

## NOTICE INVITING E-TENDER

Deputy General Manager, ED- Bishalgarh, Sepahijala on behalf of TSECL invites online item rate bids on two bid system from the resourceful experienced firms for the following work.

SI No	Name of work & Location	Estimated cost put to bid	Earnest Money / Tender Fee	Period of completion
1	<p>Extension of HT/LT line (HT line through 70sqmm XLPE cable) including construction of 1x63KVA Sub-Station for providing 3-phase Service Connection to DTW scheme at Naraura of Bishalgarh Municipality Corporation (Urban area) under ESD- I, Bishalgarh (Partial Turkey basis)</p> <p><b>NIT NO-DGM/ED-BSL/2025-26/ 03</b> <b>Dated- 09/07/2025</b></p>	<b>Rs 13,02,441.00</b>	<b><u>Rs. 26049.00</u></b> <b>Rs. 5000.00</b>	<b>90 days</b>
Bid shall be rejected if the offer is submitted without Earnest Money or with inadequate Earnest money i.e. less than the prescribed fee mentioned in the NIT				

1. This NIT for the above work will appear in National / Local Newspapers. This shall also be available on Tripura State Electricity Corporation Limited website at [www.tsecl.in](http://www.tsecl.in) . The complete Bidding Documents shall be available at Government e-procurement portal <http://tripuratenders.gov.in> Interested bidders can download the Bidding Documents and commence preparation of bids.

2. To be qualified to bid for the package, the bidder shall have to meet the following minimum criteria. The bidder must have successfully done supply, erection, testing & commissioning over head or underground distribution system .

(a)Construction &supply, commissioning of at least. 0.3KM UG ,11KV line, , 1 no's 11/0.43 KV distribution substation on turnkey basis in a single award of work which must be in satisfactory operation for at least 1(one) year from last date of submission of present bid as per NIT.

**Or**

(b) The bidder must have done construction of, 0.3 KM UG 11KV line, 1 no's 11/0.43 KV distribution substation which must be in satisfactory operation for at least 1(one) year from last date of submission of present bid as per NIT. Performance certificate of such works, signed by not less than rank of DGM (Electrical)/ Engineer in Charge to be submitted along with technical bid. Experience as Sub contractor will not be considered in this case.

Eligible bidders shall participate in tender online through the government e-procurement portal at <http://tripuratenders.gov.in>. There is no provision to drop tenders physically (Hard copy). Tender shall be uploaded/submitted in a two-bid system:

(a) Bid Envelop-I (Technical bid)

(b) Bid Envelop-II (Financial bid)

3. Bidders willing to take part in the process of e-tendering are required to obtain a valid Class 2/Class 3 Digital Signature certificate (DSC), from any of the of the certifying authorities, enlisted by Controller of Certifying Authorities (CCA) at <http://cca.gov.in>. After obtaining the Class 2/3 Digital Signature Certificate (DSC) from the approved CA, Bidders shall Enroll themselves in the Tripura Government e-procurement web site at '<http://tripuratenders.gov.in>' and obtain User ID and Password for the purpose of bidding.
4. Critical Date-

1.	Completion period :	90 days.
2.	Date of Publishing of tender :	10.07.2025 at 10.30AM
3.	Document Download/Sale Start Date	10.07.2025 at 02.30PM
4.	Document Download/Sale End date	23.07.2025 at 01.30PM
5.	Period of Seeking clarifications :	14.07.2025 to 15.07.2025
6.	Time and date of Pre-Bid Meeting:	16.07.2025 at 11.30 AM
7.	Place of Pre-Bid Meeting:	O/O Deputy General Manager ,ED-Bishalgarh, Sepahijala
8.	Deadline for online Bidding:	23.07.2025 at 02.30PM
9.	Time and Date of Opening Technical Bid/Bids:	23.07.2025 at 03.00 PM if possible.
10.	Time and Date of Opening Price/Financial Bid:	To be notified after Technical Evaluation
11.	Place of Opening Bids:	O/O Deputy General Manager ,ED-Bishalgarh, Sepahijala
12.	Bid Validity:	180 days from the date of Opening Of Technical Bid.
13.	Officer inviting Bids (TSECL):	O/O Deputy General Manager ,ED-Bishalgarh, Sepahijala

5. Bidding will be conducted through the domestic competitive bidding procedures as per the provisions of ITB/BDS and the contract shall be executed as per the provisions of the Contract.
6. The detailed Qualifying Requirements (QR) is given in the Standard Bidding Documents (SBDs).
7. The acceptance of Price bid / financial bid shall be subjected to acceptance of Tender fee.
8. **Earnest Money Deposit amounting to 2% (Two Percent) of the estimated cost put to tender.**

9. Tender Fee and EMD are to be paid electronically using the Online Payment Facility provided in the Portal. For online payment of Tender Fee and EMD, please follow the following process-
- After initiating the Bid Submission Process from "My Tender" option, an "Online Payment" page will appear which will display the total Tender Fee & EMD amount.
  - On submission of TF & EMD payment option, System will redirect to the SBI Bank MOPS window.
  - SBI MOPS will have two option for Net Banking- "SBI" & "Other Banks". Bidder can choose any of the options as desired and can complete the Online Payment process.
10. The EMD amount shall be refunded to all the bidders including L1 (Selected) bidder in their respective Bank Account, after the Award of Contract (AoC) event is completed in the Tripura e-Procurement Portal, on receipt of Performance Bank Guarantee from the selected bidder.
11. EMD of the bidder may be forfeited if in any case found to have made in false Declaration or Claims.
12. Bidders exempted under specific Government order/ rules from submitting EMD have to furnish Scan copy of the related Governments order/rules in English language, along with the tender in support of their claim exemption.
13. Tender Fee & Earnest Money Deposit in any other form or amount will not be accepted.
14. Tender submitted without any one of this EMD & Tender Fee shall render the tender for summarily rejection.
15. The Bidding Documents are meant for the exclusive purpose of bidding against this specification and shall not be transferred to any other party or reproduced or used otherwise for any purpose other than for which they are specifically issued.
16. Downloaded NIT, Bid Document (DNIT/SBD) are to be uploaded back and digitally signed as a part of technical bid, and as a proof of acceptance of all terms and conditions in NIT and Bid Document.
17. No Interest would be payable on Earnest Money deposited with the Client.
18. The date and time of opening of Financial-Bids shall be notified on Web Site <http://tripuratenders.gov.in>. This will be conveyed to the qualified bidders automatically through an e-mail message on their e-mail address. The Financial-bids shall be opened accordingly on line on the same Web Site at the Office of tendering authority.
19. The e-Bids will be electronically opened in the presence of bidder's representatives, who choose to attend at the venue, date and time mentioned in the above table or any subsequent day to the convenience of the Tender Opening Committee. An authority letter of bidder's/OEM representative will be required to be produced.
20. The Client reserves the right to cancel any or all the Bids/ the Bid process without assigning any reason thereof. The decision of client will be final and binding.
21. In the event of date specified for e-Bids opening being declared a holiday for client's office then the due date for opening of e-Bids shall be the following working day at the appointed time and place.
22. All the required documents excluding Price Schedule/BOQ should be uploaded by the e-Bidder electronically in the PDF format, whereas Price Schedule/BOQ should be uploaded electronically in the same BOQ sheet provided with the SBD.
23. The Quoted rates shall be **FIRM, inclusive of GST** and all other taxes and duties, freight, transportation, insurance, travel, stay, out of pocket expenses, cost of producing documents etc. as the work is a partial turnkey

- job. The rates shall include costs, if any, attracted towards mandatory inspection/testing by designated agencies and the department will not be required to pay and/or reimburse anything over and above the price quoted.
24. To participate in e-Bidding process, bidders have to get 'Digital Signature Certificate (DSC)' as per Information Technology Act-2000, to participate in online bidding.
25. **Mandatory provision regarding blacklisting/debarment of tainted tenders**
- (i) **The bidder/ tenderer shall not be eligible to participate in the bidding process, if any debarment and/or Blacklisting continue against them on the date of bidding.**
  - (ii) **Declaration shall be made by the bidder as per FORM-XIII (Section-5) available in the documents.**
26. Other details can be seen in the bid/DNIT document"
27. For any clarification related to NIT/Bid Document/e-procurement, bidder(s) are requested to contact:**Deputy General Manager, Electrical Division Bishalgarh, TSECL Sepahijala District. E-mail – [dgmbishalgarh@gmail.com](mailto:dgmbishalgarh@gmail.com).**
28. **Addendum/amendments/corrigendum:**
- Before the last date for submission of Tenders, the TSECL may modify any of the Contents of the Tender Notice, Tender documents by issuing amendment / Addendum/corrigendum.
- Any addendum/ amendments/ corrigendum issued by the TSECL shall be part of the tender Document and it shall be published in the e-procurement portal at <http://www.tripuratenders.gov.in>. Registered Bidders shall be notified of the related Corrigendum(s) by e-mail. However, TSECL shall bear no responsibility or liability arising out of non-receipt of the same in time or otherwise. Bidders are requested to visit the site frequently to check whether there is any related Corrigendum(s) or not.
29. **TSECL reserves the right to cancel/withdraw this invitation for bids without assigning any reason and shall bear no liability whatsoever consequent upon such a decision.**

Deputy General Manager  
Electrical Division Bishalgarh  
TSECL Sepahijala District

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## **SECTION 1: INSTRUCTIONS TO BIDDERS**

### **1.1 Introduction:**

This part, Instruction to Bidders (ITB), Section-1 of the Bidding Documents provides the information necessary for bidders to prepare responsive bids for :

**“Extension of HT/LT line (HT line through 70sqmm XLPE cable) including construction of 1x63KVA Sub-Station for providing 3-phase Service Connection to DTW scheme at Naraura of Bishalgarh Municipality Corporation (Urban area) under ESD- I, Bishalgarh (Partial Turkey basis).”**

It also provides information on bid submission, opening and evaluation and on contract toward. ITB Section-1 contains provisions that are to be used unchanged unless part Special Condition of Contract, Section-7, which consists of provisions that supplement, amend, or specify in detail, information or requirements included in ITB Section-1 and that are specific to each procurement, state so otherwise. If there is a conflict between the **provisions of ITB**

**Section-1 & Special Condition of Contract Section-7**, the provisions of Special Condition of Contract Section- 7 shall prevail.

However, provisions governing the performance of the Contractor, payments under the contract or matters affecting the risks, rights and obligations of the parties under the contract are not included in this section but instead under **Section-6: General Conditions of Contract and/or Section- 7: Special Condition of Contract.**

The TRIPURA STATE ELECTRICITY CORPORATION LIMITED (TSECL)/TSECL herein after called 'Owner' will receive bids in respect of equipment to be furnished and erected as set-forth in the accompanying Specifications. All bids shall be prepared and submitted by bidders in accordance with these instructions.

### **1.2 General Instructions:**

- i) The interested bidder can download the bidding document from the website <http://tripuratenders.gov.in>.
- ii) Bidders are advised to download bid submission manual for the help of Bid Submission process from the “Downloads” option as well as from “Bidders Manual Kit” on website <http://tripuratenders.gov.in>.
- iii) To participate in bidding process, bidders have to get ‘Digital Signature Certificate (DSC)’ Class 2/Class 3 as per Information Technology Act-2000, to participate in online bidding. The bidders have to submit their bids online in electronic format with digital Signature. This certificate will be required for digital signing the bid. Bidders can get above mention digital certificate from any approved vendors. The Bidders, who already possess valid Digital Certificates, need not to procure new Digital Certificate. The bids proposed without digital signature will not be accepted. No proposal will be accepted in physical form.
- iv) Bids will be opened online as per time schedule mentioned in the NIT Document.
- v) Before submission of online bids, bidders must ensure that scanned copy of all the necessary documents have been attached with bid.

(**Note:** Scan all the documents on 100 dpi with black and white option).

- vi) The Owner will not be responsible for delay in online submission due to any reasons.
- vii) All the required information for bid must be filled and submitted online .
- viii) The Quoted rates shall be **“FIRM”** inclusive of all taxes and duties, freight, transportation, insurance etc. as the work is a partial turnkey job. The rates shall include costs, if any, attracted towards mandatory inspection/testing by designated agencies and the department will not be required to pay and/or reimburse anything over and above the price quoted. The estimated cost (Table -1 of NIT) is purely tentative.
- ix) The details of cost of documents, EMD specified in the SBD should be the same as deposited online otherwise tender will summarily be rejected.
- x) Bidders are advised not to make any change in BOQ (Bill of Quantities) contents or its name. In no case they should attempt to create similar BOQ manually, otherwise the bid will be rejected automatically. The BOQ downloaded should be used for filling the rates as per columns mentioned in BOQ and it should be saved with the same name as it contains.
- xi) Bidders are advised to use “My Document” area in their user on <http://tripuratenders.gov.in>. E-Tendering portal to store important documents which are used in all SBD’s like Tax Clearance Certificate, Contractor license, Experience certificate etc. and attach these certificates as Non-Statutory documents while submitting their bids.
- xii) **Materials should be purchased from TSECL approved vendors. FOT at worksite under the jurisdiction of ED-Bishalgarh.**
- xiii) The guidelines regarding submission of bid online can be downloaded from website <http://tripuratenders.gov.in>.

### **1.3 Eligibility of Bidder**

This Invitation for Bids, issued by Owner is open to all firms, Government Owned Enterprises registered and incorporated in India as per Company Act, 1956 barring Government department as well as foreign bidders/MNCs not registered and incorporated in India and those bidders with whom business is banned by any Power Utility- central or state/DISCOMS/any other authority shall not be allowed for bidding.

The documentary evidence of the Bidder's qualifications to perform the contract, if its bid is accepted, shall establish to the Owner's satisfaction that the Bidder has the financial, technical, production, procurement, shipping, installation and other capabilities necessary to perform the contract, and, in particular, meets the experience and other criteria outlined in Section - 4 and shall also include the complete annual reports together with Audited statement of accounts of the company for last Three years of its own (separate) immediately preceding the date of submission of bid.

[Note I. In the event the Bidder is not able to furnish the above information of its own (i.e., separate), being a subsidiary company and its accounts are being consolidated with its Group/ Holding/ Parent company, the Bidder should submit the audited balance sheet, income statement, other information pertaining to it only (not of its Group/Holding/Parent company) duly certified by any one of the authority [(i) Statutory Auditor of the

Bidder/(ii) Company Secretary of the Bidder a (iii) A certified Public Accountant] certifying that such information/documents are based on the audited accounts as the case may be.

Note II. Similarly, if the Bidder happens to be a Group/Holding/ Parent company, the Bidder should submit the above documents/information of its own (i.e., exclusive of its subsidiaries) duly certified by any one of the authority mentioned in Note I above certifying that this information/documents are based on audited accounts, as the case may be.

The above stated requirements are a minimum and Owner reserves the right to request for any additional information and also reserves the right to reject the Proposal of any *Bidder, if in the opinion of Owner, the qualification data is incomplete or the Bidder is found not qualified to satisfactorily perform the Contract.*

#### **1.4 Eligible Plant: Equipment and Services**

*For the purposes of these Bidding Documents, the words "facilities," "plant and equipment," "installation services," etc., shall be construed in accordance with the respective definitions given to them in the General Conditions of Contract.*

*All plant and equipment to be supplied and installed and services carried out under the contract shall have their origin in India only.*

#### **1.5 Cost of Bidding**

*The Bidder shall bear all costs and expenses associated with preparation and submission of e-bid including post-bid discussions, technical and other presentations etc., and Owner will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.*

#### **1.6 E-Bid Document**

##### **1.6.1 Cost of Bidding Document: -**

The bidder shall bear all costs associated with the preparation and submission of its e-Bid and Tripura State Electricity Corporation Limited, Owner hereinafter referred to as “Owner”, will in no case be responsible or liable for these costs, regardless of the conduct or outcome of the e-Bid process

This SBD is available on the web site <http://tripuratenders.gov.in> to enable the bidders to view, download the e-Bid document and submit e-Bids online up to the last date and time mentioned in e-Tender notice/e-tender document against this e- Tender. The bidders shall have to pay the e-Bid document fee through electronically using the Online Payment Facility provided in the Portal. This e-tender document fee will be non- refundable.

##### **1.6.2 Contents of Standard E-Bidding Document:**

The e-Bid document includes submission of following documents in stages:

###### **Stage-1: Preliminary Qualifying Details:**

- (a) Copy of GST Registration
- (b) Copy of PAN Card
- (c) Copy of Labor License
- (d) Copy of Experience License\*\*
- (e) Copy of Contractor License
- (f) Copy of Annual Turnover for last 3years
- (g) Copy of Company Registration
- (h) Copy of J.V. Declaration (if joint venture)
- (i) Electrical Enlistment
- (j) Blacklisted or Debarred declaration

\*\* Successful completion certificate shall be issued by an Engineer not below rank of Executive Engineer/D.G.M in charge, along with supporting photocopies of work order/LOA of the work executed in last 5 financial years.

\*\*\* Photocopies of all documents shall be furnished self-authenticated and duly stamped.

**Stage-2: Techno-Commercial Details:**

- (a) Section 1: Instruction to bidders (ITB);
- (b) Section 2: Commercial Details;
- (c) Section 3: Financial e-Bid;
- (d) Section 4: Pre-qualification Criteria;
- (e) Section 5: Standard Bidding Format;
- (f) Section 6: General conditions of Contract
- (g) Section 7: Special Condition of Contract;
- (h) Section 8: Scope of Work;
- (i) Section 9: Payment Terms;
- (j) Section 10: Price Adjustment.
- (k) Section 11: Insurance Requirement.
- (l) Section 12: Technical Specifications.

**\*\* Bidders are requested not to upload any irrelevant documents other than specified in bid documents.**

**Stage-3: Price Schedule**

***NOTE: The financial e-bid shall be submitted online only and the hard copy of the same shall not be considered in any case.***

### ***1.6.3 Understanding of bid documents:***

A prospective Bidder is expected to examine all instructions, forms, terms, technical specifications, tender drawings and scope of works in the e-Bid documents and fully inform himself as to all the conditions and matters which may in any way affect the scope of work or the cost thereof. Failure to furnish all information required in the e-Bid document or submission of a e-Bid not responsive to the e-Bid document in every respect will be at the Bidder's risk and may result in the rejection of the said e- Bid.

### ***1.6.4 Clarifications on E-Bid Documents and Pre-Bid Meeting:***

If the prospective Bidder finds discrepancies or omissions, in specifications and document or is in doubt as to the true meaning of any part, he shall at once make a request, in writing, for an interpretation/clarification, to Owner at his mailing address indicated in E-Bidding Documents. Similarly, if a Bidder feels that any important provisions in the documents, such as Governing laws, Taxes and Duties, Defect Liability, Limitation of Liability, Settlement of Disputes, Arbitration, Form of Contract Agreement, Price Adjustment, Bid Guarantees, Contract Performance Guarantee, Compensation for Delay, Payments Terms, Schedule of Execution/Completion of works, will be unacceptable, such an issue should be raised as above. Owner, then, will issue interpretation(s) and clarification(s) as he may think fit in writing or modification of the Bidding Documents that it receives no later than Three (03) days prior to date of Pre-bid meeting. The Owner shall not be obliged to respond to any request for clarification received later than the above period. Further, mere request for clarification received from the Bidder shall not be a ground for seeking extension in the deadline for submission of e-Bid. Written copies of Owner's response (including an explanation of the query but not identification of its source) will be sent to all prospective bidders. Verbal clarification and information given by Owner or his employee(s) or his representative(s) shall not in any way be binding on Owner.

### ***1.6.5 Local Conditions:***

It will be imperative on each Bidder to fully inform himself of all local conditions and factors, which may have any effect on the execution of the Contract covered under these documents and specifications. Owner shall not entertain any request for clarifications from the Bidders, regarding such local conditions. It must be understood and agreed that such factors have properly been investigated and considered while submitting the Proposals. No claim for financial adjustment to the Contract, awarded under these specifications and documents, will be entertained by Owner. Neither any change in the time schedule of the Contract nor any financial adjustments arising thereof shall be permitted by the Owner, which are based on the lack of such clear information or its effect on the cost of the Works to the Bidder.

The bidder's designated representative(s) is/are invited to attend a pre-bid meeting, which, when convened, will take place at the venue and time specified in the e-Bidding Documents. The purpose of the meeting shall

be to clarify any issue regarding the e-Bidding Documents in general and the Technical Specifications in particular. The Bidder is requested, as far as possible to submit any question in writing, to reach the Owner not later than Three (03) days before the meeting. Minutes of the Meeting, including the text of the questions raised (without identifying the name of the bidders) and the responses given, together with any responses prepared after the meeting, will be uploaded on the website <http://tripuratenders.gov.in> through corrigendum and shall form an integral part of e-Bid document.

Non-attendance at the pre-bid meeting will not be a cause for disqualification of a bidder.

### **1.6.6 Amendment to e-Bid Document**

At any time prior to the deadline for submission of e-Bid, the Owner may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective Bidder, modify the e-Bid Document by amendments. Such amendments shall be uploaded on the website “<http://tripuratenders.gov.in>” through corrigendum and shall form an integral part of e-Bid document. The relevant clauses of the e- Bid document shall be treated as amended accordingly.

It shall be the sole responsibility of the prospective bidders to check the web site “<http://tripuratenders.gov.in>” from time to time for any amendment in the e-tender document. In case of failure to get the amendments, if any, the Owner shall not be responsible for it.

In order to allow prospective e-Bidders a reasonable time to take the amendment into account in preparing their e-Bids, the Owner, at his discretion, may extend the deadline for the submission of e-Bids. Such extensions shall be uploaded on the e-Procurement website “<http://tripuratenders.gov.in>”.

## **1.7 Taxes and Duties**

- 1.7.1 All applicable taxes, transportation, freights & insurance and other levies shall be paid by the bidder(s) in respect of the procurements of tendered items between the bidder(s) and their vendor(s)/sub-supplier(s) while procuring any components, sub-assemblies, raw materials and equipment which shall be included in the bid prices and no separate claim(s) on this behalf shall be entertained by TSECL.
- 1.7.2 Bidder shall indicate Bid prices in Indian Rupees only. Any statutory increase in GST, beyond the prevailing rates at the time of opening of tenders shall be paid on production of documentary evidence(s) during the contractual delivery period. Benefit of statutory decrease in the rates of GST below the prevailing rates at the time of opening of tenders shall be passed on to TSECL.

## **1.8 Preparation of e-Bid**

### **1.8.1 Language of e-Bid**

The e-Bid prepared by the bidder, as well as all correspondence and documents relating to the e-Bid exchanged by the bidder and the Owner shall be written in English language. Only English numerals shall be used in the e-Bid.

### 1.8.2 *e-Bid Prices:*

Unless otherwise specified in the Technical Specifications, bidders shall quote for the entire facilities on a "single responsibility" basis such that the total bid price covers all the Contractor's obligations mentioned in or to be reasonably inferred from the Bidding Documents in respect of the Survey, Design, manufacture, including procurement, delivery, construction, installation and completion of the facilities including supply of mandatory spares (if any). ***Surplus materials shall be return to the Owner before final measurement.*** This includes all requirements under the Contractor's responsibilities for testing, pre commissioning and commissioning of the facilities and, where so required by the Bidding Documents, the acquisition of all permits, approvals and licenses, etc.; the operation, maintenance and training services and such other items and services as may be specified in the Bidding Documents, all in accordance with the requirements of the General Conditions of Contract. Items against which no price is entered by the Bidder will not be paid for by the Owner when executed and shall be deemed to be covered by the prices for other items.

Bidders are required to quote the price for the commercial, contractual and technical obligations outlined in the Bidding Documents. If a Bidder wishes to make a deviation, such deviation shall be listed in the prescribed format in section – 5 of the e-bid. The Bidder is required to provide the cost of withdrawal for such deviations. Bidders shall quote the offer for complete job of Route survey, Designing, supply, erection, testing, commissioning including all the allied civil works required including applicable taxes at Tripura, Local transportation, insurance and other Services incidental to delivery of the Plant and Equipment including mandatory spares to be supplied (if any), plant and equipment required for loading- unloading of equipment, etc. The bidder shall submit an **Indemnity bond** to keep Owner harmless from any liability, before release of material to the bidder by Owner.

### 1.8.3 *e-Bid Currencies:*

The rate price must be quoted in Indian currency alone and any mistakes in converting foreign exchange component into Indian currency will not justify the claim whatsoever of Contractor for increase in prices. Foreign exchange component if any shall have to be arranged by the bidder.

### 1.8.4 *e-Bid Security / Earnest Money Deposit (EMD):*

- i) The Bidder shall furnish, as part of its bid, a bid security in the amount and currency as stipulated in the Bid Documents through electronically using the Online Payment Facility provided in the Portal.
- ii) Bids which are not deposit required amount of earnest money will be rejected and declared as **INFORMAL**. The bid security of a joint venture must be in the name of all the partners in the joint venture submitting the bid.
- iii) Bid security(EMD) shall remain valid for a period of thirty (30) days beyond the original bid validity period, and beyond with subsequent extension of the same.
- iv) The bid securities (EMD) of unsuccessful bidders will be returned as promptly as possible, but not later than thirty (30) days after the expiration of the bid validity period.

- v) The successful Bidder shall be required to keep its bid security valid for a sufficient period till the Bidder has signed the Contract Agreement and submit the performance security(ies) to the entire satisfaction of the Owner.
- vi) No claim shall be laid against the Owner either in respect of interest or depreciation in value for the amount of earnest money.
- vii) The earnest money of the bidder(s) shall be forfeited;

If the bidder withdraws / modifies its bid during the period of bid validity specified by the bidder in the tender; or If the bidder does not accept the corrections to arithmetical errors identified during preliminary evaluation of his bid; or in case of a successful bidder, if the Bidder fails to sign the contract; or if the Bidder fails to furnish the performance guarantee.

#### **1.8.5 Period of Validity of Bid:**

Bids shall remain valid for the period of 180 days after the scheduled date of opening of Techno - Commercial Part. A bid valid for a shorter period shall be rejected by the Owner as being non-responsive.

In exceptional circumstance, the Owner may solicit the Bidder's consent to an extension of the bid validity period. The request and responses thereto shall be made in writing or by e-mail. If a Bidder accepts to prolong the period of validity, the bid security shall also be suitably extended. A Bidder may refuse the request without forfeiting its bid security. A Bidder granting the request will not be required or permitted to modify its bid.

#### **1.8.6 Format and Signing of e-Bid:**

- i) The bidder shall prepare one electronic copy each of the Commercial e-bid & Technical e-Bid and Financial e-Bid separately.
- ii) The e-Bid document shall be digitally signed, at the time of uploading, by the bidder or a person or persons duly authorized to bind the bidder to the Contract. The authorization shall be indicated by a scanned copy of written power-of- attorney accompanying the e-Bid. All the pages/ documents of the e-Bid that are to be uploaded shall be digitally signed by the person authorized to sign the e-Bid.

#### **1.8.7 Submission of e-Bid:**

The bid Submission module of website <http://tripuratenders.gov.in> enables the bidders to submit the e-Bid online in response to this e-tender published by the Owner. Bid Submission can be done only from the Bid Submission start date and time till the Bid Submission end date and time given in the e-tender. Bidders should start the Bid Submission process well in advance so that they can submit their e-Bid in time. The bidders should submit their e-Bid considering the server time displayed in the website. This server time is the time by which the e-Bid submission activity will be allowed till the permissible time on the last/end date of submission indicated in the e-tender schedule. Once the e-Bid submission date and time is over, the bidders cannot submit their e-Bid. For delay in submission of e-Bid due to any reasons, the bidders shall

only be held responsible. The bidders have to follow the following instructions for submission of their e-Bid:

- a) To participate in bidding process, bidders have to get 'Digital Signature Certificate (DSC)' Class 2/Class 3 as per Information Technology Act-2000.
- b) After login to their account, the bidder has to fill up the e-bid document fee detail and the EMD details. Next the bidder should upload the documents as prescribed in Clause 1.6. The components of e-tender fee and EMD should be same as filled by the bidder previously and any deviation from those result in right rejection of the tender. During the above process, the e-Bid documents are digitally signed using the DSC of the bidder.
- c) Owner reserves the right to cancel any or all e-Bids without assigning any reason.
- d) The SBD (Standard Bidding document) must be complete in all respects. All the terms and conditions of SBD including technical specifications should be carefully studied for the sake of submitting complete and comprehensive SBD. Failure to comply with any of the SBD conditions may lead to rejection even if otherwise it is competitive offer.

Bidders shall specially take note of all the addendum/corrigendum related to the tender and upload the latest documents as part of the tender.

The Technical Bid/Bid Envelop-I should contain scanned copies and/or declarations in the following standardized formats.

**A. My Document (Non-Statutory):** All the below-mentioned documents/certificates are to be uploaded with digital signature in the 'My Document' folder option available after login in the e-procurement portal <http://tripuratenders.gov.in>.

Bidders are requested to scan the necessary documents in **100 dpi** resolution into PDF. 'My Document' shall be populated prior to real time bidding and during real time bidding, uploaded documents/certificates in the 'My Document' are to be appropriately included (Checked) for incorporation in the Bid. An indicative organization of 'My Document' folder and the related documents are indicated here under.

Sl. No.	Folder Name	Documents to be uploaded
1	Contractor License	Copy of Contractor License From licensing authority of GOI/GOT
2	Enlistment	Copy of Electrical Enlistment
3	Labor License	Copy of Labor License
4	Experience Certificate	Copy of Certificate not below the rank of Executive Engineer/DGM
5	NIT Documents	All forms/ Corrigendum, /Amendments/Formats with

		supporting documents/certificates if published
6	Tax related Document& Others	i) IT clearance certificate  i) Copies of PAN and GSTIN Registration Certificates duly attested by Govt. Officials /Notary.
7	Financial details	i. Audited Balance Sheets of last three financial years (i.e. 2018-19, 2019-20 and 2020-21) with auditor's certificate regarding annual turnover from contracting business in each year
8	Misc. document	i. Any other documents found necessary.
9	Blacklisted or Debarred	<i>To be executed on Rs.100/- Stamp paper &amp;attested by Public Notary/Executive Magistrate by the bidder</i>

**NB: All forms/Amendments/Formats with supporting documents/certificates other than mentioned in My Document in single PDF.**

**B. Statutory Documents:**

After uploading the above mentioned non-statutory documents/certificates, Bidders shall submit the following, during real time bidding

**1. NIT**

**2. Bid Document**

**3. Technical Data Sheet / GTPs and drawings specified in the Bid Document in PDF.**

**Note-1:** Failure of submission of any one of the above-mentioned documents will render the tender for rejection.

**Note-2:** If the company was set up less than five years ago, audited balance sheet for the no of years since inception is to be submitted.

**Note-3:** Bidders are requested to scan the necessary documents/certificates in **100 dpi** resolution into PDF.

**Bid Envelop-II (Financial Bid):**

Documents to be submitted in the Financial Bid are:

**BOQ (Priced Bill of quantity/Price schedule).**

**Note:**

1. Bill of Quantity (BOQ) i.e. Price schedule, which is the Rate quoting sheet in MS-Excel shall be downloaded, filled up properly and uploaded in the financial bid after digital signing. The Bidder shall always open the BOQ sheet with Macros Enabled. The Bidder shall quote rates in figures only, for all items

in the Bill of Quantity (BOQ).

2. **Bidders are requested to quote rates all of item in BOQ. No item rate shall left blank or 0(Zero) quote, otherwise the BIQ will be declared as nonresponsive and summarily rejected.**

#### ***1.8.8 Deadline for Submission of e-Bid:***

- a) e-Bid (Commercial, Technical and Financial) must be submitted by the bidders at website <http://tripuratenders.gov.in> not later than the time as prescribed in the table above (as per the server time displayed on the website).
- b) The Owner may, at its discretion, extend this deadline for submission of e-Bid by amending the e-Bid document, in which case all rights and obligations of the Owner and bidders previously subject to the deadline will thereafter be subject to the deadline as extended.

#### ***1.8.9 Late e-Bid:***

The server time indicated in the window on the website <http://tripuratenders.gov.in> will be the time by which the e-Bid submission activity will be allowed till the permissible date and time scheduled in the e-tender. Once the e-Bid submission date and time is over, the bidder cannot submit his/her e-Bid. Bidder has to start the Bid Submission well in advance so that the submission process passes off smoothly. The bidder will only be held responsible if his/her e-Bid is not submitted in time due to any of his/her problems/faults, for whatsoever reason, during e-Bid submission process.

### **1.9 OPENING AND EVALUATION OF e-BID**

#### ***1.9.1 Opening of Commercial & Technical e-Bid by the Owner***

- 1.9.1.1 The Owner will open all commercial & technical e-Bids, in the presence of bidders who choose to attend at time specified in the table above at The Office of **Dy. General Manager, Electrical Division No-Bishalgarh, Gakulnagar, Bishalgarh** In the event of the specified date of e-Bid opening being declared a holiday for the Owner, the e-Bids shall be opened at the appointed time and place on the next working day.
- 1.9.1.2 The bidder's names and the presence or absence of requisite e-Bid. EMD and such other details as the Owner at its discretion may consider appropriate, will be announced at the opening. The name of such bidders not meeting the Commercial, Technical qualification requirement shall be notified subsequently.

#### ***1.9.2 Opening of Financial e-Bid***

After evaluation of Technical e-Bid, the Owner shall notify those bidders whose Commercial & Technical e-Bids were considered non-responsive to the Conditions of the Contract and not meeting the technical and commercial Qualification Requirements indicating that their financial e-Bids will not be opened. The Owner will simultaneously notify the bidders, whose technical e-Bids were considered qualified with reference to fulfilling the pre-qualification criteria of section 4 by the bidder.

The financial e-Bids of technically & commercially qualified bidders shall be opened in the presence of bidders who choose to attend, and date for opening of financial bids will be communicated to the

Commercially & Technically Qualified Bidders subsequently after completion of technical bids evaluation.  
The name of bidders, Price quoted will be announced at the meeting.

The bidders shall quote their prices/rates in the same BOQ as uploaded on the website otherwise **the SBD is liable to be rejected.**

### ***1.9.3 Clarification of e-Bid***

During evaluation of e-Bid, the Owner may, at its discretion, ask the bidder for a clarification of his/her e-Bid. The request for clarification and the response shall be in writing.

### ***1.9.4 Evaluation of Commercial & Technical e-Bid:***

The Owner will examine the e-Bid to determine whether they are complete, whether they meet all the conditions of the Contract, whether required e-tender fee, e-Bid EMD and other required documents have been furnished, whether the documents have been properly digitally signed, and whether the e-Bids are generally in order. Any e-Bid or e-Bids not fulfilling these requirements shall be rejected.

The bidders shall submit the scanned copies as prescribed in Section -2 & Section -4 of commercial and technical details as documentary proof for evaluation of their commercial and technical e-Bids.

It shall be the discretion of the Owner to decide as to whether an e-Bid fulfills the evaluation criterion mentioned in this e-tender or not.

The bidders are advised not to mix financial e-bid documents with the PDF documents submitted for commercial and technical e-bid. The e-Bids of the bidders having financial bid document in the technical bid will out rightly are rejected.

The technical eligibility will be decided upon evaluation of following documents:

- (i) The Firm's past experience as partial turn Key contractual agency for development of infrastructure of power Distribution and Sub Transmission network.
- (ii) The Firm's past experience relevant to the Underground power distribution assignment supported by the **copy of Agreement/LOA and completion certificate** from the Owner in support of successful completion of the same.
- (iii) Qualification and Experience of key personnel.
- (iv) Overall Company profile, execution of works with Power Discom /PSUs/CPSUs and reputed developers (excluding Real estate developers) and completion certificate of the same.

### ***1.9.5 Financial Evaluation and Comparison of e-Bid***

The Owner will evaluate and compare the financial rates quoted in the price schedule/BOQ of e-Bids of those bidders whose commercial and technical e- Bids are found responsive as per the conditions of the e-tender.

No additional payments shall be made for completion of any contractual obligation beyond the quoted prices. If the Bidder does not accept the correction of errors if any, its e-Bid shall be rejected and its e-Bid security may be forfeited.

**1.9.6 *Arithmetical errors will be rectified on the following basis:***

If there is a discrepancy between the unit price and the total price, which is obtained by multiplying the unit price and quantity specified by the Owner, or between subtotals and the total price, the unit or subtotal price shall prevail, and the quantity and the total price shall be corrected. However, in case of items quoted without indicating any quantity or the items for which the quantities are to be estimated by the Bidder, the total price quoted against such items shall prevail.

The prices of all such item(s) against which the Bidder has not quoted rates/amount (viz., items left blank or against which is indicated) in the Price Schedules will be deemed to have been included in other item(s).

The subtotal, total price or the total bid price to be identified in Bid Form for this purpose, irrespective of the discrepancy between the amounts for the same indicated in words or figures shall be rectified in line with the procedure explained above.

If the Bidder does not accept the correction of errors as per this clause, its bid will be rejected and the amount of Bid Security forfeited.

The Bidder should ensure that the prices furnished in various price schedules are consistent with each other. In case of any inconsistency in the prices furnished in the specified price schedules to be identified in Bid Form for this purpose, the Owner shall be entitled to consider the highest price for the purpose of evaluation and for the purpose of award of the Contract use the lowest of the prices in these schedules.

**1.9.7 *Rebate/Discounts:***

If the discount(s)/rebate(s) offered by the Bidder is a percentage discount and the price component(s) on which the said discount is not indicated in the bid, the same shall be considered on the total bid price [i.e. proportionately on each price component], in the event of award. However, if lump-sum discount is offered, the same shall be considered in full on the contract price component, in case of award. Further, Conditional discounts/rebates, if any, offered by the bidder shall not be taken into consideration for evaluation. It shall, however, be considered in case of award.

**1.9.8 *Contacting the Owner***

No bidder shall contact the Owner on any matter relating to his/her e-Bid, from the time of the e-Bid opening to the time the Contract is awarded. If the bidder wishes to bring additional information to the notice of the Owner, he/she can do so in writing.

Any effort by a bidder to influence the Owner in its decisions on e-Bid evaluation, e-Bid comparison or contract award may result in rejection of the bidder's e-Bid.

## **1.10 Award of Contract:**

Subject to selection criteria in Clause 1.3, the Owner will award the contract to the successful Bidder (also referred to as the L1 Bidder) whose bid is evaluated as the best bid to perform the work with standard engineering practices and to be the lowest evaluated bid to perform the contract satisfactorily.

The Owner shall not be bound to accept the lowest or any tender and reserves to itself the right of accepting the whole or a portion of any of the tender as it may deem fit, without assigning any reason thereof. The Owner reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids at any time prior to award of contract, without thereby incurring any liability to the affected Bidder or bidders or any obligation to inform the affected Bidder or bidders of the grounds for the Owner's action.

Any approach/canvassing etc. official or otherwise by the bidder or his/their representative/agent to influence the consideration of their tender shall render the tender liable to summary rejection.

In the case of there being a number of bidders quoting same rates thereby forming a cartel to jack up the prices, the SBD's of such bidders shall be summarily rejected.

In order to avoid delay caused by postal correspondence after submission of SBD and to expedite the process of technical/commercial clarifications the Owner may require the successful bidder to depute his/their authorized representative along with necessary documents to the **Dy. General Manager, Electrical Division –Bishalgarh, Gakulnagar** for sorting out the connected matters thus enabling speedy issue of formal award of contract. The representative thus deputed shall have to be competent enough to hold technical and commercial negotiations and convey the decision/acceptance on behalf of the bidder.

The Owner reserves the right to vary the quantity of any of the spares and/or delete any items of spares altogether at the time of Award of Contract.

## **1.11 Notification of Award**

Prior to the expiration of the period of bid validity, the Owner will notify the successful

Bidder in writing, that its bid has been accepted. The notification of award will constitute the formation of the contract.

The Owner shall promptly respond in writing to any unsuccessful Bidder who, after notification of award in accordance with above, requests in writing the grounds on which its bid was not selected.

## **1.12 Signing the Contract Agreement**

At the same time as the Owner notifies the successful Bidder that its bid has been accepted, the Bidder will prepare the Contract Agreement provided in the Bidding Documents, incorporating all agreements between the parties.

The Contract Agreement shall be prepared within Fifteen (15) days of the Notification of Award and submission of performance Bank Guarantee, the successful Bidder and the Owner shall sign and date the Contract Agreement immediately thereafter.

### **1.13 Performance Guarantee.**

Within 15 days of receipt of Letter of Award (LOA) from the Owner, the successful Bidder shall furnish to the Owner a Performance Guarantee in the form stipulated in the Standard Bidding Format. Performance Guarantee shall be deposited in the form of Bank Guarantee.

A) Within 15 days of receipt of Letter of Award (LOA) from the Owner, the successful bidder shall furnish to the Owner a performance guarantee in the form of Bank Guarantee from any Nationalized Bank of an amount equal to @10% of Contract value as indicated in the Letter of Award. The performance guarantee shall be applicable for entire project duration including the additional **365 days** of the issue of Completion Certificate.

Failure of the successful Bidder to comply with the requirements of Clause 1.11 and Clause 1.12 shall constitute sufficient grounds for the annulment of the award and forfeiture of the bid security (EMD), in which event the Owner may make the award to the next lowest evaluated Bidder or call for new bids.

#### **1.13.1 Performance Guarantee for Abnormally low bid:**

For bid up to 15% less than the estimated value of work, no enhancement of Performance guarantee is required. But for bid less than 15% of the estimated value of work, performance Guarantee of amount equal to @ **20%** of the contract value shall be furnished by the successful bidder within 15 days of receipt of Letter of Award (LOA) in the form of Bank Guarantee from any Nationalized Bank / Scheduled Bank in the prescribed Format. The Performance guarantee shall be applicable as per period specified in clause no. 1.13 .

#### **1.13.2 Forfeiting of performance guarantee:**

The Performance Guarantee shall be forfeited: -

- i) If the contractor fails to start the work as per approved BAR CHART for reasons solely rest on him.
- ii) If the contractor left / suspends the work without prior written intimation to the owner's Engineer in charge of the work stating the reasons for such suspension of work.
- iii) If the contractor left / suspends the work for reasons which are not acceptable to TSECL.

### **1.14 Fraud and Corruption**

It is the Owner's policy that requires the Bidders, suppliers and contractors and their subcontractors under the contracts to observe the highest standard of ethics during the procurement and execution of such contracts. In pursuance of this policy, the Owner:

- a) Defines, for the purpose of this provision, the terms set forth below as follows: (i) "corrupt practice" is the offering, giving, receiving or soliciting, directly or indirectly, of anything of value to influence improperly

the actions of another party;

- b) "fraudulent practice" is any act or omission, including a misrepresentation, that knowingly or recklessly misleads or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;
- c) "collusive practice" is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;
- d) "Coercive practice" is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;
- e) "Obstructive practice" is (aa) deliberately destroying, falsifying, altering or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede a Owner's investigation into allegations of a corrupt, fraudulent, coercive or collusive practice; and/or threatening, harassing or

Intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation; or

(bb) acts intended to materially impede the exercise of the Owner's inspection and audit rights.

- f) will reject a proposal for award if it determines that the bidder recommended for award has, directly or through an agent, engaged in corrupt, fraudulent, collusive, coercive or obstructive practices in competing for the contract in question;
- g) will sanction a firm or individual, including declaring ineligible, either indefinitely or for a stated period of time, to be awarded a contract if it at any time determines that the firm has, directly or through an agent, engaged in corrupt, fraudulent, collusive, coercive or obstructive practices in competing for, or in executing, a contract; and
- h) will have the right to require that the provision be included in Bidding Documents and in contracts, requiring Bidders, suppliers, and contractors and their sub-contractors to permit the Owner to inspect their accounts and records and other documents relating to bid submission and contract performance and to have them audited by auditors appointed by the Owner.

## **SECTION-2**

### **COMMERCIAL DETAILS**

This part, Commercial Details, Section-2 of the Bidding Documents provides the information necessary for bidders to prepare responsive bids for “Extension of HT/LT line (HT line through 70sqmm XLPE cable) including construction of 1x63KVA Sub-Station for providing 3-phase Service Connection to DTW scheme at Naraura of Bishalgarh Municipality Corporation (Urban area) under ESD- I, Bishalgarh (Partial Turkey basis)”

The Techno-Commercial e-Bid shall contain the following documents digital signature by the bidder in the scanned form and pdf format only:

- a) Documentary Evidence:
- b) Technical Experience:
- c) Work Experience:
- d) In support of FINANCIAL CAPABILITY:
- e) Litigation History:
- f) Assessment of capability

The e-Bids of the bidders not submitting the certified copies of above-mentioned documents at in scanned form are liable to be rejected.

.....

### **SECTION 3: FINANCIAL e-BID**

1. Financial e-bid: Price Schedule/BOQ (Bill of Quantities) shall be uploaded electronically only in the same BOQ sheet provided with the SBD (Standard Bidding document).
2. Bidders are advised not to make any change in BOQ (Bill of Quantities) contents or its name. In no case they should attempt to create similar BOQ manually, otherwise the bid will be rejected automatically. The BOQ downloaded should be used for filling the net item rate as per columns mentioned in BOQ and it should be saved with the same name as it contains.
3. In the BOQ, bidders shall quote their prices/rates in the same BOQ as uploaded on the website otherwise the bid is liable to be rejected.
4. GST & any other levies legally payable on the transaction between the owner and the Bidder.

## **SECTION 4: PRE-QUALIFICATION CRITERIA**

### **1 PRE-QUALIFYING CRITERIA**

Qualification of bidder will be based on meeting the criteria as specified in Pre-qualifying criteria as demonstrated by the Bidder's responses in the corresponding Bid Schedules. No Subcontract is to be entertained all activities shall be carried out by the Main Contractor. Subcontractors' technical experience and financial resources shall not be taken into account in determining the Bidder's compliance with the qualifying criteria. The bid can be submitted by an Indian individual firm only or by Joint Venture firm having Indian partner firms only. Notwithstanding anything stated herein above, TSECL reserves the right to assess the capacity and capability of the bidder, should the circumstances warrant such assessment in an overall interest of the TSECL. TSECL reserves the right to waive minor deviations if they do not materially affect the capability of the Bidder to perform the contract.

Technical e-Bid shall contain the following documents digital signature by the bidder in the scanned form and pdf format only:

- a. Covering Letter.
- b. Signed Copy of Bid Documents.
- c. Power of Attorney / Board Resolution in favour of signatory of the bid.
- d. Copies of original documents defining the constitution or legal status, place of registration and principal place of business
- e. Qualification details as stipulated in the bid document.
- f. Details of Past experience as mentioned in qualification criteria.
- g. Annual Turnover of the bidder for the last three years must be submitted in the shape of audited balanced sheet by CA.
- h. Certificate of incorporation in case of company along with copies of Articles of Association (AOA) and Memorandum of Association (MOA).
- i. Filled Forms as given in Section 5 – Standard Bidding Format, as applicable.
- j. Other details as called for in the bid documents or which the bidder may like to highlight.
- k. GTP of major item as per clause No-7.22 of Section 7 to be submitted by the bidder.

The e-Bids of the bidders not submitting certified copies of documents in scanned form mentioned above from (a) to (k) shall liable to be rejected.

#### **Pre-qualification criteria**

##### **Part-A: Technical:**

#### **1.1 Individual Bidders**

- i. The bidder must have successfully Supply, erection, testing & commissioning over head or underground distribution system , Sub-station & switchgear of 11 KV Voltage level (as the case may be in bid) in **turnkey**

*or partial turnkey* contract as on the date of bid submission, having installation of at least 0.3 Km underground 11

- ii. KV distribution system so created must be in satisfactory operation for at least one (1) year as on date of submission of bid.

1.2 The bidder should possess Electrical Contractor license issued by the Electrical Inspectorate of Govt. of Tripura/Central Inspectorial organization of Govt. of India/ other state Govt. In case bid submitted joint venture firm, any of partner should possess electrical license as stated above.

1.3 Work experiences of the bidder as per above shall be considered only if the works have been executed under Govt. power distribution company / state electricity board in India.

## **2.0 Part-B: Commercial:**

2.1 For the purpose of this particular bid, bidder shall meet the following minimum commercial criteria prior to bid submission:

- i) Experience in completed work of Under Grounding cabling, sub-stations and switchgear at a supply voltage of **11kV or above** in electrical Transmission or sub- transmission & distribution sector each costing not less than the amount equal of 50% of the estimated amount of the project individually,

2.2 Net Worth for the each of the last Three Financial Years should be positive. Net worth means the sum total of the paid up capital and free reserves(excluding reserves created out of revaluation)reduced by aggregate value of accumulated loses (including debit balance in profit and loss account for current year)and intangible assets.

2.3 Minimum Average Annual Turnover(MAAT)for three years financial years of the bidder should not be less than 30% of the project cost.

- 3.0 Documentary Evidence: The bidder has to furnish with the offer, following documentary evidences in support of qualifying requirement stipulated above:
- 3.1 In support of TECHNICAL EXPERIENCE:
- 3.1.1 The bidder should possess Electrical Contract or license issued by the Central Inspectorial organization of Govt. of India/other state licensing authority.
- 3.1.2 Certificates of successful completion and satisfactory operations of the works indicated above at clause 1.1&1.2 from the utility including completion certificate from the Owner against satisfactory operation for at least twelve (12) months as on date of opening of bid.
- 3.1.3 List of orders, their value, date of start and completion of works etc. as indicated in the enclosed format along with copies of orders.
- 3.2 In support of FINANCIAL CAPABILITY:
- 3.2.1 The complete annual reports together with Audited statement of accounts of the company for last Three years, immediately preceding the date of submission of bid.

Note: I- In the event of the bidder is not able to furnish of its own information (i.e. separate), being a subsidiary company and its accounts are being consolidated with its group/holding/parent company, the bidder should submit the audited balance sheets, income statements, other information pertaining to it only (not of its group/Holding/Parent Company) duly certified by any one of the authority (i) Statutory Auditor of the bidder / (ii) Company Secretary of the bidder or (iii) A certified Public Accountant] certifying that such information/document are based on the audited accounts as the case may be.

II. Similarly, if the bidder happens to be a Group/ Holding/ Parent Company, the bidder should submit the above documents/ information of its own (i. e. exclusive of its subsidiaries) duly certified by any one of the authority mentioned in Note-I above certifying that these information/ documents are based on the audited accounts, as the case may be.

- 4.0 Litigation History: The bidder should provide detailed information on any litigation or arbitration arising out of contracts completed or under execution by it over the last five years. A consistent history of awards involving litigation against the Bidder may result in rejection of Bid.

- 5.0      Assessment of      Notwithstanding anything stated above the Owner reserves the right to assess capability and capacity of the bidder to successfully execute the work covered within stipulated completion period. This assessment shall inter-alia include (i) document verification: (ii) details of works executed, works in hand, anticipated in future in addition to the works involved in present bid, (iii) details of manpower and financial resources; (iv) Manpower Details for the project (v) past experience and performance; (vi) customer feedback; (vii) banker's feedback etc.
- The bidder shall also furnish pre-qualifying information in schedule – 4 along with documentary evidence in support of the qualifying requirements stipulated as above. Bid of those bidders who do not submit the pre-qualifying information in schedule – 4 shall not be entertained and shall be rejected.

**SECTION 5: STANDARD BIDDING FORMAT**

**5.1 FORM 'T'**

To,  
**Dy. General Manager,**  
**Name of Work : “ “**

**NIT No:**

Sir,

\*I/We am/are registered contractors with \_\_\_\_\_. Particulars of the authority, Class and tendered amount / limit upto which I/We am/are eligible to tender are furnished below: -

Name of department / authority	Class / Category	Tendering Limit

It is certified (confirmed) that this registration / these registration is / are valid as on date and we shall inform the department ourselves as soon as our registration expires or is cancelled / revoked.

The Particulars of the work done are furnished / enclosed as per the eligibility criteria set out in the Press Notification/ Tender document and the Tender Fee and EMD has been deposited electronically using the Online Payment Facility provided in the Portal.

\*I/We certify that we have gone through the terms and conditions as contained in the e-tender documents available on website of this work. We further confirm of having full knowledge that the above conditions are to form a part of the contract agreement executed with the successful contractor.

\*I/We request; the permission may be granted to me/us to participate in the tender

a) Documents in support of fulfilling the eligibility criteria, Registration etc. placed from page no. \_\_\_\_\_ to \_\_\_\_\_.

b) Power of Attorney in the name of bidder who will sign and submit the tender.

Yours faithfully,

Contractor Name: \_\_\_\_\_

Address: - \_\_\_\_\_

\_\_\_\_\_  
Telephone No. \_\_\_\_\_

Fax No. \_\_\_\_\_

### **FORM 'II' FINANCIAL INFORMATION**

Details to be furnished duly supported by figures in balance sheet / profit & loss account for the last three years duly certified by the Chartered Accountant.

1.

#### **Years**

(i) Gross Annual turnover.

(ii) Profit / Loss

2019-20	2020-21	2021-22

2. Financial arrangements for carrying out the proposed work.

3. The following certificates are to be enclosed:

(a) Solvency Certificate from Bankers of Applicant.

*Signature of Chartered Accountant with Seal*

*Signature of Applicant*

**5.2 FORM 'III' DETAILS OF ALL WORKS OF OVER HEAD AND UNDER GROUND CABLING AT A SUPPLY VOLTAGE OF 11KV OR ABOVE COMPLETED DURING THE LAST FIVE YEARS**

Sl. No.	Name of the work & Location	Owner Details / Owner of the project	Cost of work (Rs.in Crore)	Date of Commencement as per contract	Stipulated date of completion	Actual date of completion	Litigation / Arbitration cases Pending or in Progress with details*	Name and address/ telephone number of the officer to whom Reference may be made	Reference	Remarks
1	2	3	4	5	6	7	8	9	10	11

\*Indicate gross amount claimed and amount awarded by the Arbitrator

Signature of Applicant

**5.3 FORM 'IV' DETAILS OF ALL PROJECTS FOR OVER HEAD AND UNDER GROUND CABLING AT A SUPPLY VOLTAGE OF 11KV OR ABOVE UNDER EXECUTION OR AWARDED**

Sl. No.	Name of the work & Location	Owner Details / Owner of the project	Cost of work (Rs.in Crore)	Date of Commencement as per contract	Stipulated date of completion	Up to date % progress of the work	Slow progress if any, and reasons thereof	Name and address/ telephone number of the officer to whom Reference may be made	Remarks
1	2	3	4	5	6	7	8	9	10


**Signature of Applicant**

## 5.4 FORM 'V' DETAILS OF STRUCTURE & ORGANISATION

1. Name & Address of the applicant:
2. Telephone No. / Telex No. / Fax No.:
3. Legal status of the applicant (attach copies of original document defining the legal status).
  - (a) An Individual
  - (b) A proprietary firm
  - (c) A firm in partnership
  - (d) A limited company or Corporation.
4. Particulars of registration with various Government bodies (attach attested photocopy).

Organization/Place of registration	Registration No.	Validity of Registration
1.		
2.		
3.		

5. Names and Titles of Directors & Officers with designation to be concerned with this work.
6. Designation of individuals authorized to act for the organization.
7. Was the applicant ever required to suspend construction for a period of more than six months continuously after you commenced the construction? If so, give the name of the project and reasons of suspension of work.
8. Has the applicant or any constituent partner in case of partnership firm, ever abandoned the awarded work before its completion? If so, give name of the project and reasons for abandonment.
9. Has the applicant or any constituent partner in case of partnership firm, ever been debarred/ black listed

for tendering in any organization at any time? If so, give details.

**10.** Has the applicant or any constituent partner in case of partnership firm, ever been convicted by a court of law? If so, give details.

**11.** In which field of Electrical Engineering construction, the applicant has specialization and interest?

*Signature of Applicant*

## **5.5 FORM 'VI' DETAILS OF TECHNICAL & ADMINISTRATIVE PERSONEL TO BE EMPLOYED FOR THE WORK (Not Mandatory)**

<b>S. No.</b>	<b>Designation</b>	<b>Total Number</b>	<b>Number available for this work</b>	<b>Name</b>	<b>Qualifications</b>	<b>Professional Experience and details of work carried out</b>	<b>Professionals proposed Position To be involved in this work</b>	<b>Remarks</b>
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>

*Signature of Applicant*

## **5.6 FORM 'VII' AGREEMENT**

THIS AGREEMENT is made this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_ between Tripura State Electricity Corporation Limited (hereinafter called "Owner") of the one part, and M/s \_\_\_\_\_ (hereinafter called "Contractor") of the other part: AND WHEREAS the Owner invited bids for selection of partial turnkey contractor for the above work and has accepted a Bid by the Agency for the related Services in the sum of Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_ (herein after called "the Contract Price") .

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Contract referred to.
2. The following documents (collectively referred to as "Contract Documents") shall be deemed to form and be read

and construed as part of this Agreement, viz.:

- a) The complete Tender Document along with amendments
- b) Owners Letter of Award.
- c) Bidder's Letter of Acceptance.
- d) Bidder's response (proposal) to the RFP, including the Bid Submission Sheet and the Price schedule.
- e) In the event of any discrepancy or inconsistency within the Contract documents, then the documents shall prevail in the order listed above.

3. In consideration of the payments to be made by the Owner to the Contractor as indicated in this Agreement, the Contractor hereby covenants with the Owner to provide the related Services and to remedy defects therein in conformity in all respects with the provisions of the Contract.

4. The Owner hereby covenants to pay the Contractor in consideration of the provision of the Related 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.

IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with the laws of \_\_\_\_\_ on the day, month and year indicated above.

Signed by \_\_\_\_\_ (Authorized Official for the Owner)

Signed by \_\_\_\_\_ (Authorized Official for the Contractor)

## 5.7 FORM 'VIII' BANK GUARANTEE FORM FOR ADVANCE PAYMENT (Not Mandatory)

Bank Guarantee No. ....

Date.....

Contract No.....

.....[Name of Contractor]

**Tripura State Electricity Corporation Ltd.,**

**TSECL, Agartala, Tripura**

Dear Sir,

We refer to the Contract ("the Contract") signed on .....(insert date of the Contract)..... between you and M/s ..... (Name of Contractor) ....., having its Principal place of business at .....(Address of Contractor) ..... and Registered Office at .....(Registered address of Contractor)..... ("the Contractor") concerning .....(Indicate brief scope of work) ..... for the complete execution of the ..... (insert name of the Project).....

Whereas, in accordance with the terms of the said Contract, the Owner has agreed to pay or cause to be paid to the Contractor an Advance Payment in the amount of .....(Amount in figures and words).....

By this letter we, the undersigned, .....(insert name & address of the issuing bank) ....., a Bank (which expression shall include its successors, administrators, executors and assigns) organized under the laws of ..... and having its Registered/Head Office at .....(insert address of registered office of the bank)..... do hereby irrevocably guarantee repayment of the said amounts upon the first demand of the Owner without cavil or argument in the event that the Contractor fails to commence or fulfill its obligations under the terms of the said Contract, and in the event of such failure, refuses to repay all or part (as the case may be) of the said advance payment to the Owner.

Provided always that the Bank's obligation shall be limited to an amount equal to the outstanding balance of the advance payment, taking into account such amounts, which have been repaid by the Contractor from time to time in accordance with the terms of payment of the said Contract as evidenced by appropriate payment certificates.

This Guarantee shall remain in full force from the date upon which the said advance payment is received by the Contractor upto ninety (90) days beyond the date on which the entire advance so advanced along with the interest if any due thereon has been fully adjusted in terms of the Contract i.e., up to of ninety (90) days beyond the date of Completion of the Facilities under the Contract. This Guarantee may be extended from time to time, as may be desired by M/s. .... on whose behalf this Guarantee has been issued.

Any claims to be made under this Guarantee must be received by the Bank during its period of validity, i.e. upto ninety (90) days beyond the date of Completion of the Facilities by the Owner i.e. upto and inclusive of ..... (\_\_\_/\_\_\_/2022).

For and on behalf of the Bank

[Signature of the authorized signatory (ies)]

Signature\_\_\_\_\_

Name\_\_\_\_\_

Designation\_\_\_\_\_

POA Number\_\_\_\_\_

Contact Number(s): Tel.\_\_\_\_\_Mobile\_\_\_\_\_

Fax Number\_\_\_\_\_

email \_\_\_\_\_

Common Seal of the Bank\_\_\_\_\_

Witness:

Signature\_\_\_\_\_

Name\_\_\_\_\_

Address\_\_\_\_\_

Contact Number(s): Tel.\_\_\_\_\_Mobile\_\_\_\_\_

email \_\_\_\_\_

\

## PROFORMA OF BANK GUARANTEE FOR BID GUARANTEE

(TO BE STAMPED IN ACCORDANCE WITH STAMP ACT)

The non-Judicial stamp paper should be in the name of issuing bank

Ref. ....Bank Guarantee No. ....

Date .....

Tripura State Electricity Corporation Ltd.,

TSECL, Agartala, Tripura

Dear Sir,

In accordance with Invitation to bid under your NIT No. ....  
 M/s..... having its Registered/Head  
 Office at..... (hereinafter called the 'Bidder') wish to participate in  
 the said Bid or ..... and you, as a special favour have agreed to accept an irrevocable and  
 unconditional Bank Guarantee for an amount of ..... valid up to..... on  
 behalf of Bidder in lieu of the Bid deposit required to be made by the bidder, as a Condition precedent for  
 participation in the Said Bid. We, the ..... Bank at .....  
 having our Head Office at ..... (local address) guarantee and undertake to pay  
 immediately on demand by Tripura State Electricity Corporation Limited Department, the Amount  
 of.....(in words & figures) without any reservation, protest, demur and recourse. Any  
 such demand made by said 'Owner' shall be conclusive and binding on us irrespective of any dispute or difference  
 raised by the Bidder. This Guarantee shall be irrevocable and shall remain valid up to and  
 including.....@ ..... If any further extension of this guarantee is required, the same shall be  
 extended to such required period (not exceeding one year) on receiving instruction from M/s  
 ..... on whose behalf this guarantee is issued. In witness whereof the Bank, through  
 its authorized officer, has set its hand and stamp on this ..... day of ..... 20..... at  
 .....

WITNESS:

.....

(Signature)

Bidder

DGM,ED-BSL

.....

(Signature)

.....

(Name)

.....

(Name)

.....

(Official Address)

.....

(Official Address)

**Note:**

1. For the purpose of executing the Bank Guarantee, the non-judicial stamp papers of appropriate value shall be purchased in the name of Bank who issues the 'Bank Guarantee'.
2. The Bank Guarantee shall be signed on all the pages by the Bank Authorities indicating their POA nos. and should invariably be witnessed.
3. The Bank Guarantee should be in accordance with the proforma as provided. However, in case the issuing bank insists for additional paragraph for limitation of liability, the following may be added at the end of the proforma of the Bank Guarantee [i.e., end paragraph of the Bank Guarantee preceding the signature(s) of the issuing authority (ies) of the Bank Guarantee]:

## 5.10 FORM 'X' FORM OF INDEMNITY BOND:

### INDEMNITY BOND TO BE EXECUTED BY THE CONTRACTOR FOR THE EQUIPMENT HANDED OVER..... (Abbreviated name of the Owner)..... FOR PERFORMANCE OF ITS CONTRACT

THIS INDEMNITY BOND is made this..... day of.... 20.....by.... a Company registered under the Companies Act,1956/Partnership firm/proprietary concern having its Registered Office at..... (Hereinafter called as 'Contractor' or "Obligor" which expression shall include its successors and Permitted assigns) in favour of..... (Insert name of the Owner)....., a Company incorporated under the Companies Act,1956 having its Registered Office at..... (insert registered address of the Owner)and its project at.....

(Hereinafter called“..... (abbreviated name of the Owner)....."which expression shall include its successors and assigns):

Whereas..... (Abbreviated name of the Owner)..... has awarded to the Contractor a Contract for..... Vide its Notification of Award/Contract No.....dated.....and its Amendment No..... (Applicable when amendments have been issued) (Hereinafter called the "Contract") in terms of which..... (Abbreviated name of the Owner).....is required to hand over various Equipment to the Contractor for execution of the Contract.

And WHEREAS by virtue of Clause No.....of the said Contract, the Contractor is required to execute an Indemnity Bond in favour of..... (Abbreviated name of the Owner).....for the Equipment handed over to it by ....(abbreviated name of the Owner).....for the purpose of performance of the Contract/Erection portion of the contract(hereinafter called the "Equipment").

AND THEREFORE, This Indemnity Bond witnessed as follows:

1. That in consideration of various Equipment as mentioned in the Contract, valued at (amount inwords.....) handed over to the Contractor for the purpose of performance of the Contract, the Contractor hereby undertakes to indemnify and shall keep.....(abbreviated name of the Owner)

indemnified, for the full value of the Equipment. The Contractor hereby acknowledges receipt of the Equipment as per dispatch title documents handed over to the Contractor duly endorsed in their favour and detailed in the Schedule appended here to. It is expressly understood by the Contractor that handing over of the dispatch title documents in respect to the said Equipment duly endorsed by.....(abbreviated name of the Owner).....in favour of the Contractor shall be construed as handing over of the Equipment purported to be covered by such title documents and the Contractor shall hold such Equipment in trust as a Trustee for and on behalf of.....(abbreviated name of the Owner)

2.That the Contractor is obliged and shall remain absolutely responsible for the safe transit/protection and custody of the Equipment at....(abbreviated name of the Owner)..... project Site against all risks whatsoever till the Equipment are duly used/erected in accordance with the terms of the Contract and the Plant/Package duly erected and commissioned in accordance with the terms of the Contract, is taken over by ....(abbreviated name of the Owner).....The Contractor undertakes to keep.....(abbreviated name of the Owner).....harmless against any loss or damage that may be caused to the Equipment.

3.The Contractor undertakes that the Equipment shall be used exclusively for the performance/execution of the Contract strictly in accordance with its terms and conditions and no part of the equipment shall be utilized for any other work of purpose whatsoever. It is clearly understood by the Contractor that non-observance of the obligations under this Indemnity Bond by the Contractor shall inter-alia constitute a criminal breach of trust on the part of the Contractor for all intents and purpose including legal/penal consequences.

4.That.....(abbreviated name of the Owner)..... is and shall remain the exclusive Owner of the Equipment free from all encumbrances, charges or liens of any kind, whatsoever. The equipment shall at all times be open to inspection and checking by the Employee or Owner's Representative in this regard.

Further,.....(abbreviated name of the Owner).....shall always be free at all times to take possession of the Equipment in whatever form the equipment may be, if in its opinion, the Equipment are likely to been endangered, misutilised or converted to uses other than those specified in the Contract, by any act so fomission or commission on the part of the Contractor or any other person or on account of any reason whatsoever and the Contractor binds himself and undertakes to comply with the directions of demand of (abbreviated name of the Owner).....to return the equipment without any demur or reservation.

5.That this indemnity Bond is irrevocable. If at any time any loss or damage occurs to the Equipment or the same or any part thereof is misutilised in any manner whatsoever,then the Contractor hereby agrees that the decision of the Owner's Representative as to assessment of loss or damage to the Equipment shall be final and binding on the Contractor.The Contractor binds itself and undertakes to replace the lost and/or damaged Equipment at his own cost and/or shall pay the amount of loss to.....(abbreviated name of the Owner)without any demur, reservation or protest. This is without prejudice to any other right or remedy that may be available to.....(abbreviated name of the Owner).....against the Contractor under the Contract and under this Indemnity Bond.

6. NOW THE CONDITION of this Bond is that if the Contractor shall duly and punctually comply with the terms and conditions of this Bond to the satisfaction of.....(abbreviated name of the Owner).....,THEN, the above Bond shall be void, but otherwise, it shall remain in full force and virtue.

IN WITNESS WHEREOF, the Contractor has here unto set its hand through its authorized representative under the common seal of the Company, the day, month and year first above mentioned.

Particulars of the Equipment handed over	Quantity	Particulars of Dispatch Title Documents		Value of the Equipment	Signature of the Attorney in token of receipt
		RR/GR No. date of lading	Carrier		

For and onbehalf of

M/s.....

## WITNESS

1. Signature (Authorized representative) :

Name:

Address(In case of Company):

2. Signature (Authorized representative) :

Name:

Address(In case of Company):

Indemnity Bonds are to be executed by the authorized person and (i) in case of contracting Company under common seal of the Company or (ii) having the power of attorney issued under common seal of the company with authority to execute Indemnity Bonds, (iii) In case of (ii), the original Power of Attorney if it is specifically for this Contractor a Photostat copy of the Power of Attorney if it is General Power of Attorney and such documents should be attached to Indemnity Bond.

### 5.11 FORM 'XI' FORM OF SCHEDULE OF DEVIATIONS

We/I have carefully gone through the technical specification and the general conditions of contract and We/I have satisfied ourselves/myself and hereby confirm that our/my offer strictly conforms to the requirements of the technical specifications and general conditions of contract except for the deviations which are given below:

Sl.No	Description	Stipulation in Specification	Deviations Offered	Remarks
A	Commercial Terms (Clause No.)			
B	Technical Specifications (Clause No.)			

(Please use more sheets, if required).

Signature:

Name:

Dated:

Place:

Bidder

**5.12 FORM 'XII' OF GUARANTEES, LIQUIDATED DAMAGES FOR NON-PERFORMANCE :**

1. The equipments offered shall meet the rating and performance requirements stipulated in Technical Specification for various equipment or indicated in Data requirement.
2. The ratings and performance figures of the below mentioned equipment are guaranteed with respect to fulfilling the value specified in GTP given in respective Indian Standard (up to date) by bidder.

Sl. No.	Description
A.	
B.	
C.	

3. If the aforementioned guarantees are not established at factory tests, then the Owner shall reject the equipment.

Signature:

Name:

Dated:

Place:

**5.13 FORM 'XII' DECLARATION REGARDING BLACKLISTING/ NON-BLACKLISTING FROM TAKING PART IN GOVT.TENDER BY TSECL/GOVT. DEPT**

*(To be executed on Rs.100/- Stamp paper &attested by Public Notary/Executive Magistrate by the bidder)*

I / We Proprietor/ Partner(s)/ Director(s) of M/S. ----- hereby declare that the firm/company namely M/S.-----has not been blacklisted or debarred in the past by TSECL or any other Government organization from taking part in Government tenders.

**Or**

I / We Proprietor/ Partner(s)/ Director(s) of M/S. ----- hereby declare that the firm/company namely M/S.-----was blacklisted or debarred by TSECL, or any other Government Department from taking part in Government tenders for a period of ---- years w.e.f.----- . The period is over on -----and now the firm/company is entitled to take part in Government tenders.

In case the above information found false I/We are fully aware that the tender/ contract will be rejected/cancelled by Tripura State Electricity Corporation Limited and EMD/SD shall be forfeited.

In addition to the above Tripura State Electricity Corporation Limited will not be responsible to pay the bills for any completed / partially completed work.

Signature -----

Name -----

Capacity in which as signed: -----

Name & address of the firm: -----

Date:

\*\*\*\*\*

**SECTION 6:**

**GENERAL TERMS & CONDITIONS OF CONTRACT**

**A. INTRODUCTION:**

**1.0 DEFINITION OF TERMS:**

**1.1** 'The Contract' means the agreement entered into between Tripura State Electricity Corporation Limited and Contractor as per the Contract Agreementsigned by the parties, including all attachments and appendices thereto and all documents incorporated by reference therein.

**1.2** 'Owner' shall mean **TRIPURA STATE ELECTRICITY CORPORATION LIMITED (TSECL)** and shall include their legal representatives, successorsand assigns.

**1.3** 'Contractor' or 'Manufacturer' shall mean the Bidder whose bid shall beaccepted by TSECL for award of the Works and shall include such successfulBidder's legal representatives, successors and permitted assigns.

**1.4** 'Sub-contractor' shall mean the person named in the Contract for any part ofthe Works or any person to whom any part of the Contract has been sublet bythe Contractor with the consent in writing of the owner's Engineer in charge ofthe work and shall include the legal representatives, successors and permittedassigns of such person.

**1.5** 'Consulting Engineer'/'Consultant' shall mean Power Grid Corporation ofIndia Ltd. or any firm or person duly appointed as such from time to time byTSECL ..

**1.6** The terms 'Equipment', 'Stores' and 'Materials' shall mean and includeequipment, stores and materials to be provided by the Contractor under theContract.

**1.7** 'Works' shall mean and include the furnishing of equipment, labourandservices, as per the Specifications and complete erection, testing and puttinginto satisfactory operation including all transportation, handling, unloading andstorage at the Site as defined in the Contract.

**1.8** 'Specifications' shall mean the Specifications and Bidding Documents forminga part of the Contract and such other schedules and drawings as may be mutually agreed upon.

**1.9** 'Site' shall mean and include the land and other places on, into or throughwhich the works and the related facilities are to be erected or installed and anyadjacent land, paths, street or reservoir which may be allocated or used byTSECL or Contractor in the performance of the Contract.

**1.10** The term 'Contract Price' shall mean the item wise price / lump-sum pricequoted by the Contractor in his bid with additions and/or deletions as may beagreed and incorporated in the Letter of Award, for the entire scope of theworks.

**1.11** The term 'Equipment Portion' of the Contract price shall mean the ex-worksvalue of the equipment.

**1.12** The term 'Erection Portion' of the Contract price shall mean the value of field activities of the works including erection, testing and putting into satisfactoryoperation including successful completion of performance and guarantee tests tobe performed at Site by the Contractor including cost of insurances.

**1.13** 'Manufacturer's Works' or 'Contractor's Works', shall mean the place ofwork used by the manufacturer, the Contractor, their collaborators/associate orsub-contractors for the performance of the Contract.

**1.14** 'Inspector' shall mean TSECL or any person nominated by TSECL from timeto time, to inspect the equipment; stores or Works under the Contract and/or theduly authorized representative of TSECL.

**1.15 'Notification of Award of Contract'/Letter of Award'/Telex of Award'** shall mean the official notice issued by TSECL notifying the Contractor that his bid has been accepted.

**1.16 'Date of Contract'** shall mean the date on which Notification of Award of Contract/Letter of Award/Telex of Award has been issued.

**1.17 'Month'** shall mean the calendar month. 'Day or 'Days', unless herein otherwise expressly defined, shall mean calendar day or days of 24 hours each.

**1.18 A 'Week'** shall mean continuous period of seven (7) days.

**1.19 "Writing"** shall include any manuscript, type written or printed statement, under or over signature and/or seal as the case may be.

**1.20** When the words 'Approved', 'Subject to Approval', 'Satisfactory', 'Equal to', 'Proper', 'Requested', 'As Directed', 'Where Directed', 'When Determined by', 'Accepted', 'Permitted', or words and phrases of like importance are used, the approval, judgment, direction etc. is understood to be a function of TSECL.

**1.21 "Test on Completion"** shall mean such tests as prescribed in the Contract to be performed by the Contractor before the work is Taken Over by TSECL.

**1.22 'Start Up'** shall mean the time period required to bring the equipment covered under the Contract from an inactive condition, when construction is essentially complete, to the state ready for trial operation. The startup period shall include preliminary inspection and checkout of equipment and supporting sub-system, initial operation of the complete equipment covered under the Contract to obtain necessary pre-trial operation data, perform calibration and corrective action, shut down, inspection and adjustment prior to the trial operation period.

**1.23 "Initial Operation"** shall mean the first integral operation of the complete equipment covered under the Contract with the sub-system and supporting equipment in service or available for service.

**1.24 'Trial Operation', 'Reliability Test', 'Trial Run', 'Completion Test'** shall mean the extended period of time after the startup period. During this trial operation period, the unit shall be operated over the full load range. The length of Trial Operation shall be as determined by the Engineer of TSECL unless otherwise specified elsewhere in the Contract.

**1.25 'Performance and Guarantee Test'** shall mean all operational checks and tests required to determine and demonstrate capacity, efficiency and operating characteristics as specified in the Contract Documents.

**1.26** The term **'Final Acceptance / Taking Over'** shall mean written acceptance of the Works performed under the Contract by TSECL, after successful commissioning/completion of Performance and Guarantee Tests, as specified in the accompanying Technical Specification or otherwise agreed in the Contract.

**1.27 "Commercial Operation"** shall mean the **Conditions of Operation in which the complete equipment covered under the Contract is officially declared by TSECL to be available for continuous operation at different loads up to and including rated capacity**. Such declarations by TSECL, however, shall not relieve or prejudice the Contractor of any of his obligations under the Contract.

**1.28 'Guarantee period'/'Maintenance Period'** shall mean the period during which the Contractor shall remain liable for repair or replacement of any defective part of the works performed under the contract.

**1.29 'Latent Defects'** shall mean such defects caused by faulty designs, material or workmanship which cannot be detected during inspection, testing etc, based on the technology available for carrying out such tests.

**1.30 'Drawings', 'Plans'** shall mean all:

a) Drawing furnished by TSECL as a basis for Bid Proposals.

- b) Supplementary drawings furnished by TSECL to clarify and define in greater detail the intent of the Contract.
- c) **Drawings submitted by the Contractor with his Bid provided such drawings are acceptable to TSECL.**
- d) Drawings furnished by TSECL to the Contractor during the progress of the Work; and
- e) Engineering data and drawings submitted by the Contractor during the progress of the Work provided such drawings are acceptable to the DGM in charge of the work.

**1.31 “Codes”** shall mean the following including the latest amendments and / or replacement, if any:

- a) A.S.M.E. Test Codes.
- b) A.I.E.E. Test Codes.
- c) American Society of Testing Materials Codes.
- d) Standards of the Indian Standards Institutions.
- e) I.E.E.E. standards.
- f) I.E.C. standards.
- g) Other Internationally approved standards and / or Rules and **Regulations touching the subject matter of the Contract.**

**1.32** Words imparting ‘Person’ shall include firms, companies, corporation and association or bodies of individuals.

**1.33** Terms and expressions not herein defined shall have the same meaning as are assigned to them in the **Indian Sale of Goods Act (1930)**, failing that in the **Indian Contract Act (1872)** and failing that in the **General Clauses Act (1897)** including amendments thereof if any.

**1.34** In addition to the above the following definitions shall also apply.

- a) ‘All equipment and materials’ to be supplied shall also mean ‘Goods’.
- b) ‘Constructed’ shall also mean ‘erected and installed’
- c) ‘Contract Performance Guarantee shall also mean ‘Contract Performance Security’

## **2.0 APPLICATION:**

These General Conditions shall apply to the extent that they are not **superseded by provisions in other parts of the Contract.**

## **3.0 STANDARDS:**

The Goods supplied under this Contract shall conform to the standards mentioned in the Various Technical Specifications and when no applicable standard is mentioned to the authoritative standard appropriate to the Goods and such standards shall be the latest issued by the concerned institution.

## **4.0 LANGUAGE AND MEASURES:**

All documents pertaining to the Contract including specification, Schedules, notices, correspondence, operating and maintenance instructions, drawings or any other writing shall be written in English language. The Metric System of measurement shall be used exclusively in the Contract.

## **5.0 CONTRACT DOCUMENTS:**

**5.1** The term “Contract Documents” shall mean and include the following which shall be deemed to form an integral part of the Contract:

- a) **Invitation of Bid including** letter forwarding the Bidding Documents, Instructions to Bidders, General Terms and Conditions of Contract, Erection Conditions of Contract and all other documents included under the Special Conditions of Contract and various other sections.
- b) **Specifications of the equipment** to be furnished and erected under the Contract as brought out in the accompanying Technical Specification.
- c) **Contractor's Bid proposal** and the documents attached thereto including the letter of clarifications thereto between the Contractor and TSECL prior to the Award of Contract.
- d) **All the materials, literature, data and information of any sort given by the Contractor** along with his bid, subject to the approval of TSECL.
- e) **Letter of Award** and any agreed variations of the conditions of the documents and special terms and conditions of contract if any.

## **6.0 USE OF THE CONTRACT DOCUMENTS AND INFORMATION:**

The Contractor shall not communicate or use in advertising, publicity, sales releases or in any other medium, photographs or other reproduction of the Works under this contract, or descriptions of the site, dimensions, quantity, quality, or other information, concerning the Works unless prior written permission has been obtained from TSECL.

## **7.0 JURISDICTION OF CONTRACT:**

The laws applicable to the Contract shall be the laws in force in India. The Courts of **Agartala** shall have exclusive jurisdiction in all matters arising **under this Contract**.

## **8.0 MANNER OF EXECUTION OF CONTRACT:**

8.1 The contractor should attend the concerned office of TSECL within 15 (fifteen) days from the date of issue of the Letter of Award to the Contractor for signing the contract agreement. The Contractor shall provide for signing of the Contract, Performance Guarantee, appropriate power of attorney and other requisite materials.

8.2 **The Agreement shall be signed in two originals and the Contractor shall be provided with one signed original and the rest shall be retained by TSECL.**

8.3 The Contractor shall provide **free of cost to TSECL** all the engineering data, drawings, and descriptive materials submitted with the Bid, in at least six (6) copies to form a part of the contract immediately after issue of Letter of Award.

8.4 Subsequent to signing of the Contract, the Contractor, at his own cost, shall provide TSECL with at least seven (7) true copies of Agreement and one soft copy including 3 (three) hard copies of the approved drawings within fifteen (15) days after the signing of the Contract.

## **9.0 ENFORCEMENT OF TERMS:**

9.1 The failure of either party to enforce at any time any of the provisions of this Contract or any rights in respect thereto or to exercise any option therein provided shall in no way be construed to be a waiver of such provisions, rights or options or in anyway to affect the validity of the Contract. The exercise by either party of any of its rights herein shall not prejudice either party from exercising the same or any other right it may have under the **Contract**.

## **10.0 COMPLETION OF CONTRACT:**

10.1 Unless otherwise terminated under the provisions of any other relevant clause, this Contract shall be deemed to have been completed on the date stipulated in the NIT.

## **GUARANTEE & LIABILITIES**

### **11.0 TIME – THE ESSENCE OF CONTRACT:**

11.1 The time and the date of completion of the Contract as stipulated in the Contract by TSECL without or with modifications, if any, and so incorporated in the Letter of Award, shall be deemed to be the essence of the Contract. The Contractor shall so organize his resources and perform his Work as to complete it not later than the date agreed to.

11.2 The Contractor shall submit a detailed **BAR CHART / PERT NETWORK** consisting of adequate number of activities covering various key phases of the Work such as design, procurement, manufacturing, shipment and field erection activities within fifteen (15) days of the date of Notice of Award of Contract. This Bar Chart shall also indicate the interface facilities to be provided by TSECL and the dates by which such facilities are needed. The Contractor shall discuss with TSECL for finalization and approval of the Bar Chart by TSECL. The agreed Bar Chart shall form part of the contract documents. During the performance of the Contract, if in the opinion of the owner's Engineer in charge of the work, proper progress is not maintained, suitable changes shall be made in the Contractor's operations to ensure proper progress without any cost implication to TSECL. The interface facilities to be provided by TSECL in accordance with the agreed Bar Chart shall also be reviewed while reviewing the progress of the Contractor.

11.3 Based on the agreed Bar Chart fortnightly reports shall be submitted by the Contractor as directed by the owner's Engineer in charge of the work.

11.4 Subsequent to the finalization of the Bar Chart, the Contractor shall make available to the owner's Engineer in charge of the work a detailed manufacturing programme in line with the agreed Contract Bar Chart. Such manufacturing programme shall be reviewed, updated and submitted to the owner's Engineer in charge of the work once in every month thereafter.

11.5 The above Bar Charts/manufacturing programme shall be compatible with TSECL computer environment and furnished to TSECL on such media as may be desired by TSECL.

### **12.0 EFFECTIVENESS OF CONTRACT:**

The Contract shall be considered as having come into force from the date of the Notification of Award, unless otherwise provided in the Notification of Award.

### **13.0 LIQUIDATED DAMAGES:**

#### **13.1 For Equipment Portion (Excluding Spares)**

13.1.1 If the Contractor fails to successfully complete the commissioning within the time fixed under the Contract, the Contractor shall pay to TSECL as liquidated damages and not as penalty a sum specified for each specified period of delays.

The details of such liquidated damages are brought out in the accompanying Special Conditions of Contract.

13.1.2 Equipment and materials will be deemed to have been delivered only when all its components, parts are also delivered. If certain components are not delivered in time, the equipment and materials will be considered as delayed until such time the missing parts are also delivered.

13.1.3 The liquidated damages for delay in service, beyond the dates stipulated shall be **0.5% (half per cent)** of the price of services to be provided as per agreement, per week or part thereof.

**The total amount of liquidated damages for delay under the Contract will be subject to a maximum of 5% of the Contract price.**

#### **13.2 For Spares:-**

13.2.1 The liquidated damages for delay in supply of spares, beyond the dates stipulated under shall be **1% (One per cent)** of the price of undelivered spares, per week or part thereof.

13.2.2 The total amount of liquidated damages for delay under the Contract shall be subject to a maximum of **ten per cent (10%)** of the value of spares ordered unless otherwise specifically mentioned in Special Conditions of Contract.

#### **14.0 GUARANTEE:**

14.1 The Contractor shall warrant that the equipment shall be new, unused and in accordance with the contract documents and free from defects in material and workmanship for a period of Twelve (12) calendar months commencing immediately upon the satisfactory commissioning. The Contractor's liability shall be limited to the replacement of any defective parts in the equipment of his own manufacture or those of his sub-contractors under normal use and arising solely from faulty design, materials and/or workmanship provided always that such defective parts are repairable at the site and are not in the meantime essential in the commercial use of the equipment. Such replaced/defective parts shall be returned to the Contractor unless otherwise arranged. No repairs or replacement shall normally be carried out by owner's Engineer in charge (**Deputy General Manager / Senior Manager**) of the work when the equipment is under the supervision of the Contractor's supervisory engineer.

14.2 In the event of any emergency, where in the judgment of the owner's Engineer in Charge of work, delay would cause serious loss or damages, repairs or adjustment may be made by him or a third party chosen by him without advance notice to the Contractor and the cost of such work shall be paid by the Contractor. In the event such action is taken by the **Deputy General Manager / Senior Manager** in Charge of work, the Contractor shall be notified promptly and he shall assist wherever possible in making necessary corrections. This shall not relieve the Contractor of his liabilities under the terms and conditions of the Contract.

14.3 If it becomes necessary for the Contractor to replace or renew any defective portions of the Works, the provision of this clause shall apply to portion of the Works so replaced or renewed until the expiry of Twelve (12) months from the date of such replacement or renewal. If any defects are not remedied within reasonable time, the **Deputy General Manager / Senior Manager** in Charge of work may proceed to do the work at the Contractor's risk and cost, but without prejudice to any other rights which TSECL may have against the Contractor in respect of such defects.

14.4 The repaired or new parts shall be furnished and erected free of cost by the Contractor. If any repair is carried out on his behalf at the site, the Contractor shall bear the cost of such repairs.

14.5 The cost of any special or general overhaul rendered necessary during the maintenance period due to defects in the equipment or defective work carried out by the Contractor shall be borne by the Contractor.

14.6 The acceptance of the equipment by the **Deputy General Manager / Senior Manager in Charge of work** shall in no way relieve the Contractor of his obligation under this clause.

14.7 In the case of those defective parts, which are not repairable at site but are essential for the commercial operation of the equipment, the Contractor and the Owner's Engineer in Charge of work shall mutually agree to a programme of replacement or renewal, which shall minimize interruption to the maximum extent in the operation of the equipment.

14.8 At the end of the guarantee period, the **Contractor's liability ceases except for latent defects**. For latent defects, the Contractor's liability as mentioned in clause nos. **14.1 through 14.7** above shall remain till the end of **5 years from the date of commissioning**.

In respect of goods supplied by sub-contractors to the Contractor, where longer guarantee (more than 12 months) is provided by such sub-contractor, TSECL shall be entitled to the benefits of such longer guarantee.

14.9 The provisions contained in this clause shall not be applicable:

- a) If TSECL has not used the equipment according to the generally approved industrial practice and in accordance with the conditions of operations specified and in accordance with operating manuals, if any.
- b) In cases of normal wear and tear of the parts to be specifically mentioned by the Contractor in the offer.

## **15.0 TAXES, PERMITS & LICENCES:**

The Contractor shall be liable and pay all non-Indian taxes, duties, levies lawfully assessed against TSECL or the Contractor in pursuance of the Contract. In addition, the Contractor shall be responsible for payment of all Indian duties, levies and taxes lawfully assessed against this contract.

## **16.0 REPLACEMENT OF DEFECTIVE PARTS AND MATERIALS:**

16.1 If during the performance of the Contract, owner's Engineer in charge of the work shall decide and inform in writing to the Contractor that the Contractor has manufactured any equipment, material or part of equipment unsound and imperfect or has furnished any equipment inferior to the quality specified, the Contractor on receiving details of such defects or deficiencies shall at his own expense within Seven (7) days of his receiving the notice, or otherwise, within such time as may be reasonably necessary for making it good, proceed to alter, reconstruct or remove such works and furnish fresh equipment/materials up to standards of the specifications. In case, the Contractor fails to do so, the Owner's Engineer in charge of the work may on giving the Contractor Seven (7) days' notice in writing of his intentions to do so, proceed to remove the portion of the works so complained of and at the cost of the Contractor perform all such work or furnish all such equipment/materials.

16.2 The Contractor's full and extreme liability under this clause shall be satisfied by the payment to TSECL of the extra cost, of such replacement procured including erection as provided for in the Contract, such extra cost being the ascertained difference between the price paid by TSECL for such replacements and the Contract Price by portion for such defective equipment/materials/works and repayments of any sum paid by TSECL to the Contractor in respect of such defective equipment/material. Should TSECL not so replace the defective equipment/materials, the Contractor's extreme liability under this clause shall be limited to repayment of all sums paid by TSECL under the Contract for such defective equipment/materials.

## **17.0 PATENT RIGHTS AND ROYALTIES:**

**Royalties and fees for patents** covering materials, articles, apparatus, devices, equipment or processes used in the Works shall be deemed to have been included in the Contract Price. The Contractor shall satisfy all demands that may be made at any time for such royalties or fees and he alone shall be liable for any damages or claims for patent infringements and shall keep TSECL indemnified in that regard. The Contractor shall, at his own cost and expense, defend all suits or proceedings that may be instituted for alleged infringement of any patents involved in the Works, and, in case of an award of damages, the Contractor shall pay for such award. In the event of any suit or other proceedings instituted against TSECL, the same shall be defended at the cost and expense of the Contractor who shall also satisfy/comply with any decree, order or award made against TSECL. But it shall be understood that no such machine, plant, work, material or thing has been used by TSECL for any purpose or any manner other than that for which they have been furnished and installed by the Contractor and specified under these specifications. Final payment to the Contractor by TSECL shall not be made while any such suit or claim remains unsettled. In the event any apparatus or equipment, or any part thereof furnished by the Contractor, is in such suit or proceedings held to constitute infringement, and its use is enjoined, the Contractor shall at his option and at his own expense, either procure for TSECL, the right to continue the use of said apparatus, equipment or part thereof, replace it with non-infringing apparatus or equipment or modify it, so it becomes non-infringing.

## **18.0 DEFENCE OF SUITS:**

If any action in court is brought against TSECL for the failure, omission or neglect on the part of the Contractor to perform any acts, matters, or things under the Contract, or for damage or injury caused by the alleged omission or negligence on the part of the Contractor, his agents, representatives or his Sub-Contractors, or in connection with any claim based on lawful demands of Sub-Contractors, workmen, suppliers or employees, the Contractor shall in all such cases indemnify and keep TSECL, from all losses, damages, expenses or **decrees arising of such action.**

## **19.0 LIMITATION OF LIABILITIES:**

The final payment by TSECL in pursuance of the Contract shall mean the release of the Contractor from all his liabilities under the Contract. Such final payment shall be made only at the end of the Guarantee/Warranty Period, and till such time as the contractual liabilities and responsibilities of the Contractor, shall prevail. All other payments made under the Contract shall be treated as on-account payments.

## **20.0 POWER TO VARY OR OMIT WORK:**

20.1 No alterations, amendments, omissions, suspensions or variations of the Works (hereinafter referred to as 'variation') under the Contract as detailed in the Contract Documents, shall be made by the Contractor except as directed in writing by owner's Engineer in charge of the work, but he shall have full powers subject to the provisions hereinafter contained, from time to time during the execution of the Contract, by notice in writing to instruct the Contractor to make such variation without prejudice to the Contract. The Contractor shall carry out such variation and be bound by the same conditions as far as applicable as though the said variations occurred in the Contract Documents. If any suggested variations would, in the opinion of the Contractor, if carried out, prevent him from fulfilling any of his obligations or guarantees under the Contract, he shall notify the Engineer thereof in writing and the Engineer shall decide forthwith whether or not, the same shall be carried out and if the Engineer confirm his instructions, the Contractor's obligations and guarantees shall be modified to such an extent as may be mutually agreed. Any agreed difference in cost occasioned by any such variation shall be added to or deduced from the Contract Price as the case may be.

20.2 In the event of the Engineer requiring any variation, a reasonable and proper notice shall be given to the Contractor to enable him to work his arrangement accordingly, and in cases where goods or materials are already prepared or any design, drawings or pattern made or work done requires to be altered, reasonable and agreed sum in respect thereof shall be paid to the Contractor.

20.3 In any case in which the Contractor has received instructions from the **Deputy General Manager / Senior Manager** in charge of the work as to the requirement of carrying out the **alterations or additional or substituted work** which either then or later on, shall in the opinion of the Contractor, involve a claim for additional payment, the Contractor shall immediately and in no case later than Thirty (30) days, after receipt of the instructions aforesaid and before carrying out the instructions, advise the Owner's Engineer in charge of the work to that effect. But the Owner's Engineer in charge of the work shall not become liable for the payment of any charges in respect of any such variations, unless the instructions for the performance of the same shall be confirmed in writing by the **Deputy General Manager** in charge of the work.

20.4 If any variation in the Works results in reduction of Contract Price, the parties shall agree, in writing, to the extent of any change in the price, before the Contractor proceeds with the change.

20.5 In all the above cases, in the event of a disagreement as to the reasonableness of the said sum, the decision of owner's Engineer in charge of the work shall prevail.

20.6 Notwithstanding anything stated above in this clause, owner's Engineer in charge of the work shall have the full power to instruct the Contractor, in writing, during the execution of the Contract to vary the quantities of the items or groups of items in accordance with the provisions of clause entitled 'Change of Quantity in Section – III'. The Contractor shall carry out such variations and be bound by the same conditions as though the said variations occurred in the Contract Documents.

## **21.0 ASSIGNMENT AND SUB-LETTING OF CONTRACT:**

21.1 The Contractor may, after informing owner's Engineer in charge of the work and getting his written approval, assign or sub-let the Contract or any part thereof other than supply of main equipment's and any part of the plant for which makes are identified in the Contract. Suppliers of the equipment not identified in the Contract or any change in the identified suppliers shall be subjected to approval by the owner's Engineer in charge of the work. The experience list of equipment vendors under consideration by the Contractor for this Contract shall be furnished to the owner's Engineer in charge of the work for approval, prior to procurement of all such items/equipment. Such assignment/sub-letting shall not relieve the Contractor of any obligation, duty or responsibility under the Contract. Any assignment as above, without prior written approval of the owner's Engineer in charge of the work, shall be void.

21.2 For components/equipment procured by the Contractor for the purposes of the Contract, after obtaining the written approval of TSECL, the Contractor's purchase specifications and enquiries shall call for quality plan to be submitted by the suppliers along with their proposals. The quality plans called for from the Vendors shall set out, during the various stages of manufacture and installation, the quality practices and procedures followed by the Vendors quality control organization, the relevant reference document/standard used, acceptance level, inspection documentation raised, etc. Such quality plans of the successful vendors shall be discussed and finalized in consultation with the owner's Engineer in charge (**Deputy General Manager / Senior Manager**) of the work and shall form part of the purchase order/contract between the Contractor and the Vendor. Within three weeks of the release of the purchase orders/contracts for such bought out items/components, a copy of the same without price details but together with detailed purchase specifications, quality plans and delivery conditions shall be furnished to the owner's Engineer in charge of the work by the Contractor.

## **22.0 CHANGE OF QUANTITY:**

22.1 During the execution of the Contract, TSECL reserves the right to increase or decrease the quantities of items under the Contract but without any change in unit price or other terms & conditions. Such variations shall not be subjected to any limitation for the individual items but **the total variations in all such items including items not covered under the Contract shall be limited to  $\pm 10\%$ .**

22.2 The Contract price shall accordingly be adjusted based on the unit rates available in the Contract for the change in quantities as above. The base unit rates, as identified in the Contract shall however remain constant during the currency of the Contract, except as provided for in clause 31.0 below. In case, the unit rates are not available in the contract, the same shall be worked out as below: -

- i) If the rates for the additional, altered or substituted work are specified in the contract, the contractor is bound to carry the additional, altered or substituted work at the same rates as are specified in the contract.
- ii) If the rates for the additional, altered or substituted work are not specifically provided in the contract, the rates will be derived from a similar class of work as are specified in the contract.
- iii) If the rates for the additional, altered or substituted work includes any work for which no rate is specified in the contract / cannot be derived from the similar class of work in the contract, then such work shall be carried out at the rates which will be determined on the basis of current schedule of rate of TSECL above minus / plus the percentage which the total contract amount bears to the estimated cost put to tender. Provided always if the rate for particular part or parts of the item is not available in the schedule of rates the rate of such part or parts will be determined by TSECL of the work on the basis of the prevailing market rate when the work was done.
- iv) If the rates for the additional, altered or substituted work cannot be determined in the manner specified in sub-clause i, ii & iii above, then the contractor shall within 7 (Seven) days of receipt of order to carry out the order, inform the owner's Engineer in charge of the work of rate which it is his intention to charge for such class of work, supported by analysis of rate or rates claimed, and TSECL shall determine the rate or rates claimed with mutual settlement with the contractor.
- v) The deviation limit referred to above is the net effect (**algebraically sum**) of all additions and deductions ordered.
- vi) Time for the completion for the work shall be extended in the proportion that the altered, additional or substituted work bears to the original contract of the work and the certificate of the owner's Engineer in charge (**Deputy General Manager / Senior Manager**) of the work shall be conclusive for approval of the time extension by TSECL.

## **PAKING, FORWARDING AND SHIPMENT:**

23.1 The Contractor, wherever applicable, shall after proper painting, pack and crate all equipment in such a manner as to protect them from deterioration and damage during rail and road transportation to the site and

storage at the site till the time of erection. The Contractor shall be held responsible for all damages due to improper package.

23.2 The Contractor shall notify the owner's Engineer in charge of the work of the date of each shipment from his works, and the expected date of arrival at the site.

23.3 The Contractor shall also give all shipping information concerning the weight, size and content of each packing including any other information the owner's Engineer in charge of the work may require.

23.4 The Contractor shall prepare detailed packing list of all packages and containers, bundles and loose materials forming each and every consignment to be dispatched to Site. The Contractor shall further be responsible for making all necessary arrangements for loading, unloading and other handling, right from his works up to the Site and also till the equipment is erected, tested and commissioned. He shall be solely responsible for proper storage and safe custody of all equipment.

### **23.5 CO-OPERATION WITH OTHER CONTRACTORS AND CONSULTING ENGINEERS:**

The Contractor shall agree to cooperate with the TSECL's Consulting Engineers and freely exchange with them such technical information, as is necessary to obtain the most efficient and economical design and to avoid unnecessary duplication of efforts. The owner's Engineer in charge (**Deputy General Manager / Senior Manager**) of the work shall be provided with three copies of all correspondence addressed by the Contractor to the consulting Engineers of TSECL in respect of such exchange of technical information.

### **24.0 NO WAIVER OF RIGHTS:**

Neither the inspection by TSECL nor any order by TSECL for payment of money or any payment for or acceptance of, the whole or any part of the Works by the owner's Engineer in charge of the work, nor any extension of time, nor any possession taken by the owner's Engineer in charge of the work shall operate as a waiver of any provision of the Contract, or of any power herein reserved to TSECL or any right to damages herein provided nor shall any waiver of any breach in the Contract be held to be a waiver of any other or subsequent breach.

### **25.0 CERTIFICATE NOT TO AFFECT RIGHT OF TSECL AND LIABILITY OF CONTRACTOR:**

No interim payment certificate of the **owner's Engineer in charge of the work**, nor any sum paid on account by TSECL, nor any extension of time for execution of the Works granted by TSECL shall affect or prejudice the rights of TSECL against the Contractor or relieve the Contractor of his obligation for the due performance of the Contractor, or be interpreted as approval of the Works done or of the equipment furnished and no certificate shall create liability for TSECL to pay for alterations, amendments, variations or additional works not ordered, in writing, by the owner's Engineer in charge of the work or discharge the liability of the Contractor for the payment of damages whether due, ascertained or certified or not or any sum against the payment of which he is bound to indemnify TSECL, nor shall any such certificate nor the acceptance by him of any sum paid on account or otherwise affect or prejudice the rights of TSECL against the Contractor.

### **26. INSPECTION AND TESTING OF EQUIPMENTS / MATERIALS**

**26.1** PCC pole, LT AB cable, UG cable & necessary accessories AB Switch, DO Fuse, Stay set complete, MS Channel / Angle, Suspension clamp, Pole clamp, Eye hook, IPC, Service Distribution box, ACSR (6/1/2.59) conductor, Disc & Pin Insulator, LA, nuts & bolts within scope of supply under the contract, will be dispatched only after issuance of "Materials Inspection Clearance Certificate (MICC)" by the inspecting Officer / team of TSECL. **Waiver of Inspection may be accorded by TSECL with deduction of inspection cost @ 3 % of the value of materials for which inspection to be waived. In that case bidder should submit the routine test certificate of manufacturers which shall be on the basis for acceptance of such materials by TSECL. No such materials will be accepted without test certificate.**

**26.2** After manufacturing or at the stage of dispatch of equipments / materials the contractor shall give intimation to the owner's Engineer in charge of the work for conducting inspection of equipments / materials at manufacture's works or at recognized testing laboratories to be arranged by the contractor. **The intimation shall be made at least 15(fifteen) days before the equipments / materials become ready for dispatch.**

**26.3** Testing of equipments / materials as specified above shall be conducted at the risk and cost of the contractor. **The contractor shall also bear the to and fro traveling, fooding and lodging charges of the inspecting officer / team of TSECL. Hence all expenses for any inspection conducted within state or outside the state will be borne by the contractor.**

## **27.0 EXTENSION OF TIME:**

27.1 TSECL may consider granting **time extension** for completion of the work if it is felt absolutely essential on fulfillment of following conditions by the Contractor:-

- a) The contractor must apply to the Engineer-In-charge in writing for extension of time so required justifying the necessity.
- b) Such application must state **the grounds** which hindered the contractor in the execution of the work within the time as stipulated in the contract document.
- c) Such application must be made within 30 days of the date on which such hindrance had arisen.
- d) The **Engineer-in charge** must be of the opinion that the grounds shown for the extension of time are reasonable and without extension of such time completion of the work is practically impossible.

28. **The Engineer-In- Charge (Deputy General Manager)** will have full powers, but the orders on the application of the Contractor accepted by the Authorities higher than the Engineer-In-Charge shall be issued by him only after written approval from the concerned authority higher than Engineer-In-Charge.

29. The opinion of the **Engineer- in- charge (Deputy General Manager)**, whether the grounds shown for the time are or are not reasonable, is final. If the **Engineer- in- charge** is of the opinion that the grounds shown by the supplier/contractor are not reasonable and declines to grant extension to time, the supplier/contractor cannot challenge.

## **30.0 TAKING OVER:**

Upon successful completion of all the tests to be performed at Site on equipment furnished and erected by the Contractor, the owner's Engineer in charge of the work shall issue to the Contractor a **Taking over Certificate** as proof of the final acceptance of the equipment. Such certificate shall not unreasonably be withheld.

## **CONTRACT SECURITY AND PAYMENTS**

### **31.0 CONTRACT PERFORMANCE GUARANTEE**

The Contractor shall furnish **Contract Performance Guarantee**

for the proper fulfillment of the Contract within Fifteen (15) days of “**Notice of Award of Contract.**”

### **32.0 CONTRACT PRICE ADJUSTMENT**

**32.1 All prices / price components of the contract shall remain firm and no adjustment of price, whatsoever, shall be applicable during the currency of contract**

### **33.0 PAYMENT**

**33.1** For tenderer(s) payment will be made through RTGS within 60 (sixty days) of submission of invoice in complete shape along with required documents / certificates.:

Payment will be made in accordance with Payment Schedule in mentioned herein after.

Any terms of advance payments i.e. payments against dispatch documents/Bank documents will not be acceptable.

In no circumstances, claim of interest on payment shall be entertained.

The final payment will be made on completion of all Works and on completion of **Warranty / Guaranty Period** including fulfillment by the Contractor of all his liabilities under the Contract.

### **33. Currency of Payment**

All payments under the Contract shall be in Indian Rupees only.

### **33.3 Due Dates for Payments**

TSECL will make progressive payment as and when the payment is due as per the terms of payment set forth as herein after.

### **34.0 Mode of Payment**

**34.1** Payment due on supply materials / services shall be made by the owner's Engineer in charge of the work through RTGS

### **.34.2 Payment Schedule**

The terms of payments for various activities under the contract are as under.

## **Price of Supply and Erection**

The terms of payments for price of all equipment / materials and erection are detailed herein after.

A) **Supply of Hardware, cable accessories, other sundry/ materials excepting Spares, Tools & Plant.**

I. **80% of the cost of materials after:**

- a. Acknowledgement of Letter of Award.
- b. Submission of contract performance guarantee as per clause 7.0 (Section – I).
- c. Submission of a detailed Bar Chart based on the work schedule stipulated in the Bid document and its approval by TSECL.
- d. Signing of contract agreement.
- e. On production of dispatch documents (Delivery Challan in original) including the material inspection clearance certificate (MICC) issued by the inspecting officer / team of TSECL.
- f. Finally, **on receipt of materials at site.** (Store receipt voucher (SRV) issued by an officer not below the rank of Senior Manager or Manager In- charge)
- g. Insurance policy/certificate.
- h. Manufacturer's/Contractor's guarantee certificate of quality of supplied equipments and materials.

**Progressive bill value for supplied of equipment / materials shall not be less than Rs. 6.0 Lakh**

- II. Balance 10% of the cost of materials / Cable accessories /Hardware / other sundry materials etc. after **successful erection** at site.
- III. Balance 10% of the cost after successful commissioning.

B) **For the Erection Component**

- a. **90% on successful erection of materials / Equipments/ Cable accessories /Hardware / other sundry materials etc** as per lay-out drawing / Erection Schedule / Erection Key Diagram submitted by the bidder and approved by TSECL.
- b. Balance 10% of the erection cost of materials / Equipments / Cable accessories /Hardware / other sundry materials etc. after **successful commissioning**.

**c. Progressive bill value for erection / laying component shall not be less than Rs. 3Lakh**

**C ) For the Spares & Tools & Plant**

**100% on receipt of the Spares and T& Plants in full and good condition.**

**34..3 Inland Transportation & Insurance**

Inland transportation (including port handling) and inland insurance charges shall be borne by the contractor and TSECL in no way shall be liable for the inland transportation and insurance charges.

**35.0 DEDUCTION FROM CONTRACT PRICE**

All costs, damages or expenses which TSECL may have paid, for which under the Contract, the Contractor is liable, will be deducted from the progressive bill of the contractor.

## **36.0 SPARES**

- 36.1 All the spares for the equipment under the Contract will, strictly, conform to the specification and documents and will be identical to the corresponding main equipment / components supplied under the Contract and shall be fully interchangeable.
- 36.2 All the mandatory spares covered under the Contract shall be produced along with the main equipment as a continuous operation and the delivery of the spares will be affected along with the main equipment in a phased manner and the delivery would be completed by the respective dates for the various categories of equipment as per the agreed Bar chart. In case of recommended spares, the above will be applicable provided the order for the recommended spares has been placed with the Contractor prior to commencement of manufacture of the main equipment
- 36.3 The quality plan and the inspection requirement finalized for the main equipment will also be applicable for the corresponding spares.
- 36.4 The Contractor will provide TSECL with the manufacturing drawings, catalogues, assembly drawings and any other documents required by TSECL so as to enable the Owner to identify the recommended spares. Such details will be furnished to TSECL as soon as they are prepared but in any case not later than six months prior to commencement of manufacture of the corresponding main equipment.
- 36.5 The Contractor will provide TSECL with all the addresses and particulars of his sub-suppliers while placing the order on vendors for items/components/equipment covered under the Contract and will further ensure with his vendors that TSECL, if so desires, will have the right to place order (s) for spares directly on them on mutually agreed terms based on offers of such vendors.

## **36.6 WARRANTIES FOR SPARES**

The Contractor shall warrant that all spares supplied will be new and in accordance with Contract Documents and will be free from defects in design, materials and workmanship and shall further guarantee as under:

- 36.6.1 for 3 years operational spares (both mandatory and recommended)
- a. For any item of spares ordered or to be ordered by TSECL for 3 years operational requirement of the plant which is manufactured as a continuous operation together with the corresponding main equipment/component, the warranty will be 12 months from the scheduled date of commercial operation of the last unit of main equipment under the Contract. In case of any failure in the original component/equipment due to faulty designs, materials and workmanship, the corresponding spare parts, if any, supplied will be replaced without any extra cost to TSECL unless a joint examination and analysis by TSECL and the Contractor of such spare parts prove that the defect found in the original part that failed, can safely be assumed not to be present in spare parts. Such replaced spare parts will have the same warranty as applicable to the replacement made for the defective original part/component provided that such replacement for the original equipment and the spare replaced are again manufactured together. The discarded spare parts will become the property of the Contractor as soon as they have been replaced by the Contractor.
  - b. For the item of spares ordered/to be ordered by TSECL for 3 years operational requirement of the equipment, which with the written approval of the Owner, are not manufactured as a continuous operation together with the manufacture of the corresponding main equipment/component, will be warranted for 6000 hrs of trouble free operation, if used within a period of 18 months (reckoned from the date of delivery at Site). However, if such spare parts are put to use after 18 months of the delivery at site then the guarantee of such

spares will stand valid till the expiry of 36 months from the scheduled date of the completion of commissioning of the last unit of equipment or 6000 hrs of trouble free operation after such spares are put in service, whichever is earlier.

c. For long Term Requirement.

For items of spares that may be ordered by TSECL to cover requirements beyond 3 years of initial operation of the plant, the warranty will be till the expiry of 6000 hrs of trouble free operation if used within a period of 18 months from the date of delivery at Site. For items of spares that may be used after 18 months from the date of delivery at Site, the warranty period will be 12 months from the date they are put to use or 6000 hrs of trouble free operation, whichever is earlier.

- 36.6.2 The warranty of spares that are not used within 18 months from the respective dates of the delivery at Site covered in Para (b) & (c) above will, however, be subject to the condition that all such spares have been stored/maintained/preserved in accordance with Contractor's standard recommended practice, if any, and the same have been furnished to TSECL.
- 36.6.3 To enable TSECL to finalize the requirement of recommended spares which are ordered subsequent to placement of order for main equipment in addition to necessary technical details, catalogue and such other information brought-out here-in-above, the Contractor will also provide a justification in support of reasonableness of the quoted prices of spares which will, inter-alia, include documentary evidence that the prices quoted by the Contractor are not higher than those charged by them from other customers in the same period.
- 36.6.4 In addition to the spares recommended by the Contractor, if TSECL further identifies certain particular items of spares, the Contractor will submit the prices and delivery quotations for such spares within 30 days of receipt of such request with validity period for 6 months for consideration of placement of order for additional spares, if TSECL so desires
- 36.6.5 The Contractor shall guarantee the long-term availability of spares to TSECL for the full life of the equipment covered under the Contract. The Contractor shall guarantee that before going out of production of spare parts of the equipment, he shall give at least twelve (12) months advance notice so that the latter may order his bulk requirement of spares, if he so desires. The same provision will also be applicable to Sub-Contractor of any spares by the Contractor or his Sub-Contractors. Further, in case of discontinuance of manufacture of any spares by the Contractor or his Sub-Contractors, the Contractor will provide TSECL, two years in advance, full manufacturing drawings, material specifications and technical information required by TSECL for the purpose of manufacture of such items.
- 36.6.6 Further in case of discontinuance of supply of spares by the Contractor or his Sub-contractors, the Contractor will provide TSECL with full information for replacement of such spares with other equivalent makes, if so required by TSECL.
- 36.6.7 The prices of all future requirements of items of spares beyond 3 years operational requirement will be derived from the corresponding ex-works price at which the order for such spares have been placed by TSECL as part of mandatory spares or recommended spares. Ex-works order price of future spares shall be computed in accordance with the price adjustment provisions covered under the main Contract excepting that 'the base indices will be counted from the scheduled date of successful completion of trial operation of the last equipment under the main project and there will be no ceiling on the amount of narration in the prices. The above option for procuring future long term requirement of spares by TSECL shall remain valid for a period of 5 years from successful completion of commissioning of the last unit of equipment.
- 36.6.8 The Contractor will indicate in advance the delivery period of the items of spares, which TSECL may procure in accordance with above Sub-clause. In case of emergency requirements of spares, the

Contractor would make every effort to expedite the manufacture and delivery of such spares on the basis of mutually agreed time schedule.

- 36.6.9 In case the Contractor fails to supply the mandatory, recommended or long term spares in accordance with the terms stipulated above, TSECL shall be entitled to purchase the same from alternate sources at the risk and the cost of the Contractor and recover from the Contractor, the excess amount paid by TSECL over the rates worked out on the above basis. In the event of such risk purchase by TSECL, the purchases will be as per the works and procurement policy of TSECL prevalent at the time of such purchases and at his option, may include a representative of the Contractor in finalizing the purchases.
- 36.6.10 It is expressly understood that the final settlement between the parties in terms of the relevant clauses of the Bidding Documents shall not relieve the Contractor of any his obligations under the provision of long term availability of spares unless otherwise discharged in writing by TSECL.

### **37.0 TRANSFER OF THE TITLE**

- 37.1 This Transfer of Title of equipments / materials shall not be construed to mean the acceptance and the consequent “Taking Over” of equipment and materials. The Contractor shall continue to be responsible for the quality and performance of such equipment and materials and for their compliance with the specifications until “**Taking Over**” and the fulfillment of guarantee provisions of this Contract.
- 37.2 This Transfer of Title shall not relieve the Contractor from the responsibility for all **risks of loss or damage to** the equipment and materials as specified under the clause entitled “Insurance” of this Section.

### **38.0 INSURANCE**

- 38.1 The Contractor at his cost shall arrange, secure and maintain all insurance as may be pertinent to the Works and obligatory in terms of law to protect his interest and interests of TSECL against all perils detailed herein. The form and the limit of such insurance as defined herein together with the under-writer in each case shall be acceptable to TSECL. However, irrespective of such acceptance, the responsibility to maintain adequate insurance coverage at all times during the period of Contract shall be of the Contractor alone. The Contractor’s failure in this regard shall not relieve him of any of his contractual responsibilities and obligations. The insurance covers to be taken by the Contractor shall be in a joint name of TSECL and the Contractor. The Contractor shall, however, be authorized to deal directly with Insurance Company or Companies and shall be responsible in regard to maintenance of all insurance covers. Further the insurance should be in freely convertible currency.
- 38.2 Any loss or damage to the equipment during handling, transportation, storage, erection, putting into satisfactory operation and all activities to be performed till the successful completion of commissioning of the equipment shall be to the account of the Contractor. The Contractor shall be responsible for preference of all claims and make good the damages or loss by way of repairs and/or replacement of the equipment, damaged or lost. The transfer of title shall not in any way relieve the Contractor of the above responsibilities during the period of Contract. The Contractor shall provide TSECL with copy of all insurance policies and documents taken out by him in pursuance of the Contract. Such copies of documents shall be submitted to TSECL immediately after such insurance coverage. The Contractor shall also inform TSECL 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.

38.3 The perils required to be covered under the insurance shall include, but not be limited to fire and allied risks, miscellaneous accidents (erection risks) workman compensation risks, loss or damage in transit, theft, pilferage, riot, strikes, social unrest and malicious damages, civil commotion, weather conditions, accidents of all kinds, etc. The scope of such insurance shall be adequate to cover the replacement/reinstatement cost of the equipment for all risks upto and including delivery of goods and other costs till the equipment is delivered at Site. The insurance policies to be taken should be on replacement value basis and/or incorporating escalation clause. Notwithstanding the extent of insurance cover and the amount of claim available from the underwriters, the Contractor shall be liable to make good the full replacement/rectification value of all equipment/materials and to ensure their availability as per project requirements.

38.4 All costs on account of insurance liabilities covered under the Contract will be to Contractor's account and will be included in Contract Price, However, TSECL may from time to time, during the pendency of the Contract, ask the Contractor in writing to limit the insurance coverage, risks and in such a case, the parties to the Contract will agree for a mutual settlement, for reduction in Contract price to the extent of reduced premium amount. The Contractor, while arranging the insurance shall ensure to obtain all discounts on premium, which may be available for higher volume or for reason of financing arrangement of the project.

38.5 The clause entitled 'Insurance' under the Section - IV, covers the additional insurance requirements for the portion of the works to be performed at the Site

### **39.0 LIABILITY FOR ACCIDENTS AND DAMAGES**

Under the Contract, the Contractor shall be responsible for loss or damage to the equipment until the successful completion of commissioning as defined else-where in the Bidding Documents.

### **40.0 DELAYS BY TSECL OR HIS AUTHORISED AGENTS**

40.1 In case the Contractor's performance is delayed due to any act on the part of TSECL or his authorized agents, then the Contractor shall be given due extension of time for the completion of the Works, to the extent of such act on the part of TSECL has caused delay in the Contractor's performance of the Contract.

Regarding reasonableness or otherwise of the extension of time, the decision of the TSECL shall be final.

### **41.0 DEMURRAGE, WHARFAGE, ETC.**

All demurrage, wharf age and other expenses incurred due to delayed clearance of the material or any other reason shall be to the account of the Contractor.

### **42.0 FORCE MAJEURE**

42.1 Force majeure is herein defined as any cause which is beyond the control of the Contractor or TSECL as the case may be, which they could not foresee or with a reasonable amount of diligence could not have foreseen and which substantially affects the performance of the Contract, such as:

- a. Natural phenomena, including but not limited to floods, droughts, earthquakes and epidemics;
- b. Acts of any Government including but not limited to war, declared or undeclared, quarantines and embargoes.

Provided the contractor shall within Fifteen (15) days from the occurrence of such a cause notify TSECL in writing of such causes, acceptance of which will be given by TSECL after verification.

42.2 The Contractor or TSECL shall not be liable for delays in performing his obligations resulting from any force-majeure cause as referred to and/or defined above.

The date of completion will, subject to hereinafter provided, be extended by a reasonable time.

### **43.0 SUSPENSION OF WORK**

43.1 TSECL reserves the right to suspend and reinstate execution of the whole or any part of the Works without invalidating the provisions of the Contract. Orders for Suspension or reinstatement of the Works will be issued by TSECL to the Contractor in writing. The time for completion of the works will be extended for a period equal duration of the suspension.

### **44.0 CONTRACTOR'S DEFAULT**

44.1 If the Contractor shall neglect to execute the Works with due diligence and expertise or shall refuse or neglect to comply with any reasonable order given to him, in the Contract by the TSECL's Engineer in charge of the work in connection with the works or shall contravene the provisions of the Contract, TSECL may give notice in writing to the Contractor to make good the failure, neglect or contravention complained of. Should the Contractor fail to comply with the notice within Thirty (30) days from the date of serving the notice, then and in such case TSECL shall be at liberty to employ other workmen and forthwith execute such part of the Works as the Contractor, may have neglected to do or if TSECL shall think fit, without prejudice to any other right he may have under the Contract to take the work wholly or in part out of the Contractor's hands and re-contract with any other person or persons to complete the works or any part thereof and in that event TSECL shall have free use of all Contractor's equipment that may have been at the time on the Site in connection with the works without being responsible to the Contractor for fair wear and tear thereof and to the exclusion of any right of the Contractor over the same, and TSECL shall be entitled to retain and apply any balance which may otherwise be due on the Contract by him to the Contractor, or such part thereof as may be necessary, to the payment of the cost of executing the said part of the Work or of completing the Works as the case may be. If the cost of completing of Works or executing a part thereof as aforesaid shall exceed the balance due to the Contractor, the Contractor shall pay such excess. Such payment of excess amount shall be independent of the liquidated damages for delay, which the Contractor shall have to pay if the completion of Works is delayed.

44.2 In addition, such action by TSECL as aforesaid shall not relieve the Contractor of his liability to pay liquidated damages for delay in completion of Works as defined in clause 13.0 of this Section. Such action by TSECL as aforesaid, the termination of the Contract under this clause shall neither entitle the Contractor to reduce the value of the Contract Performance Guarantee nor the time thereof. The Contract Performance Guarantee shall be valid for the full value and for the full period of the Contract including guarantee period.

### **45.0 TERMINATION OF CONTRACT ON OWNER'S INITIATIVE**

45.1 TSECL reserves the right to terminate the Contract either in part or in full due to reasons stipulated in the clause entitled "Contractor's Default." TSECL shall in such an event give Fifteen (15) days notice in writing to the Contractor of his decision to do so.

45.2 The Contractor upon receipt of such notice shall discontinue the work on the date and to the extent specified in the notice.

45.3 If the Contractor is an individual or a proprietary concern and the individual or the proprietor dies and if the Contractor is a partnership concern and one of the partners dies then unless TSECL is satisfied that the legal representatives of the individual contractor or of the proprietor of propriety concern and in the case of partnership, the surviving partners, are capable of carrying out and completing the

Contract, TSECL shall be entitled to cancel the Contract as to its uncompleted part without being in any way liable to payment of any compensation to the estate of deceased Contractor and/or to the surviving partners of the Contractor's firm on account of the cancellation of the Contract. The decision of TSECL that the legal representatives of the deceased Contractor or surviving partners of the Contractor's firm cannot carry out and complete the Contract shall be final and binding on the parties.

## **RESOLUTION OF DISPUTES**

### **46.0 SETTLEMENT OF DISPUTES**

- 46.1 Any dispute(s) or difference(s) arising out of or in connection with the Contract shall, to the extent possible, be settled amicably between the parties.
- 46.2 If any dispute or difference of any kind whatsoever shall arise between Deputy General Manager in charge of the work and the Contractor, arising out of the Contract for the performance of the Works whether during the progress of the Works or after its completion or whether before or after the termination, abandonment or breach of the Contract, it shall, in the first place, be referred to and settled by the Superintending Engineer of the concerned circle /Chief Engineer as the case may be , who, within a period of Thirty (30) days after being requested by either party to do so, shall give written notice of his decision to both the parties.
- . 46.3 In the event the Contractor being dissatisfied with any such decision, the matters in dispute shall be referred to arbitration as hereinafter provided.

### **47.0 ARBITRATION**

- 47.1 All disputes or differences in respect of which the decision, if any, of the Engineer has not become final or binding as aforesaid shall be settled by arbitration in the manner hereinafter provided.
- 47.1.1 The arbitration shall be conducted by an arbitrator, to be nominated by TSECL and he will be the sole arbitrator to conduct the arbitration.
- 47.1.2 The arbitration shall be conducted in accordance with the provisions of the Indian Arbitration & Reconciliation Act, 1996 or any statutory modification thereof. The venue of arbitration shall be at **Agartala.**
- 47.2 The arbitrators may, from time to time with the consent of all the parties enlarge the time for making the award.
- 47.3 The arbitrator shall have full powers to review and/or revise any, decision, opinion, direction, certification or valuation of the Engineer in accordance with the Contract, and neither party shall be limited in the proceedings before such arbitrators to the condense or arguments out before the Engineer for the purpose of obtaining the said decision.
- 47.4 During settlement of disputes and arbitration proceedings, both parties shall be obliged to carry out their respective obligations under the Contract.

### **48.0 RECONCILIATION OF ACCOUNTS**

The Contractor shall prepare and submit every six months, a statement covering payments claimed and the payments received vis-à-vis the works executed, for reconciliation of accounts with the owner's Engineer in charge of the work. The Contractor shall also prepare and submit a detailed account of Materials received from TSECL and utilized by him for reconciliation purpose.

### **49.0 TRAINING OF OWNER'S PERSONNEL**

- 49.1 The Contractor shall undertake to train free of cost, two engineering personnel selected and sent by TSECL at the works of the manufacturer. The period and nature of training for the personnel shall be agreed upon mutually between the Contractor and TSECL. These engineering personnel shall be given special training in the shops, where the equipment shall be manufactured and/or in their Collaborator's works and where possible, in any other plant where equipment manufactured by the Contractor or his Collaborator is under installation, operation, or testing to enable those personnel to become familiar with the equipment being supplied by the Contractor.
- 49.2 All traveling and living expenses for the engineering personnel to be trained during the total period of training shall be borne by the Contractor. These engineering personnel, while undergoing training, shall be responsible to the Contractor for discipline.
- 49.3 TSECL shall not be entitled for any rebate, whatsoever on any account in the event of his failing to avail of the training facilities, for any reason.

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## **SECTION 7: SPECIAL CONDITIONS OF CONTRACT**

### **7.1 GENERAL**

The price bid submitted by the contractor shall include all duties, taxes etc., and any other taxes that may be levied in accordance with the laws and regulations.

- a) The contractor shall submit the CAR (Contractor All Risks) policy for the awarded value of work and valid for the entire duration of the work including extending period of work, if any. The contractor shall provide to the Owner, copy of insurance policies and documents taken out by him, in pursuance of the contract, immediately after such insurance coverage. If the contractor fails to effect and keep in force insurance, as per the term of contract, the Owner may effect and keep in force such insurance and pay such premium or premiums as may be necessary for that purpose and from time to time deduct the amount so paid by the Owner as aforesaid, from any money due or which may be come due to the contractor, or recover the same as debit due from the contractor.
- b) The contractor shall be responsible for preparing all claims and make good for all damages or Loss by way of repairs and or replacement of portion of any works damaged or lost. The transfer of title shall not in any way relieve the contractor of his responsibility during the period of contract including the defect liability period.
- c) The contractor shall abide by the local laws and regulations governing labour and applicable from time to time. During continuance of the contract the contractor shall abide at all times by all existing labour enactments and rules made their under, regulations notification and byelaws of State and Central Govt. of Local authority and any other labour law (including rules, regulations bylaws that may be passed or notifications that may be issued under any labour in future either by the state or the central govt. or the local authority)
- d) Nothing shall be paid for any loss or damage done due to rains, floods, or any other act of God during the

execution period, trial run & defect liability period. The payment shall be made only for material/works acceptable to the Department.

- e) Material purchased in excess shall not be measured and paid for and if not removed from the site within one month after completion of work. Surplus materials is the liability of Contractor.
- f) The contractor shall provide suitable measuring equipment /arrangement at site for checking of various material supplied by him.
- g) In case of duplicity/variations/contradiction of terms and condition in the printed tender documents and special terms and conditions, the terms and conditions mentioned in the special terms and conditions shall prevail.
- h) The Owner reserves the right of modification of layout plans, if found necessary, before actual execution of work even after designing the same, nothing extra shall be payable to the firm for these changes in the layout plan.
- i) Contractual agency shall bear the cost of repairing the damages of other utility services like Roads, water, telecom, road or sewerage during excavation of electrical cable trench. Suitable measures to be adopted during road crossing and cutting of metal portion of the road including taking prior permission from the concerned department. TSECL will not involve in the coordination with the other utility services although for the sake of the progress of the project they may take initiatives.

**7.2 PENALTY AND TERMINATION OF THE CONTRACT:** In the event of contractor's failure to fulfill any of the terms and conditions of this contract, including failure to complete the contract within the stipulated period, the department shall, without prejudice to other remedies available to it, under the law enforced in the State be competent to impose penalties on the contractor in addition to the forfeiture of the security deposit(CPG) in full as the department may deem fit and terminate the contract after **30 (thirty)days** clear notice to the contractor.

**7.3 DEFECTS LIABILITY PERIOD:** In case the contractor fails to remedy the defects to the full satisfaction of the Engineer-in-Charge, the Owner shall be at liberty to forfeit the available security amount and get the defects remedied at the risk and cost of the contractor. The contractor is supposed to keep required staff prescribed in the bid document during the period of 12 months after completion/commissioning of works i.e. during defects liability period.

**7.4 VALIDITY OF BID:** Bid submitted by the bidder shall remain valid for acceptance for a period of 180 days from the date of opening of the financial bid. The tenderers shall not be entitled during the validity of bid, to revoke or cancel bid or vary any term thereof. In case of bidder revoking or canceling his bid or varying any term in regard thereof, the bidder's earnest money deposit shall be forfeited by the Owner.

#### **7.5 TEMPORARY POWER SUPPLY**

Contractor shall obtain temporary power connection from the local body TSECL for the construction purpose. The contractor shall at his own cost make arrangement for temporary distribution of power to the work site. Contractor shall at his own cost remove all the wires, pipes, ballies etc. after completion of work.

#### **7.6 TEMPORARY WATER SUPPLY**

For construction purpose the contractor has to rely on ground/surface water supply. Contractor at his own cost and initiative shall arrange suitable quality of water and its distribution to the work sites for construction, curing and testing purposes. The quality of water for construction purposes must satisfy the provision of relevant codes. Contractor shall remove at his own cost all equipment, pumps etc. after completion of work.

#### **7.7 CONTRACTOR'S OFFICE & STORE**

Any land provided by the Owner to the Contractor within the provisions hereof for labour hutments, stores, temporary offices etc. shall be on temporary basis till completion of works and shall not create any right, title or interest whatsoever in the contract herein or in respect thereof.

The Contractor shall also be responsible for establishing a suitable furnished office accommodation of plinth area not less than 150 Square Meter for the Engineer-in-charge, Supervisory Staff of the Corporation and Consultant / Construction Manager as directed by the Engineer-in-Charge. The contractor shall also be responsible for establishing suitable storage area. The Contractor's storage will be within the site premises. All the incoming and outgoing materials, equipment, tools, tackle and any other items related to said work shall be entered into the register kept for this purpose and shall be in the custody of Contractor, however Department does not hold any responsibility for any loss or damage of Contractor's material etc.

All loading/unloading, of materials at work-site shall be your responsibility. Involvement of Crane/Hydra/Tractor/Trailer for this type of work shall be in contractor's scope. Adequate weather protection shall be provided by the contractor to keep the materials safe from sun & rain by providing covered storage space as well as using tarpaulins. The contractor at his own shall arrange Water and Electricity Power at his cost.

## **7.8 SITE MEETING**

Weekly site meeting, to be attended by representatives of the Engineer-in-charge and the contractor shall be held every Wednesday for progress monitoring and other issues of construction. In the event of Wednesday being a holiday, the meeting will be held on the next working day.

## **7.9 SUBMISSION OF REPORT**

Contractor shall submit the following reports, at its expense, during the duration of the Contract. Distribution of all reports shall be in accordance with the Report Distribution Matrix.

### **Daily Manpower and Equipment Reports**

a) Contractor shall prepare and submit to Owner and PMC team, two copies of daily manpower reports indicating the total number of manual personnel by craft and non-manual personnel including those of its Subcontractors working at the Site. These daily reports shall be summarized on a weekly basis and the summary submitted to Owner as well as PMC team.

b) Contractor shall prepare and submit to Owner and PMC team, two copies of the daily equipment reports indicating major Construction Equipment in working order, including that of its Subcontractors utilized for the execution of work at the Site. These daily reports shall be summarized on a bi-weekly basis and the summary submitted to Owner along with PMC team.

**Manpower Reports:** Contractor shall prepare and submit to Owner and PMC team, monthly manpower report by: a) skilled; b) the total numbers of manual personnel; and c) the total number of non-manual personnel at the Site. The report shall be prepared separately for expatriates and local personnel. The monthly manpower report shall be prepared on the basis of the daily manpower reports and plotted against the projected manpower which should include employees of its Subcontractors. Additionally, these reports are to be projected for the total job duration on a quarterly time scale. Total job is to be progressed and submitted on

quarterly time frequency, to the Owner as well as PMC team.

**Monthly Contract Progress Report:** During the duration of the Contract, Contractor shall submit to Owner and PMC team, the Monthly Contract Progress Report in duplicate. Such report shall include the following:

- a) A narrative summary of the Contract history to date, including description of progress achieved, list of significant milestone events accomplished and related dates.
- b) Narrative description of major near-term events scheduled and their impact on the Contract.
- c) A marked-up submittal of the latest issue of each construction drawing applicable to the works; and on each drawing the following information will be delineated graphically by marking or shading and listed numerically in the upper right hand corner, for each unique work operation covered by the Drawing:
  - ☐ The total quantity of work
  - ☐ The total quantity of work performed to date
  - ☐ The total quantity of work performed during the month.
- d) A typed Quantity Report which summarizes the amounts of contract quantities per drawing and in total on the basis of work completed for the month, to date and total estimated for the Contract reported for each commodity specified in the Extent of Works. The Quantities to be reported and the method of measurement of quantities are defined under “Measurement of and Payment for the Works.”
- e) Photographs of progress of the work with soft copies in digital format.

**Quarterly Cash Flow Report:** Contractor’s detailed cash flow report shall be updated quarterly and submitted to Owner & PMC Team for overall project financial planning. The report shall be based on Contractor’s projected cash flow for the works to be completed and shall be consistent with “Measurement of and Payment for the Works.”

**Quantity Summary Report:** Contractor shall prepare and submit to Owner and PMC Team quantity summary report route wise.

**Final Contract Report:**

- i) Contractor shall submit a final Contract report with detailed cost breakdown to meet the requirements of Owner’s code of accounts. Owner’s code of accounts breakdown will include cost for items such as engineering, plant/Equipment, manual and non-manual labour including man-hours, and Construction Equipment for the execution of the Works.
- ii) Additionally, Contractor shall summarize on monthly and/or quarterly time scale, as determined by Owner.

**Quality Surveillance Report:** Contractor shall prepare and submit a monthly Quality Surveillance Report Implementing Contractor’s quality surveillance/audit program to verify that Subcontractors furnishing the Plant/Equipment are meeting the quality requirements stated in the Contract specifications.

## **7.10 PRIORITISATION REVIEW**

The contractor is required to execute the works as per approved schedule. However, during the period of execution, in case the necessity arises to change the priority of the construction schedule, as per requirement of the Owner, the contractor is bound to follow the changed priority which shall be communicated to the contractor during quarterly review meeting and the contractor shall have no claim whatsoever on this account.

## **7.11 LIST OF DOCUMENTS TO BE MAINTAINED AT SITE BY THE CONTRACTOR**

- I. Site instruction book
- II. Labour Register
- III. Hindrance Register
- IV. Material register (Materials Account Statement)
- V. Stock Register
- VI. Material Testing Register
- VII. Cable Register
- VIII. HDPE Pipe Registrar
- IX. Cement Register
- X. Assets Register
- XI. Daily Works Register
- XII. Measurement Book
- XIII. Daily labour employment register
- XIV. Any other documents required by the Engineer-in-Charge to check quality/ progress of work etc. will be maintained by contractor at site.

## **7.12 PLANNING AND REVIEW OF WORKS**

The contractor shall use computer and modern project management software (like Prima-Vera/MSP) for planning, scheduling and review of works, right from the commencement of work till completion. The contractor will employ a qualified planning Engineer experienced in use of Modern methods of planning; scheduling and cost control of projects using computers with the usage of project management software's and should be capable of performing network based analysis.

## **7.13 AS BUILT DRAWINGS**

As Built Drawings are to be prepared and submitted by the contractor duly certified by the Engineer-in-Charge after completion of works. The originals, in good quality transparencies, and three (3) copies of all as built drawings shall be supplied to the Engineer-in-Charge progressively as sections of the works gets

completed. All Drawings shall be submitted within one month after completion of the respective section.

As Built Drawings shall be of A0 -A4 size -(depending upon type of structure or nature of drawing) unless otherwise approved by the Engineer-in-Charge.

#### **7.14 ASSOCIATED WORKS/OTHER CONTRACTS ON SITE**

- a) The contractor shall note that other contractors would be carrying out other works within or adjacent to the site during the duration of this contract.
- b) The contractor shall not have exclusive possession of the site but shall have to liaise and co-ordinate with all other contractors and authorities carrying out works on or in the vicinity of the site and shall afford all reasonable opportunity and assistance to other contractors to carry out their works with minimum mutual interference or disruption.
- c) If the performance of any contractor is likely to interfere with the simultaneous execution of another contract, the Engineer-in-Charge shall decide which works shall take precedence, and there shall be no claim whatsoever for any delay, disruption of work or cost arising out of the Engineer-in-Charge's decision.
- d) The contractor shall be deemed to have allowed in his tender of all costs arising from above causes and shall not be entitled to any payment in respect of such causes.
- e) The contractor shall carry out the work in sections as directed by the Engineer-in-Charge and hand over to other contractor in stages for carrying out other works.

#### **7.15 INTERIM/RUNNING PAYMENT**

All interim running payment shall be treated as on account payments by way of advances against final payments and not as payments for the work done or be considered as an admission of the due performance of the contract. This shall be adjustable in final bills.

#### **7.16 TAKING OUT OF MATERIAL**

No material, equipment is to be taken out of the project site by the contractor without the approval of the Engineer-in-Charge.

#### **7.17 MATERIAL**

- a) All materials including cement and steel to be arranged by the contractor himself shall conform to relevant ISI specifications, duly ISI marked and as per list of approved manufactures/makers by TSECL, also attached in the NIT.
- b) Contractor will have to supply manufacturer's certificate, certifying that material has been manufactured as per IS specification, duly supported by necessary documentation. Wherever referred, ISI code shall be with its latest amendments.
- c) All material depicted in the NIT shall be inspected as per provision of relevant IS codes for testing of material, at the works of manufacturers, before dispatch to the site by the authorized representative of TSECL.

- d) Necessary certificate from the manufacturer for all the material brought at site shall be supplied with each lot to the Engineer-in-Charge, certifying that this lot of material has been manufactured as per standard of BIS and conform to the relevant IS codes.

## **7.18 QUALITY CONTROL & QUALITY ASSURANCE**

The Owner reserves the right to engage a full-fledged Construction Manager / Consultant who will act as an Engineer-in-Charge on behalf of the Owner and would be responsible for administration, performance of contract, quality control, day to day monitoring etc. However, the charges of the Construction Manager/ Consultant shall be borne by the Owner.

In case the material mentioned in the Bid documents is not easily available in the market and the contractor intends to use the higher quality / grade of material with the approval of the Engineer-in-Charge, the contractor shall have no claim, what so ever on account of using the same.

## **7.19 CLEARANCE FROM ELECTRICAL INSPECTOR**

The contractor shall be fully responsible for carrying out all co-ordination and liaison work as may be required with Electrical Inspector or any other statutory bodies for implementation of the work. The application on behalf of TSECL for submission to the Electrical Inspector and other statutory bodies along with copies of drawings complete in all respects shall be done by the contractor & approval / certificates taken well ahead of time so that the actual commissioning of equipment is not delayed for want of inspection and approval by the inspector & statutory bodies. The contractor shall arrange the actual inspection work by Electrical Inspector or any other body including payment of official fees paid to electrical inspector / statutory bodies shall be borne by the contractor.

## **7.20 CAPACITY BUILDING**

For Middle Management or the person nominated by the engineering in charge for undergoing the training, is considered a vital element for execution of works, so as to achieve results at ground, as designed/ planned. New equipment and or emerging technology need training at every end. The Training course will familiarize personnel with the procedures necessary to operate and maintain complex systems and equipment, often using the system-level O&M manual as a basis of information. The main objective of training is to develop human skill or social infrastructure or business infrastructure within an organization needed to reduce the level of risk and improve its performance. In extended understanding it also includes development of institutional, financial and other resources such as technology at different levels and sections of the society. Building their understanding and knowledge in these areas and enabling the manpower to organize them to respond to this understanding.

The contractual agency will devise a 14days training program in two groups for the 4 nominated TSECL Engineers in India based on the following aspects:

- Training on Design Aspects
- Training on the Operation & Maintenance
- Training on the safe handling & laying/ erection of the Material
- Training on the Pre Dispatch Inspection of the Material

- Site Visit on the Completed Work of underground cabling work for better understanding the contract.

## **7.21 LIST OF MAJOR MATERIALS**

The list of approved major materials for this project / work are as follows:

- Aluminium armoured (E) XLPE HV UG cable of 3-core.
- Heat shrinkable type cable end jointing kit for HV cables.
- 110 mm(OD) HDPE Pipe as per PE-6
- 45KN Disc insulator, 11KV Pin insulator, 11KV GOS, 11KV DOF, 9 mtr. PCC Pole etc.

## **7.22 VEHICLE FOR TSECL/PMC Agency**

The successful bidder shall provide one no. vehicle (Maruti Van / Echo /Scorpio) to TSECL staff / PMC supervision team for site inspection& supervision of works for entire contract period. Contractor will bear all the cost for Hiring charges, fuel, driver & maintenance etc. of the vehicle.

## **7.23 RESTORATION OF EXISTING UTILITY WORKS**

The successful bidder shall be responsible for restoration of existing Services like as Water, Gas & Telecom lines etc. and made them in workable conditions. TSECL shall not paid extra cost for any type of restoration works.

### **7.25 TIME – THE ESSENCE OF CONTRACT:**

7.25.1 The time and the date of completion of the Contract as stipulated in the Contract by TSECL without or with modifications, if any, and so incorporated in the Letter of Award, shall be deemed to be the essence of the Contract. The Contractor shall so organize his resources and perform his Work as to complete it not later than the date agreed to.

7.25.2 The Contractor shall submit a detailed **BAR CHART / PERT NETWORK** consisting of adequate number of activities covering various key phases of the Work such as design, procurement, manufacturing, shipment and field erection activities within fifteen (15) days of the date of Notice of Award of Contract. This Bar Chart shall also indicate the interface facilities to be provided by TSECL and the dates by which such facilities are needed. The Contractor shall discuss with TSECL for finalization and approval of the Bar Chart by TSECL. The agreed Bar Chart shall form part of the contract documents. During the performance of the Contract, if in the opinion of the owner's Engineer in charge of the work, proper progress is not maintained, suitable changes shall be made in the Contractor's operations to ensure proper progress without any cost implication to TSECL. The interface facilities to be provided by TSECL in accordance with the agreed Bar Chart shall also be reviewed while reviewing the progress of the Contractor.

7.25.3 Based on the agreed Bar Chart fortnightly reports shall be submitted by the Contractor as directed by the owner's Engineer in charge of the work.

7.25.4 Subsequent to the finalization of the Bar Chart, the Contractor shall make available to the owner's Engineer in charge of the work a detailed manufacturing programme in line with the agreed Contract Bar Chart. Such manufacturing programme shall be reviewed, updated and submitted to the owner's Engineer in charge of the work once in every month thereafter.

7.25.5 The above Bar Charts/manufacturing programme shall be compatible with TSECL computer environment and furnished to TSECL on such media as may be desired by TSECL.

## **SECTION-8**

### **ERECTION CONDITIONS OF CONTRACT**

#### **GENERAL**

1.1 The following shall supplement the conditions already contained in the other parts of these specifications and document and shall govern the portion of the work of this Contract to be performed at Site.

1.2 The Contractor upon signing of the Contract shall, in addition to a Project Coordinator, nominate another responsible officer as his representative at Site suitably designated for the purpose of overall responsibility and co-ordination of the works to be performed at Site. Such person shall function from the Site Office of the Contractor.

#### **2.0 REGULATION OF LOCAL AUTHORITIES**

The Contractor shall comply with all the rules and regulations of local authorities during the performance of his field activities. He shall also comply with the Minimum Wages Act, 1948 and the Payment of Wages Act (both of the Government of India) and the rules made there-under in respect of any employee or workman employed or engaged by him or his Sub-Contractor.

All registration and statutory inspection fees, if any, in respect of his work pursuant to this Contract shall be to the account of the Contractor. However, any registration, statutory inspection fees lawfully payable under any statutory laws and its amendments from time to time during erection in respect of the equipment ultimately to be owned by the Owner, shall be to the account of TSECL. Should any such inspection or registration need to be re-arranged due to the fault of the Contractor or his Sub-Contractor, the additional fees to such inspection and/or registration shall be borne by the Contractor.

#### **3.0 OWNER'S LIEN N EQUIPMENT**

TSECL shall have a lien on all equipment including those of the Contractor brought to the Site for the purpose of erection, testing and commissioning of the equipment to be supplied & erected under the Contract. TSECL shall continue to hold the lien on all such equipment throughout the period of Contract. No material brought to the Site shall be removed from the Site by the Contractor and/or his Sub-Contractors without the prior written approval of the Engineer.

#### **4.0 INSPECTION, TESTING AND INSPECTION CERTIFICATES**

The provisions of the clause entitled Inspection, Testing and Inspection Certificates under Technical Specification, General Terms & Conditions (GTC) shall also be applicable to the erection portion of the Works. The Deputy General Manager in charge of the work shall have the right to re-inspect any equipment though previously inspected at the Contractor's works, before and after the same are erected at Site. If by the above inspection, the Deputy General Manager in charge of the work rejects any equipment, the Contractor shall make good for such rejections either by replacement or modification I repairs as may be necessary to the satisfaction of TSECL. Such replacements shall also include the replacements or re-execution of such of those works of other Contractors and/or agencies, which might have got damaged or affected by the replacements or re-work done to the Contractor's work.

#### **5.0 ACCESS TO SITE AND WORKS ON SITE**

5.1 Suitable access to the Site shall be afforded to the Contractor by TSECL in reasonable time.

5.2 In the execution of the works, no person other than the Contractor or his duly appointed representative, Sub-Contractor and workmen, shall be allowed to do work on the Site, except by the special permission, in writing of the site Engineer of TSECL or his representative.

#### **6.0 CONTRACTOR'S SITE OFFICE ESTABLISHMENT**

The Contractor shall establish a Site Office at the Site and keep posted an authorized representative for the purpose of the Contract. Any written order or instruction of the Engineer in charge of the work or his duly authorized representative shall be communicated to the said authorized resident representative of the Contractor and the same shall be deemed to have been communicated to the Contractor at his legal address.

#### **7.0 CO-OPERATION WITH OTHER CONTRACTORS**

7.1 The Contractor shall co-operate with all other Contractors or tradesmen of TSECL, who may be performing other works on behalf of TSECL and the workmen who may be employed by TSECL and doing work in the vicinity of the Works under the Contract. The Contractor shall also so arrange to perform his work as to minimize, to the maximum extent possible, interference with the work of other Contractors and their workmen. Any injury or damage that may be sustained by the employees of the other Contractors and TSECL, due to the Contractor's work shall promptly be made good at the Contractor's own expense. The site Engineer of TSECL shall determine the resolution of any difference or conflict that may arise between the Contractor and other Contractors or between the Contractor and the workmen of TSECL in regard to their work. If the work of the Contractor is delayed because of any acts of omission of another Contractor, the Contractor shall have no claim against TSECL on that account other than an extension of time for completing his Works.

7.2 The Site Engineer of TSECL shall be notified promptly by the Contractor of any defects in the other Contractor's works that could affect the Contractor's Works. The Engineer shall determine the corrective measures if any required rectifying this situation after inspection of the works and such decisions by the Engineer shall be binding on the Contractor.

#### **8.0 DISCIPLINE OF WORKMEN**

The Contractor shall adhere to the disciplinary procedure set by the site Engineer of TSECL in respect of his employees and workmen at Site. The Engineer shall be at liberty to object to the presence of any representative or employee of the Contractor at the Site, if in the opinion of the Engineer such employee has misconduct himself or is incompetent or negligent or otherwise undesirable and then the Contractor shall remove such a person objected to and provide in his place a competent replacement.

## **9.0 CONTRACTOR'S FIELD OPERATION**

9.1 The Contractor shall keep the site Engineer of TSECL informed in advance regarding his field activity plans and schedules for carrying-out each part of the works. Any review of such plan or schedule or method of work by the site Engineer of TSECL shall not relieve the Contractor of any of his responsibilities towards the field activities. Such reviews shall also not be considered as an assumption of any risk or liability by TSECL or any of his representatives and no claim of the Contractor shall be entertained because of the failure or inefficiency of any such plan or schedule or method of work reviewed. The Contractor shall be solely responsible for the safety, adequacy and efficiency of plant and equipment and his erection methods.

9.2 The Contractor shall have the complete responsibility for the conditions of the Work-Site including the safety of all persons employed by him or his Sub-Contractor and all the properties under his custody during the performance of the work. This requirement shall apply continuously till the completion of the Contract and shall not be limited to normal working hours. The construction review by the site Engineer of TSECL, is not intended to include review of Contractor's safety measures in, on or near the work Site, and their adequacy or otherwise.

## **10.0 PHOTOGRAPHS AND PROGRESS REPORT**

10.1 The Contractor shall furnish Three (3) prints each to the Site Engineer of progress photographs of the work done at Site. Photographs shall be taken as and when indicated by the Site Engineer of TSECL or his representative. Photographs shall be adequate in size and number to indicate various stages of erection. Each photograph shall contain the date, the name of the Contractor and the title of the photograph.

10.2 The above photographs shall accompany the monthly progress report detailing-out the progress achieved on all erection activities as compared to the schedules. The report shall also indicate the reasons for the variance between the scheduled and actual progress and the action proposed for corrective measures, wherever necessary.

## **11.0 MAN-POWER REPORT**

11.1 The Contractor shall submit to the Site Engineer of TSECL, on the first day of every month, a man hour schedule for the month, detailing the man hours scheduled for the month, skill-wise and area-wise.

11.2 The Contractor shall also submit to the Site Engineer of TSECL, on the first day of every month, a man power report of the previous month detailing the number of persons scheduled to have been employed and actually employed, skill-wise and the areas of employment of such labour.

## **12.0 PROTECTION OF WORK**

The Contractor shall have total responsibility for protecting his works till it is finally taken over by TSECL. No claim shall be entertained by TSECL for any damage or loss to the Contractor's works and the Contractor shall be responsible for complete restoration of the damaged works to original conditions to comply with the specification and drawings, should any such damage to the Contractor's works occur because of any other party not being under his supervision or control. The Contractor shall make his claim directly with the party concerned. If disagreement or conflict or dispute develops between the Contractor and the other party or parties concerned regarding the responsibility for damage to the contractor's works, the same shall be resolved as per the provisions of the Clause 7.0 above entitled "Cooperation with other Contractors". The Contractor

shall not cause any delay in the repair of such damaged works because of any delay in the resolution of such dispute. The Contractor shall proceed to repair the Work immediately and no cause thereof will be assigned pending resolution of such disputes.

### **13.0 EMPLOYMENT OF LABOUR**

13.1 The Contractor shall be expected to employ on the work only his regular skilled employees with experience of this particular work. No female labour shall be employed after darkness. No person below the age of eighteen years shall be employed.

13.2 All traveling expenses including provisions of all necessary transport to and from Site, lodging allowances and other payments to the Contractor's employees shall be the sole responsibility of the Contractor.

13.3 The hours of work on the Site shall be decided by the site Engineer of TSECL and the Contractor shall adhere to it. Working hours shall normally be Eight (8) hours per day - Monday through Saturday and may have to be extended in the interest of work.

13.4 The Contractor's employees shall wear identification badges while on work at Site.

13.5 In case TSECL becomes liable to pay any wages or dues to the labour or any Government agency under any of the provisions of the Minimum Wages Act, Workmen Compensation Act, Contract Labour Regulation Abolition Act or any other law due to act of omission of the Contractor, TSECL may make such payments and shall recover the same from the Contractor's bills.

### **14.0 FACILITIES TO BE PROVIDED**

By the Contractor Tools, tackles and scaffoldings

14.1 The Contractor shall provide all the construction equipment, tools, tackles and scaffoldings required for pre-assembly, erection, testing and commissioning of the equipment covered under the Contract. He shall submit a list of all such materials to the site Engineer of TSECL before the commencement of pre-assembly at Site. These tools and tackles shall not be removed from the Site without the written permission of the site Engineer.

#### **14.2 First-aid**

The Contractor shall provide necessary first-aid facilities for all his employees, representatives and workmen working at the Site. Enough number of Contractor's personnel shall be trained in administering first-aid.

#### **14.3 Cleanliness**

The Contractor shall be responsible for keeping the entire area allotted to him clean and free from rubbish, debris etc. during the period of Contract. The Contractor shall employ enough number of special personnel to thoroughly clean his work-area at least once in a day. All such rubbish and scrap material shall be stacked or disposed in a place to be identified by the site Engineer of TSECL. Materials and stores shall be so arranged to permit easy cleaning of the area. In areas where equipment might drip oil and cause damage

to the floor surface, a suitable protective cover of a flame resistant, oil proof sheet shall be provided to protect the floor from such damage.

#### **14.4 Communication**

The contractor shall extend the telephone & telex facilities, if available at Site, for the purposes of interaction with the site office by him and TSECL.

By the Owner

#### **14.5 Space**

a) Land for Contractor's Office, Store, and Workshop etc if available shall be provided by TSECL. Otherwise contractor has to arrange at his own cost and responsibilities the accommodation for his site office, store and workshop etc.

b) The Site Engineer of TSECL shall at his discretion and for the duration of execution of the Contract make available at site, land for construction of Contractor's field office, workshop, stores, magazines for explosives in isolated locations, assembling yard, etc. required for execution of the Contract. Any construction of temporary roads, offices, workshop, etc. as approved by the site Engineer of TSECL shall be done by the Contractor at his cost.

c) On completion of work, the Contractor shall hand over the land duly cleaned to the site Engineer of TSECL. Until and unless the Contractor has handed over the vacant possession of land allotted to him for the above purpose, the payment of his final bill shall not be made. The Contractor shall be made liable to pay for the use and occupation at the rates to be determined by the Engineer if the Contractor over stays in the land after the Contract is completed.

#### **14.6 Electricity – Power Supply**

Where power supply is available with TSECL for construction purpose, the same shall be provided at the job at one point of the distribution system as may be decided by site Engineer of TSECL. The charge for extension of service line and energy consumption charges shall be borne by the contractor. In case the contractor fails to pay the related charge of extension of service line and energy consumption within due date of the bill raised for the purpose, the amount will be deducted from the progressive bill of the contractor.

#### **14.7 Water**

Free supply of water shall be made available for the construction purpose whenever water is available and the same shall be given at an agreed single point at the Site. Any further distribution shall be the responsibility of the Contractor. Free drinking water if available shall also be provided at one agreed point in the Site. Further distribution either to his labour colony or his work Site or to his office shall be the responsibility of the Contractor.

#### **15.0 LINES AND GRADES**

All the works shall be performed on the lines, grades and elevations indicated on the drawings. The Contractor shall be responsible to locate and lay-out the works. Basic horizontal and vertical control points

shall be established and marked by the Engineer at Site at suitable points. These points shall be used as datum for the works under the Contract. The Contractor shall inform the site Engineer of TSECL well in advance of the times and places at which he wishes to do work in the area allotted to him so that suitable datum points may be established and checked by the site Engineer to enable the Contractor to proceed with his works. Any work done without being properly located may be removed and/or dismantled at contractor expense.

## **16.0 FIRE PROTECTION**

16.1 The work procedures that are to be used during the erection shall be those which minimize fire hazards to the extent practicable, combustible materials, combustible waste and rubbish shall be collected and removed from the Site at least once each day. Fuels, oils and volatile or inflammable materials shall be stored away from the construction and equipment and materials storage areas in safe containers. Untreated materials shall not at all be used at Site or any other purpose unless otherwise specified. If any such materials are received with the equipment at the Site, the same shall be removed and replaced with acceptable material before moving into the construction or storage area.

16.2 Similarly corrugated paper fabricated cartons etc. shall not be permitted in the construction area either for storage or for handling of materials. All such materials used shall be of water proof and flame resistant type. All the other materials such as working drawings, plans etc. which are combustible but are essential for the works to be executed shall be protected against combustion resulting from welding sparks, cutting flames and other similar fire sources.

16.3 All the Contractor's supervisory personnel and sufficient number of workers shall be trained for fire-fighting and shall be assigned specific fire Protection duties. Enough of such trained personnel must be available at the Site during the entire period of the Contract.

16.4 The Contractor shall provide enough fire protection equipment of the types and number for the warehouses, office, temporary structures, labour colony area etc. Access to such fire protection equipment shall be easy and kept open at all time.

## **17.0 SECURITY**

17.1 The Contractor shall have total responsibility for all equipment and materials in his custody/stores, loose, semi-assembled and/or erected by him at Site. The contractor shall make suitable security arrangements, including employment of security personnel to ensure the protection of all materials, equipment and works from theft, fire, pilferage and any other damages and loss. All materials of the Contractor shall enter and leave the project Site only with the written permission of site Engineer of TSECL in the prescribed manner.

18.0 CONTRACTOR'S AREA LIMITS The site Engineer of TSECL shall mark-out the boundary limits of access roads, parking spaces, storage and construction areas for the Contractor and the Contractor shall not trespass the areas not so marked out for him. The Contractor shall be responsible to ensure that none of his personnel move out of the areas marked out for his operations. In case of such a need for the Contractor's personnel to go in or out of the areas marked out for him, the same shall be done only with the written permission of the site Engineer of TSECL.

## **19.0 CONTRACTOR'S CO-OPERATION**

In case where the performance of the erection work by the Contractor affects the operation of the system facilities of TSECL, such erection work of the Contractor shall be scheduled to be performed only in the, •manner stipulated by the site Engineer and the same shall be acceptable at all times to the Contractor. The site Engineer may impose such restrictions on the facilities provided to the Contractor such as electricity, water etc. as he may think • the interest of TSECL and the Contractor shall strictly adhere to such restrictions and co-operate with the site Engineer of TSECL. It will be the responsibility of the Contractor to provide all necessary temporary instrumentation and other measuring devices required during start-up and operation of the equipment systems which are erected by him. The Contractor shall also be responsible for flushing and initial filling of all the oil and lubricants required •for the equipment furnished and erected by him, so as to make such equipment ready for operation. The Contractor shall be responsible for supplying such flushing oil and other lubricants unless otherwise specified elsewhere in the document and specification.

## **20.0 MATERIALS HANDLING AND STORAGE**

**20.1** All the equipment furnished under the Contract and arriving at Site shall be promptly received, unloaded, transported and stored in the storage arrange by the contractor at his risk and cost.

**20.2** The Contractor shall be responsible for examining all the shipment and notify the Site Engineer or TSECL immediately of any damage, shortage, discrepancy etc. or the purpose of information only. The Contractor shall submit to the site Engineer of Mai every week a report detailing all the record during the week. However, the Contractor shall be solely responsible for any shortages or damage transit, handling aid/or storage and erection of the equipment at Site. Any demurrage, wharf age anti other such charges claimed by the transporters, railways etc. shall be to the account other Contractor.

**20.3** The Contractor shall maintain an accurate and exhaustive record detailing out the list of all equipment received by him for the purpose of erection and keep such record open for the inspection by the Site Engineers / Higher officials of TSECL.

**20.4** All equipment shall be handled very carefully to prevent any damage or loss. No bare wire ropes, slings, etc. shall be used for unloading and/or handling of the equipment without the specific written permission of the Site Engineer. The equipment stored shall be properly protected to prevent damage either to the equipment or the floor where they are stored. The equipment from the store shall be moved to the actual location at the appropriate time so as to avoid damage of such equipment at Site.

**20.5** All electrical panels, control gears, motors and such other devices shall be properly dried by heating before they are installed and energized. Motor bearings, slip rings, commentators and other exposed parts shall be protected against moisture ingress and corrosion during storage and periodically inspected.

**20.6** All the electrical equipment such as motors, generators, etc. shall be tested for insulation resistance at least once in a month from the date of receipt till the date of commissioning and a record of such measured insulation values maintained by the Contractor. Such records shall be made available for inspection by the Site Engineers / Higher officials of TSECL.

**20.7** The Contractor shall ensure that all the packing materials and protection devices used for the various equipment's during transit and storage are removed before the equipment are installed.

**20.8** The consumable and other supplies likely to deteriorate due to storage must be thoroughly protected and stored in a suitable manner to prevent damage or deterioration in quality by storage.

**20.9** All the materials stored in the open or dusty location must be covered with suitable weather-proof and flame proof covering material wherever applicable.

**20.10** If the materials belonging to the Contractor are stored in areas other than those earmarked for him, the Site Engineer shall have the right to get it moved to the area earmarked for the Contractor at the Contractor's cost.

**20.11** The Contractor shall be responsible for making suitable indoor storage facilities to store all equipment which require indoor storage. Normally, all the electrical equipment such as motors, control gear, generators, exciters and consumables like electrodes, lubricants etc. shall be stored in the closed storage space. The site Engineer, in addition, may direct the Contractor to move certain other materials, which in his opinion shall require indoor storage, to indoor storage areas, which the Contractor shall strictly comply with.

## **21.0 CONSTRUCTION MANAGEMENT**

**21.1** The field activities of the Contractors working at Site shall be coordinated by the Site Engineer of TSECL and his decision shall be final in resolving any disputes or conflicts between the Contractor and other Contractors and tradesmen regarding, scheduling and co-ordination of work. Such decision by Site Engineer of TSECL shall not be a cause for extra compensation or extension of time for the Contractor.

**21.2** The Site Engineer of TSECL shall hold weekly meeting with the Site Engineer / Supervisor of the contractor. The Site Engineer I Supervisor of the contractor shall attend such meetings and take notes of the discussions during the meeting and the decision of the Site Engineer of TSECL and shall strictly adhere to those decisions in performing his works. In addition to the above weekly meeting, the Site Engineer / Higher officials of TSECL may call for other meeting with the Site Engineer / Supervisor / any other authorized representative of the contractor and in such a case the personnel of the contractor shall attend such meetings.

**21.3** Time is the essence of the Contract and the Contractor shall be responsible for performance of his works in accordance with the specified construction schedule. If at any time, the Contractor's falling behind the schedule, he shall to necessary action to make good for such delays by increasing his work force or by working overtime or otherwise accelerate the progress of the work to comply with the schedule and shall communicate such actions in writing to the Site Engineer of TSECL, satisfying that his action shall compensate for the delay. The Contractor shall not be allowed any extra compensation schedule, he shall to necessary action to make good for such delays by increasing his work force or by working overtime or otherwise accelerate the progress of the work to comply with the schedule and shall communicate such actions in writing to the Site Engineer of TSECL, satisfying that his action shall compensate for the delay. The Contractor shall not be allowed any extra for such action.

**21.4** TSECL shall, however, not be responsible for provision of additional labour and/or materials or any other services to the Contractor.

## **22.0 FIELD OFFICE RECORDS**

The Contractor shall maintain at his Site office up-to-date copies of all drawings, specifications and other Contract Documents and any other supplementary data complete with all the latest revisions thereto. The Contractor shall also maintain in addition the continuous record of all changes to the above Contract Documents, drawings, specifications, supplementary data, etc. effected at the field and on completion of his total assignment under the Contract, shall incorporate all such changes on the drawings and other engineering data to indicate as installed conditions of the equipment furnished and erected under the Contract. Such drawings and engineering data shall be submitted to the Deputy General Manager in charge of the work in required number of copies.

### **23.0 CONTRACTOR'S MATERIALS BROUGHT ON TO SITE**

**23.1** The Contractor shall bring to Site all equipment, components, parts, materials, including construction equipment, tools and tackles for the purpose of the works under intimation to the Site Engineer. All such goods shall, from the time of their being brought vest in TSECL, but may be used for the purpose of the Works only and shall not on any account be removed or taken away by the Contractor without the written permission of the Site Engineer of TSECL. The Contractor shall nevertheless be solely liable and responsible for any loss or destruction thereof and damage thereto.

**23.2** After the completion of the Works, the Contractor shall remove from the Site under the direction of the Site Engineer of TSECL the materials such as construction equipment, erection tools and tackles, scaffolding etc. with the written permission from him.

### **24.0 PROTECTION OF PROPERTY AND CONTRACTOR'S LIABILITY**

**24.1** The Contractor shall be responsible for any damage resulting from his operations. He shall also be responsible for protection of all persons including members of public and employees of TSECL and the employees of other Contractors and Sub-contractors and all public and private property including structures, building, other plants and equipment and utilities either above or below the ground.

**24.2** The Contractor shall ensure provision of necessary safety equipment such as barriers, signboards, warning lights and alarms, etc. to provide adequate protection and safety to persons and property.

### **25.0 INSURANCE**

**25.1** In addition to the conditions covered under the Clause entitled "Insurance" in General Terms and conditions of Contract, the following provisions shall also apply to the portion of works to be done beyond the Contractor's own or his Sub-contractor's manufacturing Works. **25.2** Workmen's Compensation Insurance This insurance shall protect the Contractor against all claims applicable under the Workmen's Compensation Act, 1948. This policy shall also cover the Contractor against claims for injury, disability, disease or death of his or his Sub-Contractor's employee, which for any reason are not covered under the Workmen's Compensation Act, 1948. The liabilities shall not be less than: Workmen's Compensation: As per statutory Provisions. Employee's liability: As per statutory Provisions.

**25.3** Comprehensive Automobile Insurance This insurance shall be in such a form to protect the Contractor against all claims for injuries, disability, disease and death to members of public including the

employees of TSECL and damage to the property of other arising from the use of motor vehicles during on or off the Site operations, irrespective of the ownership of such vehicles.

## **25.4 Comprehensive General Liability Insurance**

**25.4.1** This insurance shall protect the Contractor against all claims arising from injuries, disabilities, disease death of members of public or damage to property of others, due to any act or omission on the part of Ili Contractor, his agents his employees, his representatives and Sub-contractors or from riots, strikes and civil commotion. This insurance shall also cover all the liabilities of the Contractor arising out of the Clause stipulated in the General Terms and Conditions of Contract.

**25.4.2** The hazards to be covered will pertain to all the works and areas where the Contractor, his Sub-contractors, his agents and his employees have to perform work pursuant to the Contract.

**25.4.3** The above are only illustrative list of insurance covers normally required and it shall be the responsibility of the Contractors to maintain all necessary insurance coverage to the extent both in time and amount to take care of all his liabilities either direct or indirect, in pursuance of the Contract.

## **26.0 UNFAVOURABLE WORKING CONDITIONS**

The Contractor shall confine all his field operations to those works which can be performed without subjecting the equipment and materials to adverse effects during inclement weather conditions, like monsoon, storms, etc. and during other unfavorable construction conditions. No field activities shall be performed by the Contractor under conditions which might adversely affect the quality and efficiency thereof, unless special precautions or measures are taken by the Contractor in a proper and satisfactory manner in the performance of such Works and with the concurrence of the Site Engineer of TSECL. Such unfavorable construction conditions shall in no way relieve the Contractor of his responsibility to perform the Works as per the Schedule. **27.0 WORK & SAFETY REGULATION**

**27.1** The Contractor shall ensure proper safety of all the workmen, materials plant and equipment belonging to him or to owner or to others, working at the Site. The Contractor shall also be responsible for provision of all safety notices and safety equipment required both by the relevant legislations and also by the Site Engineer as he may deem necessary.

**27.2** The Contractor shall notify well in advance to the Site Engineer of his intention to bring to the Site any container filled with liquid or gaseous fuel or explosive or petroleum substance or such chemicals, which may involve hazards. The Site Engineer shall have the right to prescribe the conditions, under which such container is to be stored, handled and used during the performance of the works and the Contractor shall strictly adhere to and comply with such instructions. The Site Engineer shall have the right at his sole discretion to inspect any such container or such construction plant/equipment for which material in the container is required to be used and if in his opinion, its use is not safe, he may forbid its use. No claim due to such prohibition shall be entertained by TSECL.

**27.3** Further, any such decision of the Site Engineer shall not, in any way, absolve the Contractor of his responsibilities and in case, use of such a container or entry thereof into the Site area is forbidden by the Site Engineer, the Contractor shall use alternative methods with the approval of the Deputy General Manager in charge of the work without any cost implication to TSECL or extension of work schedule.

**27.4** Where it is necessary to provide and/or store petroleum products or petroleum mixtures and explosives, the Contractor shall be responsible for carrying-out such provision and/or storage in accordance with the rules and regulations laid down in the Petroleum Act 1934, Explosives Act, 1948, and Petroleum and Carbide of Calcium Manual published by the Chief Inspector of Explosives of India. All such storage shall have prior approval of the Site Engineer of TSECL. In case, any approvals are necessary from the Chief Inspector (Explosives) or any statutory authorities, the Contractor shall be responsible for obtaining the same.

**27.5** All equipment used in construction and erection by Contractor shall meet Indian/International Standards and where such standards do not exist, the Contractor shall ensure these to be absolutely safe. All equipments shall be strictly operated and maintained by the Contractor in accordance with manufacturer's operation Manual and safety instructions and as per Guidelines/Rules of TSECL in this regard.

**27.6** Periodical Examinations and all tests for all lifting/hoisting equipment & tackles shall be carried-out in accordance with the relevant provisions of Factories Act 1948, Indian Electricity Act 1910 and associated

Laws/Rules in force from time to time. A register of such examinations and tests shall be properly maintained by the Contractor and shall be promptly produced as and when desired by tile Site Engineer of TSECL or by the person authorized by TSECL.

**27.7** The Contractor shall be fully responsible for the safe storage of his and his sub-contractor's radio-active sources in accordance with BARC/DAE Rules and other applicable provisions. All precautionary measures stipulated by BARC/DAE in connection with use, storage and handling of such material shall be taken by Contractor.

**27.8** The Contractor shall provide suitable safety equipment of prescribed standard to all employees and workmen according to the need, as may be directed by Site Engineer of TSECL who shall also have right to examine these safety equipment to determine their suitability, reliability, acceptability and adaptability.

**27.9** Where explosives are to be used, the same shall be used under the direct control and supervision of an expert, experienced, qualified and competent person strictly in accordance with the Code of Practices/Rules framed under the Indian Explosives Act pertaining to handling, •storage and use of explosives.

**27.10** The Contractor shall provide safe working conditions to all workmen and employees at the Site including safe means of access, railings, stairs, ladders, scaffoldings, etc. The scaffoldings shall be erected under the control and supervision of an experienced and competent person. For erection, good and standard quality material only shall be used by the Contractor.

**27.11** The Contractor shall not interfere or disturb electric fuses, wiring and other electrical equipment belonging to TSECL or other contractors under any circumstances, whatsoever, unless expressly permitted in writing by Site Engineer of TSECL to handle such fuses, wiring or electrical equipment.

**27.12** Before the Contractor connects any electrical appliances to any plug or socket belonging to TSECL, he shall:

- a) Satisfy the Site Engineer of TSECL that the appliance is in good working condition
- b) Inform the site Engineer of the maximum current rating, voltage and phases of the appliances
- c) Obtain permission of the Site Engineer detailing the sockets to which the appliances may be connected.

**27.13** The Site Engineer shall not grant permission to connect until he is satisfied that; a) The appliance is in good condition and is fitted with suitable plug;

**27.14** The appliance is fitted with a suitable cable having two earth conductors, one of which shall be an earthed metal sheath surrounding the cores.

**27.15** No electric cable in use by the Contractor/TSECL shall be disturbed without prior permission. No weight of any description shall be imposed on any cable and no ladder or similar equipment shall rest against or attached to it.

**27.16** No repair work shall be carried out on any live equipment. The equipment must be declared safe by the Site Engineer before any repair work is carried out by the Contractor. While working on electric lines/equipment whether live or dead, suitable type and sufficient quantity of tools shall have to be provided by Contractor to electricians/workmen/officers.

**27.17** The Contractors shall employ necessary number of qualified, full time electricians/Electrical Supervisors to maintain his temporary electrical installations.

**27.18** in case any accident occurs during the construction/erection or other associated activities undertaken by the Contractor thereby causing any minor or major or fatal injury to his employees due to any reason, whatsoever, it shall be the responsibility of the Contractor to promptly inform the same to the Site Engineer of TSECL and also to all the authorities envisaged under the applicable laws.

**27.19** The Site Engineer of TSECL shall have the right at his sole discretion to stop the work, if in his opinion the work is being carried out in such a way that it may cause accidents and endanger the safety of the persons and/or property, and/or equipment. In such cases, the Contractor shall be informed in writing about the nature of hazards and possible injury/accident and he shall comply to remove short-con) promptly. The Contractor after stopping the specific work can, if felt necessary. appeal against the or of stoppage of work to the Deputy General Manager in charge of the work within 3 days of sue stoppage of work and the decision of the Deputy General Manager ill charge of the work in this respect shall be conclusive and binding on the Contractor.

**27.20** The Contractor shall not be entitled for any damages/compensation for stoppage of work due to safety reasons as provided in para 27.18 above and the period of such stoppage of work shall not be taken as an extension of time for completion of work and shall not be the ground for waiver of levy of liquidated damages.

**27.21** It is mandatory for the Contractor to observe during the execution of the works, the requirements of safety rules which would generally include but not limited to the following:

## **Safety Rules:**

- a) Each employee shall be provided with initial indoctrination regarding safety by the Contractor, so as to enable him to conduct his work in a safe manner.
- b) No employee shall be given a new assignment of work unfamiliar to him without proper introduction as to the hazards incident thereto, both to himself and his fellow employees.
- c) Under no circumstances shall an employee hurry or take unnecessary chance when working under hazardous conditions.
- d) Employees must not leave naked fires unattended. Smoking shall not be permitted around fire prone areas and adequate firefighting equipment shall be provided at crucial locations.
- e) Employees under the influence of any intoxicating beverage, even to the slightest degree shall not be permitted to remain at work.
- f) There shall be a suitable arrangement at every work site for rendering prompt and sufficient first aid to the injured.
- g) The staircases and passageways shall be adequately lighted.
- h) The employees when working around moving machinery must not be permitted to wear loose garments. Safety shoes are recommended when working in shops or places where materials or tools are likely to fall. Only experienced workers shall be permitted to go behind guard rails or to clean around energized or moving equipment.
- i) The employees must use the standard protection equipment intended for each job. Each piece of equipment shall be inspected before and after it is used.
- j) Requirements of ventilation in underwater working to licensed and experienced divers, use of gum boots for working in slushy or in inundated conditions are essential requirements to be fulfilled.
- k) In cases or rock excavation blasting shall invariably be done through licensed blasters and other precautions during blasting and storage/transport of charge material shall be observed strictly.

**27.22** The Contractor shall follow and comply with all relevant Safety Rules, relevant provisions of applicable laws pertaining to the safety of workmen, employees, plant and equipment as may be prescribed from time to time without any demur, protest or contest or reservation. In case of any discrepancy between statutory requirement and relevant Safety Rules referred above, the later shall be binding on the Contractor unless the statutory provisions are more stringent.

**27.23** If the Contractor does not take all safety precautions and/or fails to comply with the Safety Rules as prescribed by Consortium or under the applicable law for the safety of the equipment and plant and for the safety of personnel and the Contractor does not prevent hazardous conditions which cause injury to his own employees or employees of other contractors, or Employees of TSECL or any other person who are at Site or adjacent thereto, the Contractors shall be responsible for payment of compensation to Consortium members as per the compensation order issued by the appropriate authority of Government of Tripura / verdict issued by court.

**27.24** The compensation mentioned above shall be in addition to the compensation payable to the workmen / employees under the relevant provisions of the Workmen's Compensation Act and rules framed there under or any other applicable laws as applicable from time to time. In case TSECL is made to pay such compensation then the amount of such compensation shall be deducted from the progressive bills / contract performance guaranty of the contractor.

## **28.0 CODE REQUIREMENTS**

The erection requirements and procedures to be followed during the installation of the equipment shall be in accordance with the relevant Codes and accepted good engineering practice, the Engineering Drawings and other applicable Indian recognized codes and laws and regulations of the Government of India.

## **29.0 FOUNDATION DRESSING & GROUTING**

- i. The surfaces of foundations shall be dressed to bring the top surface of the foundations to the required level, prior to placement of equipment I equipment bases on the foundations.
- ii. All the equipment bases and structural steel base plates shall be pouted and finished as per these specifications unless otherwise recommended by the equipment manufacturer.
- iii. The concrete foundation surfaces shall be properly prepared by chipping, grinding as required to bring the type of such foundation to the required level, to provide the necessary roughness for bondage and to assure enough bearing strength. All laitance and surface film shall be removed and cleaned.

### **30.0 Grouting Mix**

30.1 The Grouting mixture shall be composed of Portland cement, sand and water. The Portland cement to be used shall conform to ISI No. 269 or equivalent. Sand shall conform to ISI No. 383/2386 or equivalent. All grouts shall be thoroughly, mixed for not less than five minutes in an approved mechanical mixer and shall be used immediately after mixing.

### **30.2 Placing of Grout**

30.2.1 After the base has been prepared, its alignment and level has been checked and approved and before actually placing the grout a low dam shall be set around the base at a distance that shall permit pouring and manipulation of the grout. The height of such darn shall be at least 25 mm. above the bottom of the base. Suitable size and number of chains shall be introduced under the base before placing the grout, so that such chains can be moved back and forth to push the grout into every part of the space under the base.

30.1.2 The grout shall be poured either through grout holes provided or shall be poured at one side or at two adjacent sides giving it a pressure head to make the grout move in a solid mass under the base and out in the opposite side. Pouring shall be continued until the entire space below the base is thoroughly filled and the grout stands at least 25 mm. higher all around than the bottom of the base. Enough care should be taken to avoid any air or water pockets beneath the bases. Vibrator shall be used to avoid any air or water pockets.

### **30.3 Finishing of the Edges of the Grout**

The poured grout should be allowed to stand undisturbed until it is well set. Immediately thereafter, the dam shall be removed and grout which extends beyond the edges of the structural or equipment base plates shall be cut off, flushed and removed. The edges of the grout shall then be pointed and finished with 1:6 cement mortar pressed firmly to bond with the body of the grout and smoothed with a tool to present a smooth vertical surface. The work shall be done in a clean and scientific manner and the adjacent floor spaces, exposed edges of the foundations, and structural steel and equipment base plates shall be thoroughly cleaned of any spillage of the grout.

### **30.4 Checking of Equipment after Grouting**

After the grout is set and cured, the Contractor shall check and verify the alignment of equipment's, alignment of shafts of rotating machinery, and the slopes of all bearing pedestals. Centering of rotors with respect to their sealing bores, couplings, etc. as applicable and the like items to ensure that no displacement has taken place during grouting. The values recorded prior to grouting shall be used during such post grouting checkup and verifications. Such pre and post grout records of alignment details shall be maintained by the Contractor in a manner acceptable to the site Engineer of TSECL.

### **31.0 CHECK OUT OF CONTROL SYSTEMS**

After completion of wiring, cabling, the contractor shall check out the operation of all control system the equipment furnished and installed under these specifications and documents.

### **32.0 CABLING**

32.1 All cables shall be supported by conduits or cable trays run in air or in cable channels. These shall be installed in exposed runs parallel or perpendicular to dominant surface with right angle turn made of symmetrical bends for fittings. When cables are run on cable trays, they shall be clamped at minimum intervals of 2000 mm. or otherwise as directed by the site Engineer.

32.2 Each cable, whether power or control, shall be provided with a metallic or plastic tag of an approved type, bearing a cable reference number indicated in the cable and conduit list (prepared by the contractor), at every 5 meter run or part thereof and at both ends of the cable adjacent to the terminations. Cable routing is to be done in such a way that cables are accessible for any maintenance and for easy identification.

32.3 Sharp bending and kinking of cables shall be avoided. Installation of cables high voltage, coaxial. Screened, compensating, mineral insulated shall be in accordance with the cable manufacturer's recommendations. Wherever cables cross roads and water, oil, sewage or gas lines, special care should be taken for the protection of the cables in designing the cable channels.

32.4 In each cable run some extra length shall be kept at a suitable point to enable one or two straight through joints to be made, should the cable develop fault at a later date.

32.5 Control cable terminations shall be made in accordance with wiring, diagrams, using identifying codes subject to approval of engineering charge of the work. Multi-core control cable jackets shall be removed as required to train and terminate the conductors. The cable jacket shall be left on the cable, as far as possible, to the point of the first conductor branch. The insulated conductors from which the jacket is removed shall be neatly twined in bundles and terminated. The bundles shall be firmly but not tightly tied utilizing plastic or nylon ties or specifically treated fungus protected cord made for this purpose. Control cable conductor insulation shall be secure and even.

32.6 The connectors for control cables shall be covered with a transparent insulating sleeve so as to prevent accidental contact with ground or adjacent terminals and shall preferably be terminated at the connecting end of the equipments. The insulating sleeve shall be fire resistant and shall be long enough to over pass the conductor insulation. All control cables shall be fanned out and connection made to terminal blocks and test equipment for proper operation before cables are corded together.

### 33.0 AVAILABILITY OF SHUTDOWN

In course of execution of the 'work Shut-Down of particular feeder/feeders may be necessary. Such shut down will be provided by the Owner as per Owner's convenience on receiving written requisition informing about his programme from the contractor at least one week before such requirement. The Contractor shall have to arrange during execution everything, necessary for complete installation & Commissioning of all equipment and the entire requirement as specified in the work schedule.

## **SECTION 9**

### **SCOPE OF WORK**

The objective of the scheme for “Extension of HT/LT line (HT line through 70sqmm XLPE cable) including construction of 1x63KVA Sub-Station for providing 3-phase Service Connection to DTW scheme at Naraura of Bishalgarh Municipality Corporation (Urban area) under ESD- I, Bishalgarh (Partial Turkey basis).”

Scope of work covered under this package includes design, engineering, manufacturing , testing, supply, transportation to site ,storage, insurance,handling,laying,testing & commissioning of as stated in above including supply of petty materials. The scope of work includes supply,erection,testing & commissioning of HT XLPE power cable,termination kits,HDPE pipes,steel tubular poles, GI pipe,Overhead lines, etc. and as specified in BOQ etc. as guided by BOQ as per engineering requirement for total completion of the work under Electrical Division -Bishalgarh. Scope of work given above is only indicative, the detail scope has been described in the BOQ( schedule of work) attached with this bidding document

The scope of work includes execution on ***Partial turn-key basis*** to cover but not restricted to the following activities, Services and works: -

- i) The successful bidder shall have to carry out a detailed site survey covering the existing Distribution Sub-Station along with overhead Transmission/sub-transmission & distribution line, submission of route alignment, DGPS survey with profile in details indicating road crossing, river, water body, Sewerage pipe line, Water supply pipe line, Gas pipe line and P&T line etc. and Submission of construction drawing of the Existing Electrical System and obtain NOC from various stakeholders. In case bidder assesses any change in cable route which is unavoidable, he shall write to the Department detailing therein the reasons for the proposed changes. TSECL after assessing the proposal shall either approve or reject the same.
- ii) Contractor shall prepare feeder-wise single line diagram of existing as well as proposed assets being created under the proposed scheme. SLD as well as feeder-wise and consumer wise details of materials consumed shall be prepared by partial turnkey contractor while seeking payment against executed work. This SLD shall be used by 3-tier Quality Assurance Mechanism inspectors as a reference documents to commence inspection at site.
- iii) The contractor shall submit the work plan to TSECL and to other utilities like PWD, AMC, DWS, and BSNL as the case may be.
- iv) The bidder shall submit GTP and Drawings of equipment/material to the department for taking prior approval for manufacturing and procurement of the materials. Conduct pre-dispatch inspection and arrange MDCC from the Owner for further delivery of materials to site stores.

- v) Maintaining site stores, maintaining round the clock security of stores, materials record keeping, materials handling in stores and up to working site location.
- vi) The contractor shall commence execution work at site after receiving due approvals from TSECL.
- vii) Excavation of trenches, laying HV UG cable in accordance to technical specification including provision of dry sand layer inside Pre-fabricated duct, cable tray orientation to protect cable from damages and ease of O & M, erection of straight through joints.
- viii) The dismantling of existing overhead network is a separate work and does not come under scope of the contractor under this scheme of undergrounding work.
- ix) During execution need for replacement of existing poles may arise. The contractor shall inform TSECL in writing regarding replacement of the same.
- x) All civil and structural works including structure foundation earthing, pipes, masonry chamber, trenches etc., as required.
- xi) Erection, testing and commissioning of all the equipments/materials including successfully putting them into satisfactory operation.
- xii) Providing engineering data, drawings and O&M manuals for review, approval & records of the Owner.
- xiii) In addition to the requirements indicated in the section "Technical Specifications" all the requirements as stated in other sections shall also be considered as a part of this specification as if completely bound herewith.
- xiv) The contractor shall be responsible for providing all material, equipment and services specified or which are otherwise required to fulfill the intent of ensuring operation ability, maintainability and the reliability of the complete work covered under this package.
- xv) All services & activities required to be given contractually by the bidder during Defect Liability period.

## **1 DEFECT LIABILITY**

Defect liability period shall start after successful commissioning of entire UG Distribution network and all electrical equipments. During defect liability period, the agency will be liable to rectify the defects at free of cost.

## **SCOPE OF WORK**

### **2.1 Operation & Maintenance**

- The contractor shall be responsible for un-planned/emergency outages as well as planned maintenance which includes but is not limited to: .
- The Contractor shall provide list of all tools and tackles which will be required for proper operation and maintenance for one year. He shall include the cost of these in his offer and shall hand over the plant in good working conditions after expiry of operation and maintenance period. If any tool, other than those specified by Contractor is required during the O& M period the same shall be supplied free of cost.
- All metallurgical scrap of used spares will be handed over to the TSECL as and when the spares are replaced.
- All routine preventive maintenance including break down repairs are to be carried out by Contractor as per manufactures recommendations.
- The contractor is required to take appropriate action for minimizing disruption to traffic in the event of carry out some major breakdown/ faults affecting the safety and use of the roads by providing a rapid and effective

response and maintaining liaison with emergency services of the competent authority

- The Contractor's responsibility for repairing of metal portion of the road during maintenance and shall include prompt removal of debris or any other obstruction, which may endanger or interrupt the smooth flow of traffic and provision of medical first aid to victims of the accidents or other incidents.
- Upkeep of UG cable as well as, LT Distribution Panel, 11 KV Switchgear panel, Distribution Sub-Station etc. in good shape and condition by quality maintenance procedures.
- Any special repairs due to damages during heavy rain, as per the instructions received from engineer in-charge, shall also be part of contractor's scope of work.

### **3.1 Responsibility of the Contractor:**

In the event of accident to any person including employees of department on duty damages to property, injury to cattle or other animals or damage/ injury of any description to any person or things arising out of the execution of the works the Contractor shall be held responsible for and make good the same and shall indemnify the department from all claims or expenses on account thereof and if the department has to pay any money in respect thereof sum so paid and the costs incurred by the Department shall be charged to the Contractor as so much money paid to him on account of his contract and the Contractor shall not be at liberty to dispute or question the right of the Department to make such payment for him or on his account notwithstanding the same may have been made without his consent or authority and decision or determination in law or otherwise to the contrary notwithstanding.

The contractor has to set up site office with facility of e-mail and telephone connection so that the physical complaint as well as the complaint lodged at respective ESDs, can be intimated to the O&M Team without any delay. Immediately after attending the complaint, O&M team shall communicate Department via e-mail regarding elimination of faults & restoration of line. with reference to the complaint nos. so that the monitoring of in time response to the fault or violation, can be monitored by the department.

NOTE: At least One of the skilled staff employed should possess 1<sup>st</sup> class competence certificate issued by the Electrical Inspector.

### **4.1 Safety Precautions**

Adequate safety precautions against fire, flooding lightning, electrical shocks accident due to moving / non-moving heavy equipment shall be strictly observed by the Contractor at his own cost. Suitable safety measures like boots, gloves, insulated tools, alarms etc. shall be provided by the Contractor except those provided by the department. Necessary medical first aid kit shall be made available all the time. In absence of observations of above safety precautions, the Contractor shall be responsible for any unforeseen loss of the equipment or persons dealing with it.

In case the Distribution Transformer or any other components like, breakers, meters etc. is burnt or damaged due to negligence of the Contractor or due to faulty operation it shall be sole responsibility of the Contractor to get it rewound/ replaced/ repaired, as per standards of the equipment/component, free of cost.

## **SECTION-10**

### **Technical Specification**

<b>SI no</b>	<b>PARTICULARS</b>
A	TECHNICAL SPECIFICATION 11 KV, XLPE insulated, armored Underground Cable
B	TECHNICAL SPECIFICATION OF HDPE PIPES
C	EARTHING AND EARTHING G.I PIPE.
D	COMMON TECHNICAL SPECIFICATIONS FOR M.S.BOLTS AND NUTS
E	HEAT SHRINKABLE TYPE END TERMINATIONS:

#### **A. 11 KV, XLPE insulated, armored Underground Cable:**

**1.0 SCOPE:-** The specification covers engineering, design, manufacture, shop testing, packing and delivery at site/store, transportation, insurance, laying and commissioning of 11 & 33 KV , single/multi core , cross linked polyethylene insulated **FRLS PVC Outer sheath** power cables. These cables shall be suitable for the 1/3 phase, AC-50 Hz system with the nominal voltage of 11&33 kV which may reach maximum of 12&36 kV respectively. These cables shall primarily be designed for effectively earthed neutral system.

#### **2.0 SERVICE CONDITIONS:**

Cables to be supplied against this specification shall be suitable for satisfactory continuous operation under the following tropical conditions.

- |  |             |
|--|-------------|
| a. Maximum ambient temperature (deg C)         | : 50        |
| b. Maximum temperature in shade (deg C)        | : 45        |
| c. Minimum temperature in air (deg C) in shade | : 3.5       |
| d. Relative Humidity (%)                       | : 10 to 100 |
| e. Maximum annual Rainfall (mm)                | : 1450      |
| f. Maximum Wind Pressure (kg/mm2)              | : 150       |

- g. Maximum altitude above mean sea level (Meters) : 1000
- h. Isoceraunic level (days/year) : 50
- i. Seismic level (Horizontal acceleration)  
: 0.3 g.
- j. Moderately hot and humid tropical climate, conducive to rust and fungus growth.

### 3.0 STANDARDS:

- 3.1 Unless otherwise specified elsewhere in this specification, the rating as well as performance and testing of the HT XLPE power cables shall conform to the latest revisions available at the time of placement of order of all the relevant standards as listed, but not limited to specified.

- |  |   |
|--|---|
| <b>1. Conductor</b>                      | : Stranded Class 2 - Annealed Plain / Tinned<br><br>Copper / Aluminium – IS:8130 / IEC 60228/ BS 6360.        |
| <b>2. Conductor Screen</b>               | : Extruded semi-conducting compound – IS:7098<br><br>Part 2, IEC:60502 Part – 2, BS:6622, BS:7835.            |
| <b>3. Insulation</b>                     | : XLPE – IS : 7098 Part 2, IEC:60502 Part – 2,<br><br>BS:6622, BS:7835.                                       |
| <b>4. Insulation Non-metallic Screen</b> | : Extruded semi-conducting compound –<br><br>IS:7098<br><br>Part 2, IEC:60502 Part – 2, BS:6622, BS:7835.     |
| <b>5. Insulation Metallic Screen</b>     | : Copper Wire / Tape or Aluminium Wire /<br><br>Strip – IS:7098 Part 2, IEC:60502 Part – 2, BS:6622, BS:7835. |
| <b>6. Fillers</b>                        | : Non Hygroscopic PVC * / Polypropylene Fiber to maintain roundness of cable.                                 |
| <b>7. Inner sheath/Bedding</b>           | : PVC ST 2 as per IS:7098 Part 2, IEC:60502 Part – 2, BS:6622, LSOH to BS:7835.                               |
| <b>8. Armour</b>                         | : IS:7098 Part 2, IS: 3975, IEC:60502 Part – 2, BS:6622, BS:7835.   |
| <b>9. Outer Sheath</b>                   | : PVC ST 2, FR, FRLS as per IS:7098 Part 2, IEC:60502 Part – 2, BS:6622, LSOH to BS:7835.                     |

#### 4.0 GENERAL TECHNICAL REQUIREMENTS:

- 4.1 The High Voltage Aluminium Power cable to be made of Stranded Compact Circutal Aluminium Conductor, Conductor Screened with Extruded Semi conducting compound, XLPE insulated, Insulation Screened with extruded semi conducting compound. Aluminium flat strip armoured and overall sheathed with FRLS quality PVC compound. As per provision of clause 13.1 of IS: 7098 (Part 2) - 1985. The insulation (XLPE) screening shall be provided consisting of extruded semi-conducting cross link material in combination with a metallic layer of copper tapes. Such screened cores shall be laid up together with fillers and/or binder tapes where necessary and provided with extruded inner sheathing of heat resistant PVC conforming to type ST-2 of PVC ST 2 as per IS:7098 Part 2, IEC:60502 Part – 2, BS:6622, LSOH to BS:7835.

Maximum continuous operating temperature shall be 90 deg C under normal operation and 250 deg C under short circuit condition

Armouring shall be provided consisting of single galvanized steel strip (In the case of Single core cable armouring shall be of Non-magnetic material) conforming to IS:7098 Part 2, IS: 3975, IEC:60502 Part – 2, BS:6622, BS:7835. (amended upto date) and over the armouring a tough outer sheath of PVC compound shall be extruded. The PVC compound for the outer sheath shall conform to type ST-2, FRLS as per IS:7098 Part 2, IEC:60502 Part – 2, BS:6622, LSOH to BS:7835. (amended upto date). The colour of the outer sheath shall be black. The cable shall be manufactured strictly conforming to IS:7098 (Part 2) - 1985 amended upto date and shall bear ISI mark.

FRLS Properties - All cable shall be Flame Retardant Low Smoke (FRLS) type. Outer sheath shall have the following properties –

Acid Gas Generation – Max 20% ( as per IEC 754-1)

Smoke density rating: 60% (As per ASTM D 2843)

Flammability test - As per Swedish chimney test F3 as per SEN 4241475

As per IEC 332 part-3 (Category B)

Minimum bending radius shall be 10 D

Repaired cables shall not be acceptable.

#### 4.2 SEQUENTIAL MARKING OF LENGTH ON CABLE

Non erasable Sequential Marking of length shall be provided by embossing on outer sheath of the cable for each meter length.

The quality of insulation should be good and insulation should not be deteriorated when exposed to the climatic conditions.

##### 4.2.1 DISCHARGE FREE CONSTRUCTION:

Inner conductor shielding, XLPE insulation and outer core shielding shall be extruded in one operation by special process (viz. Triple Extrusion Process) to ensure that the insulation is free from contamination and voids and perfect bonding of inner and outer shielding with insulation is achieved. The bidders are requested to elaborate the manufacturing technique adopted by their manufacturers to achieve this motive.

#### 5.0 CONTINUOUS A.C. CURRENT CAPACITY:- Continuous A.C current capacity shall be as per Table given below.

Conductor	Continuous A.C. current capacity in Amps. at maximum conductor temp.
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sizes in sq. mm.	of 90°C		
	When laid direct in the ground 30°C		When laid in air_40°C
	11 KV	33 KV	11 / 33 KV
70 Sq mm.	160	155	165
95 Sq mm	190	175	200
120 Sq mm	215	195	230
150 Sq mm	240	225	265
185 Sq mm	270	255	310
240 Sq mm	315	290	345
300 Sq mm	355	325	396
400 Sq mm	405	385	460
500 Sq mm	450	450	590

**6.0 SHORT CIRCUIT CURRENT**-Short circuit current of 11 & 33 KV XLPE cable shall be as per Table given below.

Duration of Short Circuit in sec.	Area of Al. Conductor	Short circuit current in kA
T	A	$I=0.094 \times A/\text{sq.rt (t)}$
1	70 Sq mm.	6.58
1	95 Sq mm	8.93
1	120 Sq mm	11.28
1	150 Sq mm	14.10
1	185 Sq mm	17.39
1	240 Sq mm	22.56
1	300 Sq mm	28.20
1	400 Sq mm	37.60
1	500 Sq mm	47.00

1	630 Sq mm	59.20
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## 7.0 TESTS AND TESTING FACILITIES:

### 7.1 TYPE TESTS:

All the type tests in accordance with **IS: 7098 Part 2, IEC: 60502, BS: 6622, BS: 7835** and amended upto date, shall be performed on cable samples drawn by purchaser.

Type tests are required to be carried out from the lot of supply on a sample of any one size of cable ordered for each voltage grade. In case facilities of any of the type tests are not available at the works of the supplier, then such type test shall be carried out by the supplier at the independent laboratory at the cost of supplier. Sample for the type test will be drawn by the purchaser's representative and the type test will be witnessed by him.

The following shall constitute type tests:

#### a) Tests of Conductor:

- i) Annealing test (for copper)
- ii) Tensile test (for aluminium)
- ii) Wrapping test (for aluminium)
- iii) Conductor Resistance test

#### b) Tests for armouring wires/strips.

#### c) Tests for thickness of insulation and sheath.

#### d) Physical tests for insulation:

- i) Tensile strength and elongation at break.
- ii) Ageing in air oven.
- iii) Hot test.
- iv) Shrinkage test.

#### v) Water absorption (gravimetric).

#### e) Physical test for outer sheath:

- i) Tensile strength and elongation at break.
- ii) Ageing in air oven.
- iii) Shrinkage test.
- iv) Hot deformation,

#### f) Partial discharge test.

- g) Bending test.
- h) Dielectric power factor test:
  - i) As a function of voltage.
  - ii) As a function of temperature.
- i) Insulation resistance (volume resistivity test).
- j) Heating cycle test.
- k) Impulse withstand test.
- l) High voltage test.
- m) Flammability test.

## **7.2 ROUTINE TESTS:**

All the Routine tests as per IS:7098 (Part 2) - 1985 and amended upto date shall be carried out on each and every delivery length of cable. The result should be given in test report. Partial discharge test must be carried out in a fully screened test cell. It is, therefore, absolutely essential that the manufacturer should have the appropriate type of facility to conduct this test which is routine test.

The details of facility available in the manufacturer's works in this connection should be given in the bid.

The following shall constitute routine tests:

- a) Conductor resistance test
- b) Partial discharge test
- c) High voltage test.

## **7.3 ACCEPTANCE TESTS:**

All Acceptance tests as per IS:7098 (Part 2) - 1985 as modified upto date including the optional test and Flammability Test shall be carried out on sample taken from the delivery lot.

## **7.4 SHORT CIRCUIT TEST:**

The contractor shall also undertake to arrange for the short circuit test as a type test on any one size of each voltage grade i.e on one size of 11 kV and one size of 33 kV earthed grade shielded XLPE cables ordered at a recognized testing center such as Central Power Research Institute at Bangalore/ Bhopal at the cost of supplier. If facilities for carrying out short circuit tests are available at the works of the supplier, and provided the certification procedure is approved by the Purchaser, testing at the supplier's works will be acceptable. Short Circuit test shall be witnessed by the purchaser's representative.

7.4.1 The short circuit test shall be preceded and followed by the following tests so as to ensure that the characteristics of the cable remain within the permissible limits even after it is subjected to the required short circuit rating.

- a) Partial Discharge Test.
- b) Conductor Resistance Test.
- c) High Voltage Test.

- 7.4.2 The manufactured cable will be acceptable only after such a sample test is successfully carried out at CPRI or at suppliers works and approved by the Purchaser.

## **7.5 TESTING FACILITIES**

The supplier / tenderer shall clearly state as to what testing facilities are available in the works of manufacturer and whether the facilities are adequate to carry out type, routine and acceptance tests mentioned in specified IS. The facilities shall be provided by the bidder to purchaser's representative for witnessing the tests in the manufacturer's works. If any test cannot be carried out at manufacturer's works reason should be clearly stated in the tender.

## **8.0 PACKING AND MARKING:**

### **8.1 IDENTIFICATION MARKS ON CABLE:**

The following particulars shall be properly legible embossed on the cable sheath at the intervals of not exceeding one meter through out the length of the cable. The cables with poor and illegible embossing shall be liable for rejection.

a) Manufactures name and/or Trade name.

b) Voltage grade.

c) Year of manufacture.

d) Successive Length.

e) Size of cable

f) ISI mark

- 8.2 The cable shall be supplied in continuous standard length of 250 running meters for 3core and 500 running meters with plus minus 5% tolerance wound on non returnable wooden drum of good quality and non-standard lengths not less than 100 meters upto 5% of the ordered quantity shall be accepted. Alternately cable can be supplied wound on non-returnable steel drum without any extra cost to the purchaser. Packing and marking shall be as per clause No. 21 of IS:7098 (Part 2) - 1985 amended up to date.

- 8.3 Supplier should provide statistical data regarding cables of all sizes viz. -

- 1) Weight of one meter of finished product of cable of various sizes and ratings.
- 2) Weight of one meter of bare conductor used for cables of various sizes and ratings.

## **9.0 QUALITY ASSURANCE PLAN:**

A detailed list of bought out items which got into the manufacture of cables should be furnished indicating the name of the firms from whom these items are procured. The bidder shall enclose the quality assurance plan invariably along with offer followed by him in respect of the bought out items, items manufactured by him & raw materials in process as well as final inspection, packing & marking. The Company may at its option order the verification of these plans at manufacturer's works as a pre qualification for technically accepting the bid. During verification if it is found that the firm is not meeting with the quality assurance plan submitted by the firm, the offer shall be liable for rejection.

## **10.0 INSPECTION (TEST BEFORE DISPATCH):**

- 10.1 The inspection may be carried out by the Owner at any stage of manufacturer. The Inspection & Testing shall be governed by **Section-II** (General Conditions OfContract). Acceptance of any equipment / material

under this specification by the Owner shall not relieve the supplier of his obligation of furnishing equipment in accordance with the specification and shall not prevent subsequent rejection if the equipment/material is found to be defective. The following **Acceptance tests** as per Clause No.18.2 of IS:7098(Part-II)/1985 shall be conducted in presence of the Owner's authorized representative / agency on each lot of offered cables:

- i) Tensile Test.
- ii) Wrapping Test.
- iii) Conductor Resistance Test.
- iv) Test for thickness of insulation & sheath.
- v) Hot Set Test for insulation.
- vi) Tensile strength & elongation at break test for insulation and sheath.
- vii) Partial Discharge Test (for screened cables only).
- viii) High voltage test and
- ix) Insulation resistance (Volume resistivity) Test.
- x) Test for Armour:
  - a) Verification of Dimension of Strip.
  - b) Tensile Strength & elongation at break.
  - c) Uniformity of Zinc Coating.
  - d) Weight of Zinc Coating.
  - e) Winding Test on Armour.
  - f) Resistivity Test on Armour.

Cold impact test for outer sheath (IS:5831/1984) shall constitute the optional test and shall be conducted on lot of the offered cables of each size as per Clause No.18.4 of IS:7098(Part-II)/1985.

#### **11.0 TEST CERTIFICATE:**

- 11.1 Certified copies of all routine tests carried out at Works shall be furnished in Six (6) copies for approval of the purchaser.
- 11.2 The cables shall be dispatched from Works only after receipt of Purchaser's written approval of shop test reports.
- 11.3 Type Test Certificates of the Cable offered shall be furnished. Otherwise the cable shall have to be type tested on similar rating as per Clause – 10 free of any charges to prove the design.

#### **12.0 DRAWINGS & DOCUMENTATIONS:**

The bidder is required to furnish the detailed constructional drawing of cable clearly showing shape of core, type, size of fillers/ interstices along with Center Filler etc. **The calculations of weights of different components of the cable along with weight of armouring and calculation of number of armour strips**

indicating Lay Ratio & Lay Factor shall also be furnished. In absence of this, the bids are likely to be ignored. The drawing of drums shall also be furnished as per relevant applicable ISS.

### 13.0 GUARANTEED TECHNICAL PARTICULARS:

The bidder shall furnish guaranteed technical particulars along with the bid .

#### **GUARANTEED TECHNICAL PARTICULARS**

**( To be filled in by the Bidder )**

1. Manufacturer's Name & Address ::
2. Voltage Grade. :: 19/33 KV 6.35/11 KV  
(For 33 KV Sys.) ( For 11 KV Sys.)
3. Core & Cross Section ::
4. Type & Designation (as per ISS) ::
5. List of Standards applicable ::
6. Suitable for system with
  - (a) Service Voltage ::
  - (b) Neutral Earthing ::
7. Maximum Conductor temperature ::
  - (a) Continuous (in Deg. C) ::
  - (b) Short time (in Deg.C ) ::
8. Conductor:
  - (a) Material to IS-8130(Class/Grade) ::
  - (b) Size (Sq.mm.) ::
  - (c ) No./Nominal diameter of wires in  
each Conductor (no./mm.) ::
  - (d) Form of Conductor (Circular/shaped) ::
9. Shielding/screening on Conductor :
  - (a) Material. ::
  - (b) Type. ::
  - (c ) Whether thermosetting ? :: (Yes/No.)
10. Insulation :
  - (a) Material. ::

- (b) Type ::
- (c ) Minimum Thickness (mm) ::
- (d) Whether tripple co-extrusion :: (Yes/No)
- With radiant curing process ?

11. Shielding / screening on insulation :

- (a) Material ::
- (b) Type ::
- (c ) Thickness (mm) ::
- i) Non-metallic ::
- ii) Metallic ::

12. Inner – sheath ::

- (a) Material ::
- (b) Type ::
- (c ) Thickness (mm.) ::
- (d) Extruded/Wrapped. ::
- (e) Approx. outside diameter ::
- over sheath (mm.)

13. Armouring ::

- (a) Material. ::
- (b) Size ::
- (c ) D.C. resistance at 20 deg.C ::
- (Ohm/Km.)
- (d) A.C. resistance at 20 deg.C ::

14. Overall Sheath ::

- (a) Material ::
- (b) Type ::
- (c ) Thickness (mm.) ::

15. Approx.overall diameter of the ::Cable (mm.)

16. Standard Drum length with tolerance (Mtr.)

17. Net Weight of Cable(approx.)Kg/Km ::

18. Continuous current rating for standard condition, laid direct

(a) In ground at temp. 30 deg.C ::

(b) In duct at temp. 30 deg.C ::

(c ) In air at temp. 40 deg.C ::

19. Charging current at rated system voltage ::

20. Short Circuit Current (Maxm.) ::

(a) for 1 sec. ::

(b) for 0.5 sec. ::

21. Electrical Parameters ::

(a) Maxm. D.C. resistance/km of conductor at 20 deg.C ::

(b) AC resistance/kilometer of conductor at 90 deg.C(approx.) ::

(c ) Reactance/kilometer(approx.) ::

(d) Capacitance/Kilometer(approx.) ::

(e) Di-electric losses at rated

(Uo/U) system KV, 50 cycles/sec.

in Watts/KV/Phase) ::

(f) i) tan-delta at 0.5 Uo ::

ii) tan-Delta at Uo ::

iii) tan-Delta at 1.5 Uo ::

iv) tan-Delta at 2 Uo ::

22. Vol. Resistivity at 27 deg.C(ohm/Cm) ::

23. Recommended minimum bending radius ::

24. Derating factor for following ambient temperature in Air/Ground.:

(a) at 30 deg. C ::

(b) at 35 deg. C ::

(c ) at 45 deg. C ::

(d) at 50 deg. C ::

25. Type test results of the similar Cable to be furnished with Tender (as specified under Clause-10 of the Spec.):

(a) Tests on Conductor :

(i) Tensile test (for aluminium) ::

(ii) Wrapping test (for aluminium) ::

(iii) Resistance test ::

(b) Test for armouring wires/strips ::

(c) Test for thickness of insulation & sheath :

(i) Tensile strength & elongation at break ::

(ii) Ageing in air oven ::

(iii) Hot test ::

(iv) Shrinkage test ::

(v) Water absorption (Gravimetric) ::

(d) Physical :

(i) Tensile strength and elongation at break::

(ii) Ageing in air oven ::

(iii) Shrinkage test ::

(iv) Hot deformation ::

(v) Loss of mass in air oven ::

(vi) Heat shock ::

(vii) Thermal stability ::

(e) Partial discharge test ::

(f) Banding test ::

(g) Di-electric power factor test :

(i) As a function of Voltage ::

(ii) As a function of temperature ::

(h) Insulation Resistance

(Volume resistivity)\*Test:

(i) Heating Cycle test ::

(j) Impulse with stand test ::

(k) High Voltage test ::

- (l) Flammability test ::
26. Cable Drums :
- (a) Length/Drum (Kg) :
- (b) Dimension of Drum ::
- (c) Shipping weight (Kg) ::
27. Safe pulling force (Kg.) ::
28. Partial discharge value ::
29. Details of the protective measures against attack by white ante, vermins  
etc. to be XLPE's outer sheath during manufacture. ::
30. Type of curing of XLPE insulations ::
31. Cut ends of the Cable shall be sealed with ..... ::
32. Cable identification shall be made as per per class 8.10 (Yes/No). ::
33. Cable Drums shall be marked with the with the information's of conspicuously (Yes/No)::

## **B. TECHNICAL SPECIFICATION OF HDPE PIPES**

### **SCOPE:**

This section covers design, manufacture, testing before dispatch, packing, transportation at site, insurance, supply & delivery F.O.R destination, and laying of **ISI Marked HDPE pipes**

### **2.0 CLIMATIC CONDITIONS:**

As mentioned in the General Climatic Conditions.

### **3.0 STANDARD:-**

#### **A. TYPE**

(i) The HDPE pipe shall be double wall corrugated of standard make suitable for laying 3-core 300mm square XLPE cable underground.

(ii) The HDPE pipe shall be ISI marked and complying to technical requirement of IS-14930.

#### **(a). Size:-**

(iii) The HDPE pipe shall have OD/ED (mm) as 180/152 and have standard length of 6 meters.

**(b). Fitting and Assembly.**

(vi) The scope of work shall include all fittings and accessories namely End Caps, Bends, Tees etc required for the successful execution of laying work of the HDPE pipe.

**(c.) Non-flame propagating properties.**

(v) The HDPE pipe shall be of non-flame propagating type as per IS-14930 (Part-II).

**(d.) Antirodancy**

(vi) The HDPE pipe shall have antirodancy property to prevent damage caused due to rodants.

**(e). Inspection & Test**

(vii) The HDPE pipes shall be offered for inspection at manufactured work before dispatch and test as per relevant IS shall be conducted by the authority representative of purchaser.

**C. EARTHING AND EARTHING G.I PIPE.**

**1.0 Scope:-**GI earthing pipe should be made of **40 mm diameter** ISI marked heavy duty A class GI Pipe. **12 mm dia suitable holes** on its circumference shall be made as per approved drawing. The pipe should be in one piece. No joints or welding would be allowed on its length. Clamps made of 50x6mm GI flat duly drilled with 12 mm size holes should be welded at the top end for connection of earth conductor. Pipe used shall be 40mm NB diameter, ISI marked Galvanized Mild Steel Tubes continuously welded Electric Resistance Welded ERW/High Frequency Induction welded (HFIW)/Hot finished welded (HFW) type, conforming to IS-554-1985 with latest amendment of Heavy duty quality (Class B).

**2.0 MANUFACTURE:-** Earthing pipe should be made of 40 mm diameter ISI marked B class GI Pipe. 12 mm dia suitable holes on its circumference shall be made as per approved drawing. The pipe should be in one piece. No joints or welding would be allowed on its length. Clamps made of 50x6mm GI flat duly drilled with 12 mm size

holes should be welded at the top end for connection of earth conductor.

GI earth pipe (**40 mm diameter & 2.5 meter long**) shall be made of tubes which shall be made from tested quality steel manufactured by any approved process as follows:

- a) Electric Resistance Welded (ERW).
- b) High Frequency Induction Welded (HFIW) and
- c) Hot finished Welded (HFW).

Tubes made by manual welding are not acceptable.

**3.0 DIMENSIONS**

The dimensions and weights of tubes shall be in accordance with Table-I and Table-II of IS: 1239 (Part-I)/1990 with latest amendments, subject to tolerance permitted therein. Necessary 12 mm diameter holes across the circumference shall be provided as per approved drawing. Drawings shall be approved by the owner before start of the manufacturing work. The tube, earthing pipe shall be provided with **50x6mm GS** clamps on one end, one clamp is to be welded with the pipe and another is removable to enable measurement of earth resistance of the pit. Other end of the earth pipe should be cut half in slop to make it a sharp.

**4.0 GALVANIZING**

Tubes shall be galvanized in accordance with IS-4736-1986 with latest amendment for not (hot) dip zinc coating of Mild Steel Tubes. The minimum mass of zinc coating on the tubes shall be in accordance with clause 5.1 of IS-4736-1986 (specification for hot dip zinc) and when determined on a 100mm long test piece in accordance with IS: 6745:1972 shall be 400 g/m<sup>2</sup>. The zinc coating shall be uniform adherent reasonably smooth and free from such imperfections as flux, ash and dross inclusions, bare patches, black spots, pimples, lumpiness, rust, stains, bulky white deposits and blisters.

## **5.0 HYDRAULIC TEST**

(Before applying holes) Each tube shall withstand a test pressure of 5 M Pa maintained for at least 3 seconds without showing defects of any kind. The pressure shall be applied by approved means and maintained sufficiently long for proof and inspection. The testing apparatus shall be fitted with an accurate pressure indicator.

## **6.0 TEST ON FINISHED TUBES AND SOCKETS**

The following tests shall be conducted by the manufacturer of finished tubes and sockets.

- i. The tensile strength of length of strip cut from selected tubes when tested in accordance with IS-1894-1972, (Method for tensile testing of steel tubes), shall be at least 320N/mm<sup>2</sup>.
- ii. The elongation percentage on a gauge length of 5.65/so (where so is the original cross sectional area of test specimen) shall not be less than 20%.
- iii. When tested in accordance with IS-2329-1985 (Method for Bend test on Metallic tubes) the finished tube shall be capable of with standing the bend test without showing any sign of fracture or failure. Welded tubes shall be bent with the weld at 90 degree to the plane of bending. The tubes shall not be filled for this test.
- iv. Galvanized tubes shall be capable of being bent cold without cracking of the steel, through 90 degree round a former having a radius at the bottom of the groove equal to 8 times the outside diameter of tube.
- v. Flattening Test on Tubes above 50 mm Nominal Bore: Rings not less than 40 mm in length cut from the ends of selected tubes shall be flattered between parallel plates with the weld, if any, at 90 degree (point of maximum bending) in accordance with IS-2328- 1983. No opening should occur by fracture in the weld unless the distance between the plates is less than 75 percent of the original outside diameter of the pipe and no cracks or breaks in the metal elsewhere than in the weld shall occur, unless the distance between the plates is less than 60% of the original outside diameter. The test rings may have the inner and outer edges rounded.

## **7.0 GALVANIZING TEST**

- i. Weight of zinc Coating: For tubes thickness upto 6 mm the minimum weight of zinc coating, when determined on a 100 mm long test piece in accordance with IS-4736-1986 shall be 400 gm/m<sup>2</sup>.
- ii. The weight of the coating expressed in gram/m<sup>2</sup> shall be calculated by dividing the total weight of the zinc (inside plus outside) by the total area (inside plus outside) of the coated surface.
- iii. Test specimen for this test shall be cut approximately 100 mm in length from opposite ends of the length of tubes selected for testing. Before cutting the test specimen, 50 mm from both ends of the samples shall be discarded.
- iv. Free Bore Test: A rod 230mm long and of appropriate diameter shall be passed through relevant nominal bore of the sample tubes to ensure a free bore.

v. Uniformity of Galvanized Coating: The galvanized coating when determined on a 100 mm long test piece [see V (a) (iii)] in accordance with IS-2633-1986 (Method for testing uniformity of coating on zinc coated articles) shall with stand 4 one minute dips.

**8.0 WORKMANSHIP:-**The tubes shall be cleanly finished and reasonably free from injurious defects. They shall be reasonably straight, free from cracks, surface flaws, laminations, and other defects, both internally and externally. The screw tubes and sockets shall be clean and well-cut. The ends shall be cut cleanly and square with the axis of tube.

**9.0 MARKING:-**The medium class of tubes shall be distinguished by Blue color bands which shall be applied before the tubes leaves the manufacturers' works. Tubes shall be marked with the standard mark.

**10.0 EARTHING ARRANGEMENT OF DISTRIBUTION TRANSFORMERS**

**10.1** The earth pits should be located as per REC Construction Standard F-5 (Annexure VI).

**10.2** Pipe earth electrodes should be provided in each earth pit as per REC construction standard J-1 and J-2 (Annexure VII & VIII).

**10.3** 4 mm (8 S.W.G), G.I. wire should be used for earth leads.

**10.4** One of the earth electrodes on either side of D.P. structure should be connected with;

(a) One direct connection from the L.T. Lightning arresters and cross-arm.

(b) One direct connection with Lightning arrester on H.T. side (11KV) and cross-arm.

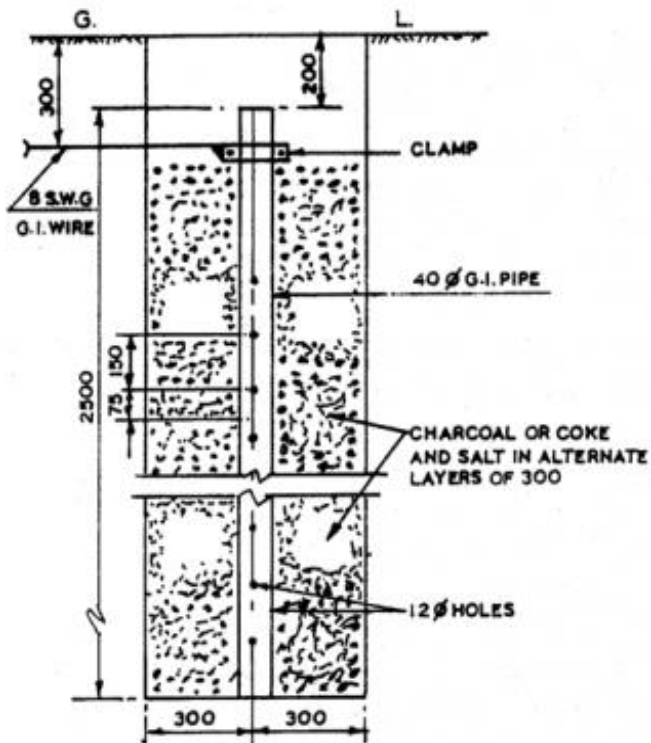
**10.5** To each of the remaining two earth electrodes, the following should be connected:-

(a) One separate connection from the neutral (on medium voltage side) of the transformer.

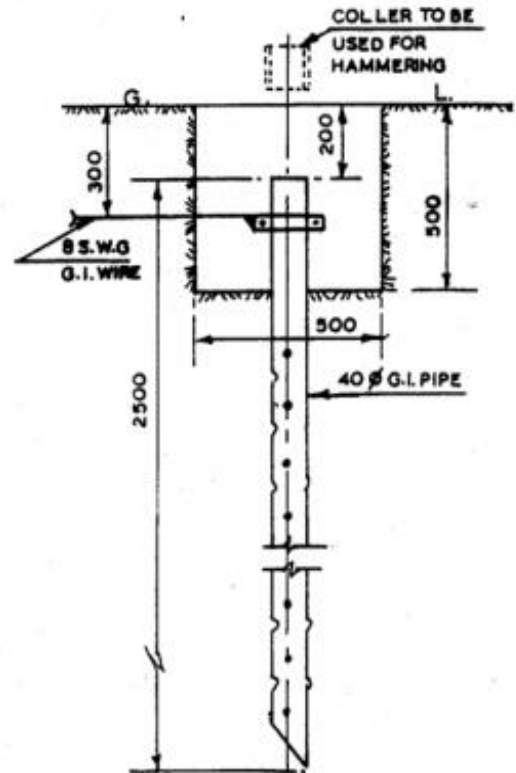
(b) One separate connection from the transformer body and the handle of 11KV A.B. switch.

(c) One separate connection from the earthing terminal of the poles.

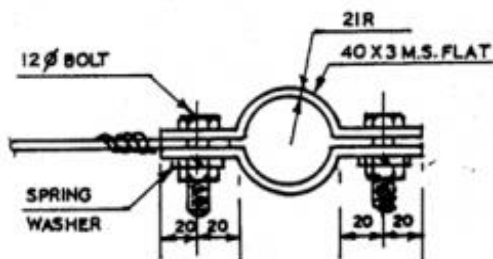
## CONSTRUCTION STANDARD



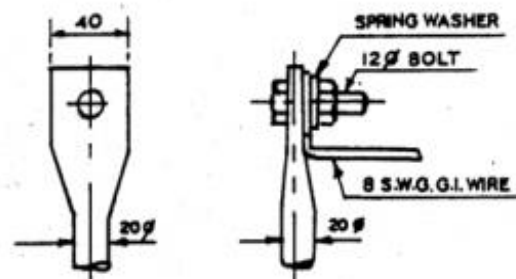
**EARTHING FOR HARD, STIFF  
OR MEDIUM CLAY**



**EARTHING FOR ORDINARY SOIL  
WHERE PIPE COULD BE HAMMERED IN**



**TYPICAL DETAIL OF CLAMP  
FOR PIPE EARTH**



**TYPICAL DETAIL OF CONNECTION  
FOR ROD EARTH**

### NOTES:-

1. ALTERNATIVELY 20  $\phi$  G.I. ROD MAY BE USED INSTEAD OF PIPE.
2. WATER TO BE POURED INTO SUMP TO KEEP THE SOIL SURROUNDING THE EARTH PIPE / ROD MOIST.
3. FOR COIL EARTHING REFER CONSTRUCTION STANDARD. J-1.

ALL DIMENSIONS ARE IN mm.

**PIPE / ROD EARTHING**

SCALE:- N.T.S

SEPT, - 1972

## **D . COMMON TECHNICAL SPECIFICATIONS FOR M.S.BOLTS AND NUTS .**

1. **REQUIREMENT:** -M.S. Bolts Black Hexagonal Head Round Neck with Hexagonal Nuts with two washers confirming to IS: 1363/2002 with latest amendments if any. The bolts and nuts shall be ISI marked and Washers shall conform to IS: 2016/1967 with latest amendments if any.
2. **PACKING:** The bolts and nuts with two washers duly assembled shall be packed in new sound, double jute / woven polythene bags and each pack shall contain maximum 50 Kgs. Net weight.
3. **BIS LICENSE:** Notarized Xerox copy of valid license for I.S. marking shall be submitted with the tender.
4. **TYPE TEST CERTIFICATE:** The Bidders have to submit notarized copy of all type test certificate as per IS: 1363/2002 with latest amendments time to time if any, along with Offer.
5. **GUARANTEED TECHNICAL PARTICULARS FOR SUPPLY OF VARIOUS SIZE M.S. BLACK BOLTS AND NUTS**  
(Bidder has to confirm following important requirement)

Sr. No.	Particulars	Confirmation Please tick YES or NO
1	M.S.Bolts Black hexagonal head round neck with hexagonal nuts with two washers shall be manufactured and supplied conforming to IS: 1363/2002 and Washers shall conform to IS: 2016/1967 with latest amendments if any and DGVCL's specifications	YES / NO
2	M.S.Bolts – Nuts with two washers shall bear ISI mark (Wherever applicable).	YES / NO
3	ISI license shall remain valid till order is completed.	YES / NO
4	Size of M.S. Bolts and Nuts with washers conforming the IS: 2016 - 1967	
5	II. 180mm x 16mm (Length x Diameter) (51 mm thread) (Washers-3.15mm thick, O.D.-30mm, I.D.-18mm)	YES / NO
	III. 65mm x 16mm (Length x Diameter) (38mm thread) (Washers-3.15mm thick, O.D.-30mm, I.D.-18mm)	YES / NO
	IV. 65mm x 12mm (Length x Diameter) (38mm thread) (Washers-3.15mm thick, O.D.-30mm, I.D.-14mm)	YES / NO
6	Packing shall be in new double jute / woven polythene bags and each pack shall contain maximum 50 Kgs. Net weight of Bolts & Nuts with 2 washers duly assembled.	YES / NO

## **E. HEAT SHRINKABLE TYPE END TERMINATIONS:**

**1.0 SCOPE:** This section covers the standard technical requirements of design, manufacturing, testing at works, and transportation to site, insurance, storage, erection and commissioning of heat shrinkable type terminations suitable for 33 KV single core XLPE insulated, screened, armored, with aluminum conductor cables suitable for earthed system and conforming to IS:7098 (Part-II)-1985 with latest amendment or the equivalent International Standards.

**2.0 STANDARD:-** The performance as well as type test requirements of all type of kits referred under scope shall conform to stipulations of IS:13573/1992 or the equivalent International Standards with latest amendments. All the electrical & physical parameters of terminations should also conform to the corresponding parameters of XLPE cables referred under 'SCOPE' of this specification, as per IS: 7098 (Part-II)-1985 (with latest amendments, if any) or equivalent international standards

### **3.0 CLIMATIC CONDITIONS :**

Maximum ambient temperature in open ai(°C)	: 50
b. Maximum ambient temperature in shade (°C)	: 45
c. Minimum temperature in shade(°C)	: 3
d. Relative humidity (%)	: 10 to 100
e. Maximum annual rainfall (mm)	: 1450
f. Maximum wind pressure (Kg/ Sqmtr.)	: 150
g. Maximum altitude above mean sea level (Mtrs)	: 1000
h. Isoceraunic level (days/year)	: 50
i. Seismic level (Horizontal acceleration)	: 0.3 g.
j. General nature of climate	: Moderately hot and humid tropical climate, conducive to rust and fungus growth.

**4.0 REQUIREMENT:** The heat shrinkable / push on type terminations offered shall be of proven design and make, which have already been extensively used and fully type tested.

**5.0 GENERAL REQUIREMENT:** The purpose of this specification is to specify the performance requirements of termination kits for the use on 50 c/s 3 phase system with earthed neutral for working voltage of 11 kV up to 33kV. Earthing arrangement shall be as per relevant standard and details of earthing arrangement offered shall be submitted along with the inspection offer. The material to be used should be inert and capable of resisting degradation during the service of cable system. The kit shall be provided with protection against rodents and termite attack.

## **5.1 Heat Shrinkable Type (Terminations) :**

The term heat shrinkable refers to extruded or moulded polymeric materials which are cross-linked to develop elastic memory and supplied in expanded or otherwise deformed size / shape, subsequently heated in an un-constrained state to a temperature above the shrink temperature resulting in the material recovering or shrinking to its original shape.

- 5.1.1 Since the sealant or adhesives (to be used for environment sealing) between the heat shrinkable materials and XLPE cables shall be exposed to high electrical stresses, they must be track resistant.
- 5.1.2 The heat shrinkable polymer materials being used for external leakage insulation between the high voltage of conductors and grounds should be weather resistant.
- 5.1.3 All cuts/nicks inadvertently occurred to XLPE insulation must be rendered discharge free by using suitable discharge suppression compound.
- 5.1.4 The heat shrinkable tubing may be either extruded or moulded type.
- 5.1.5 Higher thickness of heat shrinkable sleeves shall be preferable to counter erosion due to pollution.

## **5.2 Other Requirements :**

- 5.2.1 Proper stress control, stress grading and non tracking arrangement in the terminations shall be offered by means of proven methods, details of which shall be elaborated in the bid. Detailed sectional view of assemblies shall be submitted along with the bid.
- 5.2.2 The kits offered shall provide the total environment sealing, the details of which shall be offered along with the bid.
- 5.2.3 Provision for effective screening over each core be made and contractors shall categorically conform this aspect in their bid.
- 5.2.4 The material and components not specifically stated in the specification, but which are essential for satisfactory operation of the equipments shall be included without any extra cost.
- 5.2.5 The terminations shall be of good tracking resistant properties and fully reliable earthing system to maintain continuous contact with screening / armouring as the case may be.
- 5.2.6 The armourearthing arrangement shall form part of the termination.
- 5.2.7 Terminations shall have provision for shield connections and earthing.
- 5.2.8 The kits shall be suitable for storage without deterioration at a temperature up to 50oC for more than 5 years.
- 5.2.9 The fault level (as well as duration) withstand capability of terminations should be strictly matching with these parameters of cables for which the kits are intended to be used.
- 5.2.10 The words 'TSECL' along with trade name of manufacturer, month/year of manufacturer, size etc. shall be embossed/engraved or suitably marked with indelible ink/paint for the purpose of identification.
- 5.2.11 Suitable creepage extension/rain protection sheds for outdoor termination shall be provided.

- 5.2.12 The adequate provisions for eliminating the chances of entrapment of air at the steps formed by semicon screen shall be made.
- 5.2.13 The gripping tubing (termination boot) for the cable where trifurcation takes place, shall also be part of kit and covered under scope of supply of this specification.
- 5.2.14 Name of sub-supplier for the raw material and standard according to which their raw material are tested, must be furnished along with the bid.
- 5.2.15 Detailed kit contents, whether manufactured by the contractor or bought from outside (with name of sub Contractor) for each component must be indicated in the bid.
- 5.2.16 The terminations shall be supplied in kit forms. All insulating and sealing materials, consumable items, conductor fittings, earthing arrangements and lugs etc. shall be included in the individual kit.
- 5.2.17 An instruction manual in English indicating the complete method/procedure to be adopted for installation of kits, preferably with more and more diagrams/pictorial presentation shall be supplied with each kit. Various items/ quantity thereof against each kit must be indicated in the instruction manual.

## **6.0 GUARANTEED TECHNICAL PARTICULARS:**

The terminations shall have same electrical and thermal characteristics as those of cables with which these are intended to be used. The bidders must furnish the guaranteed technical particulars for each type/size of kit in Annexure-‘C’.

- 7. **DRAWINGS:** Complete detailed dimensional drawings showing all details of kit contents/bill of material for each size type.

## **8.0 TESTS :-**

- 8.1 **Type tests:** The termination kits offered shall be fully type tested as per the standards certified by an accredited laboratory

### **8.2 Acceptance Tests:**

Initially the following tests shall constitute as acceptance tests :-

- i) Dimensional checking as per approved drawings.
- ii) Volume resistivity test for various components.
- iii) AC High voltage test after installation of terminations (as per IS : 13573/1992 or VDE-0278) on appropriate cable.
- iv) Dielectric strength of major components.
- v) D.C. High voltage test.
- vi) Tracking resistance.
- vii) Ultimate elongation.

The scope to include more type tests as acceptance tests shall be decided after processing the offers of various contractors/after knowing the details of testing facilities for type tests available with various bids

**8.3 ROUTINE TESTS :-**The following tests shall constitute routine test :

- i) Dielectric strength.
- ii) Density.
- iii) Heat shock.
- iv) Shrinkage ratio.

The contractor must specify the details of routine tests (being conducted at their works ) along with the standard applicable, in their offer. The routine test certificates shall be furnished along with the inspection call for each offered lot.

**9.0 INSPECTION:**

- 9.1 All test and inspection shall be made at the place of manufacture unless otherwise especially agreed upon by the manufacturer and purchaser at the time of purchase. The manufacturer shall afford the inspector representing the purchaser all reasonable facilities without charge to satisfy him that the material is being furnished in accordance with specification.
- 9.2 The purchaser reserves the right to have the test carried at the cost of the supplier by an independent agency whenever there is dispute regarding the quality of supply.

**10.0 PACKING AND TRANSPORT:** The supplier shall be responsible for suitable packing of all the kits of material and marking on the consignment, so as to avoid any damage during transport and storage and to ensure correct dispatch to the destination.

**11.0 GUARANTEED TECHNICAL PARTICULARS:**

**Guaranteed technical particulars for OUTDOOR / INDOOR**

- 1. Manufacturer's name & Address.
- 2. Sr. No. & name and country of origin.
- 3. Voltage grade.
- 4. Type of kit offered.
- 5. Applicable standards.
- 6. Size.
- 7. Material of tubing/moulded part/self amalgamating tape etc.
- 8. Insulation time.
- 9. Curing time.
- 10. Time required for energization after completion of termination.
- 11. Special devices required, if any.
- 12. Kit storage temperature (Degree centigrade).

13. (a) Shelf life of kit.  
(b) Design life of kit.
14. List of contents of kit (to be furnished separately)
15. Material used for stress control.
16. Dielectric strength of insulation material (kV/mm).
17. Materials used in encapsulating compound and environmental sealing.
18. Class of kit.
19. Whether test reports, drawings and instruction leaflets are enclosed.
20. Volume resistivity.
  - i) Stress control tubing.
  - ii) Non tracking tubing.
21. Relative permittivity.
  - i) Stress control tubing.
  - ii) Non tracking tubing.
22. Water absorption.
  - i) Stress control tubing.
  - ii) Non tracking tube.
23. Tracking resistance.
  - i) Stress control tube.
  - ii) Non tracking tube.
24. Tensile strength.
  - i) Stress control tube.
  - ii) Non tracking tube.
25. Ultimate elongation
  - (a) Stress control tube.
  - (b) Non tracking tube.

**Note :** While giving details of technical parameters under Sr. No. 20 to 25 above, the reference of applicable relevant ISS/international standard must be indicated

## F. TECHNICAL SPECIFICATIONS OF XLPE CABLE LAYING & TERMINATION WORK.

1. **SCOPE**- This chapter covers the requirements for the selection, installation, jointing & Commissioning of power cables as per present scope of work .For details not covered in these Specifications, IS : 1255 - 1983 CODE OF PRACTICE FOR INSTALLATION AND MAINTENANCE OF POWER CABLES. All references to BIS-Specifications and codes are for codes with amendments issued upto date i.e. till the date of call of tender.
2. **STORAGE AND HANDLING**
  - I. The cable drums shall be stored on a well drained, hard surface, so that the drums do not sink in the ground causing rot and damage to the cable drums. Paved surface is preferred, particularly for long term storage.
  - II. The drums shall always be stored on their flanges, and not on their flat sides.
  - III. Both ends of the cables should be properly sealed to prevent ingress/ absorption of moisture by the insulation during storage.
  - IV. Protection from rain and sun is preferable for long term storage for all types of cables. There should also ventilation between cable drums.
  - V. During storage, periodical rolling of drums once in, say, 3 months through 90 degrees shall be done,
  - VI. Damaged battens of drums etc. should be replaced as may be necessary.
  - VII. When the cable drums have to be moved over short distances, they should be rolled in the direction of the arrow marked on the drum.
  - VIII. For manual transportation over long distances, the drum should be mounted on cable drum wheels, strong enough to carry the weight of the drum and pulled by means of ropes. Alternatively, they may be mounted on a trailer or on a suitable mechanical transport.
  - IX. For loading into and unloading from vehicles, a crane or a suitable lifting tackle should be used. Small sized cable drums can also be rolled down carefully on a suitable ramp or rails, for unloading, provided no damage is likely to be caused to the cable or to the drum.
3. **INSTALLATION**
  - I. Cables with kinks, straightened kinks or any other apparent defects like defective armouring etc. shall not be installed
  - II. Cables shall not be bent sharp to a small radius either while handling or in installation. The minimum safe bending radius for PVC/XLPE (MV) cables shall be 12 times the overall diameter of the cable. The minimum safe bending radius for PILCA/XLPE (HV) cables shall be as permissible in IS:1255-1983 . At joints and terminations, the bending radius of individual cores of a multi core cable of any type shall not be less than 15 times its overall diameter.
  - III. The ends of cables, suitable sealing compound/tape shall be used for this purpose, if likely exposed to rain in transit storage. Suitable heat shrinkable caps may also be used for the purpose  
While the shortest practicable route should be preferred, the cable route shall generally follow fixed developments such as roads, foot paths etc. with proper offsets so that future maintenance, identification etc. are rendered easy
  - IV. Cable route shall be planned away from drains and near the property, As far as possible; the alignment of the cable route shall be decided after taking into consideration the present and likely future requirements of other services including cables route, possibility of widening of roads/lanes etc
  - V. Corrosive soils, ground surrounding sewage effluent etc. shall be avoided As far as possible, the alignment of the cable route shall be decided after taking into consideration the present and likely future requirements of other services including cables route, possibility of widening of roads/lanes etc for the routes.
  - VI. Power and communication cables shall as far as possible cross each other at right angles. The horizontal and vertical clearances between them shall not be less than 60cm.
  - VII. Way leave for the cable route shall be obtained as necessary, from the appropriate authorities
  - VIII. *Route indicators* - Power cable route Indicators should be provided at an interval not exceeding 200 M and also at turning points of the power cable route wherever practicable.

IX.

#### 4. Methods of laying:-

##### (a) Trenching

- I. XLPE cables under the present scope of work will be laid through digging a trench of 500 mm width and 1200 mm depth excluding locations where it is likely to vary on higher side. The trenches shall be excavated in reasonably straight lines. Wherever there is a change in the direction, a suitable curvature shall be adopted complying with the requirements of IS:1255-1983
- II. Where gradients and changes in depth are unavoidable, these shall be gradual.
- III. The bottom of the trench shall be level and free from stones, brick bats etc.
- IV. The excavation should be done by suitable means-manual or mechanical. The excavated soil shall be stacked firmly by the side of the trench such that it may not fall back into the trench.
- V. Adequate precautions should be taken not to damage any existing cable(s), pipes or any other such installations in the route during excavation.

##### (b) Sand cushioning

- I. Sand cushioning of 600 mm thick to be placed at the bottom of the trench to form a bed for the cables. **When the cables have been laid they shall be inspected and accepted by the Engineer in Charge.** They shall then be covered with second Sand layer which shall be punned around and over the cables to a level of 100mm above the top of the cables. Where more than one horizontal layer of cables is to be laid similar sand bedding shall be provided for each layer.

##### (c) Flat Brick soling

- I. Two layers of First class brick of nominal size 22cmX11.4cmX7 cm **over the second sand layer to be placed centrally over the cables, throughout the length of the cable.** The bricks to be placed breadth-wise for the full length of the cable. No final filling in of trenches shall be commenced until the Engineer in charge has accepted the placing of Plain Flat Brick soling.
- II. Where more than one cable is to be laid in the same trench, this protective covering shall cover all the cables and project at least 5cm over the sides of the end cables.

**(d) Back filling with excavated earth :-** The trenches to be then back-filled with excavated earth, free from stones or other sharp ended debris and shall be rammed and watered, in successive layers not exceeding 30cm depth. A crown of earth not less than 50mm and not exceeding 100mm in the centre and tapering towards the sides of the trench shall be left to allow for subsidence. The crown of the earth however, should not exceed 10 Cms so as not to be a hazard to vehicular traffic. The temporary re-statements of roadways should be inspected at regular intervals, particularly during wet weather and settlements should be made good by further filling as may be required.

- **Extra loop cable:-** Approximately 3m of surplus cable shall be left on each terminal end of the cable and on each side of the underground joints. The surplus cable shall be left in the form of a loop. Where there are long runs of cables such loose cable may be left at suitable intervals as specified by the Engineer-in-Charge.
- **Trenching, laying & sand cushioning work related to coiling of excess Cable and Cable Joints to be provided with same technical specification as detailed above.**

##### (e) Testing before laying

- I. All the time of issue of cables for laying, the cables shall be tested for continuity and insulation resistance \
- II. The cable drum shall be properly mounted on jacks, or on a cable wheel at a suitable location, making sure that the spindle, jack etc. are strong enough to carry the weight of the drum without failure, and that the spindle is horizontal in the bearings so as to prevent the drum creeping to one side while rotating.
- III. The cable shall be pulled over on rollers in the trench steadily and uniformly without any jerks and strain. The entire cable length shall as far as possible be laid off in one stretch. PVC/XLPE cables less than

120sq.mm. size may be removed by “Flaking” i.e. by making one long loop in the reverse direction.

- IV. After the cable has been so uncoiled, it shall be lifted slightly over the rollers beginning from one and by helpers standing about 10m apart and drawn straight. The cable shall then be lifted off the rollers and laid in a reasonably straight line.

**(f) Testing before covering**

The cables shall be tested for continuity of cores and insulation resistance and the cable length shall be measured, before closing the trench. The cable end shall be sealed /covered.

**(g) Laying of single core cables**

- I. Three single core cables forming one three phase circuit shall normally be laid in close trefoil formation and shall be bound together at intervals of approximately 1m.
- II. The relative position of the three cables shall be changed at each joint at the time of original installation, complete transposition being effected in every three consecutive cable lengths.
- III. Route *indicators* - Power cable route Indicators should be provided at an interval not exceeding 200 M and also at turning points of the power cable route wherever practicable.

**(h) Earthing and Bonding**

- I. The metal sheath, metal screen (if any) and armour of any cable should be efficiently earthed at both ends.
- II. In case of single-core cables of larger sizes, the armour, lead sheath and metal screen, if any, is bonded at times only at one point.
- III. Attention is drawn in this case to the presence of standing voltages along armour or lead sheath and to the considerable increase in such voltages when cables carry fault currents, These voltages must be taken into account when considering safety and outer sheath insulation requirement,
- IV. All metal pipes or conduits in which the cables have been installed, should be efficiently bonded and earthed.

Where cables not having metallic sheath are used, embedding additional earth electrodes and connecting the same with steel armour of cable becomes necessary, Earthing and bonding should be done In accordance with IS : 3043-1966

**(i) High Voltage Test:-** Cables after jointing and terminating are subjected to DC high voltage test as detailed below. The leakage current shall also be measured and recorded for future reference.

DC Test Voltages after Installation (Before Commissioning)				
	Rated Voltage of Cables(KV)	Test Voltage between		Duration (in Minutes)
		Any Conductor and Mettallic Sheath / Screen / Armour (in KV)	Conductor to Conductor (for Un Screened Cables(in KV)	
	0.65 / 1.1	3	3	5

During the high voltage test, all other electrical equipment related to the cable installation, such as switches, instrument transformers, bus bars, etc, must be earthed and adequate clearance should be maintained from

the other equipment and framework to prevent flashovers. In each test, the metallic sheath/screen/armour should be connected, to earth.

(j) **CABLE INSTALLATION PLAN:-** On completion of laying, terminating and jointing of the cables, a plan should be prepared, which should contain the following details of the installation.

- I. Type of cables, cross-section area, rated voltage. Details of construction, cable number and drum number;
- II. Year and month of laying;
- III. Actual length between joint-to-joint or ends;
- IV. Location of cables and joints in relation to certain fixed reference points, for example, buildings, hydrant, boundary stones, etc;
- V. Date of making joint; and
- VI. Results of original electrical measurements and testing on cable installation.
- VII. Cables shall be properly arranged in the trenches such that criss crossing is avoided and final take off to feeder pillars / poles or as required as specified or as per approved drawing is facilitated. Contractors are responsible for arrangement of cables in cable trench. Adequate sizes of GI pipe sleeves shall be utilized for end termination of cable. Pipe sleeves shall be laid at an angle of maximum 45° to the trench wall. In case of larger dia cables i.e. 50 mm and above adequately sized pipe with larger bend radius shall be provided for ease of drawing of cable or for replacement. In place where it is not possible, a smaller trench may be provided as approved by Engineer in charge.
- VIII. Cable markers shall be provided as directed at every 30 m and at cable joint locations.**
- IX. Temporary ends if any shall be protected against dirt and moisture and prevents damage to the insulation. Proper PVC or rubber insulating tape shall be used. Use of friction type or fabric tape is not permitted
- X. Cables laid underground in excavated cable trenches shall be as per the approved drawings. Trenches shall be of sufficient depth and width for laying of all cables. Cables shall be spaced properly so that heat dissipation is attained..
- XI. Cables shall be laid in trenches as shown in the drawing. Before laying the cable the bottom of trench shall be filled with sand 150 mm of depth duly leveled. The cables laid on this sand shall be covered with further 150 mm depth sand on top of largest diameter of the cable. Sand shall be lightly pressed. Protective covering of suitable bricks / HT tiles/ half round slab as specified and as per approved drawings shall be provided before back filling the trench with soil, rammed and leveled.
- XII. Insulation resistance test of all the cables shall be taken in presence of Engineer in charge. Defective cables shall be immediately replaced before laying of cables of other groups.
- XIII. Suitable GI / HDPE/ RCC hume pipes for protection as directed shall be provided as required. Cable ends shall be drawing carefully through such pipes to prevent damage to the cable. Radius at bending shall not be less than the recommended bending radius of the cables specified by the manufacturer. Standard gauge of pipe filling shall be used for sizing the pipe.
- XIV. Prior approvals for cutting holes for laying cable in existing structures and foundations shall be obtained from the Engineer in charge.
- XV. GI pipes laid for cable laying shall be bend with hydraulically operated bending machine.(which is to be arranged by the contractor).Bends of pipes shall be placed in such a way that they are concealed in wall, soil or structures. The open end of the pipes shall be suitably plugged with plugs supplied by the contractor at no extra cost.
- XVI. Supporting angles for cables shall be suitably clamped / tied by means of nylon cords and the angles shall be painted before laying the cables. The paint shall be done with one coat of red lead paint and two coats of approved bituminous aluminum paint unless otherwise specified.

## ANNEXURE-I

### PROFORMA OF BANK GUARANTEE FOR CONTRACT PERFORMANCE

(To be stamped in accordance with stamp Act)

Ref. ....

Bank Guarantee No.: ....

Date:.....

To

**Tripura State Electricity Corporation Limited**

**Bidyut Bhavan, North Banamalipur,**

**Agartala – 799001,**

**West Tripura.**

Dear Sir,

In consideration of **Tripura State Electricity Corporation Limited** (hereinafter referred to as the 'Owner', which expression shall unless repugnant to the context or meaning thereof include its successors, administrators and assigns) having awarded to M/s ..... with its registered / Head office at ..... (hereinafter referred to as 'Contractor' which expression shall unless repugnant to the context or meaning thereof, include its successors, administrators, executors and assigns), a Contract by issued of Owner's Letter of Award No ..... dated ..... and the same having been acknowledged by the Contractor, resulting in a Contract bearing No ..... dated ..... valued at ..... for ..... (scope of contract) and the Contractor having agreed to provide a Contract Performance Guarantee for the faithful performance of the entire Contract equivalent to ..... being .(%) per cent) of the said value of the Contract to the Owner.

We ... (Name & Address) having its Head Office at ..... (hereinafter referred to as the 'Bank', which expression shall, unless repugnant to the context or meaning thereof, include its successors, administrators, executors and assigns) do hereby guarantee and undertake to pay the Owner, on demand any or all monies payable by the Contractor to the extent of ..... as aforesaid at any time up to ..... \*\* (see in note below) ..... (days/month/year) without any demur, reservation, contest, recourse or protest and/or without any reference to the Contractor. Any such demand made by the Owner on the bank shall be conclusive and binding notwithstanding any difference between the Owner and the Contractor or any dispute pending before any Court, Tribunal, Arbitrator or any other authority. The Bank undertakes not to revoke this guarantee during its currency without previous consent of the Owner and further agrees that the guarantee herein contained shall continue to be enforceable till the Owner discharges this guarantee.

The Owner shall have the fullest liberty without affecting in any way the liability of the Bank under the guarantee, from time to time to extend the time for performance or the Contract by the Contractor. The Owner shall have the fullest liberty, without affecting this guarantee, to postpone from time to time the exercise of any powers vested in them or of any right which they might have against the Contractor, and to exercise the same at any time in any manner, and either to enforce or to forbear to enforce any covenants, contained or implied, in the Contract between the Owner and the Contractor or any other course or remedy or security available to the Owner. The Bank shall not be released to its obligations under these presents by any exercise by the Owner of its liberty with reference to the matters aforesaid or any of them or by reason of any other act of omission or commission on the part of the Owner or any other indulgences shown by the Owner or by any other matter or thing what so ever which under law would, but for this provision have the effect of relieving the Bank.

The bank also agrees that the Owner at its option shall be entitled to enforce this guarantee against the Bank as a principal debtor, in the first instance without proceeding against the Contractor and notwithstanding any security or other guarantee the Owner may have in relation to the Contractor's liabilities.

Notwithstanding anything contained herein above our liability under this guarantee is restricted to .....and it shall remain in force upto and including .....and shall be extended from time to time for such period (not exceeding one year), as may be desired M/s .....on whose behalf this guarantee has been given. Dated this ..... day of .....200.....  
At.....

**WITNESS**

.....

.....

(Signature)

(Signature)

.....

.....

(Name)

(Name)

.....

.....

(Official Address)

(Official Address)

Attorney as per Power of Attorney No. ....

Date .....

**ANNEXURE-II**  
**PROFORMA OF BANK GUARANTEE FOR**  
**CONTRACT PERFORMANCE**  
(To be stamped in accordance with stamp Act)

Ref. .... Bank Guarantee No. ....  
Date .....

To  
**Tripura State Electricity Corporation Limited**  
**BidyutBhavan, North Banamalipur,**  
**Agartala – 799001,**  
**Wes, Tripura.**

Dear Sir,

In consideration of Tripura State Electricity Corporation Limited (hereinafter referred to as the 'Owner', which expression shall unless repugnant to the context or meaning thereof include its successors, administrators and assigns) having awarded to M/s ..... with its registered / Head office at .....(hereinafter referred to as 'Contractor' which expression shall unless repugnant to the context or meaning thereof, include its successors, administrators, executors and assigns), a Contract by issued of Owner's Letter of Award No.....dated.....and the same having been acknowledged by the Contractor, resulting in a Contract bearing No. ....dated .....valued at .....for .....(scope of contract) and the Contactor having agreed to provide a Contract Performance Guarantee for the faithful performance of the entire Contract equivalent to .....being .(%) per cent) of the said value of the Contract to the Owner.

We, ..... (Name & Address) having its Head Office at.....(hereinafter referred to as the 'Bank', which expression shall, unless repugnant to the context or meaning thereof, include its successors, administrators , executors and assigns) do hereby guarantee and undertake to pay the Owner, on demand any or all monies payable by the Contractor to the extent of .....as aforesaid at any time up to ..... \*\* (see in note below) ..... (days/month/year) without any demur, reservation, contest, recourse or protest and/or without any reference to the Contractor.

Any such demand made by the Owner on the bank shall be conclusive and binding notwithstanding any difference between the Owner and the Contractor or any dispute pending before any Court, Tribunal, Arbitrator or any other authority. The Bank undertakes not to revoke this guarantee during its currency without previous consent of the Owner and further agrees that the guarantee herein contained shall continue to be enforceable till the Owner discharges this guarantee.

The Owner shall have the fullest liberty without affecting in any way the liability of the Bank under the guarantee, from time to time to extend the time for performance or the Contract by the Contractor. The Owner shall have the fullest liberty, without affecting this guarantee, to postpone from time to time the exercise of any powers vested in them or of any right which they might have against the Contractor, and to exercise the same at any time in any manner, and either to enforce or to for bear to enforce any covenants, contained or implied, in the Contact between the Owner and the Contractor or any other course or remedy or security available to the Owner. The Bank shall not be released to its obligations under these presents by any exercise by the Owner of its liberty with reference to the matters aforesaid or any of them or by reason of any other act of omission or commission on the part of the Owner or any other indulgences shown by the Owner or by any other

matter or thing what so ever which under law would, but for this provision have the effect of relieving the Bank.

The bank also agrees that the Owner at its option shall be entitled to enforce this guarantee against the Bank as a principal debtor, in the first instance without proceeding against the Contractor and not withstanding any security or other guarantee the Owner may have in relation to the Contactor's liabilities.

Notwithstanding anything contained herein above our liability under this guarantee is restricted to .....and it shall remain in force upto and including .....and shall be extended from time to time for such period (not exceeding one year), as may be desired M/s .....on whose behalf this guarantee has been given.

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

WITNESS

.....	.....
(Signature)	(Signature)

.....	.....
(Name)	(Name)

.....	.....
(Official Address)	(Official Address)

Attorney as per Power  
ofAttorney No. ....

Date .....

NOTES:

- The sum shall be 'ten per cent (10 %)' of the Contact Price.
- The claim date will be ninety (90) days after the end of date of 'Warranty Period' as specified in the Contract.
- The Stamp Papers of appropriate value shall be purchased in the name of issuing Bank.

**ANNEXURE – III**

**APPLICATION FOR EXTENSION OF TIME**

**(Part – I)**

1. Name of Contractor \_\_\_\_\_
2. Name of work (as given in the contract) \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
3. Agreement no. \_\_\_\_\_
4. Contract amount \_\_\_\_\_
5. Date of Commencement of work as per agreement \_\_\_\_\_
6. Period allowed for completion of work (as per agreement) \_\_\_\_\_
7. Date of completion stipulated in the agreement \_\_\_\_\_
8. Actual date of completion \_\_\_\_\_
9. Period for which extension of time has been given previously if any \_\_\_\_\_
  - a) 1<sup>st</sup> extension vide No. \_\_\_\_\_
  - b) 2<sup>nd</sup> extension vide No. \_\_\_\_\_
  - c) 3<sup>rd</sup> extension vide No. \_\_\_\_\_
  - d) 4<sup>th</sup> extension vide No. \_\_\_\_\_
10. Period for which extension have been previously given (Copies of the previous application should be attached).
11. Hindrances on account of which extension is applied for with date on which hindrances occurred.

Sl. No.	Nature of hindrances	Date of occurrence	Period of which hindrances is likely to last	Extension of time applied for by the contractor	Overlapping period, if any, giving reference to items which overlap	Period for which extension is applied for.	Remarks as to why the hindrances occurred and justification for extension of time

12. Total period for which extension is now applied for on account of hindrances mentioned above.
13. Extension of time required for extra work: - \_\_\_\_\_ Months. \_\_\_\_\_ days.
14. Detailed for extra work and the amount involved: -
15.
  - a) Total value of extra work: -
  - b) Proportionate period of extension of time based on estimated amount put to tender on account of extra work: -
16. Total extension of time required for 11 & 12: -

**APPLICATION FOR EXTENSION OF TIME**

**(Part – II)**

**(To be filled in by TSECL)**

1. Date of receipt of application from \_\_\_\_\_ contractor  
for the work of \_\_\_\_\_  
\_\_\_\_\_

in the Sub-Divisional \_\_\_\_\_.

2. Acknowledgement issued by the Sr. Manager, vide his No. \_\_\_\_\_  
\_\_\_\_\_ Dated \_\_\_\_\_.

3. Recommendation of Sr. Manager, in – charge of the Sub-Division is to whether the reasons given by the Contractor are correct and what extension, if any, recommended by him, if he does not recommended the extension, reasons for rejection should be given

Dated .....	Signature of the Sr. Manager in-charge of Sub-Division.
-------------	--

**APPLICATION FOR EXTENSION OF TIME**

**(Part – III)**

**(To be filled in by TSECL)**

1. Date of receipt in the Divisional office: \_\_\_\_\_
  2. Report of DGM, in-charge of the Division regarding hindrances mentioned by the contractor
- 

Sl. No.	Nature of hindrances	Date of occurrence	Period for which hindrances is likely to last	Extension of time applied for by the contractor	Overlapping period, if any, giving reference to items which overlap	Net extension applied for	Remarks as to why the hindrances occurred and justification for extension recommended

3. Recommendation / Approval of the DGM, in-charge of the Division: -  
(The present progress of work should be stated and whether the work is likely to be completed by the date upto which extension is applied for, if extension of time is not recommended, what compensation is proposed to be levied under clause 13 of section - III.

**Signature of DGM**

4. Recommendation / Approval of the AGM, in-charge of the Circle: -

**Signature of AGM**

5. Recommendation / Approval of the GM (Technical): -

**Signature of GM (Technical)**

6. Recommendation / Approval of the CMD: -

**Signature of CMD**

**(N.J. Stamp of Rs.30/-)**  
**BEFORE THE NOTARY**  
**TRIPURA.**

### **INDEMNITY BOND**

THIS INDEMNITY BOND IS EXECUTED ON THE \_\_\_\_\_ DAY OF \_\_\_\_\_

2010 A. D. By Shri \_\_\_\_\_,

S/O. Shri / Late \_\_\_\_\_, Vill. \_\_\_\_\_ P.S.

\_\_\_\_\_, District \_\_\_\_\_, aged about \_\_\_\_\_ years, a citizen of India (Here-in-after called the Contractor indemnifier) in favour of Tripura State Electricity Corporation Ltd. (TSECL) (Here-in-after called the Corporation) under the terms and conditions here-in-after mentioned : -

WHEREAS, I am a Class \_\_ Government Contractor and the Corporation awarded me to execute the work namely

I agree to indemnify the corporation that in the event of any accident of any workman, arising out of and in course of employment, during execution of the work I shall be liable to pay full compensation to the workmen employed by me for execution of the work.

I also agree to indemnify and save harmless the corporation that, the lives & bodies of my workmen(s), employed by me for execution of this work, are duly insured with the \_\_\_\_\_ Insurance Company

\_\_\_\_\_ Branch under Act / Scheme.

I further agree to indemnify and save harmless the corporation that the corporation or any of its Director (s) or Officer(s) or Manager(s) shall not be made liable to pay any compensation to any workmen in the event of death or bodily injury, arising out of their course of employment under me, employed by me for execution of the work namely \_\_\_\_\_

IN WITNESS WHERE OF I SIGN THIS INDEMNITY BOND TODAY, THE DAY, MONTH, YEAR FIRST ABOVE WRITTEN IN PRESENCE OF FOLLOWING WITNESSES.

Witnesses	
1.	
2.	
Identified by me	_____
Advocate	Full Signature of Contractor (INDEMNIFIER)