having factories at \_\_\_\_\_ (address of factory) do hereby authorize M/s. \_\_\_\_\_ (Name and address of Agent) to submit a bid, and sign the contract with you for the above Materials / equipment manufactured by us against the above Specification No..

No Company or firm or individual other than M/s. \_\_\_\_\_ are authorized to bid, and conclude the contract in regard to this business against this specific Specification No..

We hereby extend our full guarantee and warranty as per Clause 52 of the General Conditions Contract for the Materials / equipment and services offered by the above firm against this Specification No.

Yours faithfully,

(Name)  
(Name of manufacturers)

Note: This letter of authority should be on the letter head of the manufacturer and should be signed by a person competent and having the power of attorney to bind the manufacturer. It should be included by the Bidder in its bid.

**DECLARATION FORM****Declaration to be given by the Company in regard to relation to promoters of Blacklisted /  
debarred companies by any power utilities.**

I declare that, myself or any of the representatives of my company / firm do not have any relatives with promoters of blacklisted / debarred companies by any utilities.

It is certified that the information furnished above is true to the best of my knowledge and belief. It is hereby undertaken that in the event of the above information found to be false or incorrect at a later date, the TGSPDCL is entitled to terminate the contract/agreement entered into besides recovering damages as may be found necessary, with due notice.

**Signature of authorized representative**

**SD/-  
CHIEF ENGINEER (P&MM)  
TGSPDCL**