



**SOUTHERN POWER DISTRIBUTION COMPANY OF TELANGANA LTD.
TGSPDCL (erstwhile TSSPDCL)**

TENDER SPECIFICATION

STN-1473/25-26

FOR

**11KV 3 CORE 185 SQ. MM
TR XLPE UG CABLE**

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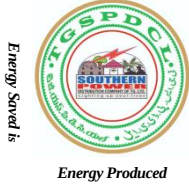
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1. Payment terms, Delivery period, Performance Bank Guarantee, applicable GST should be in line with the terms and conditions of the specification. If any bidder does not meet any one of the conditions, such tender will not be considered. Please note 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 and 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 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.
4. 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.
5. The bidder should quote price schedule only in online and specify the price of the Materials / equipment EXWORKS, Freight and Insurance separately (mandatory) and all the taxes as per the applicable GST.
6. The bid evaluation will be carried out based on the documents uploaded through www.tender.telangana.gov.in against this tender.
7. In e-procurement commercial stage, if F&I charges are applicable then the firm must mention the 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.

Ph : 040 – 23431360, 23431035

Fax : 040 - 23431034

Sd/-
CHIEF ENGINEER(P&MM)
TGSPDCL



**SOUTHERN POWER DISTRIBUTION COMPANY OF TELANGANA
LIMITED**

TGSPDCL (erstwhile TSSPDCL)

e-Procurement Tender Notice (Paper Notification)

TGSPDCL intends to float tender for procurement of (a) Polycarbonate Seal Bits (Blue) (b) 11KV 20/5A CTPT sets of 0.2S class acc. (c) LT Metal Parts (d) 11KV Metal Parts (e) 33KV Metal Parts (f) LT Pin Insulators (g) LT Shackles (h) 11KV Guy Insulators (i) 11KV 400A (Conv.) DB AB Switches with insulators (j) 3-ph (10-40A) Meters IRDA & DLMS w/o PP Box (k) 1Cx120 sq.mm LT XLPE Cable (l) 11KV 3Cx185 sq.mm TR XLPE UG Cable on e-procurement platform.

For further details of each item above, please visit www.tgsouthernpower.org, www.tender.telangana.gov.in

Phone: 040-23431360, 1033, 1035, 1026

SD/-
CHIEF ENGINEER (P&MM)

ONLINE VERSION

Tender Notice No : STN-1473/25-26

Notice Inviting Tender Details		
S.No	Description	
1	Department Name	TGSPDCL
2	Office	Purchases & Material Management Wing, Corporate Office, TGSPDCL
3	Tender Number	STN-1473/25-26
4	Tender Subject	11KV, 3Cx185 Sq.mm TR XLPE UG Cable
5	Delivery Schedule	The delivery of materials shall commence within one month from the date of receipt of purchase order and supply @ 1/3 rd of offered quantity per month or as per TGSPDCL delivery schedule.
6	Tender Type	Open
7	Tender Category	NA
8	Bid Security (INR)	(i) Bidders shall furnish an amount equivalent to 2.36% of the Ex-works quoted value . The bid security validity shall be for 90 days plus 45 days from the date of opening of the BID. (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 in favour of Chief Engineer/P&MM/ TGSPDCL/Hyd.
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. <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	06-11-2025 at 12:00 Hrs.
14	Schedule Sale opening date	01-11-2025 from 17:00 Hrs.
15	Bid Submission Closing Date & time	18-11-2025 Upto 13:00 Hrs.
16	Bid submission	On Line
17	Pre-Qualification & Technical Bid Opening Date (Qualification and Eligibility Stage and Technical Bid Stage)	18-11-2025 at 15:00 Hrs.
18	Price Bid Opening Date (Financial Bid Stage)	19 -11-2025 at 11:00 Hrs
19	Place of Tender Opening	O/o Chief Engineer/P&MM TGSPDCL, 4 th Floor, Corporate Office, Mint Compound, Hyd – 500 004.
20	Officer Inviting Bids/ Contact Person	CHIEF ENGINEER/P&MM/TGSPDCL/HYDERABAD
21	Address/E-mail id	O/o. Chief Engineer/P&MM, TGSPDCL, 4th Floor, Corporate Office, Mint Compound, Hyderabad – 500 004.
22	Contact Details/Telephone, Fax	Ph. No. 040-23431319, Fax No. 040-23431034

23	Eligibility Criteria	As per Section IV
24	Procedure for Bid Submission	Bids shall be submitted online on www.tender.telangana.gov.in platform 1. The participating bidders in the tender should register themselves free of cost on e-procurement platform in the website www.tender.telangana.gov.in. 2. Bidders can log-in to e-procurement platform in Secure mode only by signing with the Digital certificates. 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. 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: a) Bid Security should be furnished i) In the form of DD in favour of Pay Officer/TGSPDCL/Hyderabad or BG from <u>Nationalized/Scheduled Bank in favour of Chief Engineer/P&MM/ TGSPDCL/Hyd.</u> (or) ii) If exempted give details of Bid Security exemption b) “GSTR 3B Returns” For the latest Financial year. c) Details of previous supplies as per tender document d) Copies of previous supply orders in support of above. e) Duly filled and signed proforma as per Format A. f) Transaction fee payable to C1 India. 5. The rates should be quoted in online only 6. After uploading the documents, the copies of the uploaded statements, certificates, documents, original Demand Drafts in respect of processing fee and Bid Security (except the Price bid/offer/break-up of taxes) are to be submitted by the bidder to the Chief Engineer/P&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. 7. The department will not hold any risk and responsibility regulating non-visibility of the scanned and uploaded documents.

		8. The Documents that are uploaded online on e-market place will only be considered for Technical Bid Evaluation. 9. Important Notice to Contractors, Suppliers and Department users (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.
25	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
26	General Terms and Conditions	As per tender documents.

SECTION-II
SALIENT FEATURES OF THE BID

SUPERSCRPTION ON THE TENDER COVER

- Specification No :
 Material :
 Officer to whom the bid will be addressed:
 Superscription on the bid cover and
 the outer envelope :
- a. Specification No. : STN-1473/25-26
 - b. Due date and time for online submission : 18-11-2025 Upto 13:00 Hrs
 - c. Date and time of online opening : 18-11-2025 at 15:00 Hrs
 - d. Payment of bid security
 - i) If paid give details: DD 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)

SAMPLE FORMS.

- g. Bid Form and Price Schedules
- h. Bid Security Form
 - i. Contract Form
 - ii. Performance Security form
- i. Manufacturers' Authorization form
- j. Performance Statement
- k. Details to be furnished by the Manufacturer
- l. 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 supercede the existing terms of GCC and Technical Specification

Sd/-
 CHIEF ENGINEER(P&MM)
 TGSPDCL

SECTION-III GENERAL TERMS AND CONDITIONS

A. Introduction

1. Definitions

1.1 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

2.1 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 VII and Technical Specification at section-VI.

5. Eligible Bidders:

All the Manufacturers 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. VI, of Bid specification and meeting the qualification requirements described at section IV only need quote. Bids received from firms not meeting the above two criteria will not be considered.

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

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.20.
- 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.19 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:

12.1 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 **VARIABLE**. Bids will be called for with prices FADS inclusive of packing and forwarding, applicable 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 applicable GST, 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 applicable GST 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 (on-line) shall be entered separately in the following manner.

The price of the Materials / equipment quoted EXWORKS and all excise and other duties and sales and other taxes payable on the finished Materials / equipment with individual breakup for applicable GST , packing and forwarding, freight and insurance, etc.

14. Variable prices & price variation basis:

- 14.1 Wherever prices quoted are not firm (variable), prices FADS, applicable GST, freight, Insurance, packing, forwarding and other legally permissible duties and levies shall be given separately.
- 14.2 Quotations will be with prices subject to adjustment up or down as per specific variation formula with reference to the base prices of major raw-materials / components involved which will be detailed in the bid along with the respective percentage costs in the composite price for the finished goods.
- 14.3 Whenever IEEMA price variation formula is applicable, the Bidder may quote according to IEEMA formula in force at the time of bidding which will remain the same through out the execution and completion of the order.
- 14.4 The quoted prices shall be on FADS basis inclusive of transit cum 45 days storage insurance inclusive of all applicable GST.
- 14.5 The prices of raw- materials / components will be those at which Bidder actually purchases from their principal suppliers (whose names will be invariably stated) and shall not be the landed cost at the Bidder's work including transport or any other charges. The basic price of raw materials so quoted shall remain unaltered during the period of validity of bid as well as during the execution of contract.
- 14.6 Where IEEMA formula is not applicable and where the raw materials such as Steel, Aluminium, Zinc, Lead and Copper are involved the SAIL / TISCO / MUKUND price of steel for Zinc and Copper as published by IEEMA and the BALCO / HINDALCO price of Aluminium shall be applicable for price variation. The Base and final prices / indices shall correspond to same manufacturers.
- 14.7 In case of conductors, where the bidder makes his own arrangements to get the Properzi Rod made out of Aluminium, Ingot, the price of Properzi Rod as prevailing at the time of the bidder obtaining the ingot from the primary producers shall only be taken into consideration for arriving at the price variation claims irrespective of whatever expenditure the bidder might have incurred in getting the ingot converted into Properzi Rod.
- 14.8 In cases where variable prices are quoted, if complete information as above is not given, the bid is liable for rejection.
Irrespective of the increase in the prices of raw materials the price variance (increase) will be limited to a maximum of 50% over the original quoted price on positive side and no ceiling on negative side.
- 14.9 **The date of delivery for the purpose of price variation shall be date on which the material is notified as being ready for inspection/despatch (in the absence of such notification the date of manufacturer's despatch date shall be considered as the date of delivery) or the contracted delivery date including any agreed extension thereto whichever shall result in the least price (i.e., whichever is advantageous to the purchaser). If the date of delivery as defined in the P.V. formula is beyond the contracted delivery date, the scheduled delivery date or inspection offer date or the actual delivery date (SAP entry i.e., 103 date) whichever is advantageous to the purchaser will form the basis for calculation of price variation.**

14.10 Notwithstanding the formula applicable for regulating the price variation, if at any time any documentary evidence proof or certificate in regard to the price variation bills is required by the Purchaser, the bidder will have to furnish the same to the Purchaser.

14.11 The price for inland transportation, insurance, packing and forwarding and other local costs incidental to delivery of the Materials / equipment to their final destination,

The price of other (incidental) services, if any.

15. Taxes

15.1 A bidder will be entirely responsible for quoting the correct applicable GST, 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 applicable GST and any other levies payable. Failure to furnish the details leads to loading as indicated in the evaluation criteria.

15.2 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.

15.3. Deemed Export Benefits: This is not applicable for local purchases with TGSPDCL funds.

15.4. Applicable tax collected at source (TCS) is as per Government of India.

16. 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.

17. Bid Currencies:

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

18. 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.

19. 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.

19.1 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.

20. Bid Security

- 20.1 The Bidder shall furnish an amount equivalent to 2.36% of the Ex-works quoted value for 11KV 3 CORE 185 SQ. MM TR XLPE UG CABLE towards bid security. 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.
- 20.2 The fact of having enclosed bid security by **DD/B.G.** along with the bid should be clearly super scribed on the bid envelope.
Bids, which do not have the above superscription, will be rejected and returned to the respective bidders unopened.
- 20.3 **Submission of BID SECURITY by way of Cheque, cash, money order, call deposit will not be accepted and will be considered as disqualification.**
- 20.4 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.
- 20.5 Requests for exemption from payment of BID SECURITY will not be entertained in any other cases.

- 20.6 Any bid not secured as above will be rejected by the Purchaser.
- 20.7 Unsuccessful Bidders' Bid Security will be discharged or returned as promptly as possible but not later than thirty (30) days after the expiration of the period of bid validity prescribed by the Purchaser.
- 20.8 The successful Bidder's Bid Security will be discharged upon the Bidder signing the contract.
- 20.9 **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.38.
 - ii. To furnish performance security in accordance with Clause No.39.
- 20.10 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 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.

21. Period of Validity of Bids.

- 21.1 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.
- 21.2 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.20 will also be suitably extended. A Bidder may refuse the request without forfeiting its Bid Security.

22. Tax Clearance Certificates:

- 22.1 Copies of Income Tax, GSTR 3B Returns 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.

23. Service Conditions

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

(a)	Maximum ambient air temperature (in shade)	45 ⁰ C
(b)	Maximum ambient air temperature (under sun)	50 ⁰ C
(c)	Maximum daily average ambient air temperature	35 ⁰ C
(d)	Maximum yearly average ambient air temperature	30 ⁰ 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.

23.2 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.

24. Format and Signing of Bid.

24.1 The Bidder shall prepare an original, clearly marking "ORIGINAL BID".

24.2 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.

24.3 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

25. Submission, Sealing and Marking of Bids.

25.1 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 rejected.

(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-20.4), 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.

- 25.2 The Bidder shall seal the original of the bid, duly marking envelope as "ORIGINAL".
- 25.3 The inner and outer envelopes will:
 - (a) Be addressed to the Purchaser.
 - (b) The sealed cover as well as outer envelope should be super scribed as noted below
- 25.4 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 25.1).... (YES/NO)
- 25.5 Bids not super scribed as above are liable to be rejected.
- 25.6 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. .
- 25.7 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.
- 25.8 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.
- 25.9 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.
- 25.10 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".

- 25.11 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.

26. Deadline for Submission of Bids.

- 26.1 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.
- 26.2 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.

27. Late Bids

- 27.1 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.

27.2 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

28. Opening of Bids by the Purchaser

- 28.1 The Purchaser will open all bids meeting above criteria, at the time, on the date, and at the place specified.
- 28.2 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.
- 28.3 Bids that are not opened and read out at bid opening will not be considered further for evaluation, irrespective of the circumstances.

29. Clarification of Bids

- 29.1 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.

30. Preliminary Examination

- 30.1 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.
- 30.2 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.
- 30.3 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.
- 30.4 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 applicable GST 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.
- 30.5 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, applicable GST ” 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.

31. Evaluation and Comparison of Bids.

- 31.1 The Purchaser will evaluate and compare the bids, which have been determined to be Substantially responsive.
- 31.2 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, applicable GST & any other levies, packing & forwarding, freight charges, insurance (transit & storage) as quoted by the bidder, interest on advance if any, erection, servicing other charges as called for.

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

The following criteria may be adopted for applicable GST for evaluation

- a. It is the responsibility of the bidder to quote all applicable GST correctly without leaving any column unfilled. Where **applicable GST** are not applicable, the bidder should enter "NA". If no 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 GSTIN 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, applicable GST 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.

31.3(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 applicable GST quoted by the Bidder. It is the responsibility of the bidder to quote all applicable GST correctly without leaving any column unfilled. Where not applicable the column may be filled as "NA". If no 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.**

31.3(b) Any statutory variations of applicable GST 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.

31.4 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, applicable GST will be deemed to the critical provisions and deviations in any one of these things will be deemed to be a material deviation.

32. Contacting the Purchaser.

32.1 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.

32.2 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.

33. Post Qualification

- 33.1 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.
- 33.2 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.

34. Award Criteria

- 34.1 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.

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

- 35.1 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.
- 35.2 The purchaser reserves the right to vary the ordered quantity by +/- **50%** during the execution of the contract.

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

- 36.1 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.

37. Notification of Award

- 37.1 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.
- 37.2 The notification of award will constitute the formation of the Contract.
- 37.3 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.

38. 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.

39. Performance Security:

- 39.1 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.

- 39.2 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.
- 39.3 The performance security will be...
- (a) A bank guarantee issued by a **nationalized/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.
- 39.4 The performance security will be discharged by the Purchaser and returned to the Supplier not later than sixty (60) days after the expiry date.
- 39.5 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.**

40. 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 anything 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.

41. Use of Contract Documents and Information:

- 41.1 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.

- 41.2 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.
- 41.3 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.
- 41.4 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.

42. Patent Rights

- 42.1 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.

43. Places / Locations:

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

44. Delivery:

- 44.1 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 60.

45(a). 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. Keeping in view of the time required for inspection, you are requested to offer the material for inspection well in 15 days advance to suit the delivery schedule. 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.
- (vii) In the case of transformers, instrument transformers and meters, inspection will be conducted every year, for the first 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 applicable GST, 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 .
- (ix) The supplier shall furnish the following documents as proof of purchase of RAW material along with each inspection offer.
 - a) Invoice of the supplier
 - b) Supplier Test Certificate
 - c) Packing List
 - d) Bill of Landing
 - e) Bill of Entry Certificate by Custom
 - f) Description of material, electrical analysis, physical inspection, certificate of surface defects, thickness and width of material wherever applicable.
- (x) Invoices for the procurement of raw materials from the above primary producers shall be furnished for each consignment of conductor to be supplied along with the manufacturers test report for verification.

45(b). Store Sample Testing:

- (i) After receipt of the material at the stores, one drum from any one of the lots supplied at any of the stores at the discretion of TGSPDCL randomly will be selected and shall be got tested for acceptance tests at any NABL Accredited labs as decided by TGSPDCL. The cost towards testing & transportation charges shall be borne by the supplier.**
- (ii) If the sent sample fails during NABL testing, the entire lot will be rejected and the supplier has to replace the entire lot and re offer for pre dispatch inspection at his site and then deliver it back to stores. After which, the randomly selected sample for the re delivered lot at stores shall be tested for acceptance tests at any NABL Accredited laboratory as decided by TGSPDCL.**
- (iii) If materials are consumed due to emergency before the acceptance of lot, the whole lot will be treated as rejected and it should be replaced at stores/installed site at supplier's cost and re offer for pre dispatch inspection at his site and then deliver it back to stores. After which the randomly selected sample for the re delivered lot at stores shall be tested for acceptance tests at any NABL Accredited laboratory as decided by TGSPDCL .**
- (iv) In case of sample fails in any of test carried out, following penal actions to be taken to ensure good quality supply.**
 - i. Failure-1: Replacement of lot plus monetary penalty of 3% plus applicable taxes (if any) of the ex-works value of the lot.**
 - ii. Failure-2 : Replacement of lot plus monetary penalty of 6% plus applicable taxes (if any) of the ex-works value of the lot.**
 - iii. Failure-3 : Replacement of lot plus monetary penalty of 10% plus applicable taxes (if any) of the ex-works value of the lot and debarment of bidding next tender for the same product/rating for which four consecutive failures are reported in the current contract.**
- (v) The acceptance testing charges for one drum per selected lot is approximately Rs 1,50,000.00/- shall be borne by the supplier. The required charges shall be made in the form of DD in favor of Pay Officer, TGSPDCL, payable at Hyderabad at the time of offering material for every pre-dispatch inspection. 103 SAP entry shall be made only after the acceptance of the lot.**

46. 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.

47. Packing

- 47.1** 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.

47.2 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

47.3 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.

48. Delivery Documents

48.1 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.

48.2 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.

49. Insurance

49.1 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.

49.2 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.**

50. Transportation

- 50.1 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.

51. Incidental Services

- 51.1 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.

52. Spare Parts

- 52.1 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.

53. Warranty

- 53.1 The supplier will warrant for the satisfactory functioning of the material/equipment as per specification for a minimum period of **30 months** from the date of receipt of the material/equipment in good condition.
- 53.2 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.
- 53.3 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 23.1 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).
- 53.4 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.
- 53.5 Unless otherwise specified the warranty period will be **30 months** 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.
- 53.6 The Purchaser will promptly notify the supplier in writing of any claims arising under this warranty.
- 53.7 "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.
- 53.8 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.

54. Payment

- 54.1 **100% payment** along with F&I, applicable GST **will be made on or after 30 days** reckoned from the date of receipt of material/ equipment at 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.

- 54.2 The 100% payment mentioned above is subject to on submission of performance security as per Clause-39 by the supplier.
- 54.3 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.
- 54.4 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.39.
- 54.5 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.
- 54.6 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.
- 55. Prices**
- 55.1 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.
- 56. Change Orders**
- 56.1 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:
 Drawings, designs, or specifications, where Materials / equipment to be furnished under the Contract are to be specifically manufactured for the Purchaser;
 The method of shipment or packing;
 The place of delivery; and/or
 The Services to be provided by the Supplier.
- 57. Contract Amendments**
- 57.1 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.
- 58. Assignment**
- 58.1 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.
- 59. Delays in Supplier's Performance**
- 59.1 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.
- 59.2 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.

- 59.3 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.

60. Penalty for delay in supplies

The time for and the dates for delivery mentioned in the contract will be deemed to be the essence of the contract. Subject to force majeure Clause No.65, if the Supplier fails to deliver any or all of the Materials / equipment or to perform the Services within the period(s) specified in the Contract, the Purchaser will, without prejudice to its other remedies under the Contract, deduct from the Total Ex-works value, as liquidated damages, a sum equivalent to 0.5% per week on the undelivered portion subject to a maximum of 5% of the cost of the undelivered portion within the scheduled time. The number of days would be rounded off to the nearest week and penalty calculated accordingly. Once the maximum is reached the Purchaser may consider termination of the contract.

The check measurement date i.e., the date of receipt of materials at destination stores in good condition will be taken as the date of delivery. For calculation of penalty, the date of receipt of material at the destination stores is the date of delivery subject to the condition that the goods/ material is received in good condition. Materials/Equipment which are not of acceptable quality or are not confirming to the specification would be deemed to be not delivered. For penalty, the number of days would be rounded off to the nearest week and penalty calculated accordingly.

The penalty specified above will be levied and would be adjusted against subsequent pending bills.

In cases where new vendors fail to meet the requirement of the Contract there would be no penalty to such vendors but they will be excluded from the next bid for the particular item of the material.

Any failure on the part of new vendors for a second time would cause them to be removed from the list of registered vendors.

61. 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.

62. Termination for Default

- 62.1 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.
- 62.2 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.

63. Termination for Insolvency

- 63.1 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.

64. Termination for Convenience

- 64.1 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.
- 64.2.1 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.

65. Force Majeure

- 65.1 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.
- 65.2 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.
- 65.3 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.

66. Settlement of Disputes

- 66.1 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.
- 66.2 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.
- 66.3 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.

66.4 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.

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).

66.5 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.

67. Jurisdiction

67.1 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.

68. Notices

68.1 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.

68.2 A notice will be effective when delivered or on the notice's effective date, whichever is later.

69. Foreign Exchange

- 69.1 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.

70. Extension Order

- 70.1 All supply contracts will contain a provision for increasing or decreasing the quantity to be supplied by an agreed percentage during the schedule delivery period. In the case of any emergency, increasing the quantity to the extent provided in the contract may be necessary. In the case of piling up of stock or if prices have generally reduced, decreasing the quantity may be considered with the approval of the concerned Director and Director (Finance).

SECTION – IV
SPECIFICATION NO. STN-1473/25-26 (SCHEDULE OF MATERIALS)

Sl. No.	Description of Material	Qty. in (KM)	Stores
1	11 KV 3C x 185 Sq.mm UG TR-XLPE Cable suitable for earthed system having compacted circular stranded aluminum conductor shielded with semi-conducting compound extruded layer TR-XLPE insulated Dry Cured-Dry Cooled Nitrogen Gas cooled core shielded with semi-conducting compound extruded layer followed by metallic copper foil, screened inner sheath of extruded PVC, galvanized single round wire armoured and PVC sheathed overall conforming to IS:7098 Part-II/ 1985, IS:5831 and IS:3975 as amended upto date with ISI marked. 11 KV UG TR XLPE Cable (3Cx185 Sq.mm)	175	FADS at TGSPDCL stores

Note: - (1) **The Variable prices shall be quoted.**

(2) The quantity of monthly delivery may be quoted.

(3) Delivery : The delivery of materials shall commence within one month from the date of receipt of purchase order and supply @ 1/3rd of offered quantity per month **or as per TGSPDCL delivery schedule.**

(4) The tenderer should quote the rates for free at TGSPDCL destination stores.

(5) The tenderer shall furnish a copy of valid BIS licence for ISI marking together with their offer, without which the offer shall be treated as non-responsive.

6. The prices shall be variable as per IEEMA price variation formula with 50% price variation ceiling on positive side and no ceiling on negative side with the following price variation formula with Base Date i.e., one month prior to the tender opening date.

$$P = P_0 + AIF(AL-A_0) + XLFAL(CC-C_0) + SMIF(SMIF1-SMIF0) + CCFAI(PVCC-VCC_0) + FeF(Fe-Fe_0).$$

For any price variation up or down in the prices of raw materials as defined above of Rupee one in price per MT of LME Average Settlement price including premium for ingot (Al), XLPE Compound (CC), Copper Tape Factor (SMIF), PVC Compound (PVC) and Steel for Armouring (Fe) (Round**), the corresponding increase or decrease in price per KM of finished Cable allowable shall be as given below.**

Sl.No.	Description	Variation factor
1.	AIF	1.605
2.	XLFAL	0.968
3.	SMIF	0.0943
4.	CCFAI	2.406
5.	FeF	4.148

For the purpose of calculation of price variation the prices of LME Average Settlement price including premium for ingot (Al), XLPE Compound (CC), Copper Tape Factor (SMIF), PVC Compound (CC) and Steel for Armouring (Fe) shall be taken as these prevailing one month prior to the date of delivery.

(7) The date of delivery for the purpose of price variation shall be date on which the material is notified as being ready for inspection/despatch (in the absence of such notification the date of manufacturer's despatch date shall be considered as the date of delivery) or the contracted delivery date including any agreed extension thereto whichever shall result in the least price (i.e., whichever is advantageous to the purchaser).

Sd/-
CHIEF ENGINEER/P&MM

SECTION-V - (STN-1473/25-26)
TECHNICAL SPECIFICATION OF 11KV, 3Cx185 Sq.mm TR XLPE UG CABLE

1.0 SCOPE:

1.1 The scope of this specification covers the design, manufacture, stage inspection at works, inspection and testing the finished ISI marked 11KV 3x35/95/120/185/300 Sq.mm stranded, compact circular aluminum conductor, conductor screened with extruded semiconducting compound water tree retardant (TR) XLPE insulation screened with extruded semi conducting **compound dry cured - dry cooled Nitrogen gas cooled** from triple extrusion through common triple cross head (single point triple extrusion) in combination with copper tape cores laid up, Filler inner sheathed, **galvanized round steel wire armored** and overall PVC sheathed black colour cable conforming to IS:7098 (Part II/1985) with latest amendments and as per specification detailed.

2.0 RATED VOLTAGE:

2.1 The rated voltage of the cable shall be 11000 Volts AC with the highest system voltage of 12.1KV between phases of the effectively earthed three-phase transmission system.

2.2 The cables shall be capable of operating continuously under the system frequency variation of ± 3 Hz, voltage variation of $\pm 10\%$ and a combined frequency – voltage variation of $\pm 10\%$.

3.0 APPLICABLE STANDARDS:

3.1 Unless otherwise stipulated in the specifications, the latest version of the following Standards shall be applicable:

- a. IS 7098 (Part 2)- **Cross-linked Polyethylene (XLPE) insulated Cables**
- b. IS 8130-Conductors for insulated electrical cables and flexible cords.
- c. IS 10810(series)-Methods of tests for cables.
- d. IS 10418-Drums for electric cables.
- e. IS 3975-Specification for mild steel wires, strips and tapes for armoring of cables.
- f. IS 5831-Specification for PVC insulation sheath for electric cables.
- g. IS 10462-Fictitious calculation method for determination of dimensions of protective coverings of cables Part 1 - Elastomeric and thermoplastic insulated cables.

3.2 The cables manufactured to any other International Standards or equivalent standards not less stringent than Indian Standards are also acceptable. In such cases the Bidders shall enclose a copy of the equivalent international standard, in English language, along with the bid.

4.0 CONSTRUCTION:

Conductor: - The cable conductor shall be made from stranded aluminum to form compact shaped conductor having resistance within the limits specified in IS:8130/1984 and any amendment thereof. The wires shall be laid up together with a suitable right hand lay. Stranded Class 2 – ‘H2’ or ‘H4’ grade as per the IS:8130 standards.

- The continuous rated current in ground shall be -----in air.
- The Approx. conductor diameter shall be -----mm
- The Approx. DC resistance of conductor at 20 degrees centigrade shall be -----ohms.
- The Approx. AC resistance of conductor at 90 degrees centigrade shall be -----ohms.
- The Approx. Capacitance of the cable shall be ----- microfarads/KM.

Note: The data for the above items shall be as per size of cable.

4.1 CONDUCTOR SHIELD: The conductor having a non-magnetic semi-conducting screen shall ensure perfectly smooth profile and avoid stress concentration. This conductor screen shall be extruded in the same operation as the insulation, the semi-conducting **polymer shall be effectively cross linked to achieve 90°C cable rating** and shall be as per the IS:7098 Part 2.

4.2 INSULATION: - The insulation shall be water tree retardant (TR) cross linked polyethylene insulation applied by extrusion and shall conform to the following requirements:

<u>Sl.No.</u>	<u>Properties</u>	<u>Requirements</u>
1.	Tensile Strength	12.5N/mm ² , Min.
2.	Elongation to break	200 percent, Min
3.	Aging in air oven: a) Treatment: Temperature: Duration: b) Tensile Strength variation: c) Elongation variation:	135±3°C 7 days ±25 percent, Max ±25 percent, Max
4.	Hot set: a) Treatment: Temperature: Time under load Mechanical stress b) Elongation under load c) Permanent elongation (set) after cooling	200±3°C 15 min 20N/cm ² 175 percent, Max 15 percent, Max
5.	Shrinkage: a) Treatment: Temperature Duration b) Shrinkage	130±3°C 1 hour 4 percent, Max
6.	Water absorption (Gravimetric): a) Treatment: Temperature: Duration b) Water absorbed	85±2°C 14 days 1 mg/cm ² , Max
7.	Volume Resistivity a) at 27°C b) at 90°C	1×10 ¹⁴ ohm-cm, Min 1×10 ¹² ohm-cm, Min
8.	Thermal Resistivity	350 degrees C cm/W
9.	Power factor at maximum conductor temperature	0.008
10.	Dielectric strength	22 kV/mm

- a) The XLPE insulation should be suitable for specified 11 KV system voltage.
- b) The curing process of XLPE insulation should be **dry cured and dry cooled nitrogen gas**.
- c) The manufacturing process shall ensure that insulations shall be free from voids.
- d) The insulation shall withstand mechanical and thermal stresses under steady state and transient operating conditions.
- e) The extrusion method should give very smooth interface between semi-conducting screen and insulation.
- f) The insulation of the cable shall be high standard quality, specified in IS:7098 (Part-II/1985). Withstand continuous conductor temperature of 90 deg C, which means higher continuous rated current carrying

- g) The cables can operate even at conductor temperature of 130 deg C during a short time emergency and can withstand conductor temperature up to 250 deg C during a Short Circuit condition
- h) The extruded water tree retardant (TR) XLPE Insulation shall be of very high degree of purity. The manufacturer shall provide the certification that the TR-XLPE compound used in production of cable along with purchase invoice copy and materials Test Certificates (TCs).**
- i) The average thickness of the insulation shall not be less than 3.6 mm. The insulation shall be so applied that it fits closely on the conductor (or conductor screening or barrier if any) and it shall be possible to remove it without damaging the conductor.
- j) The eccentricity of the insulation thickness shall be less than 10% and ovality shall be less than 5%.

4.3 INSULATION SCREEN/SHIELD :

To confine electrical field to the insulation, non-magnetic semi-conducting shield shall be put over the insulation. The insulation shield shall be extruded in the same operation as the conductor shield and the insulation by triple extrusion through single head process and shall be as IS:7098 Part 2.

The contact surface between insulation and insulation screen shall be smooth and free from protrusion and irregularities. The interface between the insulation and insulation screen shall be free from any voids and contamination.

The metallic screen shall be consisting of a layer of copper tape applied in helical form and minimum overlapping of 30 %.

4.4 CORE IDENTIFICATION :

Individual core of multi-core cable shall be colour coded for proper identification in accordance with IS:7098-II. Colour Coded plastic strip may be provided under copper tape for core identification.

4.5 LAYING OF CORES:

In three core cables, the cores shall be laid together with suitable right hand lay. The interfaces shall be filled with non-hygroscopic materials. Further the compound used with filler shall be such as to have no deleterious effect on the compound of the cable and to be stable at cable temperatures.

4.6 INNER SHEATH :

The laid-up cores shall be provided with inner sheath applied by extrusion process. It shall be ensured that the shape is as circular as possible. It shall be applied to fit closely on the laid-up cores and shall be possible to remove easily without causing any damage to the underlying insulated cores and screens. The sheath shall be suitable to withstand the site conditions and the desired temperature. It should be of adequate thickness, consistent quality and free from all defects. The PVC sheath shall be extruded as per IS:7098 Part-II/1985.

4.7 ARMOUR :

Armoring shall be applied over the inner sheath with single galvanized **steel wire** complying with the requirements of IS:3975/1979. The dimensions of the galvanized **wire** shall be as specified in table 4 of the IS:7098/Part-II/1985. The armour **wire** shall be applied as closely as practicable. The direction of the lay of the armour shall be left hand. The joints in armour **wire** shall be made by brazing or welding and the surface irregularities shall be removed. A joint in any **wire** shall be at least 300mm from the nearest joint in any other armour **wire** in the complete cable and shall be as per IS:7098 Part 2, IS: 3975.

4.8 OUTER SHEATH :

Extruded PVC ST2, outer sheath as per IS:5831/1984, IS:7098 Part 2. shall be applied over armoring with suitable additives to prevent attack by rodents and termites. Outer sheathing shall be designed to offer high degree of mechanical protection and shall also be heat, oils, chemicals, abrasion and weather resistant. Common acids, alkalis, saline solutions etc., shall not have adverse effects on the PVC sheathing material used.

4.9 The screening shall consist of nonmetallic semi-conducting compound, shielded cores laid up with solid Non-hygroscopic fillers, inner sheath of extruded PVC, Galvanized **round wire** armour and PVC overall sheath.

4.8 The cables should be suitable for use in solidly earthed system.

4.9 The 11 kV underground cables shall be manufactured to the highest quality, best workmanship with scientific material management and quality control. The bidder shall furnish the quality plan, giving in detail the quality control procedure / management system.

4.10 The cable shall be suitable for laying in covered trenches and/or buried underground to meet the outdoor application purposes.

4.11 The successful Bidder shall give sufficient advance notice to the purchaser of not less than one month to arrange for inspection and quality assurance program during manufacture, at the works.

5. SYSTEM DETAILS:

General Technical particulars

Nominal system voltage (rms) (U)	11KV
Voltage variation	+/- 10%
Highest system voltage (rms) (U _m)	12.1 KV
Phase to Earth voltage (rms) (U _o)	6.35 KV
Number of Phase	3
Frequency	50Hz
Variation in Frequency	+/- 3 Hz
Type of Earthing	Solidly Earthed
Basic impulse insulation level (1.2/50 μ S wave)	75 kV
Total relay & circuit breaker Operating time	15 – 20 cycles

6. CLIMATIC CONDITIONS:

(a)	Maximum ambient air temperature (in shade)	45 ⁰ C
(b)	Maximum ambient air temperature (under sun)	50 ⁰ C
(c)	Maximum daily average ambient air temperature	35 ⁰ C

(d)	Maximum yearly average ambient air temperature	30 ⁰ 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

7. **DESIGN CRITERIA:**

- a) The cables that are covered in these specifications are intended for use outdoor, under the climatic conditions and installation conditions described in the technical specification.
- b) Any technical feature, not specifically mentioned here, but is necessary, for the good performance of the product, shall be incorporated in the design. Such features shall be clearly brought out under Technical deviations schedule only, in the offer made by the bidder, giving technical reasons, and justifying the need to incorporate these features.
- c) For continuous operation of the cables, at specified rating, the maximum conductor temperature shall be limited to the permissible value as per the relevant standard, generally not exceeding 90°C under normal operation and 250°C under short circuit conditions.
- d) The cables in service will be subject to daily load cycles, of two peaks during a day; morning peak and evening peak, with around 25% to 50% loading during the nights.
- e) The materials used for outer sheaths shall be resistant to oils, acids and alkalis.
- f) The cables shall have the mechanical strength required, during handling and laying.
- g) The cables shall be designed to withstand the thermo-mechanical forces and electrical stresses during normal operation and transient conditions.
- h) The cables shall be designed to have a minimum useful life span of thirty-five years.
- i) The detailed design drawings shall be submitted along with the bid documents.

8. **MANUFACTURE PROCESS:**

- 8.1 Cross-linking of the insulation materials (pre compounded polyethylene) shall be conforming to IS: 7098 (Part – II) and the proof of purchase of the above insulating material shall be submitted and is to be offered for stage inspection.
- 8.2 The conductor screen shall be of extruded semi conducting compound. The insulation screen shall consist of the nonmetallic part, extruded semi conducting compound with non-magnetic metallic part. The XLPE insulation and the shields for conductor and insulation shall be extruded in one operation.
- 8.3 The cable must have Dry Cure-Dry (Nitrogen) Cooled Insulated Cores.
- 8.4 The cable must have Insulated Cores produced from triple Extrusion through Common Triple Cross Head (single point triple extrusion).
- 8.5 The bidder shall specify the length of curing and cooling chamber.

- 8.6 The partial discharge shall be less than 2 PC and the bidder shall submit the type test certificate with the value of less than 2 PC.

9. MATERIALS:

- 9.1 **Conductor:** -The conductor shall be of stranded construction. The material for conductor shall consist of the plain aluminum of H2 grade as per clause – 3 of IS 8130/ 1984.
- 9.2 The minimum number of wires shall be -----nos for circular compacted ----- sq. mm aluminum conductor as per table – 2 of IS 8130/ 1984. (As per size of the cable)

10. SCREENING:

- 10.1 The conductor screening shall be provided over the conductor by applying by extrusion of semi-conducting compound. The semi conducting compound shall withstand the operating temperature of the cable and shall be compatible with the insulating material.
- 10.2 The insulation screen shall be applied over the insulation. The insulation screening shall consist of two parts; namely metallic and non-metallic. The non-metallic part shall be applied directly over the insulation of each core and shall consist of extruded semi conducting compound. The metallic part of the insulation screen shall consist of either tape, or braid, or concentric serving of wires or a sheath, shall be non-magnetic and shall be applied over the non-metallic part.

11 CORE IDENTIFICATION:

- 11.1 The core identification for 3 core cables shall be provided, by suitable means, like, by application of colored (red, yellow and blue) stripes, or by numerals or by printing on the cores as per clause 13 of IS: 7098 - Part 2
- 11.2 For identification of different coloring of XLPE Insulation, or by using colored strips, red, yellow and blue colors respectively shall be used to identify the phase conductors.

12 LAYING UP OF CORES:

- 12.1 The cores shall be laid together with a suitable right hand lay. The interstices at the center shall be filled with a non- hygroscopic material.

13 INNER SHEATH (COMMON COVERING):

- 13.1 The laid up cores shall be provided with inner sheath applied either by extrusion or by wrapping. It shall be ensured that the shape is as circular as possible. The inner sheath shall be so applied that it fits closely on the laid up cores and it shall be possible to remove it without damage to the insulation.

- 13.2 The thickness of the inner sheath (common covering) shall be given as follows:

CALCULATED DIAMETER IN MM OVER LAID UP CORES [REF IS 10462 (PART 1)]		THICKNESS OF INNER SHEATH (Min) mm
Over	Up to and including	
—	25	0.3
25	35	0.4
35	45	0.5
45	55	0.6
55	—	0.7

13.3 When one or more layers of binder tapes are applied over the laid up cores, the thickness of such tapes shall not be construed as a part of inner sheath.

14.0 ARMOURING:

14.1 Armouring shall be single **galvanized steel round wires** applied over the inner sheath as closely as practicable. The direction of the lay of the armour shall be left hand.

14.2 The armour shall consist of **galvanized round wires**. The dimensions of the **galvanized wires** as per table 4 of IS 7098 Part 2 /1985.

14.3 The joints in the armour **wire** shall be made by brazing or welding and the surface irregularities shall be removed. A joint in the **wire** shall be at least 300mm from the nearest joint in any other **wire** in the complete cable.

14.4 Bidders shall furnish the calculation / data sheet for the short circuit carrying capability of the Armour.

15. OUTER SHEATH:

15.1 The outer sheath shall be applied by extrusion. It shall be applied over the armouring shall consist of poly-vinyl chloride (PVC) compound, conforming to the requirements of type ST-2 of IS 5831. Suitable additives shall be added to give anti termite protection.

15.2 The minimum thickness of the PVC outer sheath shall not fall below the following value by more than 0.2 mm + 0.2 ts

Calculated diameter under the outer sheath [IS 10462 Part 1] – mm		Nominal thickness of the outer sheath (ts) - mm
Over	Upto and including	
—	15	1.8
15	25	2.0
25	35	2.2
<u>35</u>	<u>40</u>	<u>2.4</u>
40	45	<u>2.6</u>
45	50	2.8
50	55	3.0
55	60	3.2
60	65	3.4
65	70	3.6
70	75	3.8
75	—	4.0

16.0 IDENTIFICATION:

16.1 The outer sheath shall have the following information embossed or indented on it; the manufacturer's name or trade mark, the voltage grade, the year of manufacture, size of the cable and the letters “**TGSPDCL**”. The identification shall repeat every 1000mm along the length of the cable. Outer sheath of cable shall be black in permanent colour.

17.0 INSPECTION AND QUALITY CONTROL:

17.1 The Bidder shall furnish a complete and detailed quality plan for the manufacturing process of the cable. All raw materials shall conform to relevant applicable standards and tested for compliance to quality and requirement. During the manufacturing process, at all stages, inspections shall be made

to check the physical and dimensional parameters, for verification to compliance to the standards. The bidder shall arrange, for inspection by the purchaser, during manufacture with one month advance notice for verifying the various stage inspections as specified in the quality assurance plan enclosed to verify the quality control process of the Bidder.

18 **TYPE TESTS:**

Type test certificates from accredited NABL Testing Laboratories for 11 kV TR XLPE UG cable, shall be submitted along with bid. The Type Tests should have been conducted not later than 5 years as on the date of bid opening.

18.1 Stage wise Inspection

The bidder shall offer the stage wise inspection as detailed in the in the quality assurance plan

18.2 Notwithstanding, that type test have been conducted earlier, the supplier shall conduct all type tests as per IS: 7098 part-II, 1985, with up to date amendments or equivalent international standard, and supplies made only after approval of test reports from the purchaser. The purchaser reserves the right to wave the repetition of the type test.

18.2 All acceptance tests shall be conducted in the presence of the purchaser/ purchaser's representative.

18.3 The supplier shall give 15 days' advance notice for inspections, and witnessing of tests by the purchaser or his representative.

18.4 The type tests shall be as follows.

Sl. No.	Test	Requirement	Test method Ref Part no of IS: 10810
a)	Tests on conductor		
	i) Tensile test	IS:8130	1
	ii) Wrapping test	IS:8130	2
	iii) Resistance test	IS:8130	3
b)	Tests for armoured wires and strips	Clause 15.2 & IS:3975	5
c)	Test for thickness of insulation and sheath	Clause 4.3, 14.2 & 16.2	6
d)	Physical tests for insulation:	Clause 4.2	
	i) Tensile strength and elongation at break		7
	ii) Aging in air oven		11
	iii) Hot test		30
	iv) Shrinkage test		12
	v) Water absorption (gravimetric)		33
e)	Physical tests for outer sheath	IS: 5831	
	i) Tensile strength and elongation at break		7
	ii) Aging in air oven		11
	iii) Shrinkage test		12
	iv) Hot deformation		15
f)	Bleeding and blooming test (outer sheath)	IS: 5831	19
g)	Partial discharge test		Less than 2 PC
h)	Bending test		50
j)	Dielectric power factor test		48
	i) As a function of voltage		
	ii) As a function of temperature		

k)	Insulation resistance (volume resistivity) test	Clause 4.2	43
m)	Heating cycle test	Clause 22.5	49
n)	Impulse withstand test	Clause 22.6	47
p)	High voltage test	Clause 22.7	45
q)	Flammability test	Clause 22.8	53

18.5 The following test shall be performed successively on the same test sample of completed cable, not less than 10 M in length between the test accessories:

- I. Partial discharge test.
- II. Bending test followed by partial discharge test.
- III. Dielectric power factor as a function of voltage.
- IV. Dielectric power factor as a function of temperature.
- V. Heating cycle test followed by dielectric power factor as a function of voltage and partial discharge tests.
- VI. Impulse withstand test
- VII. High voltage test.

19. ACCEPTANCE TEST:

19.1 The sampling plan for acceptance test shall be as per IS 7098 part -II, Appendix 'A'.

19.2 The following shall constitute the acceptance test.

- a) Tensile test for aluminum (if applicable).**
- b) Wrapping test for aluminum. (if applicable).**
- c) Conductor resistance test.
- d) Test for thickness of insulation.
- e) Test for thickness of inner and outer sheath.
- f) Hot-set test for insulation.
- g) Tensile strength and elongation at break test for insulation and outer sheath.
- h) Partial discharge test (on full drum length) (shall be less than 2PC)
- i) High voltage test.
- j) Insulation resistance (volume resistivity) test

19.3 Additional Acceptance Test

- a) Test for Armour.**
 - 1) Armour Coverage**
 - 2) Uniformity of Zinc Coating.**
 - 3) Mass of Zinc for armour wire.**
 - 4) Tensile and elongation at break for armour wire.**
 - 5) Winding test on strip.**
 - 6) Resistivity of armour wire.**

20 ROUTINE TEST:

The following shall constitute routine tests:

- a) Conductor resistance test.
- b) Partial discharge test on full drum length.
- c) High voltage test.

21.DETAILS OF TESTS:

21.1 Unless otherwise mentioned in this specification, the tests shall be carried out in accordance with appropriate part of IS: 10810.

21.2 The partial discharge magnitude at test voltage equal to $1.5U_0$ shall not exceed 2 PC.

21.3 Bending test: The diameter of the test cylinder shall be $200 \pm 5\%$ D; where D is the overall diameter of the completed cable. After completing the bending operations, the test sample shall be subjected to partial discharge measurement and shall comply with the requirements given in relevant IS standards.

21.4 Dielectric power factor test:

21.4.1 Tan δ as a function of voltage: The measured value of Tan δ at U_0 shall not exceed 0.004 and the increment of Tan δ between $0.5 U_0$ and $2 U_0$ shall not be more than 0.002.

21.4.2 Tan δ as a function of Temperature: The measured value of Tan δ at U_0 shall not exceed 0.004 at the ambient temperature and 0.008 at 90°C .

21.5 Heating cycle test: The sample, which has been subjected to previous tests, shall be laid out on the floor of the test room and subjected to heating cycles. After the third cycle, the sample shall be subjected to dielectric power factor as a function of voltage, and partial discharge test.

21.6 Impulse voltage withstand test: The impulse voltage level shall be 75 kV. No breakdown of insulation shall occur during the test.

21.7 High Voltage Test:

21.7.1 Type test and Acceptance tests: The cable shall withstand without breakdown an ac voltage equal to $3 U_0$ when applied to the sample between conductor and screen/armour. The voltage shall be gradually increased to the specified value and maintained for a period of 4 hours.

21.7.2 Routine test: The cable shall withstand without any failure, 17 kV rms between conductors and screen/armour, when applied for a period of five minutes for each test connection.

21.8 Flammability test: Period of burning after removal of the flame shall not exceed 60 seconds and the unaffected (uncharred) portion from the lower edge of the top clamp shall be at least 50-mm.

TGSPDCL reserves the right to select a random sample of 11 kV UG cable from the Manufacturer's end which are ready to dispatch, at destination stores and also ongoing cable laying works and the same samples will be sent to any testing laboratory as desired by TGSPDCL at Bidders cost. If the testing results are found to be not satisfactory TGSPDCL reserves the right to reject the entire batch of cable received and insists for replacement of material at free of cost. The decision of TGSPDCL in this regard is final.

22. PACKING:

22.1 The cables, as per specified delivery lengths, shall be securely wound /packed in non-returnable wooden drums, capable of withstanding rough handling during transport by Rail, Road, etc. The packing should withstand storage conditions in open yards. The cable drums shall conform to IS 10418-1982 or equivalent standard. The dimensional drawings of wooden drums shall be furnished with the bid. The drum shall be provided with circumferential lagging of strong wooden planks. The end of the cable shall be sealed with good quality heat shrink sealing caps. The sufficiently required additional sealing caps shall be supplied for use of testing during laying and jointing at site and to seal spare lengths of cable. The packing should be able to withstand the rigorous of transport. The following information in bold letters in English shall be painted on the flanges.

- i) Name & Address of the manufacturer, Trade name/Trade mark/Brand
- ii) Size of cable (Cross section) rated voltage, standard, insulation, cable code, drum No., and year of manufacture.
- iii) Length of cables (Meters)
- iv) Direction of rolling
- v) Net weight (in Kg)
- vi) Gross weight (in Kg)
- vii) Owners purchase order reference.

23. SEALING OF CABLE ENDS ON DRUMS:

23.1 The cable ends shall be sealed properly so that ingress of moisture is completely prevented. The individual core endings shall be sealed effectively with water resistant compound applied over the core and provided with a heat shrinkable or push-on or tapex or cold shrinkable type cap of sufficient length with adequate cushion space so that the conductor does not puncture the cap in case of movement of the core during unwinding or laying. Before sealing, the semi conducting layer on the cores may be removed for about 2 mm at each end, to facilitate checking the insulation resistance from one end, without removing the sealing cap at the other end.

23.2 The three cores should have an overall heat shrinkable or push-on or Tapex or cold shrinkable type cap with adequate end clearance, and sufficient cushioning to prevent puncturing of the overall sealing cap due to stretching of the cores. The sealing cap shall have sufficient mechanical strength and shall prevent ingress of moisture into the cable. The ends of single core cables shall also be sealed on the same lines to prevent entry of moisture.

24. CABLE LENGTHS:

24.1 The cables shall be supplied in continuous lengths of 250 m/500 m with 5% tolerance and cable shall on the wooden drums only. Manufacturers may also supply with steel drums if they desire. For sizes of 35, 95, 120sq.mm, it shall be 500 m and other higher sizes shall be of minimum 250 m length.

25.0 QUANTITY TOLERANCE:

A $\pm$ 2% tolerance shall be allowed on the ordered quantity.

26. MARKING:

26.1 The packed cable drum shall carry the following information, clearly painted or stenciled.

- a) The letters TGSPDCL
- b) Reference to Standard and ISI mark.
- c) Manufacturer's Name or trade mark.
- d) Type of cable & voltage grade.
- e) Number of cores.
- f) Nominal cross- sectional area of conductor.
- g) Cable code.
- h) Length of cable on the drum.
- i) Direction of rotation.
- j) Gross weight.
- k) Country of Manufacture.
- l) Year of Manufacture.
- m) Purchase order and date.
- n) Address of consignee.

27. GUARANTEED TECHNICAL PARTICULARS:

The bidder, shall furnish the guaranteed technical particulars of the cable offered in the GTP format provided

28.0 DRAWING & LITERATURE:

28.1 The following shall be furnished along with the tender

- a) Cross sectional drawings of the cables, giving dimensional details.
- b) An illustrated literature on the cable, giving technical information, on current ratings, cable constants, short circuit ratings, de rating factors for different types of installation, packing date, weights and other relevant information.

28.2 GUARANTEE: The cable manufactured shall be guaranteed for the period of **30 months** from the date of receipt at stores.

28.3 The tenderer shall furnish a copy of valid BIS license for ISI marking together with their offer, without which the offer shall be treated as non-responsive.

A1 : GUARANTEED TECHNICAL PARTICULARS FOR 11 KV UG Cable			
		Bidder's Name	
		Class of Power Cable	
1	Name of the Manufacturer and country of origin		
2	Country of Manufacture		
3	Type of cable / cable code		
4	Applicable standard		
5	Voltage		
	a. Rated Nominal voltage		
	b) Rated Maximum voltage		
6	Suitability for :		
	a. Earthed system		
	b. Unearthed system		
7	Conductor		
	a) Nominal cross section (sq.mm)		
	b) Material		
	c) Shape		
	d) Diameter of conductor (mm)		
	e) Number of wires per conductor (Nos.)		
f) Nominal diameter of wire in conductor (mm)			
8	Conductor screen		
	a) Material and type		
	b) Thickness (mm)		
	c) Maximum volume resistivity at 90 deg C before and after ageing (ohm-cm)		
9	Maximum value of Electric stress at		
	a) Conductor screen KV/mm		
	b) At the insulation KV/mm		
10	Insulation XLPE: Dry cured Dry cooled Nitrogen gas cooled		
	a) Curing process (furnish details separately)		
	b) Material/Composition		
	c) Dia over insulation		
	d) Radial thickness		
	i. Nominal (mm)		
	ii. Average (mm)		
	iii. Minimum (mm)		

11	Insulation screen (Non metallic)		
	a) Material		
	b) Nominal thickness (mm)		
	c) Maximum volume resistivity at 90 deg. C. (ohm-cm)		
12	sheath		
	a) Type / composition		
	b) Material		
	c) Nominal thickness		
	d) Tolerance on thickness		
	e) Diameter of cable over sheath (mm)		
13	Concentric screen / Armour of wires		
	a) Material		
	b) Dia of wire		
	Nom. (mm)		
	Min. (mm)		
14	Binder open Helix, contact copper Tape over screen / Armour wires		
	a) Material		
	b) Dimension (Wxt)		
	Nom. (mm)		
	Min. (mm)		
15	Overall sheath		
	i) Material & Type		
	ii) Thickness		
	Nom. (mm)		
	Min. (mm)		
16	Anti-thermite treatment to outer sheath		
	a) Material		
17	External overall dia of cable		
18	Short circuit rating of conductor 90 deg. C operating temperature for 1 Sec.		
19	Minimum cable bending radius (in terms of cable diameter)		
20	Permissible maximum tension		

21	Continuous current rating under specified insulation conditions at conductor temperature of 65 deg. C and 90 deg. C.		
	Ground Temperature 30 deg. C		
	Thermal resistivity of soil 150 deg. C CM/W		
	Depth of laying 200 mm		
	Ambient Air temperature 40 deg. C		
	No. of circuits 1 OR 2		
	Spacing between two circuits (600 mm)		
	Formation		
22	Maximum permissible conductor temperature for continuous operation under specified installation conditions (deg. C)		
23	Conductor temperature at rated current (deg. C)		
24	Basic impulse level at conductor temperature of 90 deg. C (KV)		
25	Impulse wave shape		
26	Power frequency with stand voltage (KV)		
27	Tan Delta at 50 Hz (at U.KV and 90 (-5/+10) deg. C		
28	Withstand voltage of sheath on spark test		
29	Permissible short circuit current ratings of conductor		
	i) 0.1 Sec KA		
	ii) 0.2 Sec KA		
	iii) 0.5 Sec KA		
	iv) 1.0 Sec KA		
30	Conductor resistance DC & AC		
	a) at 20 deg. C (d.c)/A.C. ohm/KM		
	b) at 90 deg. C (d.c)/A.C. ohm/KM		
	c) at 105 deg. C (d.c)/A.C. ohm/KM over load temp) a.c. (ohm)		
31	Equivalent star resistance at 50 Hz of 3 phase current		
	a) at 20 deg. C (d.c)/A.C. ohm/KM		
	b) at 90 deg. C (d.c)/A.C. ohm/KM		
	c) at 10% continuous overload temperature (ohm/KM)		

32	Star reactance at 50 hz (ohm/KM)		
33	Approximate impedance at 50 hz per KM		
	a) at 20 deg. C ohm/KM		
	b) at 90 deg. C ohm/KM		
	c) at 10% continuous overload temperature (ohm/KM)		
34	Self electrostatic capacitance per phase (Micro farad/KM)		
35	Maximum power factor at charging KVA of cables when laid direct in ground at normal voltage & frequency		
	a) at ambient Temperature		
	b) at Maximum conductor Temperature		
36	a) Positive and negative sequence impedance (ohm/KM)		
	b) Zero sequence impedance (ohm/KM)		
37	Zero sequence data		
	a) Series resistance (ohm/KM)		
	b) Series reactance (ohm/KM)		
	c) Shunt capacitive reactance (ohm/KM)		
38	a) Screen resistance at 20 deg. C ohm/KM		
	b) Combined resistance at 20 deg. C ohm/KM		
39	Surge impedance of cable (ohm/KM)		
40	IR value at ambient temperature per KM		
41	Maximum magnitude of partial discharge at 1.5 U.o		
	At Ambient Temperature (Po)		
	At High Temperature (Po)		
42	Charging current at rated voltage per Km (Amps)		
43	Short circuit capacity of conductor for one second at 90 deg. C prior to short circuit and 250 deg. C during short circuit (KA)		
44	Combined short circuit capacity of Metallic sheath and screen for 1 Sec. at metallic sheath/screen temperature of 75 deg. C (conductor temperature 90 deg. C before S.C and 250 deg. C during S.C (Metallic sheath shall be provided with copper tape screening).		
55	Shipping weight and size of cable drum		
	a) Size of Drum		
	i. Dia of Drum (M)		
	ii. Width of Drum (M)		
	iii. Gross Weight (Kgs)		
	iv. Length of cable per Drum (M)		
	v. Weight of Cable (Kg/M)		

Current Rating Factor					
	Particulars	Single Point Bonded		Both End Bonded	
		65 deg. C Amps	90 deg. C Amps	65 deg. C Amps	90 deg. C Amps
	Current Rating conductor size 185 Sq. mm				
	a) In Ground				
	i. Of each circuits (when both the circuits alive)				
	ii. Of one circuits (when other circuit is isolated)				
	b) In Duct				
	i. Of each circuits (when both the circuits alive)				
	ii. Of one circuits (when other circuit is isolated)				
	c) In pipe, one cable per pipe.				
	i. Of each circuits (when both the circuits alive)				
	ii. Of one circuits (when other circuit is isolated)				
	d) In Air				
	i. Of each circuits (when both the circuits alive)				
	ii. Of one circuits (when other circuit is isolated)				

DERATING FACTORS								
1	VARIATION IN GROUND TEMPERATURE :							
	Ground Temperature (deg. C) :	15	20	25	30	35	40	45
	Rating Factor							
2	VARIATION IN DEPTH OF LAYING :							
	Depth of Laying (Meters):	0.7	0.9	1.0	1.2	1.3	1.5	
	Rating Factor							
3	VARIATION IN THERMAL RESISTIVITY OF SOIL							
	Thermal Resistivity of Soil : (deg. C cm/watt)	100	120	150.0	200	250		
	Rating Factor							
4	VARIATION IN AIR TEMPERATURE :							
	Air Temperature (deg. C) :	25	30	35	40	45	50	55
	Rating Factor							
5	VARIATION DISTANCE (MM) :							
	Axial Distance (mm) Between circuits :	100	200	300.0	400	600	800	
	Rating Factor							

SECTION – VI

QUALIFICATION REQUIREMENTS

1. The bidder should be a manufacturer who must have designed, manufactured, tested and supplied to Power utilities at least 40% of the quoted quantity of the goods/equipment of same or higher voltage class indicated in the “Schedule of Requirement” in one continuous period of 12 months during the last 5 years period and 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.
 At least 20% of similar material offered against this Specification should be in successful operation since 2 years as on the date of opening of the Bid with documentary evidence. **Fresh bidders can be given order upto 15% of total quantity as a trial order if equipment justified. However, for placing the trial order, the destination price shall be lower by at least 5% of L1 price.**
Any company/vendor/supplier/contractor that is blacklisted / debarred by any other power utility is not eligible to participate in the tenders.
The bidders shall have to furnish an undertaking in the prescribed format (at page No. 64) regarding any relation to the promoters of blacklisted / debarred companies by any utility. Any false information furnished in the declaration while rendering bid, such contract is liable for termination as well as recovery of damages.
2. 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 five years, bankers certificates etc.
3.
 - a. **The bidder will furnish Type Test Reports conducted on Round wire armoured 11KV, 3Cx185 Sq.mm UG Tree Retardant (TR) XLPE Cable as per relevant IS in recognized laboratory (NABL) as per the latest amendments of the Technical Specification. The date of Type tests will not be later than 5 years. The Bids received without type test reports of Round wire armoured 11KV, 3Cx185 Sq.mm UG Tree Retardant (TR) XLPE Cable will be treated as Non-Responsive. In house (NABL) type test reports are not considered for tender evaluation.**
 - b. The tenderer shall furnish a copy of valid BIS license for ISI marking together with their offer.
4. 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.
5. Notwithstanding anything stated above the purchaser reserves the right to assess bidder’s capability and capacity to perform 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 such other sums as may be ascertained in accordance with the schedule of prices attached herewith and made part of this Bid.

We undertake, if our Bid is accepted, to deliver the Materials / equipment in accordance with the 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 ____ 20 .

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 135 days after(tender opening Date), 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) 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 ____ 20 ____ .

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
 - b) 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(Specification Date) 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.

3. CONTRACT FORM

THIS AGREEMENT made the. day of. 20 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.

5. PROFORMA FOR PERFORMANCE STATEMENT

Bid No. _____

Date of Opening _____

Time _____ Hours

Name of the Firm _____

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

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

Signature of the Bidder _____

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

1. Specification No.	:	
2. Name of the Material	:	
3. Bidder's vendor Registration No. for this item	:	
4. Quantity to be procured	:	
5. Last date and time for submission of Bid	:	
6. Date and time for opening of Bid	:	
7. State whether Bid guarantee is enclosed or Permanent Bid Guarantee available	:	
8. State whether the quotation in three parts has been submitted	:	
9. State whether 20% minimum quantity is quoted	:	
10. Whether willing to furnish performance B.G. @ 10% if order is placed	:	
11. Details of remittance of Specification cost	:	NIL
12. Whether month wise delivery schedule indicated	:	
13. Prices whether variable / Firm	:	
14. Whether any other tax / duty payable. If so give details and the same is included / not included.	:	
15. State whether TGSPDCL terms of payment are accepted.	:	
16. Quantity offered for supply	:	
17. State whether 90 days validity offered	:	
18. Whether sample is enclosed (if specified)	:	
19. Whether the material / equipment offered conforms to the relevant TGSPDCL	:	
20. Whether you have executed orders of the TGSPDCL previously for these items. (Please give details)	:	
21. Similar details in respect of supplies made to other utilities	:	
22. Whether Bid guarantee exemption letter enclosed, if exempted.	:	
23. Whether GSTR 3B Returns enclosed	:	
24. Whether Income-tax clearance certificate enclosed.	:	
25. Whether penalty clause accepted	:	
26. Whether guarantee clause accepted	:	
27. Whether Financial Turnover statement have been enclosed or not	:	

7. SCHEDULE OF DEVIATION

(i) TECHNICAL

Sl. No.	Requirements / Equipment	Specification Clause No.	Deviations	Remarks

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 :

7. SCHEDULE OF DEVIATION

(ii) COMMERCIAL

Sl. No.	Requirements / Equipment	Specification Clause No.	Deviations	Remarks

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:

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