

**GUJARAT ENERGY TRANSMISSION CORPORATION LTD
TRANSMISSION CIRCLE
PALANPUR**



TECHNAICL BID

Tender NO: CDD-ET-24-2026

Sub: Erection of structure, equipments, control wiring, yard Lighting, Control-Room Electrification etc. at at 66KV Dhunsol S/S, Ta: Lakhani, Dist: Vav -Tharad with Erection of 66KV D/C LILO line at Proposed 66KV DHUNSOL Substation from existing 66KV CHEKARA - KOTDA LINE on D/C Panther Tower with ACSR Panther Conductor.

Note: Submit ALL Document
Online Only not Submitted
Physically

**GUJARAT ENERGY TRANSMISSION CORPORATION LIMITED
TRANSMISSION CIRCLE OFFICE, PALANPUR.**

I N T E G R I T Y P A C T

Name of work: Erection of structure, equipments, control wiring, yard Lighting, Control-Room Electrification etc. at at 66KV Dhunsol S/S, Ta: Lakhani, Dist: Vav -Tharad with Erection of 66KV D/C LILO line at Proposed 66KV DHUNSOL Substation from existing 66KV CHEKARA - KOTDA LINE on D/C Panther Tower with ACSR Panther Conductor.

OUR ENEAVOUR

To create environment where Business confidence is built though best business practices and is fostered in an atmosphere of trust and respect between providers of goods and services and their users for the ultimate benefit of society the nation.

GETCO COMMITEMNT

- ☐ To maintain the highest ethical standards in business and professional
- ☐ Ensure maximum transparency to the satisfaction of stakeholders.
- ☐ To ensure to fulfil the terms of agreement / contract and to consider objectively the viewpoint of parties.
- ☐ To ensure regular and timely release of 9payment on due dates for work done.
- ☐ To ensure that no improper demand is made by employees or by anyone on our behalf.
- ☐ To give maximum possible assistance to all the Vendors / Suppliers / Service provider and other to enable them to complete the contract in time.
- ☐ To provide all information to suppliers / contractors relating to contract / Job which facilitate him to complete the contract / job successfully in time
- ☐ To ensure minimum hurdles to Vendors / suppliers / contractors in complete of agreement / contract / work order.

PARTY'S COMMITEMENT

- ☐ Not to bring pressure recommendations outside GETCO to influence its decision.
- ☐ Not to use intimidation, threat, inducement or pressure of any kind on GETCO or any of its employees under any circumstances.
- ☐ To be prompt and reasonable in fulfilling the contract, agreement, legal obligations.
- ☐ To provide goods and / or services timely as per agreed quality and specifications at minimum cost of GETCO.
- ☐ To abide by the general discipline to be maintained in our dealings.
- ☐ To be true and honest in furnishing information including payment to agents / sub-agent.
- ☐ Not to divulge any information, business details available during the course of business relationship to others without the written consent of GETCO.
- ☐ Not to enter into carter / syndicate / understanding whether formal / non formal so as to influence the price.

Seal & Signature
(GETCO Authorized Signatory)

Seal & Signature
(Party's Authorized Person)

	Gujarat Energy Transmission Corporation Ltd. Circle Office, 66KV Palanpur S/S compound , Near Circuit House , Palanpur – 385001 Ph. No: (02742)255465, Fax (02742)255465 sepln.getco@gebmil.com Office: Vidhyut Bhavan, Race course, Vadodara-390 007 Corporate Identity No.(CIN) U40100GJ1999SGC036018
---	--

TENDER NOTICE No: PTC-ET- 86-2026

Superintending Engineer, Transmission Circle GETCO Palanpur (Address of the office – (**Superintending Engineer (TR), GETCO, Circle Office, Aroma Circle, 66Kv Palanpur -1 s/s compound, AT & Po Palanpur, Dist. Banaskantha 385001**) invites “On line Tenders” (e-tendering) for the purchase/ works of following items. Tender Papers & Specifications may be down loaded from Web site <https://tender.nprocure.com> (For view, down load and on line submission) and GUVNL/GETCO web site www.guvnl.com (For View & download only).

All tender documents, scanned copies of original documents (Notarized / self-attested copies of original – as specified in tender document) along with scan copy of transaction slip of payment made through RTGS/NEFT for Tender Fee & EMD shall be unloaded through on line only (which is mandatory) on (n) procure portal.

Bidders shall compulsorily pay tender fee and EMD through RTGS/NEFT only. No any physical documents, Demand Draft / Banker's cheque or Pay order for tender fee and EMD to be submitted by bidders.

All the bidders, in respect of tender item must have vendor registration with the GETCO or their any subsidiary company viz. prior to the date of opening of technical bid of the tender, otherwise their bids will not be considered eligible for technical scrutiny and their technical bids will not be opened.

Sr.	Description	
1	Tender No.:	CDD-ET- 24- 2026
	Name of work	Erection of structure, equipments, control wiring, yard Lighting, Control-Room Electrification etc. at at 66KV Dhunsol S/S, Ta: Lakhani, Dist: Vav -Tharad with Erection of 66KV D/C LILO line at Proposed 66KV DHUNSOL Substation from existing 66KV CHEKARA - KOTDA LINE on D/C Panther Tower with ACSR Panther Conductor.
2	Tender Fee (Non Refundable)-/RTGS /NEFT	Rs: 5900 With GST 18%
3	Estimated cost	Rs. 8140229.76
4	Earnest Money Deposit amount RTGS /NEFT	Rs.81410.00
5	Appropriate Class	E1 class and above
6	On line (E-tendering) tender/ offer submission last date up to 16.00 hours only (This is mandatory)	As per N code
7	Date of on – line opening	As per N code

8	Tentative Date of on – line opening of Price bid, (if possible), at 11.00 Hours	Shall be intimated separately
9	Time limit	120 Days

IMPORTANT:

1. All tender documents, scanned copies of original (Notarized / self-attested copies of original – as specified in tender document) documents along with scan copy of transaction slip of payment made through RTGS/NEFT for Tender Fee & EMD shall be uploaded through on line only (which is mandatory) on (n) procure Portal. No any physical documents , Demand Draft / Banker's cheque or Pay order for tender fee and EMD will be accepted
2. Bidder shall have to made payment for Tender fee and EMD though RTGS / NEFT only on or before due date and time of submission of tender. Tender fee and EMD paid though Demand Draft / Banker's cheque or Pay order will not be accepted and no any further communication in the matter will be entertained.
3. It is mandatory for all the bidders to upload their tender documents by on line (E-tendering) in scheduled time.
4. It shall be sole responsibility of the bidder that the uploaded scanned documents (in PDF form) remain legible (readable) and should not be password protected.
5. All the Appendices, forms, formats, declaration, undertaking, etc (To be submitted on bidder's letterhead), Tender acceptance letter (on bidder's letterhead), price bid, tender documents specified in the tender must be submitted through online on n-procure portal (mandatory) (All the documents to be duly self attested by the bidder). For any differences or wrong entry bidder shall be sole responsible for that documents.
6. Tender will be evaluated on the basis of Data / Details / Documents submitted by the bidders though online offer only.
7. The bidders are required to upload complete technical bid duly filled, sealed & signed by bidder (all the appendices (annexure)/forms etc). This is intended for transparency and speedy evaluation of the bids. Instead of simply confirming/attached in bid/refer physical offer, the bidder shall fill in the particulars against appropriate place in respect of each line appearing in Technical bid (In the absence of required details in uploaded tender documents, technical bid , the purchaser has every right to evaluate the bids accordingly and bidder cannot raise any objection against any point during evaluation).
8. In case of short submission of documents with bid and / or clarification if any required from the bidder,the required details / documents may be asked from the bidder in physical form.
9. **Payment of Tender Fee and Earnest Money Deposit (EMD) : The EMD and Tender fee plus GST as applicable shall be paid through RTGS/NEFT only .**
 - 1) **Payment of Tender fee , EMD through RTGS/NEFT : For the** payment through RTGS/NEFT the scan copy of payment made (transaction slip of payment made) shall be uploaded online with the Tender documents on n-procure portal.
 - 2) Bidder has to provide following detail on the same date of payment made so that receipt can be generated at below mentioned e-mail ids:
 1. sepln.getco@gebmail.com,
 2. aopln.getco@gebmail.com,
 3. depln.getco@gebmail.com

Sr. No.	Required Details
1	Name & Postal Address of the bidder
2	Contact Detail & e-mail id of the bidder
3	Tender No. with due date
4	Mode of Payment made
5	Ref. ID with Bank Details(UTR number)
6	Amount Paid for Tender fee in Rs.
7	Amount Paid for EMD in Rs.
8	GST Registration No.
9	Pan No.

3) GETCO Beneficiary Bank Details are as under:

1	Name of Account Holder	Gujarat Energy Transmission Corporation Ltd.
2	Account No.	'01740200000624
3	Name of Bank	Bank of Baroda
4	Branch Code	PALANP
5	Address of office	Transmission Circle, 66kv S/S Campus, Abu Highway, Palanpur – 385001
6	IFSC Code	BARB0PALANP (" Fifth Digit is Zero")
7	PAN No	AABCG4029R
8	TAN No	AHMG02636E
9	GST No	24AHMG02636E1DV

12. **Tender fee and EMD paid though Demand Draft / Banker's cheque or Pay order will not be accepted. Also, Tender fee and EMD received after due date and time as specified in the tender will not be accepted/opened irrespective of delay due to any reasons and the Corporation shall not assume any responsibility for late receipt of the same.**
13. Tender without EMD and tender fee plus GST as applicable shall be rejected.
14. Bidders are requested to remain in touch with the n-procure portal for any amendment/corrigendum or extension of due date etc.
15. The GETCO reserves the right to award the work to one or more bidders, considering their technical and financial capacity OR to reject any or all tenders or accept any tender without assigning any reason thereof.

Any technical questions, information and clarification that may be required pertaining to this enquiry should be referred to: The Superintending Engineer (TR), Gujarat Energy Transmission Corporation Limited, Circle office Palanpur

GETCO reserves the right to reject any OR all tenders without assigning any reasons thereof.

**Superintending Engineer
PALANPUR**

To view the PDF file please use "Acrobat Reader" software which can be downloaded from "Adobe" website.

In case bidder needs any difficulty in accessing / submission of on line bid / clarification or if training required for participating in online tender, they can contact the following office:

(n) Procure Cell, (n) code solutions-A division
of GNFC Ltd., 403, GNFC Info tower, S.G.
Road,
Bodakdev Ahmedabad – 380054 (Gujarat)
Toll Free: 1-800-233-1010 (Ext. 501, 512, 516, 517, 525),

PART-I – ITB
INSTRUCTIONS TO BIDDERS

A. INTRODUCTION

1.0 General Particulars

1.1 The Gujarat Energy Transmission Corporation Ltd. Baroda hereinafter called 'OWNER' or 'GETCO' intends to receive bids for **Erection of structure, equipments, control wiring, yard Lighting, Control-Room Electrification etc. at at 66KV Dhunsol S/S, Ta: Lakhani, Dist: Vav -Tharad with Erection of 66KV D/C LILO line at Proposed 66KV DHUNSOL Substation from existing 66KV CHEKARA - KOTDA LINE on D/C Panther Tower with ACSR Panther Conductor**, as detailed in the accompanying specifications in accordance with Terms and Conditions herein. The bids shall be prepared and furnished as per these Instructions.

2.0 Qualification Requirement (All Document Submitted Online Only not Submitted Physically)

1 **Registration:** Bidder shall be registered contractor of Getco/STU/CTU. **E1 class and Above.**

2 **Experience:**

For Substation: ---

A) Bidder shall have executed minimum 01 no 66KV or higher class Substation with State or central transmission utility or major industries or 3 nos of 66KV bays i.e Transformer/Feeder bays at same or different location. Substation include minimum two no's of feeders bays, one nos of transformer bay. Suborder should not be considered. (**Copy of W.O including Schedule-B + Work completion certificate/3A form duly signed by concern EE**)

For Line: ---

Technical Criteria:

1) **Length of transmission line on towers/H frame to be tenderize –**

The bidder should have erected transmission lines including foundation, tower erection and stringing of conductor and earthwire of 66kV and/or above class lines on towers/H frame **as a Main contractor or as a Sub Contractor in single or multiple orders** for length -

Line length Less than 5 kM - Minimum 3 km line in last 3 financial years:

i) As a main contractor - work order copy and experience certificate of similar nature work to be submitted to ascertain experience of line erection work of 66kV and/or above class in GETCO or other STU or CTU as mentioned in Cl.-2.1 &, failing in which bidder shall be evaluated accordingly by order placing authority as per DOP.

ii) As a sub-contractor – work order/PO copy of original contract and sub-contract, experience certificate from main contractor and statement of financial transactions for the same work order/PO are to be submitted to ascertain experience of line erection work of 66kV and/or above class in GETCO or other STU or CTU as mentioned in Cl.-2.1 only, failing in which bidder shall be evaluated accordingly by order placing authority as per DOP.

Financial Criteria:

Bidder's Minimum Average Annual Turnover (MAAT)* for best three years out of last five financial years as annualized shall not be less than the estimated amount of this tender.

* Note- "Annual gross revenue from operations / gross operating income as incorporated in the profit & loss account excluding other operative income/other income".

1. Last quarter's Liquid Assets should not be less than 20 % of estimated amount as on date of invitation of tender.

Note: For the purpose of arriving at LA Current Assets Less Inventories shall be considered.

1. Bidder's Net Worth for Last 3 financial years should be positive.

Note:

1. Audited, Verified and Certified Practicing Chartered Accountant certificate will be considered for Minimum Average Annual Turnover, Liquid Assets and Net worth. The provisional certificates will not be entertained.

2. Undertaking in respect of reference to NCLT under Insolvency & Bankruptcy Code. The undertaking is to be furnished by the bidder in its bid as per the format attached and shall be deemed to be part of the bidding schedule and submitted along with QR Bid

Undertaking

Subject :- Work Name _____ including tender No. _____

In connection with above subject, I / We confirm that our firm is not declared in NCLT under Insolvency & Bankruptcy Code. Further, I / We also agree that, if any found NCLT under Insolvency & Bankruptcy Code, the offer shall be out rightly rejected without assigning any reason thereof.

(Seal, Sign & Name of Authorized Signatory of Bidder)

3. **Solvency:** Latest bank solvency certificate from any Nationalized/Scheduled Bank of a sum of minimum 20 % of the estimated cost shown in the tender.
4. **Provident Fund Code:** Separate provident fund code number towards firm registered with Regional P. F. Commissioner.
5. **Financial Statement:** The Bidder should submit certified photocopy of audited financial statement i.e. Balance sheet with profit and loss account of last three Years. In case, audit is not mandatory, bidder should submit photocopy of financial statements i.e. Balance Sheet & Profit & Loss Account
6. **Nature of Firm:** Attested copy of **Partnership Deed, Power of Attorney**, if any, for signing the bid documents in case of **partnership firm & self-affidavit for proprietorship firm**. **MOA/AOA** shall be submitted in case it is **corporate entity**. All such documents shall have to be **NOTARISED**
7. **GST Registration:** GST Registration Number.
8. **I.T.PAN CARD:** The bidder should submit the attested Photocopy of PAN Card of their firm.

9. **Electrical contractor's license:** The bidders should submit the attested copy of GOG Electrical Contractor licenses of firm with latest validation.
10. Building and other Construction Workers' Welfare Cess Act registration copy, if applicable (after tender awarding).

The bidders must be attach submitted all above documents scanned copy on n-procure

- 2.1 The above cited requirements are only indicative. The owner reserves the right to requisition any other relevant information and also reserves the right to reject the Bid proposal of any Bidder, if in the Owner's opinion the Qualification data is incomplete and Bidder is not qualified to perform the Contract satisfactorily.

3.0 Bidding Costs

All costs/expenses in the preparation and submission of the Bid (including any post Bid discussions/presentations) shall be fully borne by the Bidder. Owner will not be responsible/liable for these costs irrespective of the course and conclusion of this Bidding.

4.0 BID DOCUMENTS

- 4.1 The following Bid documents apart from Invitation to Bid detail the material and equipment specifications/characteristics, the bidding procedures and the terms & conditions of contract:

- a. Instructions to Bidders (ITB-Part I)
- b. General Conditions of Contract (GCC-Part I)
- c. Erection Conditions of Contract (ECC-Part I)
- d. Special Conditions of Contract (SCC-Part I)
- e. Technical Specifications (TSP-Part IIA) (For SS & LINE)
- f. Technical Data Sheets (TDS-Part IIB)
- g. Bid Form and Price Schedules (BF/PS-Part IV)

5.0 Knowing the Bid Documents

- 5.1 Every intending Bidder is to examine and understand all instructions, forms, terms, conditions and specifications in the Bid Documents and fully know himself all the conditions and contents therein, which may in any manner, affect the scope & content of work and the costs thereof. Submission of a Bid not substantially responsive to the Bid Document in all respects and/or failure to furnish all information required by the Bid Document may entail rejection of the Bid at the Bidder's risk.

6.0 Clarifications on Bid Documents

- 6.1 In case an intending Bidder finds any discrepancy or omission in the documents and specifications or is in doubt as to the true meaning of any part, he shall make a request, in writing not later than the date of pre Bid discussion to the owner in triplicate. The owner will issue explanations, interpretations and clarifications as deemed fit in writing as a response to this request. On receipt of such interpretations/clarifications, the Bidder may submit his Bid within the date and time stipulated in the Bid invitation, all such explanations, interpretations and clarifications from the Owner shall be deemed as part of Bid Documents and shall invariably accompany the Bidder's proposal.
- 6.2 Any verbal/telephonic clarifications and information given by the Owner or his employee (s) or his representative(s) will not in any way be binding on the Owner.

7.0 Amendment of bidding document:

- 7.1 At any time prior to the deadline for submission of Bids the Owner may, for any reason, whether at his own initiative or in response to a clarification requested by the intending Bidder, modify the Bidding Document with amendment(s).
- 7.2 The amendment will be notified in writing or Fax /web site to all intending Bidders who have received the Bidding Document at the address contained in the letter of request for issue of bidding document from the Bidders. Owner will bear no responsibility or liability arising out of non-receipt of the same in time or otherwise.
- 7.3 In order to afford prospective bidders reasonable time in which to take the amendment into account in preparing their bids, the Owner may, at his discretion, extend the deadline for the submission of bids.
- 7.4 Such amendments, clarifications etc. shall be binding on bidders and will be given due consideration by the Bidders while they submit their bids and shall invariably enclose such documents as a part of the bid.

C. PREPARATION OF BIDS

8.0 Language of Bid:

- 8.1 The Bid prepared by the Bidder and all correspondence and documents relating to the Bid, exchanged by the Bidder and the Owner, shall be written in the English language, provided that any printed literature furnished by the Bidder may be written in another language so long as accompanied by an English translation of its pertinent passages. Failure to comply with this may disqualify a bid. For purposes of interpretation of the bid, the English translation shall govern.

8.2 Bid Format

Bidders have to make the Bid in the formats furnished with this Document. Verbatim without adding any printed/type written text of their own.

9.0 Local Conditions:

- 9.1 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. The Owner shall not entertain any request for clarifications from the bidders, regarding such local conditions.
- 9.2 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 the 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.

10.0 Documents comprising the Bid:

- 10.1 The Bidder shall complete the Bid form inclusive of Price Schedules; Technical Data Requirements etc. furnished in the Bidding Documents, indicating, for the services to be rendered, a brief description of services, quantity and price.
- 10.2 The Bidder shall also submit documentary evidence to establish that the Bidder meets the

Qualification Requirements as detailed in Clause 2.0 above and Special Conditions of Contract (including Clause 11 of ITB).

10.3 All Tender Documents/ formats are to be returned completed and filled in all respects and signed by the Company Authorized Signatory wherever specified.

10.4 The Bid Guarantee shall be furnished in a separate cover in accordance with clause specific ITB.

11.0 Scope of the proposal

11.1 The Scope of the proposal shall be on the basis of a single Bidder's responsibility, completely covering all the equipment erection and other installation services specified under the accompanying Technical Specifications. It will include among others as specified therein the following: -

- a) Receipt of equipments and material from Kansari or any GETCO construction store and transporting, storage, preservation and conservation of equipment at the Site.
- b) Pre-assembly, if any, erection, testing and commissioning of all the equipments.
- c) Reliability tests and performance and guarantee tests on completion of commissioning.

11.2 As specified in the Special Conditions of Contract, no deviation whatsoever to certain conditions of the bidding documents permitted by the Owner and therefore, the Bidders are advised that while making Bid Proposals and quoting prices these conditions may appropriately be taken into consideration. Bidders are required to furnish a certificate in this regard as per the format provided in Special Conditions of Contract in a separate sealed envelope containing Bid security, which shall accompany the Technical Bid. Any Bid not accompanied by such certificate shall be rejected by the Owner and shall not be opened.

11.3 Bids not covering the above cited entire scope of works may be treated as incomplete and hence rejected.

11.4 The Bidder shall complete all the schedules & annexure in the Bid Proposal Sheets, Technical Data Sheets and specified elsewhere. The Qualifying Data should be filled in the required schedule of Bid Proposal Sheets.

12.0 Bid Price:

12.1 The Bidder shall indicate percentage above/below of total bid price indicated in the appropriate price Schedules, enclosed in bid proposal sheets for erection, testing and commissioning, and other services it proposes to furnish under the contract. Prices quoted should be in % Above/ Below on Estimated Cost. However, detail bifurcation of Taxes applicable should be mentioned separately with Price bid

12.2 The Bidder shall specifically note that the Tenders are invited on percentage rate increase/decrease based in relation to unit rates of tender price schedule.

12.3 If the Supplier/Contractor has opted for the Composition scheme of GST, the same must be clearly specified with valid Declaration & Certificate from Department. In the event of withdrawal/cessation of the Supplier from Composition scheme during the tenure of the contract, the rate (i.e. price) mentioned in the price bid shall be final and any additional GST will have to be borne by the tenderer himself. In no case additional amount towards GST or otherwise will be paid / reimbursed to supplier/contractor. Further Statutory Variation clause will not be applicable in case of Supplier / Contractor has opted for Composition Scheme under GST.

Also, please mention separate applicable HSN / SAC Code and rate of GST and Cess as applicable for each item of Goods/Service. If not specifically mentioned then COMPANY will have the option to

take the prices as exclusive of taxes and duties at maximum higher slab rates for the evaluation of the tenders.

The offered prices to be indicated in online mode of tender in the format given (i.e. Schedule-B). The price bid submitted in physical mode shall not be considered.

Every bidder shall inform their GSTIN No. of the registered place(s) wherefrom the bidder intends to supply the goods / services, meaning thereby the bidder has to supply the goods / services from the relevant declared / registered place of supply only.

13.0 Price Basis:

13.1 The Price shall be quoted on firm basis.

13.2 The Price quoted by the bidder shall remain fixed during the bidder's performance of the contract and shall not be subject to variation on any account save for change in quantity. A bid submitted with an adjustable price quotation shall be treated as non-responsive and rejected.

14.0 Taxes and Duties:

14.1 As regards the income Tax, will be levied as per prevailing rate on payment to contractors. Any other tax except specifically mentioned in tender will not be born by GETCO. The bidder shall be liable and responsible for payment of such taxes as attracted under the provisions of the law.

14.2 Notwithstanding the tax liabilities as per the sub-clause 14.1 above the owner shall have the right to make deduction at source from the amounts payable to the contractor in respect of Income Tax (on the cost of items of supply included in the works contract) as may be mandatory in terms of the law. The owner shall not bear any liability in this regard but shall issue necessary certificate in respect of such deduction made.

14.3 In case any tax or duty is newly introduced by the Government applicable for this contract with effect from the next day of the date submission of the bid and if the contractor is required to pay additional tax or duty, then the owner shall reimburse the contractor the additional tax or duty so paid by the contractor against submission by the contractor of documentary evidence to the satisfaction of the owner. This provision will not be applicable to transaction between the contractor and his sub-contractors. Besides the said statutory variation, no other statutory variation shall be payable by the owner.

14.4 The owner's liability for all taxes and duties under the contract shall be limited to those indicated by the Bidder in the Bid Proposal Sheets, subject to the statutory variations and variations as per Clause No. 14.3. If the cost to the Contractor during the performance of the 'Contract' shall be increased or reduced by reasons of the making, passing or promulgation of any law after the date of submission of bid or by any order, regulation or bye-law having the force of law the amount of such increase or reduction shall be added to or deducted from the "Contract Price" as the case may be for direct transactions between contractor & owner, and not for bought out items. It is the Bidders responsibility to furnish details of taxes, duties, levies etc. applicable as on the date of submission of the bid.

14.5 No claim for any increase towards the statutory variation regarding enhancement of existing tax or duty or introduction of a new tax or duty applicable shall be entertained by the Owner during the extended period of contract, if any, provided the extension of the contract is required by causes attributable to the contractor.

- 14.6 The provision of statutory variation regarding enhancement of existing tax or duty or introduction of a new tax or duty will be applicable only to the direct transaction between the contractor and the owner.
- 14.7 Before quoting, the bidder may ascertain from the concerned tax authorities of Government of Gujarat the applicability of Work Contract Tax. Entry Tax, **GST** etc. in respect of this work and include the same in the quoted price. No separate claim in this regard will be entertained by the Owner, as it is the responsibility of the Bidder to pay all these taxes.
- 14.8 In addition, the conditions detailed under Special Conditions of Contract shall apply.

15.0 Time Schedule:

- 15.1 The basic consideration and the essence of the contract shall be strict adherence to the time schedule for performing the specified works.
- 15.2 The Owner's requirements of completion schedule for the Works are mentioned in the accompanying Special Conditions of Contract.
- 15.3 The completion schedule as stated in the special conditions of contract shall be one of the major factors in consideration of the bids.

16.0 Insurance:

The Bidder's insurance liabilities pertaining to the scope of Works are detailed out in Clauses titled Insurance , in General Terms and Conditions of Contract and in Erection Conditions of this Part-I. Bidder's attention is specifically invited to these clauses. Bid price shall include all the costs in fulfilling all the insurance liabilities under the Contract.

17.0 Erection Tools and Tackles:

The Bidder under a separate schedule, in his proposal shall include a list of all-special equipment tools & tackles etc. which he proposes to bring to site for the purpose of erection, handling, testing and commissioning including performance and guarantee tests of the equipment. If any such equipment is listed anywhere else in the proposal and not specially mentioned in the above schedule, it shall be deemed to have been included in the Bidder's proposed scope of supply.

18.0 Bid Security/EMD:

- 18.1 The bidder shall furnish, as a part of its bid EMD, bid security for an amount of one percent of estimated cost to be paid as under:
- a) **All the Bidders will be required to pay Tender Fees with applicable GST and EMD as mentioned in the Tender document either in Cash (up to Rs. 10,000/- only) at the office address specified in the tender document or by RTGS/ NET/online**
- 18.2 The bid security is required to protect the owner against the risk of Bidder's conduct, which would warrant the guarantee forfeiture, pursuant to relevant paras elsewhere The bid guarantee shall be made payable to the Owner without any condition whatsoever.
- 18.3 The EMD shall be submitted along with submission of Technical bid only. In no case it shall be submitted with sealed cover of Price Bid. Tenders not accompanied by EMD shall be rejected.

- 18.4 The Owner will reject any bid not secured in accordance with Para 18.1 above, as non-responsive. No exemptions are made in the furnishing of the security.
- 18.4 The EMD will be returned promptly to the unsuccessful tenderer after observing company's rules. The EMD will be returned to the successful tenderer after he furnishes the Security Deposit for performance and duly enters in to the contract. If he fails to furnish the SD or to execute the contract for the work offered to him, his EMD shall be forfeited and the tenderer may be disqualified from tendering for further works for GETCO as per its discretion.
- 18.5 The successful bidders, Bid Security will be discharged upon, furnishing the contract Security Deposit..
- 18.6 The bid guarantee may be forfeited.
- a) If a Bidder withdraws its bid during the period of bid validity specified by the bidder on the bid Form:
 - b) If a bidder refuses to accept the contract or fails to commence the works (including supplies within thirty days of letter of award of contract)
 - c) SD is not paid within time then EMD will be forfeited and disqualifying for future participation in tender.

19.0 Format of Bid:

- 19.1 The Bidder shall prepare one copies of the bid, clearly marking each "Original bid". In the event of any discrepancy between them the original shall govern.
- 19.2 The original and all copies of the bid shall be typed or written in indelible ink and shall be signed by the Bidder or a person or persons duly authorized by the Bidder to sign the Contract. The letter of authorization shall be indicated by written power-of-attorney accompanying the bid. All pages of the bid, except for un-amended printed literature, shall be initiated by the person or persons signing the bid.
- 19.3 The Bidders must submit the qualifying data on node only
- 19.4 The bid shall contain no interlineations, erasures or overwriting except as necessary to correct errors made by the Bidder, in which case such corrections shall be initiated by the person or persons signing the bid.
- No Hard/Physical copy of Technical/Price/Commercial bid required in physical submission. Technical Bid as well as Price bid must be consider from N-Code/Online only**

20.0 Signature of Bids:

- 20.1 The bid must contain the name, residence and place of business of the person or persons making the bid and must be signed and sealed by the Bidder with his usual signature. The names of all persons signing should also be typed or printed below the signature.
- 20.2 Bid by a partnership must be furnished with full names of all partners and be signed with the partnership name; followed by the signature(s) and designation(s) or the authorized partner(s) or other authorized representative(s).
- 20.3 Bids by Corporation/Company must be signed with the legal name of the Corporation/Company by the President/Managing Director or by the Secretary or other person or persons authorized to bid on behalf of such Corporation/Company in the matter.

20.4 A bid by a person who affixes to his signature the word 'President', 'Managing Director', 'Secretary', 'Agent' or other designation without disclosing his Principal will be rejected.

20.5 If it is found that two or more persons who are connected with one another either financially or as a principal and agent have bid under different names without disclosing their connection then such bids will be liable for rejection. Satisfactory evidence of authority of the person signing on behalf of the Bidder shall be furnished with the bid.

20.6 The Bidder's name stated on the proposal shall be the exact legal name of the firm.

20.7 Bids not conforming to the above requirements of signing may be disqualified and EMD forfeited.

22.0 Deadline for submission of bids:

22.1 The Bidders have been send by registered post only. Bids submitted by telex/telegram will not be accepted. No request from any Bidder to the Owner to collect the proposals from airlines, cargo agent etc. shall be entertained by the Owner.

22.2 Bids must be received by the Owner at the address specified under Para 21.3, not later than the time & date mentioned in the Invitation to Bid.

22.3 The Owner may, at its discretion, extend this deadline for the submission of bids by amending the Bidding Document in which case all rights and obligations on the Owner and Bidders previously subject to the deadline will thereafter be subject to the deadline as extended.

23.0 Late Bids

Any bid received by the Owner after the time and date fixed or extended for submission of bids prescribed by the

Owner, will be rejected and not considered for evaluation same will return with seal condition.

24.0 Modification and withdrawal of bids:

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

24.2 The Bidder's modification or withdrawal notice shall be prepared, sealed, marked and dispatched in accordance with the provisions of clause 21.0. The envelope should clearly indicate whether the modification is for the Technical bid or the Price bid. No bid modifications notice by Telex/Grams/Fax shall be entertained by the Owner.

24.3 No bid shall be modified in any manner, whatsoever subsequent to the deadline for submission of bids.

24.4 No bid may be withdrawn in the interval between the deadline for submission of bids and the expiration of the period of bid validity specified by the Bidder on the Bid Form. Withdrawal/modification of a bid during this interval may result in the Bidder's forfeiture of its bid security.

E. BID OPENING AND EVALUATION

25.0 Opening of bids by owner:

- 25.1 The Owner will open the technical bids (Cover –I, II,) in the presence of Bidder's representatives who choose to attend on the date and time mentioned for opening of bids in the Invitation to Bid or in case any extension has been given thereto, on the extended bid opening date and time notified to all the Bidders who have purchased the bidding document. The Bidder's representatives who are present shall sign a register evidencing their attendance.
- 25.2 The Bidder's names, Technical modifications, Bid withdrawal and such other details as the Owner, at his discretion may consider appropriate, will be announced in the Technical Bid Opening.
- 25.3 The price bids of all the "Techno-Commercial" Responsive Bidders shall be opened in the presence of representatives (up to two per firm) of such bidders who choose to be present. The date & time of opening the Price Bid shall be intimated to all such qualified bidders by Fax/Telex/Mail, at least one day in advance besides inviting final price bid if found appropriate after evaluation of Technical bids.
- 25.4 The Bidder's name, lump sum Bid Price, all discounts if any, modifications in the Price Bid and any such other details as the Owner, at his discretion, may consider appropriate, will be announced/ furnished in the Price Bid Opening.
- 25.5 No electronic recording/transmitting devices will be permitted during Bid opening.

26.0 Purpose of evaluation of bids:

- 26.1 The Bids received/accepted/opened will be evaluated by the Owner to ascertain the technical responsiveness of the bid for the complete scope of the proposal, as covered under these specifications and documents. All technically responsive bids shall then be examined to determine the LOWEST EVALUATED COMMERCIALY AND TECHNICALLY RESPONSIVE BIDS.

27.0 Policy for bids under consideration:

- 27.1 Bids shall be deemed to be under consideration immediately after opening of Technical Bid and until such time official intimation of award/rejection is made by the Owner to the Bidders. While the Bids are under consideration, Bidders and/or their representatives and other interested parties are advised to refrain from contacting by any means, the owner and/or his employee's representatives on the matters related to Bids under consideration.

28.0 Clarification of bids:

To assist in the examination evaluation and comparison of Bids the owner may on his own ask the Bidder for a clarification of its bid. The request for clarification and the response shall be in writing and no change in the price or substance of the bid shall be sought, offered or permitted.

29.0 Preliminary Examination:

- 29.1 The Owner will examine the bids to determine whether they are complete, whether any computational errors have been made, whether required sureties have been furnished, whether the documents have been properly signed, and whether the bids are generally in order.
- 29.2 Arithmetical errors will be rectified on the following basis:

If there is a discrepancy between the unit price and the total price that is obtained by multiplying

the unit price and quantity, the unit price shall prevail and the total price shall be corrected. If there is a discrepancy between the total bid amount and the sum of total costs, the latter shall prevail and the total bid amount will be corrected accordingly. If there is a discrepancy between words and figures, the amount advantageous to the Owner will prevail. If the Bidder does not accept the correction of the errors as above, his Bid will be rejected and the amount of Bid Security will be forfeited. The Bidder should ensure that the prices furnished in various price schedules are consistent with each other. In the case of any inconsistency in the prices furnished in the specified prices 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 Contract use the lowest of the prices in these schedules.

- 29.3 Prior to the detailed evaluation, the Owner will determine the substantial responsiveness of each bid to the Bidding Document. For purpose of these Clauses, a substantially responsive bid is one, which conforms to all the terms and conditions of the Bidding Document without material deviations. A material deviation is one which affects in any way the prices, quality, quantity or delivery period of the equipment, completion of works or which limits in any way the responsibilities or liabilities of the Bidder of any right of the Owner as required in these specifications and documents. The Owner's determination of a bid's responsiveness shall be based on the contents of the bid itself without recourse to extrinsic evidence.
- 29.4 A bid determined as not substantially responsive will be rejected by the Owner and may not subsequently be made responsive by the Bidder by correction of non-conformity.
- 29.5 The Owner may waive any minor informality or non-conformity or irregularity in a bid which does not constitute a material deviation, provided such waiver does not prejudice or affect the relative ranking of any Bidder.

30.0 Evaluation of Price Bids: No Copy of Technical Bid/PRICE-BID requires in Physical copy of bid. It is compulsory to submit through on-line (n-code) only. Same will observed in bid during opening, whole tender may be not considered.

31.1 Definitions and Meanings:

For the purpose of the evaluation and comparison of bids, the following meanings and definition will apply:-

- a) 'Bid Price' shall mean the price quoted by each Bidder in his proposal for the complete scope of works.
- b) 'Evaluated Bid Price' shall be summation of 'Bid Price', 'Differential Price' and 'Cost Compensation for Deviations.'

F. AWARD OF CONTRACT

32.0 Award Criteria

32.1 The owner will award the contract to the successful Bidder, whose bid has been determined to be substantially responsive and has been determined as the lowest evaluated bid, providing further that the Bidder is determined to be qualified to perform the contract satisfactorily. The Owner shall be the sole judge in this regard.

32.2 Further, the Owner reserves the right to award separate contracts to two or more parties in line with the terms and conditions specified in the accompanying Technical Specifications.

33.0 Owner's right to accept any bid and to reject any or all bids:

33.1 The Owner reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids at time prior to award of contract, any 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.

34.0 Notification of award:

34.1 Prior to the expiration of the period of bid validity and extended validity period, if any, the Owner will notify the successful Bidder in writing by registered letter or cable or telex or FAX, to be confirmed in writing by registered letter, that its bid has been accepted.

34.2 The notification of award will constitute the formation of the Contract.

34.3 Upon the successful Bidder's furnishing of performance guarantee/SD .Owner will promptly notify each unsuccessful Bidder and will discharge its bid security,

35.0 Signing of contract:

35.1 At the same time as the Owner notifies the successful Bidder that his bid has been accepted, the Owner will send the Bidder the detailed of Award, incorporating all agreements between the parties.

35.2 Within 30 days of receipt of the detailed of Award, the successful bidder shall sign the same with date and return it to the Owner.

35.3 The Bidder will prepare the Contract Agreement as per the Performa prescribed and the same will be signed within 30 (Thirty) days of notification of Award.

37.0 Welfare cess

1) As per the Welfare cess Act, the welfare cess @ 1% is applicable on supply and erection items for supply, erection, testing & commissioning of substation, transmission lines, EPC/Turnkey projects and civil works. Before release of payment of every RA bill, the contractor has to submit documentary evidence of payment of welfare cess of that RA bill at the time of the final bill for final bill. Also, the bidder should submit the certified copy of welfare registration before 1st RA bill. The payment should be released after submission of said registration.

2) Contractor shall get registered under welfare cess Act before commencement of work. Office of the factory inspector is authorized at present as a registering authority.

3) GETCO shall pay the welfare cess by way of reimbursing to contractors on production of documentary evidence of payment.

4) The contacts for which supply or part supply of material are in the scope of GETCO, then contractors shall deposit welfare cess on estimated cost of supplied items to GETCO contractor on progressive basis of utilization. As this part of welfare cess is on GETCO account, the same shall be reimbursed to the contractor on receipt of request letter along with documentary evidence of payment. For calculation of welfare cess on supply part, valuation as per MR shall be taken and informed to the contractor for payment. This will be over and above the A/T value.

36.0. If bidder having experience in Sub-Contract, please furnish the authorization letter form principal order placing authority .

PART-I GCC

GENERAL TERMS & CONDITIONS OF CONTRACT

A. INTRODUCTION

1.0 DEFINITION OF TERMS

- 1.1 The 'Contract' means the agreement entered into between the Owner and the Contractor as per the Contract Agreement signed by the parties, including all attachments and appendices thereto and all documents incorporated by reference therein.
- 1.2 'Owner' shall mean the **Superintending Engineer , GETCO, PALANPUR** or any of its subsidiaries and shall include its legal representatives, successors and assigns.
- 1.3 'Contractor' shall mean the Bidder whose bid is accepted by the Owner for the award of the Works and shall include such successful Bidder's legal representatives, successors and permitted assigns.
- 1.4 'Engineer' shall mean the officer appointed in writing by the Owner to act as Engineer from time to time for the purpose of the Contract.
- 1.5 The terms 'Equipment', 'Stores' and 'Materials' shall mean and include equipment, stores and materials to be provided by the Contractor under the Contract.
- 1.6 'Works' shall mean and include the furnishing of equipment, Labor and services, as per the Specifications and complete erection, testing and putting into satisfactory operation including all transportation, handling, unloading and storage at the Site as defined in the Contract.
- 1.7 'Specifications' shall mean the Specifications and Bidding Document forming a part of the Contract and such other schedules and drawings as may be mutually agreed upon.
- 1.8 'Site' shall mean and include the land and other places on, into or through which the works and the related facilities are to be erected or installed and any adjacent land, paths, street or reservoir which may be allocated or used by the Owner or Contractor in the performance of the Contract.
- 1.9 The term 'Contract Price' shall mean the lump-sum price quoted by the Contractor in his bid with additions and/or deletions as may be agreed and incorporated in the Letter of Award and the contract agreement for the entire scope of the works.
- 1.10 The term 'Erection Portion' of the Contract price shall mean the value of field activities of the works including erection, testing and putting into satisfactory operation including successful completion of performance and guarantee tests to be performed at Site by the Contractor including cost of insurances.
- 1.11 Site Engineer 'Inspector' shall mean the owner's Engineers or any person nominated by the time to inspect the equipment; stores or Works under the Contract and/or the duly authorized representative of the Owner.
- 1.12 'Notice of Award of Contract'/'Letter of Award'/'Telex of Award' shall mean the official notice issued by the Owner notifying the Contractor that his bid has been accepted.

- 1.13 'Order' shall mean the official letter issued by the Owner informing the acceptance of the bid.
- 1.14 'Date of Contract' shall mean the date on which letter of commencement of work issued by the respective sub division deputy engineer.
- 1.15 'Month' shall mean the calendar month. 'Day' or 'Days' unless herein otherwise expressly defined shall mean calendar day or days of 24 hours each.
- A 'Week' shall mean continuous period of seven (7) days.
- 1.16 'Writing' shall include any manuscript, type written or printed statement, under or over signature and/or seal as the case may be.
- 1.17 When the words 'Approved', 'Subject to Approval', 'Satisfactory', 'Equal to', 'Proper', 'Requested', 'As Directed', 'Where Directed', 'When Directed', '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 the Owner/Engineer.
- 1.18 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 the Owner.
- 1.19 'Performance and Guarantee Tests', shall mean all operational checks and tests required to determine and demonstrate capacity, efficiency, and operating characteristics as specified in the Contract Documents.
- 1.20 The term 'Final Acceptance'/'Taking Over' shall mean the Owner's written acceptance of the Works performed under the Contract, after successful commissioning/completion of Performance and Guarantee Tests, as specified in the accompanying Technical Specifications or otherwise agreed in the Contract.
- 1.21 'Latent Defects' shall mean such defects caused by faulty designs, material or work-man-ship which cannot be detected during inspection, testing etc, based on the technology available for carrying out such tests.
- 1.22 'Codes' shall mean the following including the latest amendments and/or replacements, if any:
- a) Indian Electricity Act, 1905 and Rules and Regulations made here under.
 - b) Electricity Act 2003 & 2015 and Rules & Regulations made there under & any new amendment
 - c) Indian Factory Act, 1948 and Rules and Regulations made there under.
 - d) Indian Explosives Act, 1884 and Rules and Regulations made there under.
 - e) Indian Petroleum Act, 1934 and Rules and Regulations made there

under.

f) A.S.M.E. Test Codes.

g) A.I.E.E. Test Codes.

h) American Society of Materials Testing Codes.

i) Standards of the Indian Standards Institution.

j) Other Internationally approved standards and/or rules and regulations touching the subject matter of the Contract.

1.23 Words imparting the singular only shall also include the plural and vice –versa where the context so requires.

1.24 Words imparting 'Person' shall include firms, companies, corporations and associations or bodies of individuals, whether incorporated or not.

2.0 APPLICATION

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

3.0 CONTRACT DOCUMENTS

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

- a) Invitation to Bid including letter forwarding the Bidding Documents, Instructions to Bidders, General Terms and Conditions of Contract, the Special Conditions of Contract. and all other documents included under Part-I, Part-II and Part-III .
- b) Specifications of the erection of the equipments and other technical services to be provided under the Contract as brought out in the accompanying Technical Specifications.
- c) Contractor's Bid Proposal and the documents attached there to including the letters of clarifications thereto between the Contractor and the Owner prior to the Award of Contract except to the extent of repugnancy.
- d) Letter of Award and any agreed variations of the conditions of the documents and special terms and conditions of Contract, if any.

3.2 In the event of any conflict between the above mentioned documents the matter shall be referred to the Engineer whose decision shall be considered as final and binding upon the parties.

4.0 USE OF CONTRACT DOCUMENTS AND INFORMATION

4.1 The Contractor shall not, without the Owner's prior written consent, disclose the Contract, or any provision thereof, or any specification, plan, drawing, pattern, sample or information furnished by or on behalf of the Owner in connection therewith, to any person other than a person employed by the Contractor in the performance of the Contract. Disclosure to any such employed person shall be made in confidence and shall extend only so far as may be necessary

Sign and Seal of Contractor

Page 15

for the purpose of such performance.

- 4.2 The Contractor shall not, without the Owner's prior written consent, make use of any document or information enumerated in various Contract documents except for the purpose of performing the Contract.
- 4.3 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 the Owner.
- 4.4 Any document, other than the Contract itself, enumerated in various Contract documents shall remain the property of the Owner and shall be returned (in all copies) to the Owner on completion of the Contractor's performance under the Contract if so required by the Owner.

5.0 CONSTRUCTION OF THE CONTRACT

- 5.1 Notwithstanding anything stated elsewhere in the bid documents, the Contract to be entered into will be treated as a single Contract.
Award shall be placed on the successful Bidder as follows:
- For providing services like inland transportation, insurance for delivery at site, unloading, storage, handling at site, installation, testing and commissioning including performance testing in respect of all the equipment material equipment/materials given by the owner after observing standard store procedures for transport from owner's stores, insurance, unloading storage handling at site installation testing & commissioning.
- 5.2 In case erection Contract, or where the Owner hands over his equipment to the Contractor for executing, then the Contractor shall at the time of taking delivery of the equipment/dispatch documents be required to execute an Indemnity Bond in favor of the Owner in the form acceptable to the **Superintending engineer, PALANPUR** for keeping the equipment in safe custody and to utilize the same exclusively for the purpose of the said Contract. Samples of Performa for the Indemnity Bond will be furnished during award of Contract.
- 5.3 The Contract shall in all respects be construed and governed according to Indian Laws.
- 5.4 It is clearly understood that the total consideration for the Contract(s) has been broken up into various components only for the convenience of payment under the Contract(s) and for the measurement of deviations or modifications under the Contract(s).

6.0 JURISDICTION OF CONTRACT

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

7.0 EXECUTION OF CONTRACT:

- 7.1 The Owner, after the issue of the Letter of Award to the Contractor, will send one copy of the final agreement to the Contractor for his scrutiny and approval.
- 7.2 The Agreement, unless otherwise agreed to, shall be signed within 30 days of the acceptance of the Letter of Award, at the office the Owner at PALANPUR on a date and time to be mutually

Sign and Seal of Contractor

agreed. The Contractor shall provide for signing of the Contract, Performance Guarantee, appropriate power of attorney and other requisite materials. In case the Contract is to be signed beyond the stipulated time, the Bid Guarantee submitted with the Proposal will have to be extended accordingly.

7.3 The Agreement will be signed in copies to be specified and the Contractor shall be provided with one signed original and the rest will be retained by the Owner.

7.4 Subsequent to signing of the Contract, the Contractor at his own cost shall provide the Owner with copies of agreement within fifteen (15) days after the signing of the Contractor.

8.0 ENFORCEMENT OF TERMS

8.1 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 any way to affect the validity of the Contract. The exercise by either party of any of its rights herein shall not preclude or prejudice either party from exercising the same or any other right it may have under the Contract.

9.0 COMPLETION OF CONTRACT

9.1 Unless otherwise terminated under the provisions of any other relevant clause, this Contract shall be deemed to have been completed on the expiry of the guarantee period as provided for under the clause entitled 'Guarantee' in this section of the Volume-I.

10.0 TIME – THE ESSENCE OF CONTRACT

10.1 The time and the date of completion of the Contract as stipulated in the Contract by the Owner 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.

10.2 The Contractor shall submit a detailed bar chart within the time frame agreed consisting of adequate number of activities covering various key phases of the work such as design, procurement, manufacturing, shipment and field erection activities within seven (7) days of the date of LOI.

10.3 The above bar chart shall be compatible with the Owner's computer environment and furnished to the Owner on such media as may be desired by the Owner.

11.0 EFFECTIVENESS OF CONTRACT

The Contract shall be considered as having come into force from the date of the commencement given by the respective **Construction division** unless otherwise provided in LOI.

12.0 PENALTY FOR DELAY

12.1 If the Contractor fails to successfully complete the commissioning within the time fixed under the Contract, the Contractor shall pay to the Owner as penalty a sum specified for each specified period of delay. The details of such penalty are brought out in the accompanying Special Conditions of Contract (SCC).

- 12.2 The total amount of penalty for delay under the Contract will be subject to a maximum of 10% of the Contract prices Plus GST as applicable will be imposed detailed in the Special Conditions of Contract (SCC).

13.0 GUARANTEE

- 13.1 In the event of any emergency where in the judgment of the Engineer, delay would cause serious loss or damages, repairs or adjustment may be made by the Engineer or a third party chosen by the Engineer 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 Engineer, the Contractor will 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.
- 13.2 If it becomes necessary for the Contractor to rectify or renew any defective portions of the works the provision of this clause shall apply to portion of the works so rectified or corrected until the expiry of **12 months** from the date of such rectification or correction. If any defects are not rectified within a reasonable time, the Engineer may proceed to do the work at the Contractor's risk and cost but without prejudice to any other rights which the Owner may have against the Contractor in respect of such defects.
- 13.3 The rectification or correction of the work will be carried out free of cost by the Contractor. If any rectification or correction is carried out on his behalf at the site, the Contractor shall bear the cost of such rectification or correction.
- 13.4 The acceptance of the works by the Engineer shall in no way relieve the Contractor of his obligations under this clause.

14.0 TAXES, PERMITS & LICENCES

The Contractor shall be liable and pay all non-Indian taxes, duties, levies lawfully assessed against the Owner 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 the Contractor for his personal income & property only.

15.0 DEFENCE OF SUITS

If any action in court is brought against the Owner or Engineer or an officer or agent of the Owner, for the failure, omission or neglect on the part of the Contractor to perform any acts, matters, covenants 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 the Owner, and the Engineer and/or his representative, harmless from all losses, damages, expenses or decrees arising of such action.

16.0 LIMITATION OF LIABILITIES

The final payment by the Owner 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 or after finalization of material account and final bill 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.

17.0 ENGINEER'S DECISION

Sign and Seal of Contractor

Page 18

17.1 In respect of all matters which are left to the decision of the Engineer including the granting or with- holding of the certificates, the Engineer shall, if required to do so by the Contractor, give in writing a decision thereon.

17.2 If, in the opinion of the Contractor, a decision made by the Engineer is not in accordance with the meaning and intent of the Contract, the Contractor may file with the Engineer, within fifteen (15) days after receipt of the decision, a written objection to the decision.

Failure to file an objection within the allotted time will be considered as an acceptance of the Engineer's decision and the decision shall become final and binding.

17.3 The Engineer's decision and the filing of the written objection thereto shall be a condition precedent to the right to request arbitration. It is the intent of the Agreement that there shall be no delay in the execution of the works and the decision of the Engineer as rendered shall be promptly observed.

18.0 POWER TO VARY OR OMIT WORK

18.1 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 the Engineer, but the Engineer 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 confirms 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 deducted from the Contract Price as the case may be.

18.2 In the event of 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 as per the contract requires to be altered, a reasonable and agreed sum in respect thereof shall be paid to the Contractor.

18.3 In any case in which the Contractor has received instructions from the Engineer as to the requirement of carrying out the alterations or additional or substituted work which either then or later on, will 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 Engineer to that effect. But the Engineer shall not become liable for 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 Engineer.

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

18.5 In all the above cases, in the event of a disagreement as to the reasonableness of the said

sum, the decision of the Engineer shall prevail.

- 18.6 Notwithstanding anything stated above in this clause, the Engineer 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 GCC of this Volume-I. The Contractor shall carry out such variations and be bound by the same conditions as though the said variations occurred in the Contract Documents. However, the Contract Price shall be adjusted at the rates and the prices provided for the original quantities in the Contract.

19.0 CHANGE OF QUANTITY

- 19.1 During the execution of the Contract, the Owner reserves the right to increase or decrease or cancel the quantities of items under the Contract but without any change in unit price or other terms & conditions. Such variations unless otherwise specified in the accompanying Special Conditions of Contract and/or Technical Specifications, shall not be subjected to any limitation for the individual items but the total variations in all such items under the Contract shall be limited to a percentage of the Contract price as specified in the Special Conditions of Contract.
- 19.2 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 33.0 below. In case the unit rates are not available for the change in quantity, the same shall be subjected to mutual agreement.

20.0 CO-OPERATION WITH OTHER CONTRACTORS AND CONSULTING ENGINEERS

The Contractor shall agree to cooperate with the Owner's other Contractors and 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 Engineer shall be provided with three copies of all correspondence addressed by the Contractor to other Contractors and Consulting Engineers of the Owner in respect of such exchange of technical information, wherever needed.

21.0 NO WAIVER OF RIGHTS

Neither the inspection by the Owner or the Engineer or any of their officials, employees, or agents nor any order by the Owner or the Engineer for payment of money or any payment for or acceptance of, the whole or any part of the Works by the Owner or the Engineer, nor any extension of time, nor any possession taken by the Engineer shall operate as a waiver of any provision of the Contract, or of any power herein reserved to the Owner 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.

22.0 CERTIFICATE NOT TO AFFECT RIGHT OF OWNER AND LIABILITY OF THE CONTRACTOR.

No interim payment certificate of the Engineer, nor any sum paid on account by the Owner, nor any extension of time for execution of the Works granted by the Engineer shall affect or prejudice the rights of the Owner against the Contractor or relieve the Contractor of his obligation for the due performance of

the Contract, or be interpreted as approval of the Works done or of the equipment furnished and no certificate shall create liability for the Owner to pay for alterations, amendments, variations or additional works not ordered, in writing, by the Engineer 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 the Owner, nor shall any such certificate nor the acceptance by him of any sum paid on account or otherwise affect or prejudice the rights of the Owner against the Contractor.

23.0 PROGRESS REPORTS

During the various stages of the work in pursuance of the Contract, the Contractor shall at his own cost submit periodic progress reports as may be reasonably required by the Engineer with such materials as, charts, net-works, photographs, test certificates, etc. Such progress reports shall be in the form and size as may be required by the Engineer.

24.0 TAKING OVER

Upon successful completion of all the tests to be performed at Site on equipment furnished and erected by the Contractor, the Engineer shall issue to the Contractor a Taking over Certificate as a proof of the final acceptance of the equipment. Such certificate shall not unreasonably be withheld nor will the Engineer delay the issuance thereof on account of minor omissions or defects which do not affect the commercial operation and/or cause any serious risk to the equipment. Such certificate shall not relieve the Contractor of any of his obligations which otherwise survive, by the terms and conditions of the Contract after issue of such certificate.

25.0 PAYMENT

25.1 The payment to the Contractor for the performance of the works under the Contract will be made by the Owner as per the guidelines and conditions specified herein. All payments made during the Contract shall be on account payments only. The final payment will be made on completion of all Works and on fulfillment by the Contractor of all his liabilities under the Contract.

25.2 Currency of Payment

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

25.3 Terms.

Payment terms will be as prescribed in the special conditions of contract and on fulfillment of conditions specified thereof.

26.0 Payment Schedule

26.1 Application for Payment

26.2 The Contractor shall submit application for the payment in the prescribed Performa of the Owner. Performa for application for payment will be as prescribed.

26.3 Each such application shall state the amount claimed and shall set forth in detail, in the order of the Payment Schedule, particulars of the Works including the Works executed at Site and of the equipment shipped/brought on to the site pursuant to the Contract up to the date mentioned in the application and for the period covered since the last preceding certificate, if any.

26.4 Every interim payment certificate shall certify the Contract value of the Works executed up to the

Sign and Seal of Contractor

date mentioned in the application for the payment certificate, provided that no sum shall be included in any interim payment certificate in respect of the works that, according to the decision of the Engineer, does not comply with the Contract.

26.5 Mode of Payment

26.6 Payment due on dispatch of equipment shall be made by the Owner through Owner's Bank or directly to the Contractor as per the payment schedule.

26.7 The payment of test charges, if any, payment, taxes and duties (whenever admissible) inland transportation (including port handling), insurance and the erection portion of the Works shall be made direct to the Contractor by the Owner.

26.8 All payments under the Contract shall be made as stipulated in the Special Conditions of Contract after signing the Contract Agreement. The payments linked with the dispatch of materials shall only be made after production of all dispatch documents as specified in the relevant Contract conditions which will include the Material Inspection Clearance Certificate issued by the Owner.

Progressive payments linked with erection shall only be made after the issue of certificates by the Engineer, one for the quantum of work completed and the other for the successful completion of quality check points involved in the quantum of work billed.

27.0 DEDUCTIONS FROM CONTRACT PRICE

All costs, damages or expenses that the Owner may have paid, for which under the Contract the Contractor is liable, or any other retention award will be claimed by the Owner. The Owner to the Contractor shall bill all such claims regularly as and when they fall due. Such bills shall be supported by appropriate and certified vouchers or explanations, to enable the Contractor to properly identify such claims. Such claims shall be paid by the Contractor within thirty (30) days of the receipt of the corresponding bills and if not paid by the Contractor within the said period, the Owner may then deduct the amount, from any monies due or becoming due by him to the Contractor under the Contract or may be recovered by sections of Law or otherwise.

D. RISK DISTRIBUTION

28.0 INSURANCE

28.1 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 the Owner 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 the Owner. However, irrespective of such acceptance, the responsibility to maintain adequate insurance coverage at all time during the period of Contract shall be of 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 the joint name of the Owner 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.

28.2 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 the Owner 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 the Owner immediately after such insurance coverage. The Contractor shall also inform the Owner 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.

- 28.3 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 and strikes 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 up to 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.
- 28.4 All costs on account of insurance liabilities covered under the Contract will be on Contractor's account and will be included in Contract Price, However, the Owner 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.
- 28.5 The clause entitled 'Insurance' under the section ECC of this Volume-I, covers the additional insurance requirements for the portion of the works to be performed at the Site.
- 28.6 Special Conditions of Contract details out the various insurance liabilities.
- 29.0 **LIABILITY FOR ACCIDENTS AND DAMAGES**

Under the Contract, the Contractor shall be responsible for loss or damage to the plant until the successful completion of commissioning as defined elsewhere in the Bid document.

30.0 DELAYS BY OWNER OR HIS AUTHORISED AGENTS

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

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

31.0 FORCE MAJORE

31.1 Force majeure is herein defined as any cause which is beyond the control of the Contractor or the Owner 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, domestic or foreign, including but not limited to war, declared or undeclared, priorities, guarantees, and embargoes.

Provided either party shall within fifteen (15) days from the occurrence of such a cause notify the other in writing of such causes.

31.2 The Contractor or the Owner shall not be liable for delays in performing his obligations resulting from any force major cause as referred to and/or defined above. The date of completion will, subject to hereinafter provided, be extended by a reasonable time even though such cause may occur after Contractor's performance of obligation has been delayed due to other causes.

32.0 SUSPENSION OF WORK

32.1 The Owner 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 the Engineer to the Contractor in writing. The time for completion of the works will be extended for a period equal to duration of the suspension.

32.2 Any necessary and demonstrable cost incurred by the Contractor as a result of such suspension of the works will be paid by the Owner, provided such costs are substantiated to the satisfaction of the Engineer. The Owner shall not be responsible for any liabilities if suspension or delay is due to some default on the part of the Contractor or his Sub-Contractor.

33.0 CONTRACTOR'S DEFAULT

33.1 If the Contractor shall neglect to execute the works with due diligence and expedition or shall refuse or neglect to comply with any reasonable order given to him, in writing by the Engineer in connection with the works or shall contravene the provisions of the Contract, the Owner 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 the Owner 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 the Owner 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 the Owner 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 the Owner 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 Works or of completing the Works as the case may be. If the cost of completing of works or executing part thereof as aforesaid shall exceed the balance due to 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.

33.2 In addition, such action by the Owner as aforesaid shall not relieve the Contractor of his liability to pay liquidated damages for delay in completion of Works as defined in Clause 14.0 of this Section.

33.3 Such action by the Owner as aforesaid the termination of the Contract under this clause shall not 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.

34.0 TERMINATION OF CONTRACT ON OWNER'S INITIATIVE

34.1 The Owner reserves the right to terminate the Contract either in part or in full due to reasons other than those mentioned under clause entitled 'Contractor's Default'. The Owner shall in such an event give fifteen (15) day's notice in writing to the Contractor of his decision to do so.

34.2 The Contractor upon receipt of such notice shall discontinue the work on the date and to the extent specified in the notice, make all reasonable efforts to obtain cancellation of all orders and Contracts to the extent they are related to the work terminated and terms satisfactory to the Owner, stop all further sub-contracting or purchasing activity related to the work terminated, and assist Owner in maintenance, protection, and disposition of the works acquired under the Contract by the Owner.

In the event of such a termination the Contractor shall be paid compensation, equitable and reasonable, dictated by the circumstances prevalent at the time of termination.

34.3 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 the Owner is satisfied that the legal representatives of the individual Contractor or of the proprietor of the propriety concern and in the case of partnership, the surviving partners, are capable of carrying out and completing the Contract the Owner shall be entitled to cancel the Contract as to its incomplete 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 the Owner 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. In the event of such cancellation the Owner shall not hold the estate of the deceased Contractor and/or the surviving partners of the estate of the deceased Contractor and/or the surviving partners of the Contractor's firm liable to damages for not completing the Contract.

35.0 FRUSTRATION OF CONTRACT

35.1 In the event of frustration of the Contract because of supervening impossibility in terms of Section 56 of the Indian Contract Act, parties shall be absolved of their responsibility to perform the balance portion of the Contract, subject to provisions contained in sub-clause 45.3 below.

35.2 In the event of non-availability or suspension of funds for any reasons, whatsoever (except for reason of willful or flagrant breach by the Owner) and/or Contractor then the works under the Contract shall be suspended.

Furthermore, if the Owner is unable to make satisfactory alternative arrangements for financing to

the Contractor in accordance with the terms of the Contract within three months of the event, the parties hereto shall be relieved from carrying out further obligations under the Contract treating it as frustration of the Contract.

- 35.3 In the event referred to in sub-clauses 45.1 & 45.2 above the parties shall mutually discuss to arrive at reasonable settlement on all issues including amounts due to either party for the work already done on quantum merit basis, which shall be determined by mutual agreement between the parties.

36.0 GRAFTS AND COMMISSIONS ETC.

Any graft, commission, gift or advantage given, promised or offered by or on behalf of the Contractor or his partner(s), agent(s), officer(s), director(s), employee(s) or servant(s) or any one on his or their behalf in relation to the obtaining or to the execution of this or any other Contract with the Owner, shall in addition to any criminal liability which it may incur, subject the Contractor to the cancellation of this and all other Contracts and also to payment of any loss or damage to the Owner resulting from any cancellation. The Owner shall then be entitled to deduct the amount so payable from any monies otherwise due to Contractor under the Contract.

37.0 SETTLEMENT OF DISPUTES

- 37.1 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.
- 37.2 If any dispute or difference of any kind, whatsoever, shall arise between the Owner 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 Engineer, 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 the Owner and the Contractor.
- 37.3 Save as hereinafter provided, such decision in respect of every matters so referred shall be final and binding upon the parties until the completion of the Works and shall forthwith be given effect to by the Contractor who shall proceed with the Works with all due diligence, whether he or the Owner requires arbitration as hereinafter provided or not.
- 37.4 If after the Engineer has given written notice of his decision to the parties, no claim to arbitration has been communicated to him by either party within thirty (30) days from the receipt of such notice, the said decision shall become final and binding on the parties.
- 37.5 In the event of the Engineer failing to notify his decision as aforesaid within thirty (30) days after being requested as aforesaid, or in the event of either the Owner or the Contractor being dissatisfied with any such decision, or within thirty (30) days after the expiry of the first mentioned period of thirty days, as the case may be, either party may require that the matters in dispute be referred to arbitration as hereinafter provided.

38.0 ARBITRATION

- 38.1 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.

38.1.1 Amicable Settlement

Any dispute, difference, controversy or claim between the Parties arising out of or relating to

this contract with reference to the construction, interpretation, breach, termination or validity thereof (hereinafter referred as "the Dispute") shall, upon the written request of either Party be referred to the authorized representatives of the Disputing Parties for resolution. The authorized representatives shall promptly meet and attempt to negotiate in good faith a resolution of the Dispute within thirty days of the service of the request.

38.1.2 Arbitration

If the parties fail to amicably resolve the disputes or differences or contrary claims as indicated herewith in sub clause (1) of Clause, arising under or in connection with the present works contracts, whether pertaining to works contracts alone or works and procurement both, the same shall be referred to arbitration under the Gujarat Public Works Contracts Disputes Arbitration Tribunal Act, 1992

39.0 RECONCILIATION OF ACCOUNTS

The Contractor shall prepare and submit every one month, a statement covering payments claimed and the payments received vis-à-vis the works executed, for reconciliation of accounts with the Owner. The Contractor shall also prepare and submit a detailed account of Owner Issue materials received and utilized by him for reconciliation purpose in a format to be discussed & finalized with the Owner before the award of Contract.

40.0 Use of 'Call Before u Dig' (CBuD) mobile application

40.1 Bidder is note that it is mandatory to use 'Call Before u Dig' (CBuD) mobile application for all excavators prior to any type of excavation / digging.

41.0 Responsibility for correctness of the information submitted in the bid lies with bidder.

If any information furnished in the bid is proved to be false at a later date, GETCO reserve right to reject the bid and the bid will not only be rejected but the bidder will be BLACKLISTED as per GUVNL Policy

PART-I ECC

ERECTION CONDITIONS OF CONTRACT

1.0 GENERAL

- 1.1 The following shall supplement the conditions already contained in other parts of these specifications & 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, nominate a responsible officer as his representative at Site suitably designated for the purpose of overall responsibility and coordination of the works to be performed at Site. Such person shall function from the Site office of the Contractor during the pendency of Contract.

2.0 REGULATION OF LOCAL AUTHORITIES AND STATUTES

- 2.1 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. He shall abide by labor laws and others as specified in the special conditions of contract.
- 2.2 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. 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 also shall be borne by the Contractor.

3.0 OWNER'S LIEN ON EQUIPMENT

The Owner shall have lien on all equipment brought to the Site for the purpose of erection, testing and commissioning of the equipment to be supplied & erected under the Contract. The Owner 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 ACCESS TO SITE AND WORKS ON SITE

- 4.1 Suitable access to and possession of the Site shall be afforded to the Contractor by the Owner in reasonable time.
- 4.2 The works so far as it is carried out on the Owner's premises, shall be carried out at such time as the Owner may approve and the Owner shall give the Contractor reasonable facilities for carrying out the works.
- 4.3 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 Engineer or his representative.

5.0 CONTRACTOR'S SITE ESTABLISHMENT

The Contractor shall at all times keep posted an authorized representative for the purpose of the Contract. Any written order or instruction of the Engineer or his duly authorized representative shall be communicated to the said authorized resident representative of the Contractor and the representative shall be available at a stated address for this purpose.

6.0 CO-OPERATION WITH OTHER CONTRACTORS

- 6.1 The Contractor shall co-operate with all other Contractors or tradesmen of the Owner, who may be performing other works on behalf of the Owner and the workmen who may be employed by the Owner 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 the Owner, due to the Contractor's work shall promptly be made good at the Contractor's own expense.

7.0 DISCIPLINE OF WORKMEN

The Contractor shall adhere to the disciplinary procedure set by the Engineer 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.

8.0 CONTRACTOR'S FIELD OPERATION

- 8.1 The Contractor shall keep the Engineer 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 Engineer 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 the Engineer or the Owner or any of his representatives and no claim of the Contractor will 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.
- 8.2 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.

9.0 PROGRESS REPORT

- 9.1 The Contractor shall furnish three (3) copies each to the Engineer of progress including if any, photographs of the work done at Site.
- 9.2 The monthly progress report detailing-out the progress achieved on all erection activities shall highlight comparison 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.

10.0 MAN-POWER REPORT

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

11.0 PROTECTION OF WORK

The Contractor shall have total responsibility for protecting his works till it is finally taken over by the Engineer. No claim will be entertained by the Owner or by the Engineer 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.

12.0 EMPLOYMENT OF LABOR

- 12.1 The Contractor will be expected to employ on the work only his regular skilled employees with experience of his particular work. No person below the age of eighteen years shall be employed.
- 12.2 All traveling expenses including provisions of necessary transport to and from Site, lodging, allowances and other payments to the Contractor's employees shall be the sole responsibility of the Contractor.
- 12.3 In case the Owner becomes liable to pay any wages or dues to Labor or any Government agency under any of the provisions of the Minimum Wages Act, Workmen Compensation Act, Contract Labor Regulation Abolition Act or any other law due to act of omission of the Contractor, the Owner may make such payment and shall recover the same from the Contractor's bills.

13.0 FACILITIES TO BE PROVIDED BY THE OWNER

- 13.1 Space Land for Contractor's Store, Workshop etc.
- a) The Engineer 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, etc. required for execution of the Contract. Any such temporary construction shall be done by the Contractor at his cost
- b) On completion of work the Contractor shall hand over the land duly cleaned to the Engineer. 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.
- 13.2 Electricity & Power supply:
Where power supply is available with the Owner for construction purpose the same will be provided at the job site at one point of the distribution system as may be chargeable basis. Electricity furnished will be 440 volts, 3 phase, 50 cycles and 230 volts, 1 phase, 50 cycles. Each Contractor shall provide and install all necessary transformers, switchgears, wiring fixtures, bulbs and other temporary equipment for further distribution and utilization of energy for power and lighting and shall remove the same on completion of the work. Should, however, electricity be used in the Contractor's Labor/staff colony, the power so consumed shall be charged at the prevailing tariff rate of the GUVNL as prevalent for that area at the time of award of work; the supply may be withdrawn if the power is used for purposes other than for the work of the project and the Contractor shall not be entitled to any claim whatsoever on account of any such action taken by the Engineer.

14.0 FACILITIES TO BE PROVIDED BY THE CONTRACTOR

- 14.1 Tools, tackles and scaffoldings
- The Contractor shall provide all the construction equipments; 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 Engineer before the commencement of work at Site. These tools and tackles shall not be removed from the Site without the written permission of the Engineer.
- 14.2 First-aid
- 14.3 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.

14.4 Cleanliness

- 14.4.1 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 personnel to keep the work area clean. 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.

15.0 LINES AND GRADES

All the works shall be performed to 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 will 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 Engineer 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 Engineer to enable the Contractor to proceed with his works. Any work done without being properly located may be removed and/or dismantled by the Engineer at Contractor's 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.
- 16.2 All the Contractor's supervisory personnel and select number of workers shall be trained for fire fighting. Enough of such trained personnel must be available at the Site during the entire period of the Contract.

17.0 SECURITY

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 ensure the protection of all materials, equipment and works from theft, fire, pilferage and any other damages and loss.

18.0 PRE-COMMISSIONING TRIALS AND INITIAL OPERATIONS

The pre-commissioning trials and initial operations of the equipment erected by the Contractor shall be carried out in presence of contractor and is deemed considered as part of the work completion. If it is anticipated that the above test may prolong for a long time, the Contractor's workmen required for the above test shall always be present at Site during such tests and trials.

19.0 MATERIALS HANDLING AND STORAGE

- 19.1 All the equipment furnished under the Contract and arriving at Site shall be promptly received, unloaded, transported and stored in the storage spaces by the Contractor.
- 19.2 Contractor shall be responsible for examining all the shipment and notify the Engineer immediately of any damages, storage, discrepancy etc, for the purpose of Engineer's information only. The Contractor shall submit to the Engineer every week a report detailing all the receipts during the week. However, the Contractor shall be solely responsible for any shortages or damages in transit, handling and / or in storage and erection of the equipment at Site. Any demurrage, wharf

age and other such charges claimed by the transporters, railways etc, shall be to the account of the Contractor.

- 19.3 The Contractor shall maintain an accurate and exhaustive record detailing out the list of all equipment materials received by him for the purpose of erection and keep such record open for the inspection of the Engineer in-charge.
- 19.4 All equipment shall be handled very carefully to prevent any damage or loss. The equipment stored shall be properly protected to prevent damage either to the equipment or to 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.
- 19.5 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 ring, commutators and other exposed parts shall be protected against moisture ingress and corrosion during storage and periodically inspected.
- 19.6 All the electrical equipment such as motors, generators, etc. shall be tested for insulation resistance at least once in three months 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 opened for inspection by the Engineer.
- 19.7 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.
- 19.8 All the materials stored in the open or dusty location must be covered with suitable weatherproof and flame proof covering material wherever applicable.
- 19.9 If the materials belonging to the Contractor are stored in areas other than those earmarked for him, the Engineer will have the right to get it moved to the area earmarked for the Contractor at the Contractor's cost.
- 19.10 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 gears, generators, exciters and consumables like electrodes, lubricants etc. shall be stored in the closed storage space. The Engineer, in addition, may direct the Contractor to move certain other materials, which in his opinion will require indoor storage, to indoor storage areas, which the Contractor shall strictly comply with.

20.0 CONSTRUCTION MANAGEMENT

- 20.1 The field activities of the Contractors working at Site will be coordinated by the Engineer and the Engineer's decision shall be final in resolving any disputes or conflicts between the Contractor and other Contractors and the tradesmen of the Owner regarding scheduling and coordination of work. Such decision by the Engineer shall not be a cause for extra compensation or extension of time for the Contractor.
- 20.2 The Engineer shall hold weekly meetings of the Contractor at Site, at a time and place to be designated by the Engineer. The Contractor shall attend such meetings and take notes of discussions during the meeting and the decision of the Engineer and shall strictly adhere to those decisions in performing his works. In addition to the above weekly meeting, the Engineer may call for other meetings either with individual Contractors or with selected number of Contractors and in such a case the Contractors if called, will also attend such meetings.
- 20.3 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 is falling behind the schedule, he shall take 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 Engineer, satisfying that his action will compensate for the delay. The Contractor shall not be allowed any extra compensation for such action.

- 20.4 The Engineer shall, however, not be responsible for provision of additional Labor and/or materials or supply or any other services to the Contractor except for the coordination work between various Contractors if any at site.

21.0 FIELD OFFICE RECORDS

The Contractor shall maintain 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, and 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 Engineer in required number of copies.

22.0 CONTRACTOR'S MATERIALS BROUGHT TO SITE

- 22.1 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 Engineer. All such goods shall, from the time of their being brought vest in the Owner, 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 Engineer. The Contractor shall nevertheless be solely liable and responsible for any loss or destruction thereof and damage thereto.
- 22.2 The Owner shall have a lien on such goods for any sum or sums which may at any time be due or owing to him by the Contractor, under, in respect of or by reasons of the Contract. After giving a fifteen (15) day's notice in writing of his intention to do so, the Owner shall be at liberty to sell and dispose off any such goods, in such manner as he shall think fit and to apply the proceeds in or towards the satisfaction of such sum or sums due as aforesaid.
- 22.3 After the completion of the Works, the Contractor shall remove from the Site under the direction of the Engineer the materials such as construction equipment, erection tools and tackles, scaffolding etc. with the written permission of the Engineer.

23.0 PROTECTION OF PROPERTY AND CONTRACTOR'S LIABILITY

- 23.1 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 the Owner and the employees of other Contractors and Sub-Contractors and all public and private property.

24 INSURANCE

- 24.1 In addition to the conditions covered under the Clause entitled 'Insurance' in General Terms and Conditions of Contract of this Volume-I, the following provisions will also apply to the portion of works to be done beyond the Contractor's own or his Sub-Contractor's manufacturing Works.
- 24.2 Workmen's Compensation Insurance

This insurance shall protect the Contractor against all claims applicable under the Workmen's Compensation Act, 1948 (Government of India). 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.

24.3 Comprehensive General Liability Insurance

The insurance shall protect the Contractor against all claims arising from injuries, disabilities, disease or death of members of public or damage to property of others, due to any act of omission on the part of the Contractor, his agents, his employees, his representatives and Sub-Contractors or from riots, strikes and civil commotion.

24.4 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.

24.5 The above are only illustrative list of insurance covers normally required and it will 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.

25.0 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 Engineer. Such unfavorable construction conditions will in no way relieve the Contractor of his responsibility to perform the Works as per the schedule.

26.0 PROTECTION OF MONUMENTS AND REFERENCE POINTS

The Contractor shall ensure that any finds such as relic, antiquity, coins, fossils, etc. which he may come across during the course of performance of his Works either during excavation or elsewhere, are properly protected and handed over to the Engineer. Similarly the Contractor shall ensure that the bench marks, reference points, etc, which are marked either with the help of Engineer or by the Engineer shall not be disturbed in any way during the performance of his Works. If any work is to be performed which disturbs such reference the same shall be done only after these are transferred to other suitable locations under the direction of the Engineer. The Contractor shall provide all necessary materials and assistance for such relocation of reference points etc.

27.0 WORK & SAFETY REGULATIONS

27.1 The Contractor shall ensure proper safety of all the workmen, materials, plant and equipment belonging to him or to 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 the Engineer, as he may deem necessary.

27.4 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 equipment 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 in this regard.

27.5 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 will be promptly produced as and when desired by the Engineer or by the person authorized by him.

- 27.6 The Contractor shall provide suitable safety equipment of prescribed standard to all employees and workmen according to the need.
- 27.8 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 of material only shall be used by the Contractor.
- 27.9 The Contractor shall not interfere or disturb electric fuses, wiring and other electrical equipment belonging to the Owner or other Contractors under any circumstances, whatsoever, unless expressly permitted in writing by to handle such fuses, wiring or electrical equipment
- 27.10 Before the Contractor connects any electrical appliances to any plug or socket belonging to the other Contractor or Owner, he shall:
- a. Satisfy the Engineer that the appliance is in good working condition;
 - b. Inform the Engineer of the maximum current rating, voltage and phases of the appliances;
 - c. Obtain permission of the Engineer detailing the sockets to which the appliances may be connected.
- 27.11 The Engineer will not grant permission to connect until he is satisfied that;
- a. The appliance is in good condition and is fitted with suitable plug;
 - b. The appliance is fitted with a suitable cable having two earth conductors, one of which shall be an earthed metal sheath surrounding the cores.
- 27.12 No electric cable in use by the Contractor/Owner will be disturbed without prior permission. No weight of any description will be imposed on any cable and no ladder or similar equipment will rest against or attached to it.
- 27.13 No repair work shall be carried out on any live equipment. The equipment must be declared safe by the Engineer and a permit to work shall be issued by the 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 will have to be provided by the Contractor to electricians/workmen/officers.
- 27.14 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 Engineer in prescribed form and also to all the authorities envisaged under the applicable laws.
- 27.15 The Engineer 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 shortcomings promptly. The Contractor after stopping the specific work can, if felt necessary, appeal against the order of stoppage of work to the Engineer within 3 days of such stoppage of work and decision of the Engineer in this respect shall be conclusive and binding on the Contractor.

27.16 The Contractor shall not be entitled for any damages/compensation for stoppage of work due to safety reasons as provided in Para 31.18 above and the period of such stoppage of work will not be taken as an extension of time for completion of work and will not be the ground for waiver of levy of liquidated damages.

27.17 It is mandatory for the Contractor to observe during the execution of the works, requirements of Safety

Rules which would generally include but not limited to following

- 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) 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 location.
- d) There shall be a suitable arrangement at every work site for rendering prompt and sufficient first aid to the injured.
- 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.

27.18 The Contractor shall follow and comply with all 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 reservations. In case of any discrepancy between statutory requirement and Safety Rules referred above, the latter shall be binding on the Contractor unless the statutory provisions are more stringent.

- a. Fatal injury or accident Rs. 1, 00,000/- : These are applicable for death Causing death per person
- b. Major injuries or accident causing Rs. 20,000/- : injury to any person, whosoever.25% or more permanent disablement per person To Workmen or employees

Permanent disablement shall have same meaning as indicated in Workmen's Compensation Act. 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 the Owner is made to pay such compensation then the Contractor is liable to reimburse the Owner such amount in addition to the compensation indicated above.

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 Engineer's drawings and other applicable Indian recognized codes and laws and regulation of the Government of India.

PART-I SCC

SPECIAL CONDITIONS OF CONTRACT

1. General Particulars:

This part of the Bid Document relates to certain specific/special terms and conditions particular to the Contract. The provisions herein are to be read and understood in conjunction with the relevant provisions elsewhere in the Instructions to Bidders (ITB), the General Conditions of Contract (GCC) and Erection Conditions of Contract (ECC). The intent of provisions herein are specific to this contract and are, in general, supplementary to related provisions under ITB, GCC and ECC. However, in certain provisions which are contrary to those in ITB, GCC and ECC, the provisions in these Special Conditions of Contract will prevail.

2.0 Tender Fee:

All the Bidders will be required to pay Tender Fees with applicable GST and EMD as mentioned in the Tender document either in Cash (up to Rs. 10,000/- only) at the office address specified in the tender document or by RTGS/ NET/online

3.0 Earnest Money Deposit (EMD):

3.1 All the Bidders will be required to pay Tender Fees with applicable GST and EMD as mentioned in the Tender document either in Cash (up to Rs. 10,000/- only) at the office address specified in the tender document or by RTGS/ NET/online

4.0 Declaration by Bidder:

The Bidder shall sign the Declaration enclosed to this SCC and not furnishing the same will make the Bid invalid.

5.0 Technical Qualifying Criteria:

1 **Registration:** Bidder shall be registered contractor of Getco/STU/CTU. **E1 class and Above.**

2 **Experience:**

For Substation: ---

A) Bidder shall have executed minimum 01 no 66KV or higher class Substation with State or central transmission utility or major industries or 3 nos of 66KV bays i.e Transformer/Feeder bays at same or different location. Substation include minimum two no's of feeders bays, one nos of transformer bay. Suborder should not be considered. (**Copy of W.O including Schedule-B + Work completion certificate/3A form duly signed by concern EE**)

For Line: ---

Technical Criteria:

2) Length of transmission line on towers/H frame to be tenderize –

The bidder should have erected transmission lines including foundation, tower erection and stringing of conductor and earthwire of 66kV and/or above class lines on towers/H frame **as a Main contractor or as a Sub Contractor in single or multiple orders** for length -

Line length Less than 5 km - Minimum 3 km line in last 3 financial years:

i) As a main contractor - work order copy and experience certificate of similar nature work to be submitted to ascertain experience of line erection work of 66kV and/or above class in GETCO or other STU or CTU as mentioned in Cl.-2.1 &, failing in which bidder shall be evaluated accordingly by order placing authority as per DOP.

ii) As a sub-contractor – work order/PO copy of original contract and sub-contract, experience certificate from main contractor and statement of financial transactions for the same work order/PO are to be submitted to ascertain experience of line erection work of 66kV and/or above class in GETCO or other STU or CTU as mentioned in Cl.-2.1 only, failing in which bidder shall be evaluated accordingly by order placing authority as per DOP.

Financial Criteria:

Bidder's Minimum Average Annual Turnover (MAAT)* for best three years out of last five financial years as annualized shall not be less than the estimated amount of this tender.

* Note- "Annual gross revenue from operations / gross operating income as incorporated in the profit & loss account excluding other operative income/other income".

1. Last quarter's Liquid Assets should not be less than 20 % of estimated amount as on date of invitation of tender.

Note: For the purpose of arriving at LA Current Assets Less Inventories shall be considered.

2. Bidder's Net Worth for Last 3 financial years should be positive.

Note:

3. Audited, Verified and Certified Practicing Chartered Accountant certificate will be considered for Minimum Average Annual Turnover, Liquid Assets and Net worth. The provisional certificates will not be entertained.

4. Under taking in respect of reference to NCLT under Insolvency & Bankruptcy Code. The undertaking is to be furnished by the bidder in its bid as per the format attached and shall be deemed to be part of the bidding schedule and submitted along with QR Bid

Undertaking

Subject :- Work Name _____ including tender No. _____

In connection with above subject, I / We confirm that our firm is not declared in NCLT under Insolvency & Bankruptcy Code. Further, I / We also agree that, if any found NCLT under Insolvency & Bankruptcy Code, the offer shall be out rightly rejected without assigning any reason thereof.

(Seal, Sign & Name of Authorized Signatory of Bidder)

7.0 Price Inclusions (including Taxes & Duties):

7.2 The prices quoted shall be all inclusive of freight, Octroi, transportation, loading, –unloading & stacking at site of equipment materials received from Soja R&M Store/construction

store **Kansari** or any store after observing all store formalities of GETCO .

7.3 No extra payment toward any type of templates and erection tools /materials will be made.

7.5 Goods and Service Tax (GST):

The F.O.R. Destination prices are excluding GST and Cess as applicable which will be paid extra on a given taxable goods and/or services within the original contractual delivery period. The amount and % of GST and Cess as applicable should clearly be indicated separately. (GST/Cess means all applicable Tax/Cess under GST Laws. GST Laws means IGST Act, GST (Compensation to the State for Loss of Revenue) Act, CGST Act, UTGST Act and SGST Act, 2017 and all related ancillary legislations).

You shall have to submit a C.A Certificate & duly authorized Signatory of successful bidder, certifying that you have not claimed Refund of any applicable GST and Cess, charged to COMPANY or shall not claim any such Refund, on a future date, from the concerned Authorities and if, any Refund/Credit, in respect of such GST and Cess, is claimed by you, it will be immediately passed on to the COMPANY, without COMPANY making any specific Claim, for the same, either from the Department or from you.

The offers having price INCLUSIVE OF GST and Cess is likely to be rejected if the rate of GST and Cess is not mentioned clearly unless the bidder has opted for Composition Scheme under GST Act, which should be clearly indicated in the price bid. COMPANY may at its discretion consider such offer with presumption of highest applicable rate of VAT/GST/Cess prevailing when the price quoted is inclusive of GST and Cess.

If the Supplier/Contractor has opted for the Composition scheme of GST, the same must be clearly specified with valid Declaration & Certificate from Department. In the event of withdrawal/cessation of the Supplier from Composition scheme during the tenure of the contract, the rate mentioned in the price bid shall be final and any additional GST will have to be borne by the tenderer. In no case additional amount towards tax or otherwise will be paid / reimbursed to supplier/contractor. Further Statutory Variation clause will not be applicable in case of Supplier / Contractor has opted for Composition Scheme under GST.

Supplier/Contractor should charge GST in Invoice at the rate as agreed to / mentioned in acceptance of tender only and any deviation in the same shall not be accepted. Further, any additional liability of GST (later on due to wrong mentioning of GST rate, mis-interpretation of HSN/SAC Code, etc.) over and above as charged in the invoice shall be borne by the Supplier/Contractor. However, any refund received by the supplier / contractor on account of GST charged from the company; such refund shall have to be passed on to the company, along with interest if any. Such refund along with interest needs to be passed on suo-moto by the supplier / contractor.

Further, the Company has a right to recover the amount of GST along with penal interest at the rate of 15% per annum if GST charged is not paid / short paid to the government or fail to upload the details or uploads inaccurate particulars on GSTIN portal by the Supplier / Contractor within the stipulated time limit.

In case, Govt. revises the rate of GST rate / Code during the tenure of the contract, the provision of GUVNL's statutory variation clause shall apply.

Also, please mention separate applicable HSN / SAC Code and rate of GST and Cess as applicable for each item of Goods/Service. If not specifically mentioned, then COMPANY will have the option to take the prices as exclusive of taxes and duties at maximum higher slab rates for the evaluation of the tenders.

Every bidder shall inform their GSTIN No. of the registered place(s) where from the bidder intends to supply the goods / services, meaning thereby the bidder has to supply the goods / services from the relevant declared / registered place of supply only.

INPUT TAX CREDIT BENEFIT

In the event of any statutory increase in the rate of Input Tax Credit and / or due to inclusion of any other additional item of their inputs / input services under the ambit of the Input Tax Credit provisions under the GST Act, subsequent to the date of submission of the offer, the same should be passed on to COMPANY and you should inform such changes to COMPANY from time to time.

GST Compliances:

The GST at the applicable rates will be levied on the total of Schedule-B. GST on the work executed will be subject to CGST Act, SGST Act, IGST Act, UTGST Act its rules, regulations and notifications, circulars issued and in force time to time by Government and M/s. GETCO. Contractors are required to clarify the product and services related HSN codes and SAC codes respectively.

7.6 Statutory Variations:

Any statutory increase or decrease in the taxes and duties including GST and Cess as applicable or in the event of introduction of new tax/cess or cessation of existing tax/cess subsequent to suppliers offer if it takes place within the original contractual delivery date will be to COMPANY's account subject to the claim being supported by documentary evidence. However, if any decrease takes place after the contractual delivery date, the advantage will have to be passed on to COMPANY.

Statutory Variation clause will not be applicable in case of Supplier / Contractor has opted for Composition Scheme under GST.

Welfare cess

- 1) As per the Welfare cess Act, the welfare cess @ 1% is applicable on supply and erection items for supply, erection, testing & commissioning of substation, transmission lines, EPC/Turnkey projects and civil works.
- 2) Contractor shall get registered under welfare cess Act before commencement of work. Office of the factory inspector is authorized at present as a registering authority.
- 3) GETCO shall pay the welfare cess by way of reimbursing to contractors on production of documentary evidence of payment.
- 4) The contacts for which supply or part supply of material are in the scope of GETCO, then contractors shall deposit welfare cess on estimated cost of supplied items to GETCO contractor on progressive basis of utilization. As this part of welfare cess is on GETCO account, the same shall be reimbursed to the contractor on receipt of request letter along with documentary evidence of payment. For calculation of welfare cess on supply part, valuation as per MR shall be taken and informed to the contractor for payment. This will be over and above the A/T value.

The modality of payment/ reimbursement of welfare cess will be as under.

- On receipt of A/T, the contractor / bidder will get them registered under Welfare Cess Act and submit the documentary evidence to the concern office.
- Before release of payment of first R.A.Bill, the contractor has to submit the documentary evidence of registration. Only thereafter, the bill will be processed for payment.
- Before release of payment of subsequent R.A.Bills, the contractor has to submit the documentary evidence of payment of welfare cess of previous R.A.Bill.

- Before release of payment of final bill, the contractor has to submit documentary evidence of payment of welfare cess of previous R.A.Bill as well as of this final bill.
- If the R.A.Bill happens to be first and final bill, then before release of payment, contractor has to submit documentary evidence of registration under Welfare Cess Act and evidence of payment of welfare cess.
- The welfare cess shall be reimbursed to the contractor on submission of copy of documentary evidence of payment by observing due formalities.

7.18 **Income Tax**

Income tax at source at the prevailing rate will be deducted from bills in accordance with the provision of Income-Tax Laws and to that effect a certificate will be issued to the contractor.

7.19 **TDS under GST:**

Tax deduction at source(TDS) under GST at the prevailing rate will be deducted from bills in accordance with the provision of section 51 of the CGST Act, 2017, and to that effect a certificate will be issued to the contractor.

8.0 **SECURITY DEPOSIT**

- 8.1 The successful bidder has pay security deposit within **15 working days** of receipt of order.
- 8.2 The successful bidder will be required to pay an amount equivalent to 5 % of the value of the order as a Security Deposit for satisfactory execution of the contract. Such Security Deposit will be payable either in DD/ Bank guarantees from Scheduled / Nationalized Banks will be acceptable.
- 8.3 No interest will be allowed on amount of Security deposit.
- 8.4 The Security Deposit- total shall be kept deposited up to completion of work finalization of final bill. The same shall be return on receipt of N.O.C. by the concerned EE (TR.)
- 8.5 This security deposit is for the performance of contract and the same is liable to be forfeited by the in event of non-fulfillment of the term and conditions of this contract by the contractor.
- 8.6 Corporate Guarantees are not admissible.
- 8.7 The 'Signing of Contract 'and 'Contract Agreements' will be done as per Prevalent Terms and Conditions.
- 8.8 Contractor shall paid SD within stipulate time if SD is not paid by contractor than EMD Will be forfeited.

Note: Bank Guarantees/Solvency/valid for following Bank.

- a. All Nationalized Banks including Public Sector Bank – IDBI Ltd.
- b. Private Sector Banks authorized by RBI to undertake State Government business are;
 - i. AXIS Bank
 - ii. HDFC Bank &
 - iii. ICICI Bank

C. Commercial Banks:

- 1) Kotak Mahindra Bank
- 2) Yes Bank
- 3) Ratnakar Bank
- 4) IndusInd Bank
- 5) Karur Vysya Bank,
- 6) DCB Bank,
- 7) Federal Bank,

D. Co-operative Banks:

- 1) The Kalupur Commercial Co-operative Bank Limited.
- 2) Rajkot Nagrik Sahakari Bank Ltd.
- 3) The Ahmedabad Mercantile Co-operative Bank Ltd.
- 4) The Mehsana Urban Co-operative Bank Ltd.
- 5) Nutan Nagrik Sahakari Bank Ltd.
- 6) Dena Gujarat Gramin Bank

9.0 GUARANTEE PERIOD:

Total work executed shall be covered under guarantee period against any defect in poor workmanship etc. for a period of **one year** from the date of commissioning of substation/BAY/Line

9.0A BAR CHARTS

The Bidder shall furnish along with the bid, the bar charts and project schedules indicating starting and completion dates of each activity. This is mandatory condition the tenders without which shall be liable to be rejected.

10.0 PENALTY FOR DELAY:

- 10.1 The tenderer should note that the completion time allowed for carrying out the work should be strictly observed. Any delay that may take place in supply and erection beyond Contractual cutoff date stated as per stipulated delivery period shall be subject to the penalty at the rate of ½ % per week or part thereof on delayed portion of the work subject to ceiling of 10% of total contract value will be impose.
- 10.2 The penalty will be deducted from bills payable either against this contract or from any Bank Guarantee or any other amount payable under any other contract with the GETCO

11.0 COMPLETION PERIOD

- 11.1 Overall Completion period for this Contract will be **120 Days (04 Months)**.
- 11.2 Instruction for mobilization or stoppage period will be as per required as per ARC condition during this period of the Contract.
- 11.3 The completion date will be deemed to be the date on which all works on the Contract are demonstrated to be complete to the satisfaction of the /Engineer and is complete in all respects as per the terms and conditions of this Contract.

12.0 Presentation of Bills

- 12.1 RA bills for allotted sub-order and work executed including cost of material consumed is to be prepared in triplicate and submitted to Site Engineers in-charge of the work, for necessary payment. These bills shall be serially numbered with suffix SE-I.
- 12.2 Balance 10% payment shall be released only after finalization of material account and passing of final bill. The contractor has to submit the final bill along with the material consumption statement and other required data of the work carried out within 3 months from the date of completion of work. These bills shall be serially numbered with suffix SE-I.
- 12.3 All the bills in accordance with the above clauses must be submitted with the following information:
 - a) Item wise work done during billing period.
 - b) Item wise cumulative work done.
 - c) Account for material consumed and balance stock.
- 12.4 For non-submission or part submission of above information, an additional 5% amount of the Respective RA bill shall be withheld and shall only be released at the time of final bill.

13.0 Terms of Payment

The payment for work done shall be made as under only after execution of the contract documents/furnishing of Security Deposit and on execution of substation erection work in scope of work order.

13.2 For erection works.

- (i) 90% payment of amount claimed covering various activity such as structure, equipment erection, earthing installation, control wiring, battery charging etc. works against R.A. bills duly certified by EIC within 60 days from the date of R.A. bill.
- (ii) Balance 10% of erection value shall be paid against completion of work only after Settlement of material account statement of items used, erected and successful Commissioning of transmission line the same amount will be release in final bill only and Payment will be made only after passing of final bill.

14.0 TAKING DELIVERY AND INSURANCE:

- 14.1 The contractor has to take delivery from any store of S/S equipment and materials and keep in safe custody and transport to the respective sites and will be fully responsible for any damage to or loss of all materials at any stage during transportation or erection or taking over of the S/S by GETCO.
- 14.2 The Contractor has to open site store and ensure for safe custody of all the stored materials at his own cost.
- 14.3 The Contractor shall have total responsibility for the entire materials stored, loose, semi assembled and/or erected by him at site in his custody. The Contractor shall make suitable security arrangements at his own cost to ensure the protection of all materials, equipment and works from theft, fire pilferage and any other damages and loss. It shall be the responsibility of the contractor to arrange for security till the works are finally taken over by the GETCO.

14.4 STORAGE-CUM-ERECTION INSURANCE: -

The contractor shall take suitable storage-cum-erection insurance cover at his cost to the extent of 100% cost of sub-station / line materials, which are required to complete the sub-station / line. Bidder shall have to take the comprehensive Marine Cum Erection (MCE) insurance policy against any loss, damage, theft, pilferage, fire etc. for the complete period of storage, erection and commissioning up to the time of taking over of the sub-station / line by GETCO. However, if the work is not completed within the stipulated time limit as mentioned into work order, the MCE shall be extended by the contractor up to the work completion and taking over of the line or S/S by GETCO. Moreover, the charge for extension of insurance shall be borne by contractor if the delay is attributed to the contractor. The charge for extension of insurance shall be reimbursed by GETCO to the contractor on production of proof for extension of MCE if the delay is attributed on the part of GETCO.

The contractor shall deal directly and pursue the claim with the insurance company and shall be responsible in regard to maintenance of all insurance coverage as well as for settlement of claim. The proof of insurance policy taken by the contractor shall be furnished / submitted to engineer-in-charge of GETCO.

GETCO has to indicate approximate amount of the material required for erection to complete the scope of work is to be mentioned in tender document.

No material shall be issued to bidder/erection agency in absence of such insurance policy. The risk shall be covered for lifting of materials from store to final handing over to GETCO. Further, in absence of the above insurance policy, R.A.bill payment will be withheld. Value of Insurance is **Rs:3.00 Crore (Or as Per Instruction of EIC)**.

- 14.5 In the event of any damage, theft, loss, pilferage, fire etc., Contractor will be responsible to lodge, pursue and settle all the claims with the Insurance Company for all items, materials and the shall be kept informed about it. Contractor shall replace the lost / damaged materials / items promptly irrespective of the settlement of the claims by underwriter and ensure that the work progress is as per agreed schedule. The loss, if any, such replacement will have to be borne by the Contractor and will not entertain any claim / representation in this regard. However it will be contractor's responsibility to insure the entire project till the S/S is taken over by the GETCO.

15.0 LABOR LAWS:

- 15.0.1 Persons below the age of 18 years shall not be employed for the work. No female worker shall be employed in the night shift between 07.00 p.m. and 06.00 a.m. next day.
- 15.0.2 Contractor shall maintain a valid labor license under the contract Labor (Regulation and abolition) Act for employing necessary manpower required by him. In the absence of such license, the contract shall be liable to be terminated without assigning any reason thereof.
- 15.0.3 The Contractor shall at his own expenses comply with all labor laws and keep the indemnified in respect thereof. Some of the major liabilities under various labor and industrial laws which the Contractor shall comply as under:
- i) Payment of contribution by way of Employer's Contribution towards provident Fund, Family Pension Scheme, Deposit Linked Insurance Scheme, Administrative charges, etc. at the rates made applicable from time to time by the Government of Gujarat / Government of India or other Statutory Authority.
 - ii) Payment of deposit in respect of each contract labor at the rate of Rs. 30/- or later prevailing rate with the Office of Commissioner of Labor as per the Contract Labor (Regulation and Abolition) Act.
 - iii) License fee as prescribed under the Contract Labor (Regulation and Abolition) Act and Rules framed there under depending upon the number of workmen.
 - iv) Paid leave facility and wages as per the provision of the Factories Act at the rate of one day for every 20 days of working.
 - v) Identity cards as prescribed under the Factories Act with photo affixed thereto, for identification.
 - vi) Payment of retrenchment compensation, Notice Pay and other liabilities as per Industrial Dispute Act. Any payment to the Contractor's employee arising out of any claim of disputes under the Industrial Disputes Act 1947 or any other Labor Laws.
 - vii) Payment of compensation in case of accidental injury.
 - viii) Provision of crèche if the female laborers employed are more than 30.
 - ix) Maternity Leave as per the provisions of the Maternity Benefit Act.

The above are some of the major liabilities of the Contractor in addition to other liabilities prescribed under the various Labor laws, in force from time to time, from Statutory Authorities like State Government/ Government of India, which the Contractor shall have to

comply with.

15.1 PROVIDENT FUND AND FAMILY PENSION SCHEME:

The Contractor shall submit along with his bills (month wise) a statement regarding deduction against employees Provident Fund and Family Pension Scheme in respect of each concerned employee. Provident Fund and Family pension Scheme at the rate of 18% (or at the rate made applicable by the Government from time to time of the wages. The Contractor's contribution and his workers contribution towards Provident Fund and Family Pension Scheme shall be deposited by the Contractor with Regional Provident Fund Commissioner, Ahmedabad.

15.2 DEPOSIT LINKED INSURANCE SCHEME

The contractor shall have to deposit ½ % of the wages in respect of employees who is a member of the Provident Fund, as the contribution to the Deposit Linked Insurance Scheme with Regional Provident Fund Commissioner, Ahmedabad.

15.3 ADMINISTRATIVE CHARGES:

Administrative charges for maintaining Provident Fund Account shall be deposited by the Contractor with Regional Provident Fund Commissioner, Ahmedabad at the rates applicable.

15.4 PAID LEAVE FACILITY:

Paid Leave Facility at the rate of one day for every twenty days worked by the Contract Labor, shall be provided by the Contractor to his workers. He shall maintain Leave Records, Leave Cards, for individual laborer, which shall be duly verified, approved and certified by the authorized Officer of the GETCO.

15.5 WORKMAN'S COMPENSATION FUND AND EMPLOYER'S LIABILITY INSURANCE:

The contractor shall cover all his employees under workmen's compensation fund and under the liability insurance. The purchaser shall not be responsible for any payments of compensation to the workers/supervisor of the contractor for fatal or non-fatal accidents during the pendency of the contract.

- 15.6 The contractor shall employ adequate number of experienced skilled at site for daily supervision and for maintenance of various registers and records required under the law and contract. No payment for supervision shall be admissible

15.7 CONTRACTOR TO INDEMNIFY THE GETCO:

The Contractor shall Indemnify the GETCO and every member officer and employees of the GETCO also, Engineer-in-Charge and his staff against all actions, proceedings, claims, demands, costs and expenses whatsoever, arising out of or in connection with the matters referred herein above elsewhere and against all actions, proceedings, claims, demands, costs and expenses which may be made against the GETCO or Government for or in respect of performance of his obligation under the contract documents. The GETCO shall not be liable for intervention of authority Government for or in respect of performance of his obligation under the contract documents. The GETCO shall not be liable for or in respect of or in consequence of any accident or injury to any workman or other person in the employment of the Contractor or his Sub-Contractor and the contractor shall indemnify and keep indemnified the GETCO against all claims, demands, proceedings, cost, charges and expenses whatsoever in respect thereof or in relation thereto.

15.8 WORKMEN'S COMPENSATION AND EMPLOYER'S LIABILITY INSURANCE

Insurance shall be affected for all the Contractor's employee engages in the performance of this contract. If any of the work is sublet, the Contractor shall required the Sub-Contractor to provide workmen's

employer's liability insurance for the latter's employees, such employees shall be covered under the Contractor's Insurance.

15.9 WAGES TO BE PAID & TIME OF PAYMENT ETC. BY THE CONTRACTOR

- a) The Contractor shall pay minimum wages per day to his Labors/ Workers as per rates fixed under the minimum wages act. The wages of every Contract Labor employed by him under this contract shall also be paid by him before the expiry of 7th day of the last day of the month in respect of the wages are payable (i.e. wages of a month have to be paid by him in the first week of the next month). Any default will result in cancellation of contract forthwith or else the contractor shall be punishable to the extent of Rs. 100/- per each day or as per the prevailing rules of Labor laws.
- b) The Contractor shall give his Telephone Number and Address to the GETCO, so that, in case of Labor trouble etc. the Contractor can be contacted. The Contractor shall arrange to have his office outside the factory work premises and the Contractor shall keep himself present throughout the working hours.

15.10 REGISTRATION WITH PROVIDENT FUND OFFICE

- i) The separate P.F. code issued from P.F. commissioner is required to be taken by contractor.
- ii) If the contractor does not possess separate P.F. code number of RPFC, his tender will not be considered for acceptance.
- iii) The contractor should mention separate P.F. code number allotted by PPFC, along with the tender.

15.11 Termination of Contract:

In case of contractor fails to deliver the stocks or any consignment thereof within contractual period of delivery or in case the stores are found not in accordance with prescribed specification and/or the approved sample, the shall exercise its discretionary power either:

15.11.1 To recover, from the contractor as agreed, by way of penalty clause above, or

15.11.2 To purchase from elsewhere after giving due notice to the contractor on account and at the risk of the contractor for such stores not so delivered or other similar description without canceling the contract in respect of the consignment not yet due for delivery or

15.12 To cancel the contract.

In the event of the risk purchase of stores of similar description, the opinion of the GETCO shall be final. In the event of action taken under clause (A) or (B) above, the contractor shall be liable to pay for any loss which GETCO may sustain on that account, but the contractor shall not be entitled to have any saving on such purchases made against default.

The decision of the GETCO shall be final as regards to the acceptability of stores supplied by the contractor and the GETCO shall not be required to give any reason in writing or otherwise at any time for rejection of the stores.

15.12.1 MATCHING OF END COST:

In case the GETCO decides to award contract on matching end-cost basis, the bidder has to reduce all the quoted rates proportionately. The reduction on overall basis will not be accepted (i.e. all unit rates of erection schedule shall be reduced proportionately by

difference in percentage). The confirmation for matching end cost shall be given within 7 (seven) days from the letter form.

16.0 VENDOR REGISTRATION: REGISTRATION AS A CONTRACTOR:

Registration with PALANPUR or any other GETCO office is pre requisite for participating in tender. It is required to furnish documents of registration along with offer in Technical bid and the details at appropriate place in confirmation of details of bidder shall be given by the contractor

Sub. : As above Mention

In connection with above subject, I / we confirm the following:

- a) I/ we, the undersigned, have read and understand the Tender Specification for Work Complete with the entire tender Terms and Conditions.
- b) The price in the bid is firm prices in line with Tender Specifications and shall stand valid till completion of the Contract, if awarded.
- c) I/We declare that our bid is strictly in line with Tender Specifications and there is no deviation. Further, I / we also agree that additional conditions / deviations, if any found in bid, the offer shall be out rightly rejected without assigning any reason thereof.

Signature of Authorized representative of Company / Agency

NAME: _____

STATUS: _____

Name of BIDDER

PART – II

3.1.0 SCOPE :

3.1.1 The scope for erection works covered under this section consist of :

- i) Taking delivery of equipment's and other material from the GETCO's stores, checking them, transporting to site's stores and keeping in safe custody by contractor.
- ii) To take suitable storage-cum-erection insurance of equipment's/materials issued by the GETCO.
- iii) Distribution of all materials to erection site at 66 KV above mention Sub Station.
- iv) Structure/Equipment erection including fixing of attachments, accessories and tack-welding of structures.,
- v) Stringing of ACSR/AAAC Panther/Zebra conductor bus with fixing of insulators, Hardware, dampers, spacers etc.
- vi) Workmanship guarantee of all the activities carried out from (i) to (v).

3.1.2 The successful Contractor shall carry out all addition/alteration required to complete the substation for commissioning.

3.1.3 The GETCO will supply equipment's, structure materials, bolts-nuts, structure accessories / attachments, insulators, insulator-hard wares, conductor, accessories, ground wire, ground wire accessories, GI Earthing strip, Control cable etc. required for erection of equipments and other associated works.

3.1.4 All works shall be carried out in accordance with the revised and latest Provisions under Indian Electricity Act and Rules made hereunder.

3.1.5 The contractor at his own cost shall arrange all the erection tools required during execution of work. The Contractor solely is responsible for any damage and / or loss of his erection tools.

3.1.6 The Contractor shall be fully responsible for completing all the above works till the complete substation is taken over by the GETCO, and thereafter up till guarantee period.

3.1.7 The methods of erection are not dealt with in detail but are left to the Contractor who shall exercise his own judgment with regards to actual handling of equipments & materials and in deciding upon the best methods to be adopted for all the erection activities.

3.1.8 The successful bidder shall carryout all the erection works in accordance with structural drawings, and other erection drawings etc. provided by the GETCO.

3.2.0 LAYOUT OF SUB STATION

3.2.1 The proposed layout of the substation is available with concerned field office. The bidders are presumed to have acquainted themselves with the site before submitting their offer.

3.2.2 The successful bidder has to collect from concerned field office the detailed layout drawing along with the following drawings for the substation duly approved by the GETCO immediately on receipt of the Order. He shall also arrange visit of proposed site jointly with GETCO's representative for important marks coming across the scope of works under the contract.

Structural drawings of 66 KV Structures listed at Schedule –B 3.3.0

3.3 TECHNICAL INSTRUCTIONS TO THE BIDDER

3.3.1. The works shall be carried out strictly as per the erection manuals and shall fully comply with the relevant Indian

Standard. The IE rules and Acts in force from time to time shall also be applicable during pendency of the contract.

3.4.0 ERECTION AND COMMISSIONING TOOLS & TACKLES.

3.4.1 The contractor shall provide all tools/tackles jigs and fixtures winches, alignment tools, welding sets, breaker handling devices all consumable items and construction equipment as required to install the equipment's and to complete the work in all respects and shall necessarily include (but not limited to) bolts, nuts, rivets, welding rods, shims, wedges, packing sheets, packing compounds, oil installation and protection of individual equipment in storage and during erection.

3.4.2 This shall also cover proper alignment, tack welding tagging, laying marking of and connection of cables, fabrication supply and installation of all support structures for installation of various electrical equipment and cables

3.4.3 Provision of cable glands, ferrules, and cable lugs tags sealing kit (for HT cables) shall also be arranged by the contractor.

3.4.4. Erection of various equipment shall be done strictly as per manufacturer's instructions

3.4.6 All additional iron framework erected to put the equipment in operational condition shall be provided with two coats of primer and two topcoats of finish paint.

3.4.7 Special care shall be taken to make the enclosed equipment protected against entry of rats, lizard, and creeping reptiles, which may create electrical short circuits.

3.5.0. COMPLETION OF ERECTION (GENERAL)

3.5.1. Equipment shall be considered to have been completely erected when the following activities have been completed.

3.5.2 Moving of all equipments to the respective foundations

3.5.3. Fixing of anchor bolts or tack welding as required.

3.5.4 Leveling and alignment of equipment.

3.5.5 Assembling of all accessories such as relays, CTs, PTs, meters instruments etc. as described in the job specifications.

3.5.6. Drying of equipment as required and testing of oil for dielectric strength.

3.5.7 Filtration and filling of oil as required.

3.5.8. Cable laying, termination with continuity checks.

3.5.9. Applying of finishing coat of paint wherever required.

3.5.10. Mounting of lighting fixtures & connections.

3.5.11. Testing of all system with operation of all protection system.

3.60 **ERECTION OF SWITCHYARD STRUCTURES.**

- 3.6.1. Erection of switchyard structure shall mean erection of gantry column, beams, equipment support structure and lighting mast, VHF masts, watch and ward observation posts if any.
- 3.6.2. The foundation work of switchyard structure is not in the scope of this tender. The foundation with concreted anchor bolts shall be made available by well in time to enable the contractor of this work to get a clear working front.
- 3.6.3. The switchyard structure shall be made available to the contractor in the knocked down condition either at site or from any other store. Small parts like cleat, plate fasteners step bolts and other accessories (if any) shall also be supplied as above separately
- 3.6.4. Before commencement of the erection work, the contractor shall check cast foundations and anchor bolts for their individual and mutual distances and also for the correctness of concreted bolts in terms of number and verticality. In case of any disagreement with the lay out drawing, the matter may be referred to Engineer in charge for remedial measures who in turn will arrange such remedial measures. However, the contractor shall also render necessary assistance in the matter.
- 3.6.5. The erection of structure shall be done strictly as per the approved set of structural drawings to be given . The erected column for bringing the structure in alignment or bringing the structure in plumb shall be allowed.
- 3.6.6. The erection of column/beams shall be done in phased manner on already erected column. The elevation faces of the beam should be first fastened to the column one by one and thereafter plan bracings should provide one by one to complete the beam geocentric Pre-stressing of beam member for alignment should be avoided. In case of difficulty in fabricated material or otherwise, the Engineer in charge should be contacted for remedial measures who in turn will take necessary action. However the contractor shall also render necessary assistance in this work to Engineer in charge for speedy completion of work. The load point's rings bracing shall also be provided as per drawings.
- 3.6.7. The Cross-connected beams should be perfectly at right angle and matching with respective faces of the column. No column or beam shall be erected with missing members.
- 3.6.8. The method of erection is not being dealt with in detail here. However, while making the rigging arrangement, it should be ensured that no column beam or part thereof is damaged due to misjudgment. All the members, plates, cleats, bolts, buts and other accessories should be fitted to the column, beam support structure as per the approved drawing.
- 3.6.9. After the erection of beam and column, the bolt nuts should be properly tightened and center punched. The thread protruding bolt should be dented in the contact surface of nut at 3 point 120 degrees apart to eliminate loosening of bolt due to vibration. The stringing of bus bar conductor be done only after getting certificate from Engineer. in charge that all bolts &nuts are provided as per approved drawings and tightened.
- 3.6.10. The equipment support structure should also be erected like gantry column. They should well be in plumb with all members fitted as per approved drawings and bolt nuts properly tightened. The contractor shall also take care to see that the alignment of foundation of equipment support structure is well done. The equipment support structures shall be erected as per the approved drawings.

SPECIAL TECHNICAL CONDITION:

1. All erection work is to be carried out as per the manual of OEM (Original equipment manufacturer), FQP, approved drawing, specification and instruction of E.I.C.
2. All equipment erection charges are inclusive of shifting dragging handling of the respective equipment up to S/S erection site from its S/S site store.
3. Contractor has to ensure safe shifting dragging erection of all equipments to comply with labour laws I.E. rules etc
4. All erection charges are inclusive of fixing of clamp connectors, all necessary accessories to the respective equipments.
5. Transformer erection charges cover shifting, dragging, handling etc. for its bushings, radiators, conservator tank and allied accessories and oil filling, filtration (if require).
6. All erection work includes erection insurance to be arranged by the contractor at his cost.
7. All the required tools and tackles like compression jointing machine for conductor, earth wire, cutting machine, welding set, drill machine, etc are to be arranged by the contractor at his cost.
8. Contractor should complete transportation within one job as per schedule if applicable. No extra payment will be given in any case other than this job.
9. If filtration of transformer is required in any case the filter machine shall be arranged by Contractor at his own cost.
10. Earthing pit activities should be done in such a way in presence of GETCO supervisor that final earthing pit resistance should be record as per standard. All expenditure like sufficient watering to maintain earth resistance up to the mark should be born by contractor.
11. All the brought out items get to be approved from DE/EE invariably for its specifications and quantity to be order out only as per instruction of EIC looking to the site condition. Payment will be given for those quantity for which clearance given from EIC and not for those which is mentioned in A/T.
12. The executions of bore are to be carried out as per soil strata in consultation with E.E.
13. The Classification of hard rock strata should be got approved from E.E. invariably.
14. Contractor has to make arrangement for site engineer and skill labours for maintaining all activities and records as per FQP. Also assisting to staff/Engineer in charge to take IR values, Earth pits values, name plate detail, oil samples etc all activities relative to commissioning of project.
15. Contractor has to make arrangement for skill labours for assisting to commissioning engineer, PLCC staff/engineer, SMS/CMS/CRM/DCRM/testing staff/Engineer, Staff of as an when require as per instruction of Engineer in charge.
16. After completion of project successful bidder has to submit all the records like battery charging report, control wiring schedule, earth pit lay out, earthing grid layout, power cable lay out, yard light pole and ckt lay out etc in hard and soft copy for handing over the project.
17. For Colony & Yard lighting and Control Room Industrial Electrical wiring works the rates quoted shall be inclusive of providing and fixing / Installation ,testing and commissioning of complete Control Room lightings, Ceiling Fans, Exhaust Fans etc.
18. All items / materials shall be installed / erected in accordance with specified manuals /technical guide lines of the manufacturer and as per instruction of EIC.
19. Cable laying, Circuit distribution and Fixture fixing shall be carried out as per GETCO Standard Drg. No. GETCO/E/06S-STD/S-013 (R0) Sheet 1 to 3 of 3 and as per Instruction of Engineer In charge.
20. Control Room Wiring, Fixing of fixture, Ceiling fan & Exhaust fan etc shall be carried out

- as per Standard Drawing No. GETCO/E/6S-STD/S-015 (R0) Sheet No 1 & 2 of 2. and GETCO/E/6SSTD/S013 (R0) Sheet No 1 of 3 and as per instruction of Engineer In charge.
21. For entire control Room, Office & store etc. building wiring is to be done by Providing and fixing of ISI Marked GI conduit pipes 20mm dia. & 1.6 mm wall thickness size (Minimum Size) and PVC insulated stranded copper wire of FENOLEX/ANCHOR make as per relevant IS.
 22. Total tilting angle for the flood light luminaries provided on pole is considered as maximum of 45 degree, looking to the tilting angle 20 degree available with luminaries it self & supporting pipe should be fabricated & welded accordingly. Also arm for fixing of Flood light luminaries shall be fix as per required angle & direction as per instruction of EIC.
 23. EE/DE will decide the make of luminaries, fan, cable, MCB, Switches etc. and same is to be inspected at authorize depot.
 24. Yard light pole should be inspected at the cost of contractor.
 25. Successful bidder has to appoint site engineer to maintain site register and FQP as per ISO.
 26. All work should be done according to ISO & FQP and all require documents including filled FQP, testing results, etc should be submitted while handing over the project.
 27. The rates are with supply of cement by the contractor.
 28. Control wiring must be executed as per standard Ferruling philosophy circulated by GETCO letter No;- CE(Engg)/PROT/V/Circular/346 dated. 14.03.2014. wiring terminations are to be made with standard Ferruling philosophy only. Only machine printed ferrules (Black letters on white tube) shall be utilized for each and every work.
 29. Contractor has to make all required mechanical and electrical setting of all the isolators by deputing skill technician and offer for final inspection of all isolators.
 30. All the brought out supply items shall be provided only specific make mention in schedule-B. No any alternative make shall be allowed.
 31. Contractor has to submit the planning bar chart before starting the work in kickoff meeting.
 32. Contractor has to complete all the work related to this title in stipulated outage period as per instruction of EIC
 33. After successful completion / commissioning of work awarded to agency in all respect, security arrangement shall be made by GETCO subjected to advance intimation at least 15 days before work completion. Till security arrangement by GETCO, contractor is responsible for security of project.
 34. All the work related to the transmission line like detailed survey, check survey, tower/DP foundations, material testing, tower/DP erection, stringing, final testing, etc should be carried out as per GETCO'S standard FQP for transmission line.
 35. All work should be done according to ISO & FQP and all requier documents including filled FQP, testing results, etc should be submitted while handing over the line
 36. While calculating the weight of stub-setting, the weight of stub, cleat & templates shall also be added in stub weight.
 37. Red oxide & zinc rich paint shall be applied after tack welding of nuts.
 38. The rate indicated includes taking delivery of all stringing material Board's stock at destination keeping them in safe custody and transporting the same to erection site.
 39. Earthing pit activities should be done in such a way in presence of GETCO supervisor that final earthing pit resistance should be record as per standard. All expenditure like sufficient watering to maintain earth resistance up to the mark should be born by contractor.

40. After completion of project successful bidder has to submit all the records like Final as build check survey, profile, clearance, foundation register, soil classification record, stringing chart, material inventory sheet etc in hard and soft copy for handing over the project.
41. **The successful bidder shall depute qualified and experienced site engineer during the work execution by contractor. In case the contractor doesn't engage qualified and experienced site engineer having qualification of BE/Diploma (Electrical) from recognized university, penalty of Rs. 10000/- per month from RA/Final bill shall be deducted and it will be nonrefundable.**

3.6.11 SWITCH YARD LIGHTING & CONTROL ROOM ELECTRIFICATION

1. Rate is to be quoted with name of Company i.e. Bajaj/Crompton/Philips etc.
2. Inspection of the entire luminary is to be inspection at Bajaj/ Crompton/ Philips Show room then it is to be dispatched.
3. All the Luminary is to be supplied with all the accessories like round plate, flexible wire, lamp starter 40W/ 20W Fluorescent tube etc.
4. This work also includes commissioning of existing wiring with minor repairing / replacement of ceiling rose plate etc.
5. GI.pole is to be inspected at works at the cost of contractor.
6. Sample of Allu.cast J.Box will be given by GETCO. & supply as per sample
7. Excavation for pole, Earthing, cable lying is to be carried out in any type of soil, except Hard rock. In case of excavation in Hard rock Rs. 420 per CMT shall be paid separately.
8. Tube light fixture fitting in CR is to be carried out with long GI Pipe & is to be properly hanged and fitting and ceiling as per EIC.
9. Ceiling Fans is to be selected at authorized showroom & inspection is to be done at show room colour of fan should be white only.
10. Exhaust Fan & Pedestal Fan should be purchased only after selection of make & model at authorized showroom.
11. Supply storage and installation of various lighting fixtures, complete with lamps and accessories.
12. Supply storage and installation of lighting panels.
13. Laying and termination of 415 V PVC armored power cable from lighting panel to the junction box at the bottom of the gantry of lighting fixtures respectable and looping from one gantry to other shall be buried underground. Contractor shall quote the unit price of cable erection separately. Cables glands and lugs are included in contractor's scope.
14. Laying and termination by 415V PVC armored power cable from street lighting panel to street lighting poles and power cable, for looping from one gantry to gantry shall be in scope of lighting contractor these cables shall be buried underground. Cable glands and lugs are included in contractor's scope.
15. The contractor shall fully co-ordinate the design and the work with engineer in charge and various other contractors of the project.
16. Materials and components not specifically stated in this specification on and which are necessary for satisfactory installation and operation of the lighting system shall be deemed to be included in the scope of the specification.
17. The design manufacture and performance of equipment should comply with all currently applicable states, regulation and safety code in the lighting where the equipment will be installed nothing in this pacification shall be construed to relieve the bidder on these responsibilities.
18. Unless otherwise specified, equipment offered shall conform to latest application Indian and IEE

19. standards equipments, complying with another authoritative standards such as British, U. S. A. VDE etc, will also be consider if it insures performance equivalent of superior of Indian standards in each
20. cases the bidder shall clearly indicate the standard adopted and furnish a copy of the latest English version of the along with the tender. Should there any dispute of design, work shall follow.
21. Indian standards as per latest amendment should be followed
22. IS : 1913 General & Safety requirement for electric lighting fitting.
23. IS : 3528 Water proof electric lighting fitting
24. IS : 4012 Dust proof electric lighting fitting
25. IS : 4013 Dust tight electric lighting fitting
26. IS : 1777 Industrial lighting fitting with metal reflectors.
27. IS : 3287 Industrial lighting fitting with plastic reflectors.
28. IS : 2493 Well glass lighting fitting for use underground in mines. (Non flameproof type)
29. IS: 1947 Specification of flood light.
30. IS: 2149 Luminaries for street lightings.
31. IS: 2183 High pressure mercury vapour lamps.
32. IS: 1534 Ballasts for use fluorescent lighting (Part-1) fitting
33. IS: 1569 Capacitors for use in fluorescent lighting fitting
34. IS: 2215 Starters for fluorescent lamps.
35. IS: 2713 Tubular steel poles.
36. IS: 5133 Steel and cast iron Boxes.
37. IS: 2629 Hot dip galvanizing of iron & steel.
38. IS: 694 PVC insulated cables for working voltages up to and including 1100V
39. IS: 732 Code of practice for electrical wiring insulation (System voltage not exceeding 650 volts.)
40. IS: 3043 Code of practice for earthing.
41. Indian Electricity Act.
42. Indian Electricity Rules.
43. The Standards mentioned above are available from Indian Standards institution. Manok Bhavan, 9, Bahadoor Shab Zafar Marg, NEW DELHI – 110 001.
44. All sodium/Mercury vapour lamps fixtures shall be complete and with accessories like ballasts, igniters, power factors improvement capacitors etc.
45. This shall be mounted as per as possible in the fittings assembly only, if those cannot be accommodated inside then a separate metal enclosed box shall be included to accommodate the accessories and in addition with fuse and terminal block suitable for loop in loop out connections. Outdoor type fixtures shall be provided with outdoor type weather proof box. They shall indicate starting time of these lamps to get full light output. Curves for starting characteristics and variation of lamps characteristics with varying supply voltage etc. should be furnished by the bidder.
46. Each lighting fixture shall be provided with end earthing terminal suitable for connection to 8 SWG GI earthing conductor.

3.6.12 **CABLE TERMINATION BOX :**

1. Cable termination box for gantry structure shall be completely weather proof confirming to ISW 55 and provided with lockable door and HRC fuse mounted on fuse carrier and fuse base assembly. The terminal shall be stud type and suitable for two Nos. 4mm² cable necessary arrangements for glanding cable along with supply of gland are included in tender scope.
2. The bolts nuts and screw required for erection is to be supplied by the contractor at his own cost.
3. Outside and inside the cable terminal boxes will be furnished in two coats light grey colours.
4. Finished painted appearance on equipment shall aesthetically pleasing appearance free from dots and uneven surfaces.

5. Touch up paint at site shall have to be done if necessary.

3.6.13 **SECTION PILLARS :**

1. The contractor shall supply and installation section pillars.
2. The section pillars shall be suitable for mounting on platform. The bracket bolts nuts and screw required for the erection shall be included in the installation rate.
3. Section pillars be of mentioned size and of 15 SWG 1.5mm sheet steel and shall have bolted cover with good quality gasket lining.
4. The section pillars shall have the following identification marking.
5. Circuit Nos. on the top.
6. Circuit no. with ferrules (inside) as per drawings
7. Danger sign in case of 415 volt section box.
8. The section pillars shall be weather proof type with gaskets confirming to IP-55 as per IS-2147. The connections shall be properly sealed for worming proofing.
9. Section pillar shall be provided with two separated and earthing terminals suitable to receive earthing strip of size 50 x 6mm C.I. Flat with section pillars.
10. Outside and inside the cable terminal boxes shall be finished in two coat of primers and finished paints shall be of slightly different shade to affably inspection of painting.
11. Finished painted appearance on equipment shall present ethnically looking appearance freedom dots and uneven surface.
12. Touch up paint at site shall have to be done if necessary.
13. The missionary platform for section pillar must be of size 3' (L) x 1.5'(W) x 3'(H)

3.6.14 **STREET LIGHT POLES:**

1. These shall be of steel tubular type swaged type welded GI tubular pole with suitable arrangement at the top of the pole for fixing the lighting fixture. The poles shall be fabricated out of medium class black steel pipe, seamless type with specified thickness, IS-2713-1969, each pole shall be fabricated on automatic pole swaging machine tampered in and shrunk with welding outside having overall length of 7.00 meters and the effective length of section as under:
2. Bottom 3.00 meters having outside diameter 114.3mm and wall thickness 3.61mm with base plate of size 3000 x 300 x 6mm which welded as shown in drawing.
3. Middle 2.00 meters having outside diameter 87.9mm and wall thickness 3.25mm.
4. Top 2.00 meters having outside diameter 76.10mm and wall thickness
5. On the top of the tubular pole as fabricated above one single/double side brocket of 1 meter length (diameter of pipe suit fitting entry) tilted at an angle of 20 shall be welded and fixed at the top by means of fixing bolts, 4 Nos, and top cap by fixing bolts 2 Nos as shown in drawing. The most shall have attended a reducer having suitable diameter for mounting street light fixture.
6. The pole and wall mounted G.I. pipe post shall be supplied with one M.S water-tight junction box fabricated from M.S. sheet of 14 SWG with 15 Amp 4 way heavy duty Bakelite connector brass neutral link rewire-able fuse rubber gaskets etc.
7. Inspection of poles shall be carried out at the work for various tests under IS-2713 & 1969 before it is dispatched to the concerned site
8. The junction box should be provided with proper bracing arrangement with poles by means of G.I. strips. The junction box should have two/three holes at the bottom to accommodate two/three brass cable glands of suitable size for the cable to be used the cable glands of approved make shall be supplied by the contractor.
9. The pole including junction box shall be painted with one coat of anti-corrosive oxide primer before dispatch to site and two coats of aluminum paint of approved mark (preferable ASIAN paint)
10. The wall mounted G.I. pipe post shall be painted with one coat of anti-corrosive oxide primer and two coats of aluminum paint. The junction box shall be applied one coat of anti-corrosive oxide primer and two coats of black enamel as per instruction of engineer-in-charge.

3.6.15 INSTALLATION OF POLES AND WALL MOUNTED G.I. PIPE POST:

1. Installation of the poles shall be done as per drawing. The depth of pole to be done in ground shall be 1/5th of total pole length or as specified in drawing whichever more. The pole shall be grouted in pit of 450 x 450 x 1500mm with cement concrete (1:3:6). Before the placement of pole in the pit 100mm thick 450 x 450mm (1:3:6) cement concrete bed shall be prepared and only after drying, poles shall be cast all around the pole. Above finished ground level 2 Nos. of light duty 32mm or 38mm diameter PVC pipe, each of 1 meter length for cable entries and 10 SWG G.I. earthing wire shall also be provided and laid during the pedestal casting by the contractor.
2. The concrete shall be protected from premature drying by curing for at least seven days after pouring. All concrete surfaces from 150mm below ground level to top shall be finished concrete. All the materials for civil and electrical works shall be arranged and provided by the contractor.
3. The G. I. pipe post shall be fixed on the face of wall at suitable height by means of pairs of wall clamps, nuts and bolts.

3.6.16 CABLE WORK: PVC insulated PVC outer and inner sheath armored copper conductor cables suitable for 1100 volts A. C. as per IS: 1554 (Part-1-1964) of size as specified in schedule of quantities. The cables should be of approved make any of the following: Amicable/C.C.I / Unistar / Glostar C. C. of equivalent subject to approval of competent authority.

1. **EARTHING OF TUBULAR POLES :** For earthing tubular poles G. I. wire of size 8 SWG is to be laid, along with the control cable in trench. The connection to the studs provided on tubular poles is to be carried out with this continuous earth wire with required size of washers and nuts. Above earth wire laid along with the cable is to be connected at earthing pits in switch yard as per instruction the same.
2. **INSTALLATION STREET LIGHTING LUMINAIRE:** This includes fixing of street light fitting complete with accessories and clamps on the pipe/brackets, connecting it with 2 x 2.5 Sqr. Mm 7/0 57mm dia PVC insulated and PVC insulated copper flexible conductor from water light junction box, testing and commissioning the same.
3. **INSTALLATION POST TOP LUMINAIRE :** This includes providing and installations of post of lantern complete with all accessories and lamp, connection it with 2 x 5 Sqr. mm 7/0. 67mm dia PVC insulated and PVC sheathed copper flexible conductor testing and commissioning the same. All the
4. Fittings required for fixing the luminaries such as reducer coupler gasket and all type of hard wires shall be provided by the contractor himself. All tools and tackles required for the entire work shall be arranged by the contractor. In any of board will not provide any such facility whatsoever. All materials shall be got approved from E.E. (const) Mehsana before commencement of work. If there is any dispute regarding interpretation of specifications the decision of Ex. Engineer (Const) Mehsana shall be final and binding to the contractor.

3.7.0 GANTRY STRINGING (BUS BAR STRINGING)

- 3.7.1 After the erection of gantry structure and equipment support structure is over, the contractor shall take up bus bar and line gantry structure stringing.
- 3.7.2. The configuration of bus contractor shall obtain type of conductor to be used from the purchaser well in advance. The sag and tension of the bus bar conductor and line conductor shall be coordinated with the help of Engg in charge so that a mutual distance of the strung conductor and the ground clearance of the strung conductor do not cross the limit set out in the electricity rules and acts.
- 3.7..4. The method of handling the conductor accessories is not dealt in details, however, contractor can himself get informed about the same and sees that

conductor and other material is handed over properly and is string scratch free to the extent possible. No

joint or use of repair sleeve will be permitted in the bus bar and line gantry stringing. While stringing between twin and quadruple bundle conductor, care shall be taken to keep tension in all sub conductors equally. Adjustment in the sag shall be carried out by sag adjustment plate if provided in the tension insulator strings.

3.7.5. All the insulator strings to be used on the structure shall be properly cleaned with the cloth. Compression dead end joints of the conductor shall be made after proper marking. There should not be any difference in the position of dead end compression joints amongst the sub conductors of a twin or quadruple bundle conductors. All the tension insulator string shall be double tension type. The pilot insulator string or a guide insulator string shall be single suspension type. The corona control ring space clamp and other accessories if any on insulator stringing shall also erected as per the drawing.

3.7.6. The earth wire to shield the conductors from lightning stroke shall be provided along the column in each bay of the switchyard and across, as per the switchyard layout and sectional view drawing and as per the instruction of Engineer in charge. The earth wire shall be fitted with all accessories like suspension clamp, tension clamp cross by clips, copper earth bolt etc. completed. No mid span joint shall be permitted in the switchyard earth wire stringing.

3.7.7. After the bus bar and line gantry stringing work is over, the contractor shall provide droppers for the equipment connection to bus bar or line conductors by using prescribed clamps and connectors. The configuration of dropper shall be obtained by contractor from the as per requirement. The dropper is to be provided with ACSR Panther conductor.

3.8.0 ERECTION OF SECONDARY EQUIPMENTS.

3.8.1. The secondary equipments like PI, CT, CVT, PT, LA (Surge arrestors) wave trap etc. shall be procured by the contractor from the site store center or other store centers of the and transported to the site at the cost of contractor. The contractor shall also do loading and unloading of the equipment.

3.8.2. After the arrival of equipment at site, packing shall be gently removed without causing any damage to the equipment. The equipment shall be checked for its correctness of dimension, make etc. as per the approved drawing. The equipment then shall be cleaned by a piece of cloth and made ready for erection.

3.8.3. The equipment shall be mounted on the ready pedestal (of masonry) or steel structure as the case may be and checked the same for its verticality. Construction of masonry pedestal is not in the scope of this work.

3.8.5. In case of CT, PT and CVT, the junction box or terminal box of the equipment shall be opened, cleaned and all their connections should be checked.

3.8.6. The arcing horns or corona control rings shall be provided as per the approved drawing. Similarly all fittings etc. shall also be provided as per the approved drawings

3.8.7. The electrical connection of the equipments through jumpers or through 4" aluminum pipe shall be carried out along with the cable connection of respective equipment to the marshalling kiosk or to the control relay panels. The connection of high voltage terminal of equipment shall not be resorted to, unless secondary connection or cabling work to control equipment is over. Testing of equipment shall also be done to ensure the correct wiring sequence of the equipment and continuity before energizing equipment by EHV

3.8.8. Polarity of the equipment to be connected on HV side should be checked prior to erection. The oil level(if any) of the equipment should be checked for its totality. If level is found to be inadequate, topping filling of oil should be resorted to. The will supply the quantity of oil required.

- 3.8.9. Fuse, links, etc provided in the secondary box of the equipment shall be checked for their position and continuity and any lacuna observed will be set right before taking the equipment for commercial use.

3.9.0 ERECTION OF CIRCUIT BREAKER :

- 3.9.1. The circuit breaker shall be taken delivery from the site/other stores of and transported to the work place well in time on loading/unloading. The crates containing the insulators and important parts and accessories shall be opened carefully keeping them in their proper position. Insulator parts and other accessories shall be thoroughly cleaned for any deposits of dust or other particles.
- 3.9.2. The breaker shall be brought on the pedestal of masonry or steel frame as the case may be) in upright position without any inclination. The main parts of the equipments shall be assembled as per approved drawing to be submitted by the GETCO to arrange Service of commissioning engineer of circuit breaker manufacturer. However, the contractor will not remain contented with the instruction and guidelines given by the commissioning engineer and shall also use his own judgment in better erection of commissioning practice of circuit breaker.
- 3.9.3. After the placement of circuit breaker in position the kiosk of the breaker shall be thoroughly inspected and any lacuna found shall be reported to the Engineer in charge of the work. The HT terminal connection shall be done only after the terminals of the equipment kiosk are made to the marshalling kiosk and or to the control/relay panels.
- Polarity of the equipments shall also be ensured before physical erection.
- 3.9.4. The method of erection of breaker is not dealt with in details; however, it is recommended that breaker poles shall be erected only by using telescopic crane or other suitable mechanical arrangement. The rigging should be tool proof.
- 3.9.5. The operating mechanism in the breaker Kiosk and contacts as well as the power supply circuits (AC/DC) shall be properly checked for its operation worthiness. All piping for gas/air shall be laid as per the approved drawing. The air receiver or compressor shall be positioned as per the relevant drawing. Minor fittings and fabrication or grouting work required to place these articles or accessories shall be done by the contractor without any extra cost to the purchaser. In case of breakers with spring mechanism the trials of the mechanism by actuating should be done to ensure its' line worthiness.
- 3.9.6. EHV side of the breaker should be aligned to a incoming and outgoing bus conductor.
- While erecting the breaker, the operating mechanism without the porcelain insulator should be laid perfectly to avoid any mal functioning of the breaker.
- 3.9.7. Earthing points of the breaker as well as attached Kiosk shall be connected to earth grid by means of risers already available nearby the equipment. Any other erection checks and pre-cautions indicated in the Manual furnished by the respective supplier of the equipment shall be studied well by the contractor and the provisions there of shall be implemented as far as possible.

3.10.0 ERECTION OF POWER TRANSFORMER

- 3.10.1. The purchaser laid readily on the rails and plinth shall make a power transformer of appropriate capacity available. However, the contractor using proper tools shall do minor adjustment or shifting requirement for proper alignment of the equipment and tackles jacks taking due care.
- 3.10.2. Bushing of HV, LV, and IV side shall be picked up from the site or other store of the purchaser and shall be made open by removing the casing/covers and packing whatsoever may be. The bushing shall be cleaned by the cloth. The bushing shall be

handled very carefully and preferably should be opened and erected in presence of the Engineer In charge or his authorized representative. Before taking up the erection work of bushing and accessories, conservator tank and the transformer tank should be thoroughly cleaned from outside to remove all dust and other material deposited on it.

3.10.3. For fixing the bushing, the opening provided on the transformer tank/turret shall be removed and bushing should be connected to it. The current transformer and other accessories in the turret should be carefully handled while erecting bushings.

3.10.4 The radiators should be mounted on the pedestals already available at site. The proper leveling and alignment of the radiator should be done. Any minor nature of civil or foundation work, if required should be done by the contractor at his cost. However, if already provided pedestal are totally misaligned and it is not possible to erect radiators upon it with slight modifications, the matter should be brought to the notice of Engineer in charge who will take appropriate action to remove the anomaly. As a matter of fact, the contractor may, before taking up the erection work on hand, satisfy himself that the alignments of pedestal provided for various radiator and piping headers are as per the approved drawing from the respective supplier of transformer and remedial measures should be taken much ahead of actual erection work.

3.10.6. The Kiosk of the equipment shall be inspected for its internal wiring fuse, link temperature indicator, de-humid fire power connection, control circuits etc. If any deviation compared to the approved drawing is observed, the matter should be brought to the notice of Engineer in charge and if it is of trivial nature, corrective measures should be taken by the contractor himself. All the piping or wiring from various measuring points to the Kiosk should be checked for its trueness and continuity.

3.10.7. Buchholz relay will be erected on the transformer tank as per the standard practice.

3.10.8 After the erection of various accessories indicated above, filling of oil under vacuum should be started. If required random sampling and testing of oil are being filled in should be carried out. The oil level in the conservator tank, condenser bushing etc. should be checked for its desired mark. After the oil filling work is over, final filtration of oil to obtain desirable low PPM should be done. Filter machine of 1000 GPH capacity having one pass facility of reputed make approved by Engineer in charge for filling and filtration work shall be brought by the contractor himself.

3.10.9. Internal testing on the transformer and its accessories for operation worthiness shall be done following oil filtration work. However, the commissioning of the transformer either from LV or HV side should be done only after the installation of control panels in the control room, its connections to the transformer and complete unit testing of transformer. The commissioning work should be done as per the instruction of Engineer in charge or his authorized representative.

3.11.0 **ERECTION OF ISOLATORS.**

3.11.1 Isolators of the switchyard shall be with or without earth blade type. centre breaks type etc.

The isolators shall be procured by the contractor from the site stores of the and transported to the work site. All the spare parts shall be properly unpacked cleaned and made ready for erection.

3.11.2 Before erection, the contractor shall obtained copies of approved drawing of respective equipments. The isolators shall be erected on the ready galvanized structures. However, foundation for them will be available readily the respective points in the switchyard.

- 3.11.3 The contractor shall check the erected support structure for their alignment vertically and tightness of fasteners before mounting the isolators parts on them. The contractor shall also verify the mounting arrangement for the operating mechanism on this structure and suitable for the same. In case of any shortcoming the matter may be reported to engineer in charge. Any modification of trivial nature for the structure of fixtures shall be carried out free of cost.
- 3.11.4 The parts of the isolators, fixed and moving contacts earthing rode etc. shall be handled very carefully to avoid breakage or distortions. The erection shall be carried out using mechanized erection tools. The polarity of the isolator polls shall be properly identified and also the direction of the opening should be pre-determined. It should be ensured that in the entire switchyard the isolator open and close uniformly (direction point)
- 3.11.5 The operating mechanism for the line contacts shall be thoroughly checked for their accessories as per approved drawing and it should be ensured that all the connection fuses links dehumidifiers lighting sockets electric motors are in their proper position. Any deviation from the approved drawing should be got sat right with the help of engineer in charge. Position. Any deviation from the approved drawing should be got set right with the help of Engineer-in- Charge.
- 3.11.6 While erecting the isolator, it should be ensured that it should be properly aligned with respect to bus conductors or line conductor bus provided in the switchyard: The erected Isolator shall be within the plumb. The operating mechanism rods, pole and rotating insulators shall be checked for their proper function. The testing of the wiring to the kiosk should also be done to ensure its operation worthiness. The final commissioning of the isolator should be done only after connection to control panel is affected. However prior to that it should be ensured that the physical movement of the fixed and moving contacts and reach of them is within the prescribed limit.

3.12.0 ERECTION OF CONTROL AND RELAY PANELS.

- 3.12.1 The contractor shall procure the control and relay panel from site store or any other stores of the GETCO and transport the same to the erection site. The cases containing the panel shall be unpacked carefully and shall be nicely cleaned. In case any of external damage is observed, same shall be brought to the notice of Engineer In charge. The panel shall be unpacked in upside up position. After an external visual inspection, the panel door shall be opened and checked for the circuit connection, terminal connector, dehumidifier, power connection etc.
- 3.12.2 A front side of the panel shall be checked for any damage to the meter indicator, hooter, and semaphore indicators
- 3.12.3 Any lacuna in the equipments, circuits, fittings, dimensions etc. observed shall be brought to the notice of Engineer in charge who will try to impose remedial measures
- 3.12.4 The relay panel should also be checked for type, of schemes adopted for protection, internal connection, fascia indicator etc. Any difference observed should be brought to the notice of Engineer in charge who will take necessary action.
- 3.12.5 The panel shall be erected along cut outs provided in the slab concrete, in the order, it is decided, by Engineer in charge or which is approved by authorized drawing.
- 3.12.6 The size and number of cores of cables be brought from the equipment to control panel, control panel to relay panel and back to equipment shall be pre-determined by study.
- 3.12.8 After the erection of control panel and relay, panel, all the equipments, accessories indicators etc. along with the internal wiring and other accessories provided with the kiosk of the panels.

3.13.0 LAYING OF CONTROL CABLES AND TERMINATIONS THEREOF

- 3.13.1 Laying and termination of control Cable work shall generally Includes following:
- Control and power cable from individual equipments kiosk to the field kiosk.
 - Laying and termination of Control and L.T power cable from field -kiosk to control room equipment (i.e. LT switchgear, DC battery and control panel/relay panel.)
 - Laying and termination of Cable from the transformer kiosk to transformer panel and up to AC/DC supply source.
 - Laying & termination of Control cables from control panel to relay panel and vice versa.
 - Laying & Termination of cable from DC/AC source, battery room L/T switch gear room to control/relay panel.
 - Laying & termination of cable from 11KV/400 V Distribution transformer to LT switch gear room.
 - Laying & termination of cables from Station transformer to distribution transformer in the switchyard as well as in the residential. Quarter area.
 - Laying & termination of LT power cable from station transformer to fire protection system kiosk (If required).
- 3.13.2 GETCO will provide the cable schedule for the various control schemes, protection schemes and metering scheme as well as communication, scheme etc.
- 3.133 'The contractor shall procure' the required size of control and power cable from the purchaser's site store to any other stores from where the same allotted and transport it to its site store.
- 3.13.4 The control cables shall be terminated using correct type of lugs and further prodded with ferules giving the identification number of various cores of the cable. Correct type of tools for termination shall be used to secure a rigid connection of the cable tray along with the cable trenches. Normally mild steel, racks and cable trays are provided in the cable trench. However, the purchaser may it its' own discretion prefer to utilize fiber reinforced poly propylene (FRP) cable racks and trays. In such an event, the racks and trays will be supplied by the Purchaser to the contractor in a knocked down condition. The contractor shall assemble the rack and provide trays on them as per the approved drawing given by the purchaser. If FRP trays and racks are to be utilized, the contractor will have to take extra care while laying the cable through different layer and racks to avoid any displacement or distortion of the FRP racks. However, if the laying of pre-fabricated FRP racks and trays fall in the scope or FRP rack/tray supplier, the contractor shall co-ordinate and synchronize his cable laying activities with respective supplier of FRP rack/trays.
- 3.13.5 Utmost care shall be taken by the contractor to prevent damage to outer insulation and the armors of the cables. No joint to the cable shall be permitted. Unless situation so warrants and Engineer in charge permits the same.
- 3.13.6 After .laying, all the power and control cable shall be properly identified giving the both a number and details of end connections.

3.14.0 ERECTION OF BATTERY AND BATTERY CHARGER

- 3.14.1 The contractor shall procure the material required for installation of batteries sets and battery charger from the site store or any other stores of the Purchaser and transport this material to the work site.
- 3.14.2 All the container/packing of the battery and battery charger shall be opened carefully to prevent any damage to the equipment. The equipment than shall be cleaned to remove any dust or other un-warranted deposition. The battery rack shall be placed in such a fashion

that rows of battery cell can be conveniently connected to each other. The contractor shall obtain the drawing of arrangement of battery racks and its connection to floats charger and boost charger with reference to the floor space. The battery cells shall be filled with requisite amount of electrolyte with proper specific gravity and up to the mark of maximum level indicated on the battery cells. All the cells shall be connected in the series to obtain total voltage of the 224V AC. However. Individual cell shall also be checked for their voltage across terminal before series connection.

- 3.14.3 The battery rack shall be provided with bottom insulating material to prevent any leakage of current to the earth. Similarly individual battery cell shall be provided with insulation supports to wooden rack to prevent any body leakage. The purchaser shall supply wooden racks and acid distilled water etc.
- 3.14.4 The connection. Of the battery shall be done through a cable. and same shall be terminated in the LV room (AC/DC) before commissioning of the battery and battery charger. The entire battery room shall be completely cleaned. Similarly racks and. battery cells shall also be cleaned for any deposits of electrolyte and other particles.
- 3.17.5 A connection of boost charger shall be secured from the AC supply provided in the LT switchgear room.
- 3.14.6 All the accessories supplied for measuring the specific gravity and testing etc. provided by the supplier shall be return to the Engineer in charge or shall be placed at proper place in the battery room under intimation to Engineer in charge.
- 3.14.7 Load test on the commissioned battery sets shall be taken as per the instruction of the Engineer in charge and performance of the battery cells float boost charger shall be observed for few hours. Test load then shall be removed and battery shall be ultimately connected to the LV room for its onwards utilization in control indication and protection circuits.
- 3.14.8 The following checks are recommended for battery
 - i) Checking of completion of civil/ventilation requirement of battery room.
 - ii)Checking of adequacy of charger output/requirement with respect to current required for battery charging as per the manual..
 - iii)Checking for availability of safety devices, water and first aid box.
 - iv)Checking the polarity of connections between battery and charger.
 - v)Visual inspection test for level and leakages.
 - vi)Checking of layout as per approved drawing.
 - vii)Checking of IR value from positive to earth and negative to earth. .
 - viii)Checking of voltage per cell and total voltage between positive negative and earth to positive/negative,
 - ix)Checking of tightness of connectors on each cell. .
 - x)Checking of capacity test and hourly measurement of specific gravity and voltage for each cell.
 - xi)Charging discharging cycle as per standard practice, and as per instruction of Engineer-in-charge.
- 3.14.9 The following checks are recommended for battery charger.
 - i) IR test
 - ii) Checking for charging mode of batteries, constant current and constant voltage mode.
 - iii) Load test on charges by running of DC drives (if there and by liquid resistance system).
 - iv) Checking of thickness of earthling connections.
 - viii) Check for functional operation of charger, auto manual change over from float to

- boost to float etc.
- ix) Check for AC ripple in boost and float made after charging.
- x) Check and polarity of cables connected to battery

3.14 GENERAL:

- 3.14.1 The Contractor shall ensure that at the end of each sub-activity the Surplus materials are immediately removed from the work-site and the surplus excavated earth is spreader around to avoid loss or injury to the public/equipments.
- 3.14.2 The Contractor has to return all surplus materials after reconciliation of material account in good and useable condition. The contractor shall settle the final bill including signature on all relevant papers required for passing of final bill, excess/saving statement and time limit extension proposal. If any within three months from the date of charging/commissioning or taking over by the GETCO of the Sub Station.
- 3.14.3. Most of all equipments should be erected in presence of the concerned engineer from OEM/GETCO Engineer.
- 3.14.4. After complete erection and operation, contractor's supervisor should attend the site whenever called from GETCO for further testing commissioning of equipments/panels etc.

3.15 MAINTENANCE FREE TREATED EARTHPIT

The bidder shall have to do the entire work of earth pits required for equipment earthing and for the pits at the corners of earth mat.

STANDARDS

The product and the equipment covered by this specification shall, unless otherwise specified be in line with the requirement of any of the latest applicable standards and will apply in order of priority as listed below:-

- a) Indian Standards
- b) IEEE 80
- c) ANSI (American National Standards)
- d) BS (British Standards)

EARTH PITS

All the Earth Pit shall be with special Ground electrodes supplied by Getco Approved Manufacturer. These special electrodes are provided with Ground enhancement material.

A. EARTHING PRODUCT COMPONENT SPECS

- The Earthing System should be based on use of Copper Bonded Earth Rods / Cu coated Pipe electrode / Cu coated PIP electrode (for corrosion resistance) and Ground Enhancement Material (to reduce Soil Resistivity).
- It should be capable of providing any ohmic value as specified by the client, by inter-connection of ground rods to form a Grid.
- The system shall be totally maintenance free and require no periodic or scheduled maintenance for a period of at least 30 years.
- There shall be no requirement to add water or any other chemical any time after initial installation.
- The system shall provide constant low ohmic value for entire life cycle without any consideration for moisture or temperature conditions.

- The manufacturer shall be a company of international repute engaged in the field of Facility Electrical Protection work.

B. ELECTRODE:

(1) COPPER BONDED EARTH RODS

For 66 KV Substations:

The Earth Rods shall have a nominal (actual) dia of 24mm (Min.) and length of 3 M (Min.). It shall be capable of handling 25 KA 1-Sec Short time current.

For 132KV ,220KV & 400 KV Substations:

The Earth Rods shall have a nominal (actual) dia of 38mm (Min.) and length of 3 M (Min.). It shall be capable of handling 40 KA 1-Sec Short time current. The Rods shall have a steel core with molecular bonding of 250 micron of copper as per international standards.

- A nickel layer is applied to steel core (and subsequently copper) by and electrolytic process forming a metallurgical bond between the three.
- The copper used shall be type DHP alloy No. 122 CDA and rated at 99.95% copper. The thickness of copper layer shall be uniform 250 micron.
- The Rods should be manufactured by a company of high repute to ensure quality of Copper Bonding.
- Type test report (tested at NABL accredited laboratory) shall be submitted satisfying minimum STC of 25 KA-1Sec for 66 KV S/S and for above class, STC shall be 40 KA-1 Sec
- Test report (tested at NABL accredited laboratory) of cu-coating shall be submitted satisfying our requirement of 250 micron coating

(2) PIPE or PIP (Pipe-In-Pipe) ELECTRODE

For 66 KV Substations:

The Pipe or Pipe-In-Pipe or Flat-In-Pipe electrode shall have a nominal (actual) outer dia of 50 mm & 2.5 mm thickness (Min.) and length of 3 M (Min.). It shall be capable of handling 25 KA 1-Sec Short time current and shall have a molecular bonding of 250 micron of copper as per international standards.

For 132KV,220KV & 400 KV Substations:

The Pipe or Pipe-In-Pipe or Flat-Pipe electrode shall have a nominal (actual) outer dia of 75.5 mm & 3 mm thickness (Min.) and length of 3 M (Min.). It shall be capable of handling 40 KA 1-Sec Short time current shall have a molecular bonding of 250 micron of copper as per international standards.

In case of P-I-P and Flat-In-Pipe, the portion between pipes shall be filled with the conductive material.

Type test report (tested at NABL accredited laboratory) shall be submitted satisfying minimum STC of 25 KA-1Sec for 66 KV S/S and for above class, STC shall be 40 KA-1 Sec.

Test report (tested at NABL accredited laboratory) of cu-coating shall be submitted satisfying our requirement of 250-micron coating.

C. GROUND ENHANCEMENT MATERIAL / BACK FILL / GROUNDING COMPOUND

- Ground Enhancement Material/ Backfill / Grounding compound shall be permanent and maintenance free. (No re- charging with salts or any other chemicals) and shall maintain its earth resistance with time.
- Ground Enhancement Material/ Backfill / Grounding compound shall confirm IEEE 80-2000 Clause No.14.5 (d). Ground Enhancement Material/Backfill / Grounding compound in its set form shall have a resistivity of not more than 0.12 ohm-m.
- Ground Enhancement Material / Backfill / Grounding compound shall comply the requirements and all applicable tests as per part-7 of IEC62561. The same shall be tested at NABL accredited laboratory and report are to be verified.
 - 1) Resistivity test using soil box
 - 2) Leaching test
 - 3) Sulfer determination
 - 4) Corrosion test
- It must set up firmly and not dissolve or decompose or otherwise pollute the soil or the local water table.
- It shall be suitable for use in dry form or slurry form.
- The Ground Enhancement Material/ Backfill / Grounding compound shall **not depend on the continuous presence of water to** maintain its conductivity.
- The material shall be carbon based conductive concrete and shall not contain bentonite in any form. - Same shall be applicable for conductive material used for filling in case of P-I-P and Flat-In-Pipe type earth electrodes.

D. CLAMP

. Each Earth Rod/Pipe/PIP must be provided with a suitable Cu plated clamp OR exothermic welding of Cu plated plate to facilitate Inter-connection of rods and connection to Equipment Earth Bar using appropriate copper coated MS strip

GUARANTEE

- The product shall be guaranteed for trouble free operation for a period of 30 years from date of commission or arrival at site whichever is later. Any defect discovered during this period shall be rectified free of charge.
- The pits shall be drawn with the help of a boring machine, an auger or any other means as required by site conditions and nature of ground strata which shall be in the scope of supplier.

VERIFICATIONS & TESTS TO BE CARRIED OUT AT SITE:

Following verifications and tests shall be carried out by respective

E.E.(Construction)/TR while execution of work of maintenance free treated earth electrodes.

(1) Electrode:

1. Type test report shall be verified satisfying minimum requirement of STC of 25 KA-1 Sec for 66 KV S/S and for above class (i.e. 132 KV, 220KV, & 400 KV Substations), STC shall be 40 KA-1 Sec.

2. Test report of cu-coating shall be verified for 250-micron coating.

(II) Ground enhancement material/ Back fill/Grounding material:

(A) Sampling of bag shall be 1 bag per lot of 50 bags received at site.

As per part-7 of IEC 62561, resistivity test using soil box shall be carried out and value of the same shall be below

0.12 Ohm-m

(B) As per part-7 of IEC 62561, following test certificates shall be verified at site for

- 1) Leaching test
- 2) Sulfur determination
- 3) Corrosion test

Important Notes:

For Normal soil, drawing no.: GETCO/E/STD/P-021 (1 of 2), R2 Dtd.04.06.2015 shall be used for execution purpose and supersedes earlier released drawings dated 30.07.14 & 08.10.14.

For Rocky soil, drawing no.: GETCO/E/STD/P-021 (2 of 2), R2 Dtd.04.06.2015 for execution purpose and supersedes earlier released drawings dated 30.07.14 & 08.10.14.

In Earthing Philosophy, terms "CI Pipe Electrode" and "Treated Electrode" shall be read as "Maintenance free Treated Earth pit" wherever indicated. It shall also be applicable for various equipment earthing drawings.

3.16. SPECIAL CONDITION FOR USE OF CEMENT IN WORK

1. The rate in Schedule "B" is inclusive of Cement Cost. Contractor has to purchase fresh 43 grade cement confirming to as per IS-8112 and of approved brand by GETCO.
2. Contractor has to construct "Pucca Godown" at site of the work so that Cement bags can be properly preserved to avoid damage due to any kind of Water.
3. The contractor shall have to procure cement by purchasing from the open market according to line requirement and keep sufficient quantities to avoid delay in work. Same quantity of cement is to be utilized from his own stock. Account of cement utilized at each location duly certified by concerned GETCO's supervisor and engineer in charge of work. The account is required to be maintained and submitted with each RA bill. No payment shall be made toward cost of cement bags utilized in each running bills without submission of cement consumption details. No wastage is permitted as same is to be procured by the contractor at his own cost from the authorized dealer approved by the GETCO. No wastages towards cement is permitted.
4. Cement should give the required strength of cement concrete.
5. To bring sufficient and timely cement at site is full responsibility of contractor. Nothing extra will be paid on account of any reason to maintain progress of work and to complete the work in Schedule time.
6. Contractor has to submit material A/c for consumption of cement used with every bill. In case of not submitting the same, bill will not be passed. Contractor has to submit the copy of cement purchase Bill along with each RA Bill/ Final Bill.
7. No negative variation will be allowed for consumption in cement then prescribed as per Booklet of Technical Specification of GETCO/Mix Design and nothing will be paid extra for over consumption.
2. Contractor is fully responsible for safety of cement at site, nothing will be paid extra on account of safety.
3. If GETCO's authorized representative wants to check cement stock at site, contractor has to allow for the same at any time.
4. Contractor has to maintain day-to-day cement consumption/balance at site.
5. As far as possible, Contractor has to maintain supply of cement of only one brand & grade through out the work and on account of closer/shortage of approved brand, cement of other brand in accordance No.(01) will be allowed by Engineer-in-Charge.
6. Minimum cement Consumption considered for cement concrete:-
 - a. M-20 : 8.2 Bags per CMT

- b. M-15 : 6.5 Bags per CMT
Contractor will be allowed to carry out work only after Physical Verification of cement brought at site.
7. The tor Steel bars required for RCC type foundation shall be procured by the contractor in advance to avoid delay in the work.
 8. No wastage is permitted for reinforcement steel and as reinforcement steel is to be procured by the contractor at his own cost. NO over lapping of RCC is permitted in foundation work.
 9. GETCO reserves right to test the quality of steel and cement procured by the contractor at any Govt. Recognized Laboratory and intended to be used for the tower foundation works. The test results shall be binding to the contractor closer /shortage of approved brand, cement of other brand in accordance of condition No.(01) will be allowed by Engineer-in-Charge.
 10. Contractor will be allowed to carry out work only after physical verification of cement brought at site.
 11. The Cement and Steel of companies/suppliers who are manufacturing for supplying are to be provided by contractor will be approved vendor of Getco..

3.17 11KV Common Standard Busbar Configuration with Integrated Adapter Cubicle
(Please refer the attached typical drawing No._GETCO/E/11S-STD/P-004A, Rev. R0 dtd.12.03.15)

The 11kV VCB Indoor panels shall be with Integrated Adapter cubicle, mounted on the top of the panel, meeting following specifications.

1. Cubicle

- The cubicle shall be of min. 2 mm thick MS sheet
- The exterior as well as interior of cubicle shall be painted with two coats of stoved enamel paint of shade 631 of IS: 5 with zinc phosphate treatment, after application of single coat of anti-rusting paint after seven tank process. Powder coating is also acceptable. Total thickness of paint shall be 80 µm min.
- It shall be completely dust and vermin proof complying requirements of degree of protection of IP 5X. The material, size, thickness and profile / configuration of metal sheet & gaskets shall be as per the type test report.
- Overall dimensions of the cubicle shall be such that it accommodates all the components viz. busbar, risers, bus post insulator etc. maintaining required clearances (Min.90mm for Ph to Earth and 170mm Ph to Ph) considering bare conductor. Insulation to Bus bar shall be provided as an additional protection. It shall also maintain aesthetic look of the panel.
- The rear cover shall have wire mesh provided behind it, so that the person opening the cover shall not have access to live parts of the adapter cubicle. The nuts shall be welded with cubicle so that all the bolts of the rear cover shall in position, thereby effecting complete closing of the cover.
- The cubical shall be installed on the top of the busbar chamber of panel.
- The pressure relief flap shall be mounted on the top of the cubicle to maintain internal arc test requirements of busbar chamber.

2. Busbars and Risers

- A set of 3-phase busbars and risers of electrolytic high-grade copper rectangular bars shall be provided in the adapter cubicle.
- The busbars of original panels shall be extended vertically upward by using risers to have the common standard horizontal busbar.
- **The original busbar shall also be retained in its position so that the same make panel can be connected without need of adapter cubicle.**
- The busbar shall be at the height of 2074mm from the bottom of the panel and the first phase busbar shall be at the depth of 972mm from front of panel (excluding front door width). The B- Phase shall be considered as the first phase the sequence shall be B -Y -R from the front of the panel. The center to center distance between phases shall be 200mm. The clearance between phase and earth shall be 90mm.
- The busbars and risers size shall be minimum 2 (Runs) x 75 (Width) x 10mm (Thickness) = 1500 mm² . The length of busbar shall be as per requirement depending upon the panels to be connected.
- The busbars and risers shall be suitably insulated by heat shrinkable sleeves having minimum dielectric strength 22kV/mm whereas busbar joints shall be covered with heat shrinkable shrouds having minimum dielectric strength 22kV/mm. Minimum thickness of sleeve shall be 1.2 mm. HT insulating tape shall not be used.

3. Earthing

- Earthing bus of electrolytic high-grade copper having min. cross section of 240 Sq. mm shall be provided and connected to panel earthing bus.

4. Bus Support Insulators

- Required numbers of bus support insulators shall be provided in the adapter cubicle.

5. Drawings to be submitted by the Bidder

- GA of panel with adapter cubicle (Front view, Internal view, Side view, Top view showing busbars, risers and support insulators arrangement, all the clearances, etc.). Please refer the attached typical drawing. _ Gasket details - Material, Size, Profile .

3.17 Brief Technical Specifications for Loose 11kV Adapter Cubicle

A. Work Description

To design, manufacture, supply and supervise the installation of 11kV Adapter Cubicle to connect 11kV Busbars of different make 11kV Indoor VCB panels at various substations.

B. Scope of the Work

Design, engineering, manufacturing, supply, dispatch to site and supervision of installation of 11kV Adapter Cubicle to connect 11kV Busbars of any of the following make 11kV VCB Indoor panels of different busbar configuration, as the case may be, at various substations of GETCO.

1. ABB Ltd.
2. Andrew Yule Ltd.
3. BHEL
4. Biecco Lawrie Ltd
5. Crompton Greaves Ltd.
6. Jyoti Ltd.

7. L&T Ltd.
8. Megawin Switchgear Ltd.
9. GEC / Alstom / Areva / Schneider Electric
10. Siemens Ltd.
11. Stelmec Ltd.
12. S&S
13. MEI

The type and designation of the panels to be connected are as indicated in the Schedule - A of the tender.

C. Inputs from GETCO

1. System data

11 kV adapter cubicle shall comply with the following system conditions:

- (a) Nominal system voltage - 11kV
- (b) Highest system voltage - 12kV
- (c) System earthing - Effectively earthed
- (d) Number of phases - 3
- (e) Rated Frequency - 50 Hz
- (f) Basic Insulation level:-
 - (i) 1.2 x 50 micro second impulse withstand voltage - 75 kVp
 - (ii) One minute power frequency withstand voltage - 28 kV rms

2. GA Drawings of existing 11kV Indoor VCB Panels.

3. Typical GA Drawing showing the required height and depth of the busbars. (Please refer the attached drawing No. GETCO/E/11S-STD/P-004A, Rev. R0 dtd.12.03.15)

D. Site Visit

The bidders shall visit the site for assessment of actual work involved and to collect any specific data / information.

E. Technical requirement:-

1. Cubicle

- The cubicle shall be of min. 2 mm thick MS sheet
- The exterior as well as interior of cubicle shall be painted with two coats of stoved enamel paint of shade 631 of IS: 5 with zinc phosphate treatment, after application of single coat of anti-rusting paint after seven tank process. Powder coating is also acceptable. Total thickness of paint shall be 80 µm min.
- It shall be completely dust and vermin proof complying requirements of degree of protection of IP 5X. The material, size, thickness and profile / configuration of metal sheet & gaskets shall be as per the type test report.
- Overall dimensions of the cubicle shall be such that it accommodates all the components viz. busbar, risers, bus post insulator etc. maintaining required clearances (Min.90mm for Ph to Earth and 170mm Ph to Ph) considering bare conductor. Insulation to Bus bar shall be provided as an additional protection. It shall also maintain aesthetic look with the existing panels.
- The rear cover shall have wire mesh provided behind it, so that the person opening the cover shall not have access to live parts of the adapter cubicle. The nuts shall be welded with cubicle so that all the bolts of the rear cover shall in position, thereby effecting complete closing of the cover.
- The cubical shall be installed on the top of the busbar chamber of existing panels.

- The busbars of one panel are at different height from the bottom of the panel and at different depth from front of panel (excluding front door width) than that of the other panel. The height and depth of the interconnecting horizontal busbar shall be at 2074mm height from the bottom of the panel and at the depth of 972mm from front of panel (excluding front door width). Accordingly the cubicles shall be designed.
- The existing busbar chamber top cover with pressure relief flap shall be dismantled and mounted on the top of the cubicle to maintain internal arc test requirements.

2. Busbars and Risers

- A set of 3-phase busbars and risers of electrolytic high-grade copper rectangular bars shall be provided in the adapter cubicle.
- The existing busbars shall be extended vertically upward by using risers to have the interconnecting horizontal busbars at a height of 2074mm. The first phase busbar shall be at the depth of 972mm from front of panel (excluding front door width). The B-Phase shall be considered as the first phase the sequence shall be B -Y - R from the front of the panel. The centre to centre distance between phases shall be 200mm. The clearance between phase and earth shall be 90mm.
- **The original busbar shall be retained in its position so that the same make panel can be connected without need of adapter cubicle.**
- The busbars and risers size shall be minimum 2 (Runs) x 75 (Width) x 10mm (Thickness) = 1500 mm². The length of busbar shall be as per requirement depending upon the panels to be connected.
- The busbars shall be suitably insulated by heat shrinkable sleeves having minimum dielectric strength 22kV/mm whereas busbar joints shall be covered with heat shrinkable shrouds having minimum dielectric strength 22kV/mm. Minimum thickness of sleeve shall be 1.2 mm. HT insulating tape shall not be used.

3. Earthing

Earthing bus of electrolytic high-grade copper having min. cross section of 240 Sq.mm shall be provided and connected to existing panel earthing bus.

4. Bus Support Insulators

Required numbers of bus support insulators shall be provided in the adapter cubicle.

5. Factory Acceptance Test

The following Factory Acceptance Tests shall be carried out during inspection

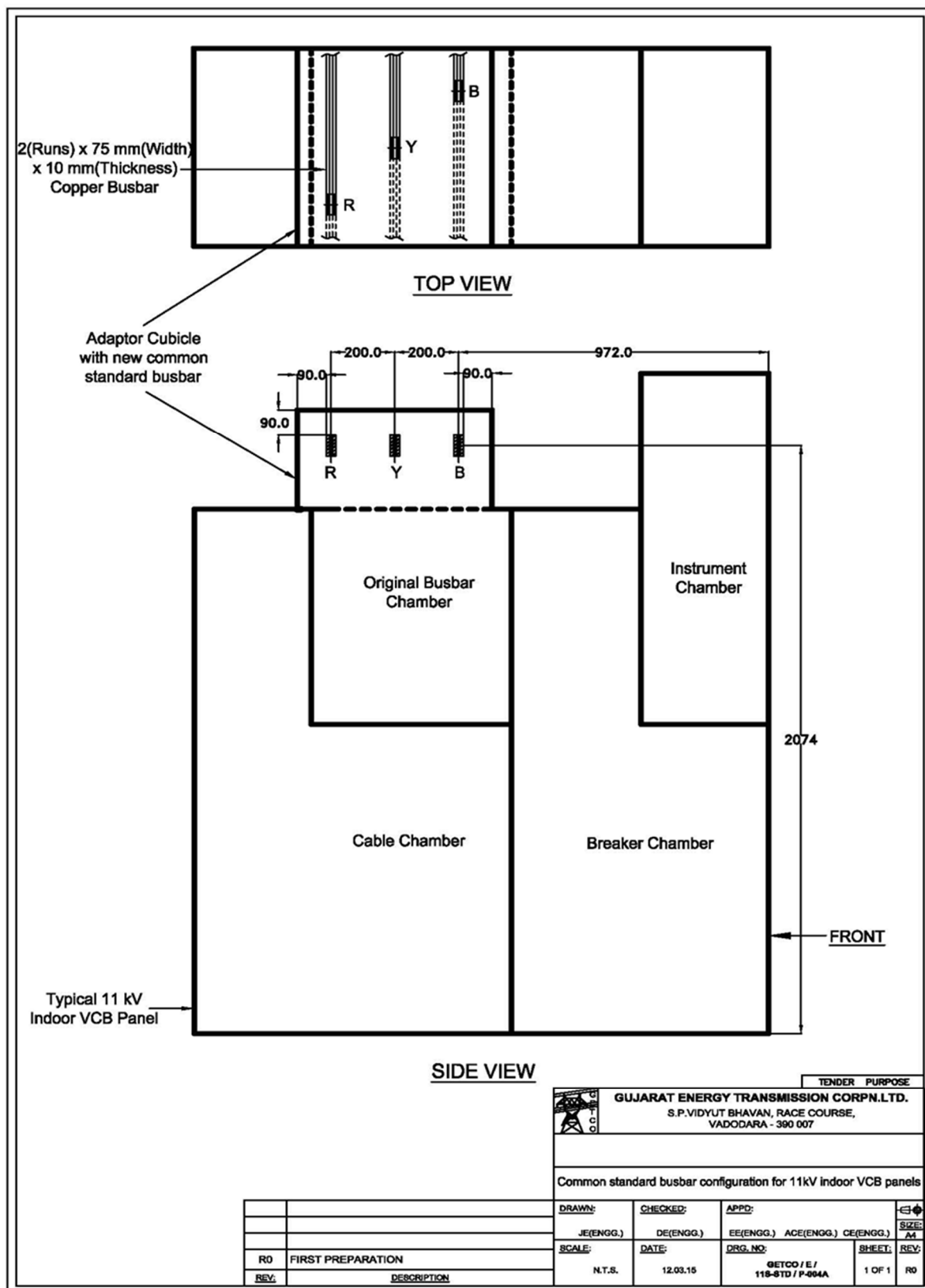
- Visual checks, physical verification and clearances measurements
- Power frequency voltage withstand test.

6. Supervision of Installation at Site.

- Supervision of installation of adapter cubicles on the busbar chambers of existing 11kV Indoor VCB panels to interconnect 11kV Busbar at GETCO substations is in the Bidder's scope of work. The scope includes all the materials and equipments whether specifically mentioned herein or not but required to complete the work in all respects.
- Successful Bidder shall be intimated well in advance to carryout supervision of installation at site. Depending upon the availability of shutdown, GETCO will confirm the date and accordingly the supervision of installation work shall be completed in the given shutdown period of 8 hours max.

7. Drawings to be submitted by the Bidder

- GA of adapter cubicle (Front view, Internal view, Side view, Top view showing busbars and support insulators arrangement, all the clearances, etc.)
- **F. Bill of Quantity.**
The Nos. of adapter cubicle shall as per the 'Schedule-A' of the tender.
It shall cover following materials (Quantity shall be as per design requirement):
 - a) 11 kV Busbar and risers
 - b) Earthing bus
 - c) Bus support insulators
 - d) Any other materials and equipments whether specifically mentioned herein or not but required to complete the work in all respects.



SCHEDULE –A

MATERIALS

Following material will be supplied by GETCO “free of cost” for “above Mention work”

- 1) G I Structures, accessories, attachments bolts-nuts, Angle, channel etc.
- 2) Conductor, conductor accessories, earth wire, earth wire accessories.
- 3) Insulators, insulator hardware's.
- 4) / 220 / 132 / 66 KV / 11KV/LT equipments with accessories and control and relay panels
- 5) Various sizes of armored control cables for control wiring of equipments.
- 6) Earthing materials like GI Strips. Galvanized wire etc.
- 7) 11KV Power Cable.
- 8) 11KV Indoor Cable Termination Kits if available with GETCO.
- 9) MS Girder, Channel, Angle sections for fabrication of various supports as included in respective items.
- 10) If available than 11KV single phasing switches, 11KV GO switches, 11KV LA, 11KV DO fuse set.

Following materials / equipments will be procured / arranged by the contractor activities for 6KV above mention S/S.

- 1) Tools tackles required for Sub-Station erection activities and stringing.
- 2) Earthing materials filter machine, hydraulic crane and hydraulic jointing machine/welding machines. GI pipe, coal, salt etc.
- 3) Wherever necessary cement, sand, metal, water for concreting works.
- 4) All required material for Colony & Yard Lighting, Control-Room Industrial Electrification and Staff-Quarter Residential Electrification work except GI angle required for fabrication for fixing of ICTPN.

TECHNICAL SPECIFICATIONS

1.0 Scope :

- 1.1 Detailed survey including profiling tower spotting, geo-technical investigation check survey, optimization of tower erection & resistance measurement
- 1.2 Taking delivery of tower and line material from the Board, checking them, transporting to contractors store and keeping in safe custody.
- 1.3 To take suitable storage-cum-erection insurance,
- 1.4 Distribution of all materials to erection site.
- 1.5 Excavation, sub-setting, concreting, back-filling etc. complete work for foundation including dewatering, shoring & shuttering, cutting of stubs, fabrication and supply of chimney material and form boxes etc.
- 1.6 Tower erection including fixing of attachments, accessories and tack – welding,
- 1.7 Stringing of ACSR Dog conductor/s and ground wire/s with providing jumpers etc. up to sub-station gantries at both ends and making LILO arrangement including dismantling work with one circuit in live condition wherever applicable and if such items included in schedule.
- 1.8 Procurement and supply of earthing material for pipe type and counter poise type Earthing as per the Board's approved drawing/s.
- 1.9 Procurement and supply of danger plate, number plate, circuit identification plate and

phase plate as per the Board's approved drawings.
- 1.10 Procurement and supply cement of 43 grades as per IS-8112 of approved brand by GETCO for casting of foundation of various type of towers as per approved foundation drawings and RCC steel TMT type.
- 1.11 Excavation of different types of foundation of various towers as per approved Board's drawing, erection of tower ,tack welding of bolt-nuts including supply and application of rich zinc primer and 2 coat of enamel paints for bottom most two panel (up to 10Meter)
- 1.12 insulator hoisting, stringing of conductor and earth wire including laying, jointing, jumpering and tree cutting of entire section for safe clearance.
- 1.13 Testing, commissioning and guarantee of all the activities carried out from (i) to (xii). The successful contractor has to arrange for all the tools/tackles and materials required for completion of transmission line at his own cost. Contractor shall only be responsible for damage or loss to erection tools.
- 1.14 All works shall be carried out in accordance with the revised and latest Electricity Act in force and rules made there under.
- 1.15 Successful contractor shall carryout all addition, alteration required to complete the line for commissioning at the same rates quoted in the offer for respective items. Any additional items which have not been covered in the specification & for which prices are not covered in the price schedule shall not be executed.
- 1.16 The scope of work described herein is only indicative. The contractor will complete all the works detailed in the schedule of quantities which will not be limited to work in scope mentioned herein.
- 2.0 Procurement of equipment, tools-tackles & materials:**
- 2.1 All the tools, equipment's required in sufficient quantity, shall be procured/arranged by the successful tenderer before the work is taken up on hand and Shall not link the delivery/completion period with procurement/arrangement made by him for these items tools/equipment's.
- 3.0 Drawing & Bills of Materials:**
- 3.1 The GETCO will provide drawings for foundation and earthing to be carried out for various types of towers to the successful tenderer.

Conductor and Earth wire parameters

Sr. No.	Description	CONDUCTOR	Earth wire
1)	Materials	ACSR DOG CONDUCTOR	GALV. STEELWIRE
2)	Size & stranding	6/4.72-AL	
7/1. 57-ST	7/3.15		
3)	Ultimate Tensile strength	32.41 KN	56.017 KN
4)	Weight	394 Kg. / Km	432 Kg. / Km

5)	Overall diameter	28.62 mm	9.45 mm
6)	Area of cross-section		
7)	Maximum working Tension at :		
	i) 32 Deg. C with full wind	650 Kg.	1285 Kg.
	ii) 0 Deg. C with 2/3rd full wind	810.5 Kg.	1315 Kg.
8)	Maximum sag under maximum temperature and no wind condition.	5.21 Mtr. At 67 deg.C	7.300 Mtr. At 67 deg.C.
9)	Modules of elasticity	930.36 Kg / mm ²	1.933x106 Kg/ mm ²

Sr. No.	Description	Conductor	Earthwire
1)	Materials	ACSR "Panther" CONDUCTOR	GALV. STEELWIRE
2)	Size & stranding	30/3.00mm-AL+ 7/3.00mm -ST	7/3.15mm
3)	Ultimate Tensile strength	89.22 KN	56.017 KN
4)	Weight	976 Kg. / Km	428 Kg. / Km
5)	Overall diameter	21.00 mm	9.45 mm
6)	Area of cross-section	261.2 mm ²	54.57 mm ²
7)	Maximum working Tension at :		
	i) 32 Deg.C with full wind	2800 Kg.	1420 Kg.
	ii) 0 Deg.C with 2/3 rd full wind	3050 Kg.	1480 Kg.

8)	Maximum sag under maximum temperature and no Wind condition.	8.260 Mtr. at 75 deg.C.	7.500 Mtr. at 75 deg.C.
9)	Modulus of elasticity	8000 Kg / mm ^2	1.933 x 10 ⁶ Kg/mm^2
10)	Co-efficient of linear expansion.	17.8 x 10 ⁻⁶ / Deg. C.	11.5 x 10 ⁻⁶ / Deg. C.
11)	Normal span	350 Mtrs.	350 Mtrs.

BOM WEIGHT OF 66 KV D/C TOWER SUITABLE FOR PANTHER

SR NO	TOWER TYPE	STRUCTURE WEIGHT	HARDWARE WEIGHT	TOTAL WEIGHT
1	"PP" – Template	238.472	4.792	243.264
2	"PP stub	117.288	0.040	117.328
3	TOWER 'PP'	1518.490	78.090	1596.580
4	P+3	301.700	6.204	307.904
5	P+6	628.248	16.198	644.446
1	"PQ" – Template	344.844	5.816	350.660
2	"PQ stub	178.992	0.992	179.984
3	TOWER 'PQ'	2108.436	95.553	2203.989
4	Q+3	525.268	16.523	541.791
5	Q+6	944.565	25.654	970.219
1	"PR" – Template	417.836	10.040	427.876
2	"PR stub	196.740	0.992	197.732
3	TOWER 'PR'	2370.409	106.521	2476.930
4	R+3	591.428	17.302	608.730
5	R+6	1208.672	34.689	1243.361
1	"PS" – Template	546.796	15.120	561.916
2	"PS stub	316.704	0.992	317.696
3	TOWER 'PS'	3337.735	134.187	3471.922
4	S+3	852.872	24.698	877.570
5	S+6	1631.720	46.809	1678.529

66kv D/C Tower line with Panther conductor

SR NO	TYPE OF TOWER	EXCAVATION		CONCRETING		RCC
				M20	M15	
1	NDS	NDS	DBC			
a)	Tangent- 2 deg	10.72	0	1.41	0	33
b)	Small Angle-15 deg	12.78	0	1.89	0	87
c)	Medium Angle-30 deg	10.2	0	2.18	0	107

d)	Large Angle-60 deg/DE	18.6	0	3.13	0	221
	Total					TOTAL
2	DBC	NDS	DBC			
a)	Tangent- 2 deg	0	32.75	4.53	0	85
b)	Small Angle-15 deg	0	49.59	5.99	0	191
c)	Medium Angle-30 deg	0	58.18	6.81	0	260
d)	Large Angle-60 deg/DE	0	93.31	9.53	0	543
	Total					TOTAL
3	PDBC	NDS	DBC			
a)	Tangent- 2 deg	6	6.3	2.28	0	34
b)	Small Angle-15 deg	7	7.63	3.306	0	115
c)	Medium Angle-30 deg	8	8.18	3.47	0	137
d)	Large Angle-60 deg/DE	15	14.54	4.76	0	344
	Total					TOTAL
4	NSSR	NDS	SR			
a)	Tangent- 2 deg	4.68	1.52	1.63	0	0
b)	Small Angle-15 deg	4.68	1.68	1.79	0	0
c)	Medium Angle-30 deg	4.68	1.78	1.8	0	0
d)	Large Angle-60 deg/DE	4.68	1.62	1.75	0	22
	Total					TOTAL
5	PSBC	DBC	BC WET			
a)	Tangent- 2 deg	33.14	29.81	8.42	1.1	236
b)	Small Angle-15 deg	47.04	47.04	11.3	1.57	448
c)	Medium Angle-30 deg	54	53.1	12.77	1.8	617
d)	Large Angle-60 deg/DE	82.14	95.83	18.79	2.74	1364
	Total					TOTAL
6	9 Mtr. extension (NSSR)	NDS	SR			
a)	Tangent- 2 deg	4.68	5.04	3.152	0	35
b)	Small Angle-15 deg	4.68	5.04	3.152	0	35
c)	Medium Angle-30 deg	4.68	5.04	3.152	0	35
d)	Large Angle-60 deg/DE	4.68	5.04	3.152	0	35

PART-II B

Technical Data Sheet

EXECUTION OF WORK:

1 SCOPE:

- 1.1 The erection works covered under this section consist of
- i) Check survey with minor survey work and if required original survey and profiling.
 - ii) Taking delivery of tower material including Bolt-Nuts accessories and Base plate assembly, conductor, earth wire, hardware for conductor and earth wire and insulator from GETCO store, transporting to erection site and keeping in safe custody. Taking delivery of line material from the board store and keeping in safe custody.
 - iii) to take suitable storage-cum-erection insurance,
 - iv) distribution of all materials to erection site,
 - v) excavation, stub-setting, pile foundation, concreting, back-filling etc. complete work for foundation including dewatering, shoring & shuttering, cutting of stubs, fabrication and supply of chimney material and form boxes etc.
 - vi) tower erection including fixing of attachments, accessories, base plate assembly and tack-welding including supply and application of rich zinc primer and 2 coat of enamel paints for bottom most two panel (up to 10 Meter)
 - vii) Stringing of ACSR/AAAC conductor/s and ground wire/s with providing jumpers etc. up to sub-station gantries at both ends and making LILO arrangement including dismantling work with one circuit in live condition wherever applicable and if such items included in erection Schedule of Price bid.
 - viii) Guarantee of all the activities carried out from (i) to (vii).
- 1.2 The successful contractor shall carry out all addition / alteration required for completion of line and up to commissioning the same at rates quoted in the offer for respective item. However, no items to be executed for which prices are not covered in price schedule.
- 1.3 All works shall be carried out in accordance with the revised and latest provisions under Indian Electricity Act and Rules made there under.
- 1.4 All the erection tools required during construction of lines shall be arranged by the contractor at his own cost. The contractor shall only be responsible for any damage to and / or loss of his erection tools.
- 1.5 Quantities given in the Schedule of erection in price Bid are to be executed by the contractor at the rates accepted by the Board in the A/T. In case of any deviation in tower quantity / type of tower / length of line, excavation / concreting resulting into an increase in which event the field officer shall obtain prior approval of the Head Office and excess quantity shall be paid only at the accepted rate of the A / T.
- 1.6 The erection work beyond contractual ceiling amount shall be done only after approval from the GETCO.

2.0 SURVEY

- 1.1. The bidder has to make check survey as per the profiles given by the Engineer in-Charge of the works. If any minor modification in alignment of the route or profiles, during check survey or while scrutiny of check survey is required, the same shall be carried out by the contractor at no extra cost to the GETCO.

1.0 WAY LEAVE, TREE CUTTING AND OTHER OBSTRUCTIONS

- 1.1 The Board will arrange for right of way and for tree clearance. Proposals in this connection will have to be

and submitted by the contractor well in time. It will also be necessary on the part of contractor to instruct his laborers and staff to use minimum area while doing the work where there are standing crops. No person of the contractor should pick any Items from standing crops or fruits. The contractor should take all possible steps to avoid or minimize damage to standing crops, etc. Contractor should use minimum space for transportation also during execution of work.

1.2 The contractor should immediately notify any obstructions or hindrance from local villagers or the local authorities in the execution of the work to the concerned Engineer-in-Charge but should not deal directly in the matter. The Engineer-in-Charge will arrange to remove the obstacles as soon as possible.

1.3 For clearances, permissions etc. from various authorities, the Contractor shall not remain contended by simply informing the GETCO, but shall invariably assist and arrange for personal follow up to overcome the difficulties in the interest of progress of the work.

4.0 ACCESS TO LOCATIONS:

4.1 It will be the contractor's sole responsibility to take the materials up to the location. Any path way, temporary road, temporary bridge required will have to be provided by the contractor at his cost. If, for any reasons the above is not feasible, the contractor at his own cost shall have to arrange transportation by head loads.

4.2 The contractor will be deemed to be very well familiar with the route of the transmission line before giving the offer. Notwithstanding the difficulties of terrain, location approaches, way leave and other obstructions the price quoted for all the items of erection shall not undergo any change at any stage or granted by the GETCO for any special rates/consideration.

5.0 EXCAVATION:

5.1 The excavation will be limited to the volumes as per approved excavation drawings even though the Contractor may excavate more for the sake of his own convenience or for any reasons. If the excavated dimension/s is/are more than the dimension/s shown In the approved drawing, the additional excavated volume should be filled in with 1:4:8 mixture concrete at Contractors cost in respect of materials, labors etc.

5.2 In case of rock soil, the extra excavated rock portion on all sides shall be filled with 1:2:4 mix concrete at his own cost in respect of materials, labors etc.

5.3 The rates indicated in schedule for excavation work in each soil shall be applicable to all the locations as per actual condition of the soil strata irrespective of classification of type of foundation.

5.4 The rates for excavation indicated in schedule shall also be applicable for benching work, if required.

6.0 SHORING, SHUTTERING AND DEWATERING:

The Contractor has to arrange for shoring, shuttering and dewatering work during activities of excavation, stub setting and concreting. These shall be done at his own cost.

7.0 STUB SETTING:

7.1 The rates for stub setting are inclusive of cutting of stubs (if any), setting of stubs, leveling at correct level, dismantling of template after concrete, back-filling work etc.

7.2. Above rates shall be on per MT basis for normal, extensions up to 21 meters and special/river crossing towers.

7.3. The weights payable for stub-setting item shall be comprising of the weight of stub and its respective stub setting template as per approved bill of material.

8.0 CONCRETE:

8.1. The rates indicated in schedule for concrete work shall be applicable to all the locations irrespective of soil strata and type of foundation adopted. The Contractor shall have to procure cement from the open market according to line requirement and keep sufficient quantities to avoid delay in work. Same quantity of cement is to be utilized from his own stock. Account of cement utilized at each location duly certified by concerned GETCO's supervisor and engineer in charge of work, is required to be maintained and submitted with each R.A Bill. No payment shall be made toward cost of cement bags utilized in each running bills without submission of cement consumption details. No wastage is permitted as same is to be procured by the contractor (of approved brand by the GETCO) at his own cost from the authorized dealer.

8.2. Use of Cement :

- 1) The rates in Schedule-'B' are inclusive of cement cost. Contractor has to purchase fresh 43 grade cement conforming to as per IS 8112 and of approved brand by GETCO
- 2) Contractor has to construct pacca go down at site of work, so that cement bags can be properly preserved to avoid damage due to any kind of water.
- 3) Contractor has to bring sufficient quantities of cement bags and at no time less than 200 (two hundred) bags to maintain progress of work. The work should not suffer for want of cement.
- 4) It is full responsibility of contractor to bring sufficient & timely cement at site. Nothing extra will be paid on account of any reason to maintain progress of work and to complete the work in schedule time.
- 5) Cement should give the required strength of cement concrete.
- 6) Contractor has to submit material account for consumption of cement used with every bills. In case of non submission of the same, bill will not be passed. Contractor has to submit the copy of cement purchase bill along with each RA Bill/Final Bill.
- 7) No negative variation will be allowed for consumption of cement with respect to quantity then prescribed as per booklet of technical specification of Board/mix design and nothing will be paid extra for over consumption.
- 8) Contractor is fully responsible for safety of cement at site, nothing will be paid extra on account of safety.
- 9) If Board's authorized representative wants to check cement stock at site, contractor has to allow for the same at any time.
- 10) Contractor has to maintain day to day cement consumption/balance account at site.
- 11) As far as possible, contractor has to maintain supply of cement of only one brand & grade throughout the work and on account of closer/shortage of approved brand, cement of other brand in accordance of condition no.(1) will be allowed by Engineer-In-Charge.
- 12) Minimum cement consumption considered for cement concrete will be:-
 - a. M20 Grade Concrete. - 8.2 Bags per CMT
 - b. M15 Grade Concrete - 6.5 Bags per CMT

Contractor has to use minimum cement as above. Contractor should not use less than the prescribed quantities of cement, even in the case of mix design which recommends lower quantity. Contractor will be allowed to carry out work only after physical verification of cement brought at site.

- 8.3 The GETCO reserves the right to test the quality of steel and cement procured by the contractor at any Government recognized laboratory and the test results shall be binding to the contractor. If the test results are not found satisfactory the entire lot supplied and work executed has to be replaced / re-executed by the contractor at no extra cost to the GETCO.
- 8.4 Back filling of the excavated soil is to be arranged by the successful bidder. For back filling if borrowed earth is required, the same should be arranged of suitable quality and quantity irrespective of lead at no extra cost to the GETCO.
- 8.5 The sand shall be of the best quality containing hard siliceous materials, clean and of sharp angular

grit type and free from earth or organic matter or salts and to the satisfaction of the Engineer in-charge. The sand shall be washed before use. No saltish or brackish water shall be used for concreting.

- 8.6 The mixture of concrete to be used shall be such as to produce a sound, compact and water-proof concrete. The mixture shall not be weaker than the ratio to be prepared. The concrete for chimney shall be prepared with 20 mm stone metal and the concrete for pyramid/step/pad shall be prepared with 20 mm or 40 mm stone metal. The mixture shall be prepared using mixing machine only. It should also be free from grit and dirt. The concrete shall be mixed as stiff as required for placing concrete in the form of moulds with ease and degree to which concrete resists segregation will permit. Hence, the quantity of water used should not be too much.
- 8.7 Proper form or moulds adequately braced to retain proper shape while concreting should be used for chimney, pyramid and slab portions & vibrator machine shall be used at the time of concreting. Form boxes should be water tight so as not to allow cement cream to come out leaving only sand and gully to form honey combs in concrete. Form boxes should be cleaned and oiled before using for concreting.
- 8.8 All sub-merged locations must be kept completely dewatered both during the placing of concrete and for 24 hours after completion. There should be no disturbance of concrete by water during this period.
- 8.9 Form boxes should not be removed before 24 hours, after concreting. Concrete surfaces where required should be set right with rich cement and mortar after removal of the forms.
- 8.10 The Chief Engineer (Projects) or Engineer appointed by him at his sole discretion may uncover any cast foundation to find out the workmanship of foundation. Contractor shall render necessary assistance during such fact finding operation and shall comply with the report of the investigating officer.
- 8.11 The contractor will be responsible for constructing the foundations in accordance with the design of each type of foundation supplied by the GETCO.
- 8.12 The payment of excavation will be limited to the volumes as per approved excavation drawings even though the Contractor may excavate more for the sake of his own convenience or for any reasons. If the excavated dimension/s is/are more than the dimension/s shown in the approved drawing, the additional excavated volume should be filled in with 1:4:8 mixture concrete at Contractors cost in respect of materials, labours etc.
- 8.13 In case of rock soil, the extra excavated rock portion on all sides shall be filled with 1:2:4 mix concrete at his own cost in respect of materials, labors etc.
- 8.14 The rates for excavation indicated in schedule shall also be applicable for benching work, if required.
- 8.15 The tor / plain steel bars required for RCC type foundation shall be procured by the Contractor in advance to avoid delay in the work.
- 8.16 No wastage is permitted for reinforcement steel, as the same is to be procured by the contractor at his own cost. NO over lapping of RCC is permitted in foundation work.
- 8.17 GETCO reserves right to test the quality of steel and cement procured by the contractor at any Govt. recognized Laboratory and intended to be used for the tower foundation works. The test results shall be binding to the bidders & GETCO.

9.0 Classification of Soil.

- a) Normal Dry Soil: The soil readily removable with ordinary spades and shovels viz. Murram hard murram etc. and to be used for location in normal dry co-hesive or non cohesive soils. If the black cotton soil is encountered up to 500 mm below ground level, normal dry soil foundation shall have to be adopted. (The normal dry soil foundation designs shall be inclusive

- of this stipulation)
- b) Fully submerged black cotton Soil.
- c) To be used at locations where soil is clay type, not necessarily black in color, which shrinks when dry and swells when wet, resulting in differential movement extending to a max., depth of 3.5 meter below ground level. For designing foundation for this location the soil is to be considered submerged in nature. If the black cotton soil is encountered only up to 500 mm from ground level, normal dry soil foundation shall be adopted. (This foundation design shall be inclusive of this stipulation).
- d) Soft Rock:
To be used at locations where decomposed or fissured rock, hard gravel, kankar, lime stone, laterite or any other soil of similar nature is met. Undercut type foundation is to be used for soft rock locations.
- e) Hard Rock
To be used at locations where chiseling, drilling, and blasting is required.
- f) Fully submerged soil:
To be used at locations where sub soil water table is met at less than 1.50 meter below ground level and up to complete depth of foundation.
- g) Partially submerged soil:
To be used at the locations where the submerged soil water table is met at 1.5m or more than 1.5 m below the ground level, the top portion of the strata being normal dry soil. Soil strata for adopting various types of foundations:

Sr. No.	Type of composite soil	Type of foundations to be adopted
A)	1) Dry black cotton soil up to 500 mm below ground level and balance dry normal 2) Black cotton soil from 500 mm up to 1500 mm below ground level and balance normal dry soil 3) Black cotton soil beyond 1500 mm below ground level 4) Normal soil up to 1.5 m below ground level and below that black cotton soil	Normal(dry) Partially dry black cotton Fully dry black cotton Partially dry black cotton
B)	1) Dry black cotton soil up to 500 mm below ground level, then normal soil up to 1m and balance soft rock up to complete depth of foundation 2) Dry or wet black cotton soil up to 1.5 m below G.L and balance soft rock up to complete depth of foundation. 3) Soft rock for entire depth.	Soft rock Soft rock Soft rock
C)	1) Dry black cotton soil upon 500mm below G.L. then normal soil up to 1m. and balance hard rock up to complete depth of foundation. 2) Black cotton soil up to 1.5m below G.L. and balance hard rock for complete depth of foundation. 3) Hard rock strata for entire depth	Hard Rock Hard Rock Hard Rock

10.0 **Curing and back-filling :**

- 10.1 After 24 hours of pouring, the concrete should be cured by keeping it continuously wet for 14 days. After 48 hours of pouring, the pit may be backfilled with excavated selected earth (which is free from grass, dung, wooden waste, postures and fodder woods, shrubs, thorn etc.) sprinkled with necessary amount of water and well compressed and consolidated in layers not exceeding 150 mm. If the excavated soil consists of large boulders/stone, the same shall be broken to maximum size of 80 mm and mixed with soil to be back filled. At the locations where borrowed earth is required for back filling, this shall be done by the Contractor at his own

cost, irrespective of transportation from any lead. Thereafter, the exposed top end fill shall be kept wet for the remainder of above prescribed curing period. The uncovered portion of concrete chimney above the back filled earth shall be kept wet by providing empty gunny bags fully wrapped around the concrete chimney for curing and ensure that the bags are kept wet by frequent pouring of water on them.

- 10.2 Extra ordinary care be taken during back filling. The contractor and Board's Engineer at site shall ensure that the back filling is done in the manner referred above so that back-filled earth become homogeneous with surrounding parent soil with the passage of the time. The record for the same with day/date of curing, back filling etc be maintained in the register and duly signed by the contractor and Board's representative. The quantities of excavated earth obtained from a particular location shall be generally utilized in back filling work in protection of tower footing of same location unless it is unsuitable for such purpose. In the later case, the back filling shall be done with borrowed earth of suitable quality irrespective of lead and the consolidated of earth shall also be done free of cost.
- 10.3 The rates of stub setting are including the work of back filling of excavated pit. The large stones / boulders shall be broken to maximum 80 mm size before used for back-filling at no extra cost to the Board.

11.0 PROTECTION OF TOWER FOOTING :

Quantities of various protection works like stone revetment, concrete revetment, brick masonry and random stone masonry to the foundations are to be executed by the successful contractor if indicated in the schedule and payment for such quantity shall be as per unit rates accepted.

12.0 TOWER ERECTION AND GROUNDING:

(a) ERECTION OF TOWERS:

- 12.1 The super-structure of towers should be erected on foundations after 14 days of concreting. However, the method adopted for erection of tower is left to the discretion of the contractor subject to the condition that he takes responsibility for any damage to materials. No tower member should get strained or bent during erection. The towers must be truly vertical after erection and no straining would be allowed to bring it in alignment. Maximum tolerance in verticality that will be permitted is ONE mm per 360mm of tower height. The bolt head shall be on outside faces and nuts and washers on inside faces of the tower. All bolts & nuts shall be made fully tight and finally the bolt threads shall be centre punched to avoid nuts getting loose. Punching of bolts shall be made by chamfering the threads with centre punch at least at three places equally spaced on contact surface of bolts and nuts.
- 12.2 Complete tower erection shall include erection of all accessories like danger plate, number plate, phase plate, C.I. Plate, Anti-climbing devices and fittings including attachments like step bolts ladders, platforms, 'U' bolts, shackles, hangers, strain plates etc.
- 12.3 Suitable tower extension shall be erected to get desired ground clearance whenever required, as determined at the time of survey and profiles.
- 12.4 To avoid pilferage of bolts and nuts and tower members, the bolts of the two bottoms most panels (say upto 10 meters) shall be tack welded at three places on the nuts diametrically. The zinc rich paint shall be procured by the Contractor at his own cost and shall be applied immediately following the tack welding.
- 12.5 The contractor shall measure the tower footing resistance of each tower after it has

been erected and before stringing of the earth wire during dry weather. Each tower shall be earthed, the tower footing resistance shall not exceed 10 ohms. Pipe type and counterpoise type earthing wherein required shall be done in accordance with the latest addition and revision of IS : 3043 (code of practice for earthing).The Contractor shall measure the footing resistance of each location and prepare the record for submission and approval of Engineer- in-Charge for deciding the type of grounding to be provided.

12.6 Pipe Type Earthing :

At locations where footing resistance does not exceed 10 Ohms. , the pipe type earthing as per appended drawing shall be provided. The contractor will have to supply all the materials required for grounding like pipe, flat, bolt- nuts, salt, fine broken coke/charcoal etc. The earthing is to be done by making a bore hole for insertion of pipe away from the tower leg excavation line.

12.7 Counterpoise Earthing :

At locations, where footing resistance exceeds 10 Ohms, counterpoise earthing as per appended drawing shall be provided to bring down the tower footing resistance below 10 Ohms. The Contractor will have to supply all the materials required for grounding like lugs, G.I. wire, bolts, nuts etc. The counterpoise earthing shall be buried 600 mm below ground level.

12.8 The method for providing earthing shall be at the discretion of the Contractor.

12.9 The rates for erection of structure of tower and extension up to 21 meters and special / river crossing tower on special foundation/pile foundation carried out by contractor shall be on per MT basis. These rates shall be valid irrespective of location, nature and specification.

12.10 The payment for superstructure / extension / special or river crossing tower shall be paid only after erection of complete tower as per structural drawing.

12.11 The rates for fixing of anti-climbing devices, danger plate, number plate, phase plate, circuit identification plate all be inclusive of all materials and labor thereof.

12.12 The rates for providing earthings to the tower either pipe type or counterpoise inclusive of supply of complete earthing set, coke, charcoal, salt etc. including required bolt nuts as per approved drawing all materials and labor thereof.

12.13 The contractor shall arrange for all the equipments for tack-welding purpose. The rates shall be inclusive of supply and application of zinc rich paint on it.

12.14 The Contractor shall arrange required equipments for measurement of soil and tower footing resistance of each location and submit the joint measurement record of same jointly signed by contractor and Engineer in charge of line with final bill. The payment shall be released only after receipt of final soil resistance details on providing earthing at each location.

13.0 INSULATOR HOISTING:

13.1 Suspension insulator strings shall be used on all tangent type towers and tension insulator strings on all small, medium, large angle and dead end type tension towers. Technical particulars of insulator strings are appended herewith.

13.2 Insulators strings shall be assembled on ground. These shall be cleaned and examined for hair cracks, chips or defective glazing (not exceeding half centimeter square in case of porcelain insulators) and then hoisted by careful handling. The work will include fixings of all hardware and fittings in their proper places and order.

14.0 STRINGING

14.1 The rates for any type of stringing work, out of followings are indicated in Schedule.

- i) stringing of one ground wire/s,
- ii) Stringing of single / double circuit line.
- iii) hot-line stringing of conductor,

iv) LILO arrangement

- 14.2 The rates for stringing of conductors and ground wire for special crossings like river shall be on per KM basis only and shall be paid according to actual work done. In case special towers are suspension type, the special shall mean major river crossing section considering the span from one anchor tower to the other end anchor tower. If the special towers are tension type, the special crossing shall mean span from special tower to special tower of other end.
- 14.3 The stringing work should be planned in such a manner in consultation with the Engineer in charge of the work that minimum shut down of power line crossings are required. Revenue loss due to any undue shut down i.e. after the shutdown is arranged and required to be extended on account of contractor shall be recoverable from the contractor.
- 14.4 The Contractor shall be responsible and will take care of proper handling of drums from stores to site. Sufficient numbers of aluminum snatch blocks shall be used for paving out the ACSR/ Conductors. Necessary precautions shall be taken to avoid conductor rubbing on the ground by providing adequate ground roller, rollers on supports. Additional rollers shall also be provided to cross thorny hedges, footing and other obstructions to avoid scratching of conductor. The conductor and ground wire shall be made to sag correctly as per stringing charts, before they are finally transferred to the hardware for conductors and to clamps for ground wire. No joint should be made at less than 30 meters from the tower end and no joint shall be permitted in Railway, River, road and other important crossings spans. There shall not be more than one joint in a span of each conductor. The sag Board, if used shall be adjusted to suit the sag indicated against actual temperature for an individual span. The thermometer shall be provided at the conductor point during the stringing work. Dynamometers shall be used in tensioning the conductors. All conductors shall be stressed to their maximum working load at the time of stringing, as per approved stringing charts.
- 14.5 The minimum clearance between the lowest point of conductor and ground shall not be less than required. All compression joints should be carefully made and a record of initial and final lengths of the joints jointly signed by Contractor's and Board's representatives should be maintained. Check for sag should also be made at intervals when conductors are drawn up. Over stressing, causing damage to towers should be avoided. Care should be exercised not to over tension the conductor. Extra sag of 150 mm be allowed at all the important tension locations like Railway/River Crossings.
- 14.6 After being pulled the conductor/ground wire shall not be allowed to hang in the stringing sheaves for more than 72 hours, before being pulled to the specified sag. During the time the conductor / ground wire is on the stringing sheaves before sagging-in, it shall be ensured that the conductor / ground wire is not damaged due to wind, vibration, vehicles or other causes. Scaffolding should be used to cross the important roads and Railway Crossing for minimum interruption to traffic.
- 14.7 The conductor shall be pulled up to desired sag and left in serial stringing sheaves for at least one hour after which the sag shall be rechecked and adjusted, if necessary, before clipping in and transferring the conductors from the serial stringing sheaves to the suspension clamps.
- 14.8 Conductor shall be clamped within 24 hours of sagging. The sag will be checked in the larger spans of the section in case of sections up to eight spans and in one intermediate larger span also for section with more than eight spans.
- 14.9 The stringing sheaves, when suspended on the transmission structure for sagging, shall be so

adjusted that the conductor will be on the sheaves at the same height as the suspension clamp to which it is to be secured.

- 14.10 The stringing of the ground wire shall be done in accordance with the stringing charts approved by the Board. The ground wire shall be strung to run continuously over the conductors. The ground wire shall be pulled, sagged and clamped-in from tension tower to tension tower before the phase conductors are pulled in that section.
- 14.11 All the line conductors shall be terminated at sub-station structures whose details shall be furnished by the Board at the appropriate time. The contractor shall fix strain insulators on the sub-station structures.
- 14.12 Armor rods and vibration dampers shall be fitted at each suspension tower before final clamping of conductor with Insulator strings. Vibration damper shall be fitted at each tension tower after final clamping of conductor with insulator strings. Vibration dampers are to be fixed using aluminum tape with each clamping bolt and in correct vertical position in relation to conductor. Compression type joints are to be used for jointing of conductors. Each part connected with joints shall be perfectly cleaned by wire brush and properly greased before final compression. All the joints of conductors and earth wire shall be made in the best workmanship manner and shall be perfectly straight and having maximum possible strength.
- 14.13 Proper guys shall be provided to counter balance the paving out tension of conductor/Ground wire at the tension locations, to avoid damage to towers and/or accident.
- 14.14 Stringing work shall mean, the activities of fixing of insulator and insulator hardware's, paving, jointing, tensioning, clamping with armour-rod, providing dampers, repairing of conductors (if any) and fixing the conductor at tension hardware's etc.

15.0 TESTING AND COMMISSIONING:

- 15.1 The Contractor after completion of erection work will ensure that all works connected with line have been completed. These works shall be done correctly as per Indian Electricity Rules and Procedures. Any extra cost involved due to incompleteness of work or bad workmanship found out subsequently shall be set right forthwith by the Contractor at his own cost.
- 15.2 After the erection is completed in all respects, the line should be thoroughly patrolled and checked for continuity and clearances. The line should be meggered to check its insulation level. Afterwards a written confirmation should be given to the Engineer-in-Charge that the men, materials, tools and earthings (if any) are removed and the line is safe for charging. On charging the line, if it does not hold and trips, the contractor should arrange to patrol the line and find out the causes for the tripping and rectify the defect at no extra cost to the GETCO.

16.0 HANDING OVER OF LINE DOCUMENTS:

- 16.1 On completion of all erection activities, the contractor has to furnish following information along with technical details to concerned Engineer-in-Charge of the work in triplicate duly bound:-
- 1) Approved surveyed route with permanent marks, (To be obtained from the GETCO)
 - 2) Approved copy of profiles with tower schedule, (To be obtained from the Board except for portion where any change is approved)
 - 3) Location wise soil strata details of each pit excavated, type of foundation executed, volumes of excavation & concrete and RCC steel weights,
 - 4) Details of revetment, retaining walls, etc., work done for protection of tower footing and their approved drawing copies,
 - 5) Approved copies of excavation plan and foundation drawings, (To be obtained from the Board)
 - 6) Approved copies of structural drawings of stubs, templates, towers, extensions, etc., (To be obtained from the Board)

- 7) Approved copies of stringing charts,
- 8) Value of tower footing resistance jointly measured before & after providing earthing and type of earthing executed, duly signed by in charge engineer of line.
- 9) Details of spans and phase where mid span joint, repair sleeve used,
- 10) Location wise type and numbers of insulators, insulator hardware's, earth wire hardware's, conductor accessories, provided, etc.
- 11) Separate detail of each crossing like road, river, railway, power line, P&T Line, etc and details of clearance as per Indian Electricity Rules.

17.0 GENERAL:

- 17.1 The Contractor shall ensure that at the end of each sub-activity the surplus material is immediately removed from the work-site to avoid loss and injury to the public.
- 17.2 The Contractor has to reconciliation of material account and settle final bill including signature in all relevant papers required for passing of final bill within three month from the date of charging / commissioning of line.
- 17.3 A lump sum amount of 6 % of the order value OR Rs.1.0 lacs whichever is less, will be withheld From the running bills of stringing work, which will be released only after handing over of these documents to the satisfaction of concerned Supdt. Engineer (Trans).
- 17.4 The contractor has to return empty Conductor / Earth wire Drums if it is Steel Drum. For non return of Empty steel drum recovery will be made from their progressive running bill as mentioned below:-

Unit weight of empty drum in kg x standard rate of store for steel scrape = unit cost of steel drum in Rs.

For wooden Drums, contractor has not to return the empty Conductor/Earth wire Drums for the conductor/ E/W used for this line.

18.0 WASTGES:

- 18.1 The contractor shall make every effort to minimize the breakages, losses and wastages of line material etc. supplied " Free of cost " by the GETCO for line Erection work.
- 18.2 The maximum ceiling for wastages permitted is as under:

The maximum ceiling for wastages permitted is as under:		
Sr no	Item	% Wastages permitted (Max.)
1	conductor & earth wire	1/2 % (for jumpering & sag)
2	conductor & earth wire	1/2% (for credit s scarp of cut piece length (from 10 mtrs up to 30 mtrs)
3	conductor & earth wire	2 % (for credit in pieces s good conductor from > 30 mtrs up to 100 mtrs)
4	Insulators	1/4 %

- 18.3 All the wastages are accountable except for items (i) of Clause No.18.2. The account of permissible wastages shall be maintained at site in the registers as prescribed by the Engineer-in-Charge of works, which will be subjected to periodical checking by purchaser's authorized representatives.
- 18.4 The account of wastages shall also be submitted on monthly basis (with running accounts bills) to the Engineer-in-Charge of works. The copy of R.A. Bill shall also be submitted to the concerned Executive Engineer & Superintending Engineer (TR) of the GETCO.

DETAILED SPECIFICATION FOR ERECTION OF 66KV 'H' FRAME TRANSMISSION LINE:

1. The Contractor has to collect all fabricated materials of 'H' Frame like bracing angle, channel cross arm, guy set Girder pole etc. from the GETCO's Bharuch store by making his own arrangement without damaging the any materials and to be kept in contractor's site store duly stacked position to check the materials by The GETCO's Supervisor.
2. This includes the Excavation of pit in any type of soil for erection of Girder Pole and Guy Sets as per drawings.
3. Assembly of Line 'H' frame structures as per drawing by using proper size of bolts and nuts as per drawing, duly tightened and aligned properly in erection condition. Require size of bolts and nuts to be procured by Contractor (at his cost) to be approved by Engineer in charge.
4. The 'H' frame structure must be painted with cost of anti-corrosive red oxide paint by cleaning the rest from all members and painting with two coats of Aluminum paint to paint to entire structure.
5. Concrete of structures and guys. All materials for concrete to be provided by Contractor including cement.
6. Stringing of Conductor: This includes collection of conductor drums from The GETCO's Store to site without damaging the conductor, jointing, fixing of Insulators, tensioning, clamping with tension Hardware, fittings of suspension Hardware, armor roads, Vibration dampers, jumpers and making through the line by using tension meter.
7. Earthing of Structures: -The girder pole is to be earthed with separate earth pit provided in center of the structure as per standard drawing. All bolts nuts must be properly tightened to avoid loose earthing. The contractor has to submit earth resistance value of all earthing pit on completion of Line work.
The contractor has to supply and provide Enameled Type Danger and Number plate on each location while enameled phase on important locations as decided by Engineer in charge.
8. Anti-climbing device as per the approved drawing is to be supplied and provided on each location.
9. The Contractor has to give guarantee for safe charging of the line and if any points raised by the Electrical Inspector is to be solved and rectified without any extra cost. It will be full responsibility to hand over the line to the concerned by attending the points raised by Transmission Division.
10. ROUTE OF THE LINE: -
The proposed route of the line is roughly shown in the drawing available in the office of the Executive Engineer, Const. Division, Bharuch. However, the actual execution of work is to be done as may be instructed by the Engineer in charge of the work considering the site requirements.
For marking the position of location, if any space is required to be cleaned or leveled, same shall be done by the contractor.

SCHEDULE – ‘ A ‘

Following material will be supplied by GETCO “free of cost” for erection of transmission line:

- 1) Towers, stubs, templates, tower accessories, bolts-nuts, **H-frame DP Structure, H-frame DP Structure Accessories Stay Sets, Stay wire etc.**
- 2) Conductor, conductor accessories, earth wire, earth wire accessories
- 3) Insulators, insulator hard wares.

Following materials / equipments will be procured / arranged by the contractor for erection of transmission line.

- 1) Cement as per IS –8112
- 2) Barbed wire.
- 3) Earthing sets.
- 4) Zinc rich paint for bolt-nuts welded portion
- 5) Various plates namely DP / NP / PP / CIP.
- 6) Other materials and tools-tackles required for erection activities like survey, foundations, tower erection and stringing.
- 7) Tor steel bars required for reinforcement.
- 8) **Nuts/Bolts required for H-frame DP Structure.**
- 9) **Boring machine and other tool required for bore type earthing for DP Structure**

STORE CENTRES

Line materials will be issued from following Store Centers:

Sr. No.	Name of Line	Store Centers for issue of line materials.
1	<u>Erection of structure, equipments, control wiring, yard Lighting, Control-Room Electrification etc. at at 66KV Dhunsol S/S, Ta: Lakhani, Dist: Vav -Tharad with Erection of 66KV D/C LILO line at Proposed 66KV DHUNSOL Substation from existing 66KV CHEKARA - KOTDA LINE on D/C Panther Tower with ACSR Panther Conductor.</u>	Kansari store or any store of the GETCO or as per instruction of Engineer-in- charge

Note: Generally, all required materials will be issued form above store center. In case of non-availability of some items, contractor shall have to collect from other nearby store centers without extra cost to the Board.

GUJARAT ENERGY TRANSMISSION CORPORATION LIMITED
TRANSMISSION CIRCLE – PALANPUR.

I N T E G R I T Y P A C T
OUR ENEAVOUR

To create environment where Business confidence is built though best business practices and is fostered in an atmosphere of trust and respect between providers of goods and services and their users for the ultimate benefit of society a the nation.

GETCO COMMITEMNT

- ☐ To maintain the highest ethical standards in business and professional
- ☐ Ensure maximum transparency to the satisfaction of stakeholders.
- ☐ To ensure to fulfill the terms of agreement / contract and to consider objectively the viewpoint of parties.
- ☐ To ensure regular and timely release of 9payment on due dates for work done.
- ☐ To ensure that no improper demand is made by employees or by anyone on our behalf.
- ☐ To give maximum possible assistance to all the Vendors / Suppliers / Service provider and other to enable them to complete the contract in time.
- ☐ To provide all information to suppliers / contractors relating to contract / Job which facilitate him to complete the contract / job successfully in time
- ☐ To ensure minimum hurdles to Vendors / suppliers / contractors in complete of agreement / contract / work order.

PARTY'S COMMITEMENT

- ☐ Not to bring pressure recommendations outside GETCO to influence its decision.
- ☐ Not to use intimidation, threat, inducement or pressure of any kind on GETCO or any of its employees under any circumstances.
- ☐ To be prompt and reasonable in fulfilling the contract, agreement, legal obligations.
- ☐ To provide goods and / or services timely as per agreed quality and specifications at minimum cost of GETCO.
- ☐ To abide by the general discipline to be maintained in our dealings.
- ☐ To be true and honest in furnishing information including payment to agents / sub-agent.
- ☐ Not to divulge any information, business details available during the course of business relationship to others without the written consent of GETCO.
- ☐ Not to enter into carter / syndicate / understanding whether formal / non formal so as to influence the price.

Seal & Signature
(GETCO Authorized Signatory)
Penalty Clause: FOR SAFETY

Seal & Signature
(Party's Authorized Person)

Penalty:

1. In case if any safety related fatal Elect. / Mech. accident occurred to any employee of agency or outsider due to negligence or non-compliance of GETCO safety norms then in addition to the compensation and liability as per statutory requirement, contractor / agency shall be penalized as under:

Sr. No	Amount of Contract in Rs.	Penalty amount
1	Up to →1 Lac	Rs.5000/-
2	Above1 Lac to → 10 Lacs	Rs.25000/-
3	10 to --→ 100 Lacs	Rs.100,000/-
4	> 100 Lacs	1.0 %

NOTE:GST is Applicable of All Above Mention Amount.

2. Reporting;

- 2.1 The contractor shall inform concerned Ex. Engineer Const/TR in writing within 24 hours of fatal/Non-fatal accident occurred to human being.
- 2.2 The GETCO investigating officer findings in to accident shall be final and binding to the contractor /Agency.

3. Safety Requirement:

- 3.1 Kick off Meeting exclusively for safety shall be done in each contract in presence of contractor's site in charge and supervisor. Safety document shall be handed over and vital safety norms and key points of safety related to project shall be explained and recorded for commitment by erection contractor.

Such records are mandatory for clearing first erection bill.

- 3.2 During site visit by GETCO official of Executive Engineer and above rank, the following checks during execution of work shall be covered.

- 3.21 Safety equipments available and utilize.

- (a) Helmet.
- (b) Safety belt.
- (c) Safety shoes.
- (d) Live line Voltage detector

- 3.2 2 Safety procedure adopted.

- (a) Permit to work
- (b) Earthing at the place of work.
- (c) Adequate supervision.

3.23 T & P physical Check. (Healthiness and Quality)

- (a) P.P.rope.
- (b) Wire rope and sling.
- (c) Earthing rod

3.3 If above-mentioned safety requirements found violated in any of the above three conditions shall attract penalty of Rs.1000/- Plus GST per occasion. (Max.Rs.3000/-Plus GST-for violation of three conditions)

3.4 During subsequent visit, if violation is found, then double penalty Plus GST shall be deducted from the bill of the Contractor/Agency.

CONTRACT AGREEMENT

(To be submitting after Awarding of Contract)
(Non judicial stamp paper of Rs. 300/-)

This agreement is made at _____, on the _____ day of _____ in the Christian _____ year _____ between _____ (herein after referred to as "THE CONTRACTOR" which expression shall unless excluded by or repugnant to context include its successors or permitted assigns) of the one part and the Gujarat Energy Transmission Corporation Limited, having their _____ Office at _____, (hereinafter called "Corporation" which expression shall unless excluded by or repugnant to the context include its successors or assigns) of the other part.

"WHEREAS" the aforesaid Corporation has accepted the tender of the aforesaid contractors for _____ as per Corporation's Order No. _____ hereinafter called "The works" and more particularly described enumerated or referred to in the specification, terms and conditions prescribed in the order letter, covering letter and other letters and schedule of price which for the purpose of identification have been signed by Shri _____ on behalf of the Contractors and by _____ on behalf of the Corporation, a list where of is made out in the schedule hereunder written and all of which said documents are deemed to form part of this contract and included in the expression 'The Works' wherever herein used, upon the terms and subject to the conditions hereinafter mentioned. AND WHEREAS THE GETCO has accepted the tender of the contractor for the work of _____ of Gujarat State for the sum of Rs. _____ (Rupees _____) upon the terms and subject to the conditions herein mentioned.

NOW THIS AGREEMENT WITNESSES AND IT IS HEREBY AGREED AND DECLARED THAT:

1. The contractors shall do and perform all works and things in this contract mentioned and described or which are implied therein or there from respectively or are reasonably necessary for the completion of the works as mentioned and at the times, in the manner and subject to the terms conditions and stipulations contained in this contract, and in consideration of the due provision, executions, construction and completion of the works agreed to by the contractors as aforesaid, the Corporation doth hereby covenant with the contractor to pay all the sums of money as and when they become due and payable to the contractors under the provisions of the contract. Such payment to be made at such times and in such manner as is provided by the contract.
2. The conditions and covenants stipulated hereinbefore in this contract, are subject to and without prejudice to the rights of the Corporation to enforce penalty for delays and / or any other rights whatsoever including the right to reject and cancel on default or breach by the contractors of the conditions and the covenants as stipulated in the general conditions, specifications, forms,

or tender schedule, drawing, etc. attached with Corporation's Order No._____.

The contract value, extent of works / supply, completion / delivery dates, specifications and other relevant matters may be altered by mutual agreement and if so altered shall not be deemed or construed to mean or apply to affect or alter other terms and conditions of the contract and the general conditions and the contract so altered or revised shall be and shall always be deemed to have been subject to and without prejudice to said stipulation.

In witness whereof the parties here to have set their hands and seals this day and month year first above written.

Signed, Sealed and Delivered by

for and on behalf of M/s. _____

In the presence of, signature with names and

Address:

1) _____

2) _____

Signed, Sealed and Delivered by

_____ for and on behalf of Gujarat Energy Transmission Corporation Limited,

In the presence of, signature with names and

Address: _____

1) _____

2) _____

SAFETY CUM INDEMNITY BOND

(On Non judicial Stamp paper of value not less than Rs. 300.00)

KNOW ALL MEN BY THESE PRESENTS that weby this SAFETY CUM INDEMNITY BOND Executed on this I/We Having Registered Office[herein after called "THE CONTRACTOR" which expression shall mean and includes my/our heirs, executors, administrators and legal representatives, successors and permitted assigns] do hereby binds myself/ourselves and also our company/firms after having the power to bind] by this promise and undertaking in favour of the Gujarat Energy Transmission Corporation Limited [GETCO], Vadodara a State Transmission Utility under The Electricity Act, 2003 having its registered office at Sardar Patel Vidyut Bhavan. Race Course, Vadodara.[hereinafter called as GETCO, which expression shall mean and include its legal representative, administrators assigns] has agreed under the terms and. conditions of the **Contract No.dated** made betweenand **GETCO** for the contract of the "....." value of interalia on production of Safety Cum Indemnity Bond.

We do hereby undertake and agree to Indemnify and keep Indemnified GETCO from time to time to the extent of **Rs. (Rupees only)** against. any losses or damages, costs, charges and expenses caused to or suffered by reason of the CONTRACTOR while Project, R&M, O&M work including work carried out by outsourcing agency, failing to take proper care or not complying the guidelines given hereunder as per Annexure-A and instructions which may be given from time to time during the continuance of the contract and we further undertake to unconditionally pay the amount claimed by the GETCO on demand and without demur to the extent aforesaid.

Whereas the CONTRACTOR **has/have** been awarded to execute the **job/works** under for "....." issued by the GETCO after having observing necessary formalities, the details of which is described in the and Whereas the said job/ works will be /likely to be done in places covered under Employees" State Insurance Act, 1948 [ESI] and / or the Workmen Compensation Act,1923 and / or other laws relating to the Labour Management and Welfare Act. [Respective Amendments]

And whereas according to the condition of the Contract the CONTRACTOR is under obligation to execute this Safety cum Indemnity Bond before the commencement of actual execution of work.

Now the indenture witnesses that I/We the CONTRACTOR do hereby undertake to follow the guidelines as per Annexure-A prepared by the GETCO.

Further we the CONTRACTOR agree that the GETCO shall be sole judge of and as to whether there has been any breach of the guidelines as per Annexure-A of this bond and as to the extent of the loss, damages, costs, charges and expenses caused to or suffered by the GETCO.

We the CONTRACTOR further agree that our liability under this bond shall not be discharged because of the change in the constitution of the GETCO or for the extension of the time limit or for any other reason.

We the CONTRACTOR further agrees to the given terms and conditions:

a. That the CONTRACTOR undertakes / undertake to indemnify and keep harmless the GETCO from all claims, actions, proceedings and risk, damage danger to any person whether belonging or not belonging to the CONTRACTOR.

b. That the CONTRACTOR shall keep harmless the GETCO from all claims, compensation, damages any proceedings in respect of any of its employee/workmen under the Workman Compensation Act or any other laws for the time being in force.

c. That, if during the course of execution of work as stated in the contract order mentioned hereinabove issued by the OBLIGEE, it is found that the CONTRACTOR has not complied with guidelines as per Annexure-A or terms and conditions/ formalities within the meaning of Employees' State Insurance Act, 1948 [ESI] or Workmen Compensation Act 1923 or any other laws relating to the Labour Welfare for the time being in force, and also has not observed the safety norms in accordance with the law prevailing at the place of works / job to the satisfaction of the GETCO, the GETCO shall have the right to stop the execution of work/job and the period of such stoppage shall not be taken into account for the calculation of the total period of completion of work for which the CONTRACTOR is responsible to complete the work/job and it will be deemed that discontinuance was due to default of the CONTRACTOR .

d. That, if any time, due to exigency, GETCO as the Principle Employer, becomes liable to pay any such compensation mentioned hereinabove, whether on failure of the CONTRACTOR or for any other reason, the GETCO shall have the right to recover the said amount from any amount receivable by GETCO or any bank guarantee deposited or anything payable whether in connection with this contract or other contract by the CONTRACTOR to the OBLIGEE.

e. That the CONTRACTOR is/are aware and accept that for the persistent or repeated violation of any guidelines as per Annexure-A and terms and conditions mentioned in this Safety Cum Indemnity Bond, GETCO shall have right to terminate the contract of work issued to the CONTRACTOR .

f. In case if any safety related fatal Electrical/Mechanical accident occurred to any employee of agency or outsider due to negligence or non-compliance of GETCO safety norms then in addition to the compensation and liability as per statutory requirement, contractor/agency is hereby agreed to pay the penalty amount as given below:

Sr.No.	Amount of Contract in Rs.	Penalty Amount
1	Upto → 1 Lac	Rs. 5000

2	Above 1 Lac to → 10 Lacs	Rs. 40000
3	10 to → 100 Lacs	Rs.100,000
4	> 100 Lacs	1.0% of contract value

Note: GST is Applicable for all Above Amount

g. I/We the CONTRACTOR hereby confirm that in case of any dispute/difference for settlement of claims under this Safety Cum Indemnity bond the courts in Gujarat State wherever job/work is performed or as per GETCO norms shall have the jurisdiction to decide the rights & liabilities of the parties while adjudicating the matter of claims under this Safety Cum Indemnity Bond.

h. This Safety cum Indemnity Bond shall continue and hold good until it is released by the GETCO in Writing on the CONTRACTOR's application after the Contractor has discharged all his obligations under the order mentioned hereinabove and submitted a "NO DEMAND CERTIFICATE" from the GETCO under the said order. The Safety cum Indemnity Bond shall be valid for a CONTRACT PERIOD and renewable thereof [Claim Period].

i. This Safety cum Indemnity Bond and the guidelines as per Annexure-A herein contained are in addition to And not by way of limitation or substitution for any other guarantee, indemnities Hereto before given to the GETCO by the CONTRACTOR and this indemnity does not Revoke or limit such indemnities or guarantees. IN WITNESS WHEREOF the Parties hereto have executed this indenture the day the year First hereinabove written.

[Signature with seal of The CONTRACTOR]

In the presence of:

1.

2.

ANNEXURE- A

OUR ENDEVOUR Safety a habit

To create environment where Business Confidence is built through Best Business Practices and is fostered in an atmosphere of trust and respect between providers of goods and services and their users for the ultimate benefit of society a the nation, safety guidelines are agreed upon by the agency as under.

Safety is our prime concern and zero accident is our goal. In order to prevent the accident, while execution of works in indoor and outdoor systems of GETCO, the following guideline and preventive measures are identified.

Indoor safety precaution	Outdoor safety precaution
The method of work required T&P and manpower should be discussed between GETCO supervisor, contractor's supervisor and gang leaders.	The method of work required T&P and manpower should be discussed between GETCO supervisor, contractor's supervisor and gang leaders.
Prior to execution of work a joint survey must be conducted by GETCO supervisor and contractor's supervisor for risk assessment •Clearly identify the work location, to distinguish between the equipment that is dead and other equipment / part that may be live. •Disconnect equipment from supply. •Protect against other live parts. •Take special precautions when close to bare	Prior to execution of work a joint survey must be conducted by GETCO supervisor, contractor's supervisor and DISCOM line man in order to identify the following : a. HT/LT line or tap line crossing under each span of line of the work. b. Isolation point of each line crossing. c. Each line crossing & isolation point under each span must be discussed and noted in maintenance register with sketch.

conductors / Bus bar. Following safety guidelines mandatory for all contractors operating in GETCO premises for Electrical, non electrical & civil works. 1. The contractors must provide advance planning of work to concerned incharge of substation in writing. 2. Before starting any work whether switch yard, "permit to allow to work" must be taken from control room incharge. 1. Utilizing Electrical / nonelectrical equipments, safety rules must be implemented. 2. If the work is to be carried out on Sunday or Public holiday, the necessary permission must be taken in advance, requesting in writing. 3. Unwanted person including children of labours will not be allowed at working site/ in the switchyard and in the prohibited area. 4. Any electrical work or electrical connections to equipment for any other work must be carried out by certified electrician/wiremen with adequate size of wire through MCB as per I.E. Rule. -Live penal area / bus bar must be isolated and sealed / bifurcated with red colour tape for visible warning. Display Board must hang on LCP panel. -Transformer must be switched off whenever and wherever contractor and line workers are not satisfied with isolation, earthing or any equipment performance of GETCO, it will be pointed out and work shall begin only after resolution. Contractor shall not take up job in absence of GETCO authorized person. All wire temporary connection & material whenever erection activity has any connection and disconnection work of bus bar, string bus.	Contractor's supervisor and GETCO Supervisor must ensure all isolations physically with adequate earthing technically prior to give clearance to gang leader for taking up job. While execution of stringing work, the identified line crossing must be isolated / deenergized and written clearance should be obtained from concerned DISCOM supervisor. The isolation of Tap line must be physically seen and verified by Contractor and GETCO supervisor. At D.O. fuse junction contractors person should be posted to ensure that no person restore D.O. supply while work is under execution Contractor's supervisor must ensure that concern officer take LCP for EHV line and power line crossing.
All workers / labour of contractor & supervisors must use personal protective equipment (PPE) during the work like gloves, safety belt, Safety shoes, Helmet, earthing rods, etc, duly approved by GETCO.	All workers / labour of contractor & supervisors must use personal protective equipment (PPE) during the work like gloves, safety belt, Safety shoes, Helmet, earthing rods, Live line detector etc, duly approved by GETCO.
The local earthing must be done at the place of work before execution of any work.	The local earthing must be done at the place of work before execution of any work.
11 kV breaker in panel must be switched off and racked out only after ensuring no voltage in breaker and without door opening.	Circuit breaker opening is not an isolation and isolator on either side must be opened. No work during rains and cloudy weather condition.
	Transmission line activities. 1) Used of Voltage detector to ensure outage. 2) Earthing at three point, local, left & right side of bus bar / string bus. 3) Match line colour code with colour of wrist band.

	Local earthing of electrical equipments like filter M/c, welding machine, testing kits etc. is must. Crane shall only be used for material handling and erection. Working platform shall only be used for work in switchyard.
--	---

SAFETY INSTRUCTION / SAFETY GUIDE LINE FOR CONTRACTORS DURING WORK

Following safety guidelines are mandatory for all contractors operating in GETCO premises/ on transmission lines for Electrical, non-electrical & Civil works.

1. The contractors must provide advance planning of work to concerned in-charge of substation in writing.
2. The name, qualification, address & cell phone No. of supervisor.
3. The list of workers/labours with name and address.
4. The copy of group insurance policy with list of name of workers covered.
5. The list of T & P and safety equipment [PPE] having tested and checked by GETCO official at site.
6. The working procedure must be specified with timing of working hours indicating tea break & lunch break period.
7. Before starting any work "permit to allow to work" must be taken from control room in-charge.
8. Utilizing Electrical/non-electrical equipment, safety rules must be implemented.
9. All workers/labor & supervisors must be use safety equipment [PPE] during the work.
10. If the work is to be carried out on Sunday or public holiday, the necessary permission must be taken in advance, requesting in writing.
11. Unwanted person including children of labours will not be allowed at working site in the switchyard and in the prohibited area.
12. Any electrical work or electrical connection to equipment for any other work must be carried out by certified electrician/wireman with adequate size of wire through MCB per I.E. Rule. Ensure that all precautions are taken to prevent electrical & the installation/connection is certified by EIC.
13. No work should be done during night hours unless & until it is required under certain circumstances with the approval of next higher authority and all necessary arrangement of adequate lighting with safety precautions is made.
14. Any power line crossing, river crossing & railway crossing or any other hazards must be discussed with workers by contractor in presence of EIC.
15. Contractors must submit list of workers with name, qualification and experience who are engaged for line maintenance/rectification job.
16. Line clear permit must be taken on power line crossing or passing nearby for safety of workers. This must be ensured by GETCO supervisor/in-charge of substation before starting the work.
17. Contractors must arrange for Shelter and drinking water facility for the labours/workers engaged with the permission of S/S in charge.
18. The method of work, required T&P and manpower should be discussed between GETCO

supervisor, contractor's supervisor and gang leaders.

19. Prior to execution of work a joint survey must be conducted by GETCO supervisor, contractor's supervisor and DISCOM line man in order to identify that following :

[a] HT/LT line or tap line crossing under each span of line of the work.

[b] Isolation point of each line crossing must be checked.

[c] Each line crossing & isolation point under each span must be discussed and noted in maintenance register with sketch.

20. While execution of stringing work the identified line crossing must be isolated/ de-energized and written clearance should be obtained from concerned DISCOM supervisor.

21. The isolation of Tap line must be physically seen and verified by Contractor.

22. Contractor's supervisor must take LCP for EHV line and power line crossing.

23. AT D.O. fuse junction contractors person should be posted to ensure that no person restore D.O. supply while work is under execution.

24. Contractor's supervisor must ensure all isolations physically prior to give clearance to gang leader for taking up job.

25. Earthing must be done at the place of work before execution of any work.

26. Live Line Detector should be used to check de-energization of line before start of work.

27. Earthing material and tools of contractor shall be verified before starting of work.

28. No work done by contractor labour without their supervision.

29. Before starting of stringing work tightening punching, no member missing & any type of tension tower provide back tension guy without joint & provide at appropriate depth.

30. Tree cutting should be completed before starting stringing work

2.0 Reporting;

2.1 The contractor shall inform concerned Ex. Engineer CONST/TR in writing within 24 hours of fatal/Non-fatal accident occurred to human being.

2.2 The GETCO investigating officer findings in to accident shall be final and binding to the contractor /Agency.

3.0 Safety Requirement:

3.1 Kick off Meeting exclusively for safety shall be done in each contract in presence of contractor's site in charge and supervisor. Safety document shall be handed over and vital safety norms and key points of safety related to project shall be explained and recorded for commitment by erection contractor. Such records are mandatory for clearing first erection bill.

3.2 During site visit by GETCO official of SUPERINTENDING Engineer and above rank, the following checks during execution of work shall be covered.

3.21 Safety equipment available and utilize.

(a) Helmet.

(b) Safety belt.

(c) Safety shoes.

(d) Live line Voltage detector

3.2 2 Safety procedure adopted.

(a) Permit to work

(b) Earthing at the place of work.

(c) Adequate supervision.

3.23 T & P physical Check. (Healthiness and Quality)

(a) P.P.rope.

(b) Wire rope and sling.

(c) Earthing rod

3.3 If above-mentioned safety requirements found violated in any of the above three conditions shall attract penalty of Rs.1000/-per occasion. (Max.Rs.3000/--for violation of three conditions)

3.4 During subsequent visit, if violation is found, then double penalty shall be deducted from the bill of the Contractor/Agency.

BIDDER'S DETAILS OF PERSONNEL

1	Firm Name	
2	Firm Address	
3	Firm Type (Proprietary/ Partnership/Corporate)	
4	Contact Person Name and Designation	
5	Qualification	
6	Professional Experience	
7	PAN No	
8	GST No	
9	Contract Details	
	Mobile No	
	Land Line No	
	FAX No	
	E-Mail ID	
Note: All the correspondence, queries etc., will be asked on above E-Mail only. Bidder is responsible to check and operation of e-mail ID.		

ANNEXUTURE-1

Sub. : As above Mention

In connection with above subject, I / we confirm the following:

- a) I/ we, the undersigned, have read and understand the Tender Specification for Work Complete with the entire tender Terms and Conditions.
- b) The price in the bid is firm prices in line with Tender Specifications and shall stand valid till completion of the Contract, if awarded.
- c) I/We declare that our bid is strictly in line with Tender Specifications and there is no deviation. Further, I / we also agree that additional conditions / deviations, if any found in bid, the offer shall be out rightly rejected without assigning any reason thereof.

Company / Agency

NAME: _____ **STATUS:** _____ **Name of tendering**
Company

ANNEXUTURE-2

CONFIRMATION OF DETAILS OF BIDDER

Bidders are required to furnish following information specifying YES / NO

- 1) Whether the Bid is on percentage basis as called for. Yes / No
- 2) Whether rebate furnished is in percentage basis as called for. Yes / No
- 3) Whether the Bid is submitted by RPAD. Yes / No
- 4) Whether all pages of Bid Specifications are sealed and signed by the Bidder.
- 5)
 - a) Whether the Bidder is registered with for Getco
 - b) In case of "Yes", please furnish following details:
 - i) Registration Letter No. & date.
 - ii) Class of Registration
 - iii) Validity
 - c) Whether Bidder is having PF Code No. Yes / No
- 6)
 - a) Whether EMD/Tender fees paid. (DD / BG) Yes/no
- 7) Whether following documents as specified are submitted.
 - a) Human Resources detail. Yes / No
 - b) Availability of tools, equipment's etc. Yes / No
 - c) Details of orders executed / on hand Yes / No
 - d) Financial capability. Yes / No
 - e) Experience as specified. Yes / No
 - f) Company's Articles Of Association Yes / No
 - g) Details Of Partners / Directors Yes / No
 - h) B.R./P.A. Authorizing Person Yes / No
 - i) Power of Attorney of Consortium Members Yes / No.
 - J) Pan card Yes/No
 - K) **GST Registration** Yes/No
 - L) Electrical Contractor registration Yes/No
 - M) Solvency certificate Yes /No
- 8) Price: [FIRM ONLY] Yes/No
- 9) Security terms agreed Yes/no
- 10) Penalty terms agreed Yes/No
- 11) Terms agreed: Yes/no
- 12) Validity of the offer for 180 days from the date of opening of the technical bid: agreed Yes/No
- 13) payment terms agreed:

Company / Agency

NAME: _____ **STATUS:** _____ **Name of tendering Company**

Sign & Seal of Contractor

ANNEXUTURE-3

1) DETAILS OF WORK ORDERS EXECUTED BY THE BIDDER OF VARIOUS SIMILAR CONTRACTS

Sr. No.	Order No./Date	Description of work	Order Qty.(Bay/ss)	Order Amount	Name of Order placing authority
1	2	3	4	5	6

Completion date as per order	Date of commencement of work	Final completion of work
7	8	9

2) SATISFACTORY WORK COMPLETION CERTIFICATE

Sr. No.	Description of work	Certificate No	Date	Order Amount	Certificate issuing authority

3) WORKS TENDERED / IN HAND

Details of other Works, tendered for & in hand, as on the date of the Submission of this tender [Tenderers shall submit the information in the Format detailed here under]

Sr No	Name Of Work and Location	Order Quantity(Bay/SS)	Order Value	Anticipate date of Completion	Remarks

Signature of Authorized Representative

Company / Agency

NAME: _____ **STATUS:** _____ **Name of tendering Company**

ANNEXUTURE-4

FINANCIAL CAPABILITY

Sr. No.	Details	Amount Rs. In lacks	Remarks
1.	Solvency		A scheduled Banker's Certificate of present solvency be attached.
2.	Price of the biggest job Carried out.		
3	Average Turnover of Last three Year		

Signature of Authorized Representative

Company / Agency

NAME: _____ **STATUS:** _____ **Name of tendering**

Company

ANNEXUTURE-5

1) ERECTION CAPACITY

Based on available men power, tools-tackles, machinery and financial resources, our erection capacity is as under:

Sr. No.	Name of activity	Unit	Capacity per Annum per gang	No. of Persons per gang.
1.				

2) TENDERER'S DETAILS OF PERSONNEL

The List of Technical Personnel intended to be placed at the Work by the Contractor.
[Tenderers shall submit in the Format detailed here under]

Sr. No.	Description & Details of position	Name	Qualification	Professional Experience & details of works carried out	Remarks
1	2	3	4	5	6

Contractor's Representative legible signature: _____

Name of the person: _____

Seal of the company

Date & place: _____

Declaration

This is to declare that none of the Proprietors/ Partners/ Directors are having any relatives employed or working with Gujarat Energy Transmission Corporation Ltd at any of its offices or its parent Department i.e. GUVNL.

Signature of Authorized Representative

Company / Agency

NAME: _____ STATUS: _____ Name of tendering
Company

ANNEXURE – 14

**(UNDERTAKING IN REGARD TO STOP DEAL/BANNED FOR BUSINESS DEALING /BLACK LIST
THEREOF)**

SUB: Undertaking in regard to stop deal/Banned for Business dealing /Black list thereof)

Ref: Tender no:

All bidders will have to furnish the following undertaking duly filled in, Signed and stamped for each quoted item of the tender along with the technical bid.

I/We _____

Authorized signatory of M/s _____ here by certified

That M/S _____ and their proprietor/any partner
/any director of the firm is not stop deal and/or banned for business dealing and/or black listed by GUVNL
and/or their any subsidiary company viz. GSECL/GETCO/DGVCL/MGVCL/UGVCL/PGVCL.

Seal of Firm

Signature of renderer

QUALIFICATION REQUIREMENT.

Contractor must fill up below details & should place at the top of the Technical Bid.

Sr No:	List of Documents	
1	Registration(No, Class)	
2	P.F. No.	
3	Partnership deed/Proprietor/AOA/MOA (Notarized copy)	
4	Power of Attorney (Notarized copy)	
5	Bl. Sheet / P&L A/C, last three years.	
6	Latest Solvency certificate.	
7	PAN NO	
8	GST registration No	
9	Experience certificate As per QR	
10	Electrical contractor Certificate valid up to	
11	Man and tolls and tackle detail	

Signature of Tenderer
Date :
Place:

Company's Round Seal