

TENDER DOCUMENT

for

**Renovation & Up-gradation of Protection Systems
of 132kV Sub-Stations in Mizoram**

under

Power System Development Fund (PSDF)

Volume-I

Conditions of Contract

**Office of the Superintending Engineer, Mizoram SLDC Circle,
P&E Department, Government of Mizoram
Mizoram: Aizawl**



January - 2017

VOLUME - I:
CONDITIONS OF CONTRACT

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INSTRUCTIONS TO TENDERERS

1.0. GENERAL INSTRUCTION

1.1. The Tenderers shall be required to submit the bids in two envelopes.

a) Envelope-1:- Techno-commercial bid which shall comprise all tender requirements to be furnished by the tenderer, viz, Bid Form, Bid security, bidders' eligibility and qualifications, etc as stipulated in this tender document.

b) Envelope-2:- Financial bid which shall comprise Price Schedules in accordance with this tender document

2.0. ELIGIBILITY OF BIDDER

2.1. The bidder should be a regular manufacturer/Original Equipment Manufacturer (OEM) or authorised representative/dealer. In case of non OEM, valid authorization certificate from OEM should have been provided.

2.2. The OEM should have an experience in manufacturing of the equipment and have an experience of supplying and commissioning directly or through their authorized representative supported with documents showing past experience.

2.3. Manufacturer should comply with relevant technical standard/specifications.

2.4. The bidder should provide maintenance support for the equipment as required by the department.

3.0 EARNEST MONEY

The tenderers may submit bid for all packages or any package mentioned in the requirement using bid proposal sheet and shall have to furnish Earnest Money separately for each of the package as below in the form of Bank Draft from a Nationalized bank pledged in favour of the Superintending Engineer, Mizoram State Load Despatch Centre Circle, Power & Electricity Department, Aizawl in a separate covers super-scribing the Tender Specification, item, Reference Number and Date of opening failing which the Tender will not be opened. Tribal Tenderers are allowed to submit Earnest Money for half the amount. Manufacturers registered with NSIC, DGS&D and also SSI unit under Government of Mizoram is exempted for payment of Earnest Money provided Registration Certificate is enclosed.

Break-up of earnest money is shown in the following:

Package	Items	Unit	Provisional Qty.	Earnest Money (Rs.)
I	110V Battery Bank	Set	16	2,52,340
	110V Battery Charger	Set	16	1,23,120
	DCDB for 110V	No	16	88,990
	48V Battery Bank	Set	16	1,02,690
	48V Battery Charger	Set	16	74,470
	DCDB for 48V	No	16	85,560
II	Transformer (250kVA,33/0.415kV)	No	2	23,820
	DG.Set (30kVA)	No	3	58,900
III	Back Up O/C & E/F Relay	No	24	67,090
	Distance Relay	No	2	11,650
	LBB Relays	Set	21	1,03,150
	Tool Kits for above Relays	No	8	8,940
	Time Synchronizing Equipment	No	8	17,840
	Control Cable:-			
	▪ 14C X 2.5 Sq.mm	Mtr	3,830	29,700
	▪ 10C X 2.5 Sq.mm	Mtr	4,650	26,180
	▪ 7C X 2.5 Sq.mm	Mtr	5,430	24,250
	▪ 5C X 2.5 Sq.mm	Mtr	3,720	13,580
	▪ 3.5C X35 Sq.mm	Mtr	1,100	4,950
	▪ 4C X 16 Sq.mm	Mtr	2,700	11,630
	▪ 4C X6 Sq.mm	Mtr	1,650	4,100
	▪ 2C X 6 Sq.mm	Mtr	4,000	6,060
▪ 2C x 4 Sq.mm	Mtr	2,480	5,400	
IV	Nitrogen Injection system.	No	16	3,46,870
			Total	14,91,280

(Rupees fourteen lakh ninety one thousand two hundred eighty) only

4.0 VALIDITY

Tender should be kept valid for a period of minimum 365 (three hundred sixty five) Calendar days from the date of opening of Tenders. Validity less than 365 (three hundred sixty five) days will be liable for rejection.

5.0 EXAMINATION OF THE DOCUMENT

The **bidder** shall examine Conditions of Contract and Technical Specifications to satisfy himself/**herself** about all the Terms & Conditions and circumstances affecting the Contract Price. He shall quote price(s) according to his own views on these

matters and understand that no additional allowances except as otherwise provided therein will be levied. The Purchaser shall not be responsible for any misunderstanding or incorrect information obtained by the Contractor other than information given to the Contractor in writing by the Purchaser. The Tenderer shall give his/her signature with seal in each and every page of the Tender Document as an indication of his/her acceptance of the Terms and Conditions of the Tender. In the Tender, no overwriting is allowed. Any corrections, if any, should be initialed and seal stamped by the Tenderer. Rates should be quoted both in figures and in words as far as practicable.

Non-Tribal Tenderers should submit the following along with their Tenders:

- 1) Authorised Dealer must submit an Authorised Dealership Certificate issued by Manufacturers.
- 2) ISI/BIS/ISO Certificate.
- 3) Documents showing past experience.

Tribal Tenderers should submit the following along with their Tenders:

- 1) House Tax Payee Certificate
- 2) Authorised Dealer must submit an Authorised Dealership Certificate issued by Manufacturers.
- 3) ISI/BIS/ISO Certificate.
- 4) Documents showing past experience.

6.0 PATENT RIGHTS, ETC.

The Contractor shall indemnify the Purchaser against all Claims, Actions, Suits and Proceedings for the infringement or alleged infringement of any patent design or copy right protected either in the Country of origin or in India by the use of any equipment supplied by the Contractor, but such indemnity shall not cover any use of equipment other than for the purpose indicated by or reasonably to be inferred from the specifications.

7.0 RESERVATION

The Purchaser reserves the right to accept or reject the bid partly or wholly without assigning any reason thereof. Further, the Owner is not bound to select the lowest Tenderer to execute the work. Tenderers who do not accept General Terms will be automatically rejected.

8.0 VARIATIONS - ADDITIONS AND OMISSION

- i) The Contractor shall not modify the materials and equipment except directed in writing by the Purchaser.

ii) The quantity stated in the tender is only provisional quantity. Purchaser/Employer shall have the right to alter, amend, omit or vary the equipment by notice in writing to the Contractor.

iii) If the Purchaser makes variations in any part of the materials/equipment, a reasonable notice shall be given in writing to the Contractor. In such cases where equipment has already been manufactured or is under manufacture, the Purchaser may consider payment of additional sum to the Contractor. If in the opinion of the Contractor such variation is likely to prevent or prejudice the Contractor from fulfilling any of his obligations under the contract, he shall notify the Purchaser thereof in writing and the Purchaser shall decide whether or not the variation shall be carried out.

SECTION-1:

GENERAL CONDITIONS OF CONTRACT

GENERAL CONDITIONS OF CONTRACT

A. INTRODUCTION

1.0 DEFINITION OF TERMS

- 1.1 **'The Contract'** means the agreement entered into between Employer/Purchaser and Contractors 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 **Power & Electricity Department, Govt. of Mizoram** and shall include their legal representatives, successors and assigns.
- 1.3 **'Contractor'** shall mean the Firms to whom the Project execution work is awarded by **Power & Electricity Department, Govt. of Mizoram** and shall include such Firms' legal representatives, successors and permitted assignees.
- 1.4 **'Employer/Purchaser'** shall mean the Superintending Engineer, Mizoram State Load Despatch Centre, Aizawl, Mizoram and shall include his legal representatives, successors and permitted assigns of such person.
- 1.5 **'Engineer'** shall mean the officer appointed in writing by the Employer/Purchaser to act as Engineer from time to time for the purpose of the Contract.
- 1.6 The terms **'Equipment'**, **'Stores'** and **'Materials'** shall mean and include equipment, stores and materials to be provided by the contractor under the contract.
- 1.7 **'Work'** shall mean and include the furnishing of equipment, labour 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.
- 1.8 **'Specifications'** shall mean the specifications forming a part of the contract and such other schedules and drawings as may be mutually agreed upon.
- 1.9 **'Site'** shall mean and include the sub-station and other places on, into or through which the work 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 Employer/Purchaser or contractor in the performance of the contract.
- 1.10 The term **"Price Components"** shall mean i) Price of the equipments inclusive of all taxes, insurance and FOT destination ii) Erection Charges with cost of installation/ erection, testing and putting into satisfactory operation.

The term “**Contract Price**” shall mean the lump-sum firm price components with taxes and duties of the entire works awarded to the Contractor with additions and/or deletions as may be agreed and incorporated in the letter of award, for the entire scope of the work.

- 1.11 The term ‘**Supply Portion**’ of the Contract price shall mean the value of the equipments inclusive of all taxes, insurance and FOT destination.
- 1.12 The term ‘**Erection Portion**’ of the contract price shall mean the value of field activities of the work including erection, testing and putting into satisfactory operation including successful completion of performance and guarantee tests to be performed at site by the contractor and all relevant taxes.
- 1.13 ‘**Manufacturer’s Works**’ or ‘**Contractor’s Works**’, shall mean the place of work used by the manufacturer, the contractor, their collaborators/associate for the performance of the contract.
- 1.14 ‘**Inspector**’ shall mean the Employer/Purchaser or any person nominated by the Employer/Purchaser from time to time, to inspect the equipment; stores or works under the contract and/or the duly authorized representative of the Employer/Purchaser.
- 1.15 ‘**Notification of Award of Contract/Letter of Award**’ shall mean the official notice issued by the Employer/Purchaser notifying the contractor that they are awarded the works.
- 1.16 ‘**Date of Contract**’ shall mean the date on which notification of award of contract/letter of award/telex of award has been issued.
- 1.17 ‘**Month**’ shall mean the calendar month. ‘**Day**’ or ‘**Days**’, unless herein otherwise expressly defined, shall mean calendar day or days of 24 hours each.
- 1.18 ‘**Writing**’ shall include any manuscript, type written or printed statement, under or over signature and/or seal as the case may be.
- 1.19 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 Employer/Purchaser/Engineer.
- 1.20 ‘**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 Employer/Purchaser.

- 1.21 **'Start Up'** shall mean the time period required to bring the equipment covered under the contract from an inactive condition, when construction is essentially complete, to the state ready for trial operation. The startup period shall include preliminary inspection and checkout of equipment and supporting sub-system, initial operation of the complete equipment covered under the contract to obtain necessary pre-trial operation data, perform calibration and corrective action, shut down, inspection and adjustment prior to the trial operation period.
- 1.22 **'Initial Operation'** shall mean the first integral operation of the complete equipment covered under the contract with the sub-system and supporting equipment in service or available for service.
- 1.23 **'Trial Operation', 'Reliability Test', 'Trial Run', 'Completion Test'** shall mean the extended period of time after the start up period. During this trial operation period, the unit shall be operated over the full load range. The length of Trial Operation shall be as determined by the Engineer, unless otherwise specified elsewhere in the contract.
- 1.24 **'Performance and Guarantee Test'** shall mean all operational checks and tests required to determine and demonstrate capacity, efficiency and operating characteristics as specified in the contract documents.
- 1.25 The term **'Final Acceptance/Taking Over'** shall mean the Employer/Purchaser'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 specification or otherwise agreed in the contract.
- 1.26 **'Commercial Operation'** shall mean the conditions of operation in which the complete equipment covered under the contract is officially declared by the Employer/Purchaser to be available for continuous operation at different loads up to and including rated capacity. Such declaration by the Employer/Purchaser, however, shall not relieve or prejudice the contractor of any of his obligations under the contract.
- 1.27 **'Warranty Period', 'Guarantee Period' 'Maintenance Period'/ 'Defect Liability Period'** shall mean the period during which the contractor shall remain liable for repair or replacement of any defective part of the works performed under the contract.
- 1.28 **'Latent Defects'** shall mean such defects caused by faulty design, material or workmanship which cannot be detected during inspection, testing etc, based on the technology available for carrying out such tests.

1.29 **'Drawing', 'Plans'** shall mean all:

- a) Drawings submitted by the contractor with his bid provided such drawings are acceptable to the Employer/Purchaser'.
- b) Drawings furnished by the Employer/Purchaser' to the contractor during the progress of the work; and
- c) As built drawings submitted by the contractor during the progress of the work provided such drawings are acceptable to the Employer/Purchaser'.

1.30 **'Codes'** shall mean the following including the latest amendments and / or replacement, if any:

- a) Electricity Act, 2003 and Rules & Regulations and amendments made there under.
- b) The Factory Act, 1948 and Rules & Regulations and amendments made there under.
- c) The Industrial Dispute Act, 1947 and rules & Regulations and amendments made there under.
- d) Contract Labour (Regulation and Abolition) Act 1972 and rules & Regulations and amendments made there under and other Labour Laws applicable.
- e) Indian Explosive Act, 1884 and Rules and Regulations and amendments made there under.
- f) Indian Petroleum Act, 1934 and Rules & Regulations and amendments made there under.
- g) A.S.M.E. Test Codes
- h) A.I.E.E. Test Codes
- i) American Society of Testing Material Codes.
- j) Standards of the BIS.
- k) Other Internationally approved standards and/or rules and Regulations touching the subject matter of the contract.

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

1.32 Words imparting **'Person'** shall include firms, companies, corporation and association or bodies of individuals, whether incorporated or not.

1.33 Terms and expressions not herein defined shall have the same meaning as are assigned to them in the Indian Sale of goods Act (1930), failing that in the Indian

Contract Act (1872) and failing that in the General Clauses Act (1897) including amendments thereof if any.

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

- a) 'All equipment and materials' to be supplied shall also mean 'Goods'.
- b) 'Constructed' shall also mean 'erected and installed'
- c) 'Contract Performance Guarantee' shall also mean 'Contract Performance Security'.
- d) 'Zero Date' will be started from date of Notification of Award.

2.0 APPLICATION

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

3.0 STANDARDS

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

4.0 LANGUAGE AND MEASURES

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

5.0 CONTRACT DOCUMENTS

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

- a) General terms and conditions of contract, General Technical Condition, Erection conditions of contract and all other documents included under and the special conditions of contract and various other sections.
- b) Specifications of the equipment to be furnished and erected under the contract as brought out in the accompanying technical specification.
- c) All the materials, literature, data and information of any sort given by the contractor subject to the approval of the owner/ consultant.
- d) Letter of award and any agreed variations of the conditions of the documents and special terms and conditions of contract if any.

5.2 In the event of any conflict between the above-mentioned documents, the matter shall be referred to the Employer/Purchaser whose decision shall be considered as final and binding upon the parties.

6.0 USE THE CONTRACT DOCUMENTS AND INFORMATION

6.1 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 for purposes of such performance.

6.2 The contractor shall not, without the Employer/Purchaser's prior written consent, make use of any document or information enumerated in various contract documents except for purpose of performing the contract.

6.3 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 Employer/Purchaser.

6.4 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 Employer/Purchaser on completion of the contractor's performance under the contract, if so required by the Employer/Purchaser.

7.0 CONSTRUCTION OF THE CONTRACT

7.1 Award of Contract shall be placed in equipment-wise by the Employer/Purchaser to the selected contractors. The contract shall include supply of equipments at site and installation, testing & commissioning.

7.2 The Contractor shall supply and deliver the materials / equipments to the designated Consignees at the designated work sites and erection work shall be commenced as per the instruction of the Employer/Purchaser. The list of designated Consignees, Paying Authorities and the designated work sites shall be given in the Letter of Award.

7.3 The contract shall in all respects be construed and governed according to Indian Laws.

8.0 JURISDICTION OF CONTRACT

8.1 The laws applicable to the contract shall be the laws in force in India. The courts of **Mizoram** only shall have exclusive jurisdiction in all matters arising under this contract.

9.0 MANNER OF EXECUTION OF CONTRACT

9.1 The Employer/Purchaser, 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.

- 9.2 The Contract Agreement, unless otherwise agreed to, shall be signed within 28 days of the acknowledgement of the letter of award, at the office of the Superintending Engineer, MSLDC, Aizawl on a date and time to be mutually 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 guarantee made by the Contractor will have to be extended accordingly.
- 9.3 The agreement will be signed on Non Judicial Stamp Paper (NJS) and in 2 (Two) original copies and the contractor shall be provided with one signed original and the other one will be retained by the Employer/Purchaser.
- 9.4 The contractor shall provide free of cost to the Employer/Purchaser all the basic drawings and descriptive materials for approval of the Superintending Engineer, MSLDC in at least two (2) copies with soft copy in pdf/dwg format wherever required **and approval conveyed for the same shall form** a part of the contract.

10.0 ENFORCEMENT OF TERMS

- 10.1 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 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.

11.0 COMPLETION OF CONTRACT

- 11.1 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 specification.

B. GUARANTEE & LIABILITIES

12.0 TIME – THE ESSENCE OF CONTRACT

- 12.1 The time and date of completion of the contract as stipulated in the contract by the Employer/Purchaser 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.

- 12.2 The contractor shall submit a detailed PERT Network/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 twenty eight (28) days of the date of Notice of Award of Contract. This network shall also indicate the interface facilities to be provided by the Employer/Purchaser and the dates by which such facilities are needed. The contractor shall discuss the Network so submitted with the Employer/Purchaser and the agreed Network shall form part of the contract documents. As provided in the clause of terms of payment in this section, finalization of the Network/Bar Charts will be pre-conditions to release of any initial advance to the contractor. During the performance of the contract, if in the opinion of the Engineer, proper progress is not maintained, suitable changes shall be made in the contractor's operations to ensure proper progress without any cost implication to the owner. The interface facilities to be provided by the owner in accordance with the agreed Network shall also be reviewed while reviewing the progress of the contractor.
- 12.3 Based on the agreed PERT Network/Bar Chart monthly reports shall be submitted by the contractor as directed by the Engineer.
- 12.4 Subsequent to the finalization of the PERT Network/BAR Chart, the contractor shall make available to the Engineer a detailed manufacturing programme in line with the agreed contract Network. Such manufacturing programme shall be reviewed, updated and submitted to the Engineer once in every two months thereafter.
- 12.5 The above PERT Network/Bar Charts/Manufacturing programme shall be compatible with the Employer/Purchaser's computer environment and furnished on such media as may be desired by the Employer/Purchaser.

13.0 EFFECTIVENESS OF CONTRACT

The contract shall be considered as having come into force from the date of the notification of award, unless otherwise provided in the notification of award.

14.0 LIQUIDATED DAMAGES

- 14.1 If the contractor fails to successfully complete commissioning within the scheduled time fixed under the contract, the contractor shall pay to the Employer/Purchaser as liquidated damages and not as penalty, a sum specified for each specified period of delays. The details of such liquidated damages are brought out in the accompanying Special Conditions of Contract (SCC).
- 14.2 Equipment and materials will be deemed to have been delivered only when all its components, parts are also delivered. If certain components are not delivered in

time, the equipment and materials will be considered as delayed until such time the missing parts are also delivered.

14.3 The total amount of Liquidated Damages (LD) for delay under the contract will be @ ½% (half percent) of the contract value of the material supplied beyond scheduled date, per month or part thereof. However, the value of LD shall be limited to a maximum of 5% of the total material price not supplied within scheduled completion date as per LOA/ Contract.

15.0 GUARANTEE

15.1 The contractor shall warrant that the equipment will be new, unused and in accordance with the contract documents and free from defects in material and workmanship for a period of twelve (12) calendar months from the date of commissioning. The contractor's liability shall be limited to the replacement of any defective parts in the equipment of his own manufacture under normal use and arising solely from faulty design, materials and/or workmanship provided always that such defective parts are repairable at the site and are not in meantime essential in the commercial use of the equipment. Such replaced/defective parts shall be returned to the contractor unless otherwise arranged. No repairs or replacement shall normally be carried out by the Engineer when the equipment is under the supervision of the contractor's supervisory Engineer.

15.2 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.

15.3 If it becomes necessary for the contractor to replace or renew any defective portions of the works, the provision of this clause shall apply to portion of the works so replaced or renewed until the expiry of twelve (12) months from the date of such replacement or renewal. If any defects are not remedied within 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.

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

- 15.5 The cost of any special or general overhaul rendered necessary during the maintenance period due to defects in the equipment or defective work carried out by the contractor, the same shall be borne by the contractor.
- 15.6 The acceptance of the equipment by the engineer shall in no way relieve the contractor of his obligation under this clause.
- 15.7 In the case of those defective parts, which are not repairable at site but are essential for the commercial operation of the equipment, the contractor and the engineer shall mutually agree to a programme of replacement or renewal, which will minimize interruption to the maximum extent in the operation of the equipment.
- 15.8 At the end of the guarantee period, the contractor's liability ceases except for latent defects. For latent defects, the contractor's liability as mentioned in clause nos. 15.1 through 15.7 above shall remain till the end of 3 years from the date of completion of guarantee period.
- 15.9 The provisions contained in this clause will not be applicable:
- a) If the owner has not used the equipment according to generally approved industrial practice and in accordance with the conditions of operations specified and in accordance with operating manuals, if any.
 - b) In cases of normal wear and tear of the parts to be specifically mentioned by the contractor in the offer.
- 16.0 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.
- 17.0 REPLACEMENT OF DEFECTIVE PARTS AND MATERIALS
- 17.1 If during the performance of the contract, the engineer shall decide and inform in writing to the contractor that the contractor has manufactured any equipment, material or part of equipment unsound and imperfect or has furnished any equipment inferior to the quality specified, the contractor on receiving details of such defects or deficiencies shall at his own expense within seven (7) days of his receiving the notice, or otherwise, within such time as may be reasonably necessary for making it good, proceed to alter, reconstruct or remove such works and furnish fresh equipment/materials up to the standards of the specifications. In case, the contractor fails to do so, the engineer may on giving the contractor seven (7) days notice in writing of his intentions to do so, proceed to remove the portion of the works so complained of and at the cost of the contractor perform all such work or

furnish all such equipment / materials provided that nothing in this clause shall be deemed to deprive the owner of or affect any rights under the contract which the owner may otherwise have in respect of such defects and deficiencies.

- 17.2 The Contractors cannot claim any extra payment for replacement of any defective equipment/ materials after commissioning during guarantee period. They are fully liable to replace these to their own cost.

18.0 PATENT RIGHTS AND ROYALTIES

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

19.0 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 in connection with any claim based on lawful demands of 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.

20.0 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, 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.

21.0 ENGINEER'S DECISION

- 21.1 In respect of all matters which are left to the decision of the engineer including the granting or withholding of the certificates, the engineer shall, if required to do so by the contractor, give in writing a decision thereon.
- 21.2 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.
- 21.3 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.

22.0 POWER TO VARY OR OMIT WORK

- 22.1 No alteration, amendments, omissions, suspensions or variations of the works (hereinafter referred to as 'variation') under the contract as detailed in the contract document, 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 should carry out such variation and be bound by the same conditions as far as applicable as though the said variations occurred in the contract documents. If any suggested variations would, in the opinion of the contractor, if carried out, prevent him from fulfilling any of his obligations or guarantees under the contract, he shall notify the engineer thereof in writing and the engineer shall decide forthwith whether or not, the same shall be carried out and if the engineer confirm his instructions, the contractor's obligations and guarantees shall be modified to such an extent as may be mutually agreed. Any agreed difference in cost occasioned by any such variation shall be added to or deducted from the contract price as the case may be.
- 22.2 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 requires to be altered, a reasonable and agreed sum in respect thereof shall be paid to the contractor.

- 22.3 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 the payment of any charges in respect of any such variations, unless the instructions for the performance of the same shall be confirmed in writing by the engineer.
- 22.4 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.
- 22.5 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 clause 24.0 of this section. 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.
- 23.0 ASSIGNMENT AND SUB-LETTING OF CONTRACT
- 23.1 No Subletting/Sub-Contract is allowed.
- 24.0 CHANGE OF QUANTITY
- 24.1 During the execution of the contract, the Purchaser/Employer reserves the right to increase or decrease the quantities of items under the Contract but without any change in unit price or other terms and conditions. Such variations unless otherwise specified in the accompanying Special Conditions of Contract and / or Technical Specification, 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.
- 24.2 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 analysis of rates to be approved by the Engineer in charge.
- 25.0 PACKING, FORWARDING AND SHIPMENT
- 25.1 The Contractor, wherever applicable, shall after proper painting, pack and crate all equipment in such a manner as to protect them from deterioration and damage

during rail and road transportation to the site and storage at the site till the time of erection. The contractor shall be held responsible for all damages due to improper package.

25.2 The Contractor shall notify the Purchaser/Employer of the date of each shipment from his works, and the expected date of arrival at the site for the information of the Purchaser/Employer.

25.3 The Contractor shall also give all shipping information concerning the weight, size and content of each packing including any other information the Purchaser/Employer may require.

25.4 The Contractor shall prepare detailed packing list of all packages and containers, bundles and loose materials forming each and every consignment dispatch to site.

The Contractor shall further be responsible for making all necessary arrangements for loading, unloading and other handling, right from his works up to the Site and also till equipment is erected, tested and commissioned. He shall be solely responsible for proper storage and safe custody of all equipment.

26.0 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 the other Contractors and consulting Engineers of the Owner in respect of such exchange of technical information.

27.0 NO WAIVER OF RIGHTS

Neither the inspection by the Purchaser/Employer or the Engineer or any of their officials, employees, or agents nor any order by the Purchaser/Employer or the Engineer for payment of money or any payment for or acceptance of, the whole or any part of the Works by the Purchaser/Employer 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 Purchaser/Employer 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.

28.0 CERTIFICATE NOT TO AFFECT RIGHT OF OWNER AND LIABILITY OF CONTRACTOR

No interim payment certificate of the Engineer, nor any sum paid on account by the Purchaser/Employer, nor any extension of time for execution of the works granted by the Engineer shall affect or prejudice the rights of the Purchaser/Employer against the Contractor or relieve the Contractor of his obligation for the due performance of the Contractor, or be interpreted as approval of the Works done or of the equipment furnished and no certificate shall create liability for the Purchaser/Employer to pay

for alternations, 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 Purchaser/Employer, nor shall any such certificate nor the acceptance by him of any sum paid on account or otherwise affect or prejudice the rights of Purchaser/Employer against the Contractor.

29.0 PROGRESS REPORTS

During the various stages of the Work in the 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 may be required by the Engineer and shall be submitted in at least three (3) copies.

30.0 TAKING OVER

Upon successful completion of all the tests to be performed at Site on equipment furnished and erected by the Contractor, the 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.

C. CONTRACT SECURITY AND PAYMENTS

31.0 CONTRACT PERFORMANCE GUARANTEE

The Contractor shall furnish contract performance guarantee(s) for the proper fulfillment of the Contract in the prescribed form within 45 days of “Letter of Award of Contract”. The performance guarantee (s) shall be as per terms prescribed in clause 6.0. of Special Conditions of Contract.

32.0 CONTRACT PRICE REVISION

All the prices/ price components of the contract shall remain firm and no adjustment of price shall be applicable during the period of contract.

33.0 PAYMENT

33.1 The payment to the Contractor for the performance of the Works under the Contract will be made by the Purchaser/Employer as per the guidelines and conditions specified herein. All payment 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.

33.2 Currency of Payment:

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

33.3 Due Dates for Payments:

The initial advance amount shall be payable after fulfillment of all the conditions laid down in the Special Conditions of Contract, Clause 33.7.1 below and receipt of the contractor's invoice along with all necessary supporting documents for such advance payment. The price component of the initial advance amount will become due for payment within sixty (60) days of receipt of the Contractor's invoice. The Purchaser/Employer shall make progressive payment as and when the payment is due as per the terms of payment set forth in the accompanying Special Conditions of Contract.

33.4 Payment Schedule:

The Contractor shall prepare and submit to the Purchaser/Employer for approval, a break-up of the Contract Price. This Contract Price break-up shall be interlinked with the agreed detailed PERT/BAR Chart network of the Contractor setting forth his starting and completion dates for the various key phases of Works prepared as per conditions in clause 12.0 of this GCC. **Any payment under the Contract shall be made only after the Contractor's price break-up is approved by the Purchaser.** The aggregate sum of the Contractor's price break-up shall be equal to the lump sum contract Price. A Price Break-up over valuing those items of supply, which will be shipped first will not be accepted.

33.5 Application for Payment:

33.5.1 The Contractor shall submit Application for the Payment in the prescribed proforma of the Purchaser/Employer. Proforma for application for payment is enclosed in Section-4 (Annexure).

33.5.2 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.

33.5.3 Every interim payment certificate shall certify the contract value of the Works executed up to the 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, or has been performed, at the date of certificate prematurely.

33.6 Mode of Payment:

33.6.1 Payment due on dispatch of Equipment shall be made by the Purchaser/Employer's Bank or directly to the Contractor as per the payment schedule.

33.6.2 The payment of the advance mobilization, progressive payment, price adjustment if any, final payment and the erection portion of the Works shall be made direct to the contractor by the Purchaser/Employer.

33.7 TERMS OF PAYMENT

33.7.1 Price of Equipment and Erection:

The terms of payments for the price-components of the equipment and erection are detailed in Special Conditions of Contract, for each equipment package. A certain percentage of the Supply Contract for each of the equipment shall be paid as initial mobilization advance on fulfillment of the following by the Contractor:

For Supply of materials and Erection:

- a) Acceptance of Letter of Award by the Contractor.
- b) Contractor's detailed Invoice.
- c) An unconditional & irrevocable Bank Guarantee for the equivalent amount covering the advance amount which shall initially be kept valid up to the contract period. This shall be kept renewed time to time to cover the balance amount and likely period to complete recovery together with interest.
- d) An unconditional & irrevocable Bank Guarantee for Five percent (5%) of the total Contract Price towards Contract Performance Guarantee (CPG) which shall initially be kept valid upto ninety (90) days after the expiry of Warranty/Guarantee Period of the Equipment as per Clause No. 15.0 of GCC, and shall be extended from time to time till ninety (90) days beyond successful completion of Warranty/Guarantee Period, as maybe required under the Contract.
- e) Detailed PERT Network/Bar Chart and its approval by the Purchaser/Employer.

33.7.2 All further payments under the contract shall be made as stipulated in the Special Conditions of Contract after signing the Contract Agreement.

33.7.3 Inland Transportation & Insurance:

Inland transportation and inland insurance charges shall be included in the contract price.

34.0 DEDUCTION FROM CONTRACT PRICE

All costs, damages or expenses which the Purchaser/Employer may have paid, for which under the Contract, the contractor is liable, will be claimed by the Purchaser/Employer. All such claims shall be billed by the Purchaser/Employer to the Contractor 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 Purchaser/Employer may then deduct the amount, from any amount due or becoming due by him to the contractor under the Contract or may be recovered by sections of Law or otherwise.

D. SPARES

35.0 SPARES

Spares are not included in the scope of work **unless and otherwise specifically mentioned in individual item work scope.**

E. RISK DISTRIBUTION

36.0 TRANSFER OF THE TITLE

36.1 Transfer of the title in respect of equipment and materials supplied by the contractor to Power & Electricity Department, Mizoram pursuant to the terms of the contract shall pass on to Power & Electricity Department, Mizoram with ex-works dispatch and negotiation of dispatch documents.

36.2 This Transfer of Title shall not be construed to mean the acceptance and the consequent "Taking Over" of equipment and materials. The contractor shall continue to be responsible for the quality and performance of such equipment and materials and for their compliance with the specifications until "Taking Over" and the fulfillment of guarantee provisions of this Contract.

36.3 This Transfer of Title shall not relieve the Contractor from the responsibility for all risks of loss or damage to the equipment and materials as specified under the clause entitled "Insurance" of this Section.

37.0 INSURANCE

37.1 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 Purchaser/Employer 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 Purchaser/Employer. However, irrespective of such acceptance, the responsibility to maintain adequate insurance coverage at all time during the period of contract shall be of the contractor alone. The contractor's failure in this regard shall not relieve him of any of his contractual responsibilities and obligations. The insurance covers to be taken by the contractor shall be in a joint name of the Purchaser/Employer 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.

- 37.2 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 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 Purchaser/Employer 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 Purchaser/Employer immediately after such insurance coverage. The Contractor shall also inform the Purchaser/Employer 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.
- 37.3 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 condition, 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 equipments/materials and to ensure their availability as per project requirements.
- 37.4 All costs on account of insurance liabilities covered under the contract will be to Contractor's account and will be included in Contract Price. However, the Purchaser/Employer may from time to time, during the pendency of the contract, may 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.

37.5 The clause entitled 'Insurance' under the Section ECC (section-3), covers the additional insurance requirements for the portion of the works to be performed at the Site.

38.0 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 Bidding Documents.

39.0 DELAYS BY PURCHASER/EMPLOYER OR HIS AUTHORISED AGENTS

39.1 In case the Contractor's performance is delayed due to any act of omission on the part of the Purchaser/Employer or his authorized agents, then the Contractor shall be given due extension of time for the completion of the Works, to the extent of such omission on the part of the Purchaser/Employer 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.

39.2 In addition, the Contractor shall be entitled to claim demonstrable and reasonable compensation if such delays have resulted in any increase in cost. The Purchaser/Employer shall examine the justification for such a request for claim and if satisfied, the extent of compensation shall be mutually agreed depending upon the circumstances at the time of such an occurrence.

40.0 DEMURRAGE, WHARFAGE, ETC.

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

F. FORCE MAJEURE

41.0 FORCE MAJEURE

41.1 Force majeure is herein defined as any cause which is beyond the control of the contractor or the Purchaser/Employer 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 limit to floods, droughts, earthquakes and epidemics;

- b) Acts of any Government, domestic or foreign, including but not limited to war, declared or undeclared, priorities, quarantines, embargoes.

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

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

The date of completion will, subject to hereinafter provided, be extended by a reasonable time even though such cause may occur after contractor's performance of obligation has been delayed to other causes.

42.0 SUSPENSION OF WORK

- 42.1 The Purchaser/Employer reserve 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 the duration of the suspension.

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

43.0 CONTRACTOR'S DEFAULT

- 43.1 If the Contractor shall neglect to execute the Works with due diligence and expertise or shall refuse or neglect to comply with any reasonable order given to him, in the Contract by the Engineer in connection with the works or shall contravene the provisions of the Contract, the Purchaser/Employer 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 Purchaser/Employer 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 Purchaser/Employer 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 Purchaser/Employer 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 Purchaser/Employer shall be entitled to retain and apply any balance which may otherwise be due on the Contract by him to the contractor, or such part thereof as may be necessary, to the payment of the cost of executing the said part of the work or of completing the Works as the case may be. If the cost of completing of Works or executing a part thereof as aforesaid shall exceed the balance due to the contractor, the contractor shall pay such excess. Such payment of excess amount shall be independent of the liquidated damages for delay which the contractor shall have to pay if the completion of works is delayed.

- 43.2 In addition, such action by the Purchaser/Employer 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.

Such action by the Purchaser/Employer as aforesaid, the termination of the Contract under this clause shall neither entitle the contractor to reduce the value of the contract Performance Guarantee nor the time thereof. The contract Performance Guarantee shall be valid for the full value and for the full period of the contract including guarantee period.

44.0 TERMINATION OF CONTRACT ON PURCHASER/EMPLOYER'S INITIATIVE

- 44.1 The Purchaser/Employer 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 Purchaser/Employer shall in such an event give fifteen (15) days notice in writing to the Contractor of his decision to do so.
- 44.2 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 Purchaser/Employer, stop all further purchasing activity related to the work terminated, and assist the Purchaser/Employer in maintenance, protection, and disposition of the Works acquired under the Contract by the Purchaser/Employer.
- 44.3 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.
- 44.4 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 Purchaser/Employer is satisfied that the legal representatives of the individual contractor or of the proprietor of propriety concern and in the case of partnership, the surviving partners, are capable of carrying out and completing the Contract, the Purchaser/Employer shall be entitled to cancel the Contract as to its uncompleted part without being in any way liable to payment of any compensation to the estate of deceased Contractor and/or to surviving partners of the contractor's

firm on account of the cancellation of the contract. The decision of the Purchaser/Employer 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 Purchaser/Employer shall not hold the estate of the deceased Contractor and/or the surviving partner of the Contractor's firm liable to damages for not completing the Contract.

45.0 FRUSTRATION OF CONTRACT

45.1 In the event of frustration of the contract of supervening impossibility in items 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:

45.2 In the event of non-availability or suspension of funds for any reasons whatsoever (except for reason of willful or flagrant breach by the Purchaser/Employer and/or contractor) then the Works under the contract shall be suspended.

Furthermore, if the Purchaser/Employer 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.

45.3 In the event referred to in sub-clauses 44.1 & 44.2 above, the parties shall mutually discuss to arrive at reasonable agreement 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.

46.0 GRAFTS AND COMMISSIONS, ETC.

Any graft, commission, gift or advantage given, promised or offered by or on behalf of the Contractor or his partner, agent, officers, director, employee or servant 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 Purchaser/Employer, 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 Purchaser/Employer resulting from any cancellation. The Purchaser/Employer shall then be entitled to deduct the amount so payable from any money otherwise due to Contractor under the Contract.

G. RESOLUTION OF DISPUTES

47.0 SETTLEMENT OF DISPUTES

- 47.1 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.
- 47.2 If any dispute or difference of any kind whatsoever shall arise between the Purchaser/Employer 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 Purchaser/Employer and the Contractor.
- 47.3 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 Purchaser/Employer requires arbitration as hereinafter provided or not.
- 47.4 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.
- 47.5 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 Purchaser/Employer or the Contractor being dissatisfied with any such decision, or within (30) days, after the expiry of the first mentioned period of thirty (30) days, as the case may be, either party may require that the matters in dispute be referred to arbitration as hereinafter provided.

48.0 ARBITRATION

- 48.1 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.
- 48.1.1 The arbitration shall be conducted by three arbitrators, one each to be nominated by the Contractor and the Purchaser/Employer and third to be appointed as an umpire by both the arbitrators in accordance with the Arbitration & Conciliation Act. If either of the parties fails to appoint its arbitrator within sixty (60) days after receipt of a notice from the other party invoking the Arbitration clause, the arbitrator appointed by the party invoking the arbitration clause shall become the sole arbitrator to conduct the arbitration.

- 48.1.2 The arbitration shall be conducted in accordance with the provisions of the Arbitration & Conciliation Act, 1996 or any statutory modification thereof. The venue of arbitration shall be **Mizoram** only.
- 48.2 The decision of the majority of the arbitrators shall be final and binding upon the parties. The arbitrators may, from time to time with the consent of all the parties enlarge the time for making the award. In the event of any of the aforesaid arbitrators dying, neglecting, resigning or being unable to act for any reason, it will be lawful for the party concerned to nominate another arbitrator in place of the outgoing arbitrator.
- 48.3 The arbitrator shall have full powers to review and/or revise any decision, opinion, direction, certification or valuation of the Engineer in accordance with the Contract, and neither party shall be limited in the proceedings before such arbitrators to the contents or arguments out before the Engineer for the purpose of obtaining the said decision.
- 48.4 No decision given by the Engineer in accordance with the foregoing provisions shall disqualify him as being called as a witness for giving evidence before the arbitrators on any matter whatsoever relevant to the dispute or difference referred to the arbitrators as aforesaid.
- 48.5 During settlement of disputes and arbitration proceedings, both parties shall be obliged to carry out their respective obligations under the Contract.

49.0 RECONCILIATION OF ACCOUNTS

The Contractor shall prepare and submit every 3 (Three) months, a statement covering payments claimed and the payments received vis-à-vis the works executed, for reconciliation of accounts with the Purchaser/Employer. The Contractor shall also prepare and submit a detailed account of Purchaser/Employer issued Materials received and utilized by him for reconciliation purpose in a format to be discussed and finalized with the Purchaser/Employer before the award of the Contract.

SECTION – 2:

SPECIAL CONDITIONS OF CONTRACT (SCC)

SPECIAL CONDITIONS OF CONTRACT (SCC)

1.0 GENERAL INFORMATION

- 1.1 Power & Electricity Department, Mizoram, Aizawl, hereinafter called the Owner for execution of Renovation & Up gradation of Protection System of 132kV Sub Station in the state of Mizoram.
- 1.2 The project shall be executed by the Purchaser/Employer with funds made available out of the proceeds of the financial assistance received by Government of Mizoram from PSDF and ownership of the aforesaid package shall remain vested with the Purchaser/Employer. All eligible payments against this work shall be made by the Purchaser/Employer under suitable arrangement with the Owner.
- 1.3 “Owner“shall mean Power & Electricity Department, Mizoram, Aizawl. For the purpose of execution of the contract, the contractual activities on the part of the ‘Owner’wherever context requires so, shall be performed by the Purchaser/Employer.
- 1.4 The respective rights of the Owner and Contractors shall be governed by the Contracts signed between the Purchaser/Employer and the Contractor for the respective packages.

2.0 SCOPE OF WORK

- 2.1 The detailed scope of work covered under this package is specified in volume - II of bidding document and is indicated briefly hereunder:
 - 2.1.1 The Scope of Work shall include Design, Engineering, Manufacture, Assembly, Inspection, Testing at manufacturer’s work before dispatch, packing, supply, delivery at site, erection and commissioning and testing at site of construction materials and equipments, including insurance during transit and storage.
- 2.2 Before proceeding with the work, the Contractor shall fully familiarize himself with the site conditions. It shall be the responsibility of the Contractor to arrange all inputs required for detailed engineering and execution. The Contractor shall be fully responsible for providing all equipment, materials, system and services specified or otherwise which are required to complete the work and successful testing & commissioning of the project for Renovation & Up gradation of Protection System of 132kV Sub Station within Mizoram.
- 2.3 All materials required for the civil works shall be supplied by the Contractor.

3.0 TAXES & DUTIES

3.1 In respect of transactions solely between the Purchaser/Employer and the Contractor (for dispatches made from the Contractor's works), Sales Tax, Excise Duties, local taxes and other levies shall be on the account of the Contractor.

3.2 No Concessional Sales Tax declaration forms, as admissible, would be issued to the Contractor by the Government of Mizoram/ **P&E Department**.

3.3 **Sales Tax on goods incorporated in the Works:**

The amount in the Contract Schedule include the Sales Tax on materials, Turnover Tax or any other similar taxes under the Sales Tax Act, etc. and the Purchaser/Employer would not bear any liability on this account. The Purchaser/Employer shall, however, deduct such taxes at source as per the rules and issue TDS Certificate to the Contractor. **All the price quoted shall be inclusive of all Taxes & Duties, Freight & Insurance, other Levies and all other charges prevailing as on date.**

3.4 For payment/reimbursement of Sales Tax, in respect of dispatches made directly from Contractor's works, invoices raised by the Contractor shall be accepted as documentary evidence. Similarly, pre-numbered invoices duly signed by authorized signatory will be considered as evidence for payment of Excise Duty.

3.5 As regards the Income Tax, surcharge on Income Tax and other corporate taxes the Contractor shall be responsible for such payment to the concerned authorities. The Purchaser/Employer shall however deduct such taxes at source as per the rules and issue TDS Certificate to the contractor.

3.6 The statutory deduction of Taxes & Duties at source, related to these works, shall be done by the Purchaser/Employer. TDS so deducted shall be deposited with the relevant tax authorities & TDS Certificates shall be issued by the Purchaser/Employer using Contractor's Permanent A/C Number (PAN).

4.0 TERMS OF PAYMENT

The payment to the Contractor for the performance of the contract will be made by the Purchaser/Employer as per Clause 33.0 of Section-I GCC and as per the guidelines and conditions specified hereunder; all payments made during the Contract will be on on-account payment purpose only.

4.1 **Advance Payment:**

i) **For Supply of materials and Erection** : 10% (Ten percent) of the Contract Price component shall be paid as mobilization advance at 10% simple interest p.a. on presentation of the following and interest on the advance payment shall be calculated from the date of payment to the date of recovery, both days inclusive :

- a) Acceptance of Letter of Award by the Contractor.
 - b) Contractor's detailed Invoice.
 - c) An unconditional & irrevocable Bank Guarantee (on reducing balance basis) for the equivalent amount of advance in accordance with the provisions of clause 33.7.1(c), Section-I GCC and as per proforma attached with Section-4: Annexure, initially valid up to the contract period. This shall be kept renewed time to time to cover the balance amount and likely period to complete recovery together with interest.
 - d) An unconditional & irrevocable Bank Guarantee for Five percent (5%) of the total Contract Price towards Contract Performance Guarantee (CPG) which shall initially be kept valid up to ninety (90) days after the expiry of Warranty/Guarantee Period of the Equipment as per Clause No. 15.0 of GCC, and shall be extended from time to time till ninety (90) days beyond successful completion of Warranty/Guarantee Period, as may be required under the Contract.
 - e) Detailed PERT Network/ Bar Chart and its approval by the Purchaser/ Employer.
- ii) 10% Mobilization Advance against Supply and Erection already released and accrued interest, calculated in accordance with clause 4.1(i) above shall be adjusted fully within 3rd installment respectively.
- iii) Payment of Mobilization Advance for Supply and Erection shall be made separately.

4.2 Progressive Payment for Supply of Materials:

- i) 1st installment: - 10% (ten percent) of the contract price shall be paid against despatch of materials and submission of the following –
- a) Materials despatch instruction issued by Engineer-in-Chief/Superintending Engineer, Mizoram SLDC Circle.
 - b) Manufacturer's guarantee certificate.
 - c) Despatch challan in original
 - d) Contractor's detailed invoice & packing list.
 - e) Insurance policy/Certificate, if any.
 - f) Test Certificate.
- ii) 2nd installment: - 20% (twenty percent) of the contract price shall be paid against delivery of materials at site/destination and on physical verification by officer not below the rank of AE/SDO.
- iii) 3rd installment: - 60% (sixty percent) of the contract price shall be paid against issuance of "operational acceptance" as deemed fit by Engineer-in-charge/

Owner's representative. Operational acceptance shall be given post trial run is conducted.

- iv) 4th & final installment: - The balance 10% (ten percent) of supply contract price shall be paid on certification by Engineer-in-Charge/Owner's representative that the items have been installed & commissioned and its taking over by the Purchaser/Employer.

4.3. Progressive Payment for Erection:

- i) 1st installment: - 10% (ten percent) of the contract price shall be released after completion of 20% erection work and on physical verification by the Engineer-In-charge.
- ii) 2nd installment: - 20% (twenty percent) of the contract price shall be released after completion of another 30% erection work and on physical verification by the Engineer-In-charge and duly evaluated and certified by Owner's representative.
- iii) 3rd installment:- 60% (sixty percent) of the contract price shall be released after completion of remaining 50% erection work and on physical verification by the Engineer-In-charge & duly evaluated and certified by Owner's representative.
- iv) 4th & final installment:- The balance 10% (ten percent) of the Erection contract price shall be paid after successful testing & commissioning of all the erection scope under all contract packages and its taking over by the Purchaser/Employer.

4.3. Percentage completion of erection work shall be derived from portion of completed work out of total sum of individual work awarded to each successful bidder. The criterion adopted by Engineer-in-Charge will be final and binding in this regard.

4.4. "Commissioning" for the purpose of payments shall mean satisfactory completion of all supplies, erection, commissioning, checks and successful completion of all site tests and continuous energizing of the equipment/ materials at rated voltage as per the Contract and to the satisfaction/ approval of the Purchaser/Employer.

4.5. Notwithstanding anything contain in above payment terms and conditions, all payments right from mobilization advance to final installment, shall be expedited subject to release of require fund from Nodal Agency of PSDF.

5.0 WORK SCHEDULE

5.1 The successful bidder shall submit his programme for furnishing and erecting the equipments covered under the package. The programme shall be in the form of a Bar Chart/ PERT network identifying key phases in various areas of total work like procurement of raw material/ bought out items/ components, manufacturing, type

testing, supply of materials and field activities and testing & commissioning of the equipments. The contract should be completed **within 6 (Six) months from zero date.**

- 5.2 The schedule shall be reckoned from the date of issue of Letter of Award. Within **two (2) weeks** of issuance of Letter of Award, Contractor shall submit Bar Chart/ PERT Network conforming to the delivery/ erection dates mentioned in Letter of Award for review and approval. After approval of Bar Chart/ PERT Network, one reproducible with sufficient number of prints as desired by the Purchaser/Employer shall be submitted.
- 5.3 The provisions of Liquidated Damages leviable in case of delay in completion pursuant to Clause 7.0 below shall become effective after the period mentioned above for successful completion of testing & commissioning.
- 5.4 If the supply of equipment or erection work is delayed due to any reasons, the Contractor shall without delay give notice to the Purchaser in writing of his claim for an extension of time within 30 days of Scheduled Date of Delivery/Completion. The Purchaser on receipt of such notice may agree to extend the Contract Completion Date as may be reasonable but with Liquidated Damages. However, in the case of Force Majeure or in any such cases beyond the control of the Contractor and are accepted as such by the Purchaser, the Completion Date may be extended without Liquidated Damages.

5. CONTRACT PERFORMANCE GUARANTEE

The Contractor shall be required to furnish to the Purchaser/Employer a Contract Performance Guarantee (CPG) for the value of **5% (Five percent) of total Contract Price** as per conditions stipulated in Clause 31.0, Section-1 GCC, which shall be extended from time to time till 90 (ninety) days beyond the actual date of successful completion of warranty period, as may be required under the Contract.

7.0 LIQUIDATED DAMAGES FOR DELAY IN COMPLETION

If the Contractor fails to achieve (1) successful completion of Testing & Commissioning of the projects or (2) complete supply and delivery of materials under the contract to the Consignee, within the specified period given in the Letter of Award, the Contractor shall pay to the Purchaser/Employer as Liquidated Damages and not as penalty, a sum of $\frac{1}{2}$ % (half percent) of the material value not supplied for each calendar month of delay or part thereof. However, the amount of Liquidated Damages for the Contract shall be limited to a maximum of 5% (five percent) of the total Contract Price.

8.0 FUNCTIONAL GUARANTEES, LIQUIDATED DAMAGES FOR NON-PERFORMANCE

8.1 The Contractor shall guarantee that the equipments offered shall meet the rating and performance requirements stipulated for various equipments covered in this specification. The Contractor shall also furnish a declaration and details in the manner prescribed in the relevant schedule for guarantees which shall attract levy of Liquidated Damages for non-performance as given below:

8.2 If the guarantees are not established at factory tests, then the Purchaser/Employer at its discretion may reject or accept the equipment after assessing the Liquidated Damages against the Contractor and such amounts shall be deducted from the Contract Price or otherwise recovered from the Contractor.

8.3 The amount of Liquidated Damages so recoverable shall be without any ceiling and shall not prejudice the Contractor's other liabilities under the Contract in any manner. The Liquidated Damages for short fall in guaranteed parameters and for delay in completion are independent of each other and shall be applicable separately and concurrently.

9.0 STORAGE - CUM - ERECTION INSURANCE

In additional to conditions specified in Clause 37.0, Section-1 GCC following shall also apply:

9.1 All the equipment and materials including spares, if any, being supplied by the Contractor shall be kept completely insured by the Contractor at his cost from time of dispatch from the Contractor's Works, upto the completion of erection, testing & commissioning at site and taking over by the Purchaser/Employer in accordance with the Contract.

9.2 Further all equipment and materials being supplied by the Purchaser/Employer for erection (as per Technical Specification) shall be kept insured by the Contractor against any loss, damage, pilferage, theft, fire, etc. from the point of unloading upto the time of taking over by the Purchaser/Employer including handling, transportation, storage, erection, testing and commissioning etc.

9.3 It will be the responsibility of the Contractor to lodge, pursue and settle all claims with the insurance company in case of any damage, loss, theft, pilferage or fire during execution of Contract and the Purchaser/Employer shall be kept informed about it. The Contractor shall replace the lost/ damaged materials promptly irrespective of the settlement of the claims by the under writers and ensure that the work progress is as per agreed schedules. The losses, if any, in such replacement will have to be borne by the Contractor.

10.0 POWER, WATER & COMMUNICATION

Refer Clause no. 14 & 15 of ECC (Section 3).

11.0 PROGRESS REPORTS

During execution of the Contract, the Contractor shall furnish monthly progress reports to the Purchaser/Employer in a format as specified by the Purchaser/Employer, indicating the progress achieved during the month, and total progress upto the month against scheduled and anticipated completion dates in respect of activities covered in programmes/ schedules referred to above. If called for by the Purchaser/Employer, Contractor shall also furnish to the Purchaser/Employer resources data in a specified format and time schedule. The Contractor shall also furnish any other information that is necessary to ascertain progress, if called for by the Purchaser/Employer.

12.0 LATENT DEFECT WARRANTY

The period of latent defect warranty in terms of clause 15.8, Section-1 GCC shall be limited to 3 (three) years from the date of expiry of Guarantee period.

13.0 FIRST-AID

To deal with emergency/ accidental eventualities at Works site, the Contractor shall make all such arrangements necessary, such as services of Ambulance etc. for transportation to hospital at his own cost.

SECTION-3:

ERECTION CONDITIONS OF CONTRACT (ECC)

ERECTION CONDITION OF CONTRACT

1.0 GENERAL

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

1.2 The Contractor upon signing of the Contract shall, in addition to a Project Coordinator, nominate another responsible officer as his representative at Site suitably designated for the purpose of overall responsibility and co-ordination of the works to be performed at Site. Such person shall function from the Site Office of the Contractor 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 State Govt.) & The Industrial Dispute Act, 1947, The Contract Labour (R&A) Act, 1972, The Workmen Compensation Act, 1923 & relevant Labour Acts and rules made there under in respect of any employee or workman employed or engaged by him.

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. However, any registration, statutory inspection fees lawfully payable under any statutory laws and its amendments from time to time during erection in respect of the equipment ultimately to be owned by the Purchaser/Employer, shall be to the account of the Purchaser/Employer. Should any such inspection or registration need to be re-arranged due to the fault of the Contractor, the additional fees which inspection and/or registration shall be borne by the Contractor.

3.0 PURCHASER/EMPLOYER'S LIEN ON EQUIPMENT

The Purchaser/Employer shall have lien on all equipment including those of the Contractor brought to the Site for the purpose of erection, testing and commissioning of the equipment to be supplied and erected under the Contract. The Purchaser/Employer 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 without the prior written approval of the Engineer.

4.0 INSPECTION, TESTING AND INSPECTION CERTIFICATES

The provisions of the clause entitled Inspection, Testing and Inspection Certificates under Technical Specification, section-3 GTC shall also be applicable to the erection portion of the Works. The Engineer shall have the right to re-inspect any equipment

though previously inspected and approved by him at the Contractor's works, before and after the same are erected at Site. If by the above inspection, the Engineer rejects any equipment, the Contractor shall make good for such rejections either by replacement or modification/repairs as may be necessary to the satisfaction of the Engineer. Such replacements will also include the replacement or re-execution of such of those works of other Contractors and or agencies, which might have got damaged or affected by the replacements or re-work done to the Contractor's work.

5.0 ACCESS TO SITE AND WORKS ON SITE

- 5.1 Suitable access to the Site shall be afforded to the Contractor by the Owner/Employer in reasonable time.
- 5.2 The Purchaser/Employer shall have the necessary foundations to be provided by him ready, as per the agreed schedule for the execution of the individual phases of works.
- 5.3 The works so far as it is carried out on the Purchaser/Employer's premises shall be carried out at such time as the Purchaser/Employer may approve and the Purchaser/Employer shall give the Contractor reasonable facilities for carrying out the works.
- 5.4 In the execution of the works, no person other than the Contractor or his duly appointed representative, workmen, shall be allowed to do work on the Site, except by the special permission, in writing of the Engineer or his representative.

6.0 CONTRACTORS SITE OFFICE ESTABLISHMENT

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

7.0 CO-OPERATIONS WITH OTHER CONTRACTORS

- 7.1 The Contractor shall co-operate with all other Contractors or tradesmen of the Purchaser/Employer, who may be performing other works on behalf of the Purchaser/Employer and the workmen who may be employed by the Purchaser/Employer 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 Purchaser/Employer, due to the Contractor's work shall promptly be made good at the contractor's own expenses. The Engineer shall determine the resolution of any difference or conflict that may arise between the contractor and other Contractors or between the Contractor and the workmen of the Purchaser/Employer in regard to their work. If the work of the Contractor is delayed because of any acts of omission of another contractor, the Contractor shall have no claim against the Purchaser/Employer on that account other than an extension of time for completing his works.

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

8.0 DISCIPLINE OF WORKMEN

The contractor shall adhere to the disciplinary procedure set by the 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.

9.0 CONTRACTOR'S FIELD OPERATION

9.1 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 Purchaser/Employer 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.

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

10.0 PROGRESS REPORT

10.1 The Contractor shall submit to the Purchase/Employer, a monthly progress report detailing out the progress achieved on all activities as compared to the schedules. The report shall also indicate the reasons for the variance between the scheduled and actual progress and the action proposed for corrective measures, wherever necessary.

11.0 MAN-POWER REPORT

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

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

12.0 PROTECTION OF WORK

The Contractor shall have total responsibility for protecting his works till it is finally taken over by the Engineer. No claim will be entertained by the Purchaser/Employer 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, should any such damage to the contractor's works occur because of any other party not being under his supervision or control. The contractor shall make his claim directly with the party concerned. If disagreement or conflict or dispute develops between the contractor and the other party or parties concerned regarding the responsibility for damage to the contractor's works, the same shall be resolved as per the provisions of the Clause 7.0 above entitled "Cooperation with other contractors". The contractor shall not cause any delay in the repair of such damaged works because of any delay in the resolution of such dispute. The contractor shall proceed to repair the work immediately and no cause thereof will be assigned pending resolution of such disputes.

13.0 EMPLOYMENT OF LABOUR

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

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

13.3 The Hours of work on the Site shall be decided by the Purchaser/Employer and the Contractor shall adhere to it. Working hours will normally be eight (8) hours per day & 48 hours in a week.

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

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

13.6 Compliance with Labour Regulations:

- 13.6.1 During continuance of the contract, the Contractor shall abide at all times by all applicable existing labour enactments and rules made there-under, regulations, notifications and byelaws of the State or Central Government or local authority and any other labour law (including rules), regulations, bye laws that may be passed or notifications that may be issued under any labour law in future either by the State or the Central Government or the local authority. The employees of the Contractors in no case shall be treated as the employees of the Purchaser/Employer at any point of time.
- 13.6.2 The Contractor shall keep the Purchaser/Employer indemnified in case any action is taken against the Purchaser/Employer by the Competent Authority on account of contravention of any of the provisions of any Act or rules made there under, regulations, or notifications including amendments.
- 13.6.3 If the Purchaser/Employer is caused to pay under any law as Principal Employer such amount as may be necessary to cause or observe, or for non-observance of the provisions stipulated in the Notifications / byelaws/ Acts/ Rules/ Regulations including Amendments. If any, on the part of the Contractor, the Purchaser/Employer shall have the right to deduct any money due to the Contractor under this contract or any other contract with the Purchaser/Employer including his amount of Performance security for adjusting the aforesaid payment. The Purchaser/Employer shall also have the right to recover from the Contractor any sum required or estimated to be required for making good the loss or damage suffered by the Purchaser/Employer.

14.0 FACILITIES TO BE PROVIDED BY THE PURCHASER/EMPLOYER

14.1 **Space for storage of materials:**

The Engineer shall at his discretion and for the duration of execution of the Contract make available at site, space for storage of materials required for execution of the Contract. Any construction of temporary roads, offices, workshop etc. as per plan approved by the Engineer shall be done by the Contractor at his cost.

14.2 **Electricity:**

Power supply required for construction purpose shall be provided by the Purchase/Employer which shall be charges at the prevailing tariff of domestic category. Power supply requirement for all testing and commissioning of the equipment shall be free of cost. The supply may be withdrawn if it is used for the 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.

14.3 **Water:**

Water supply required for execution of Work and other related work is the responsibility of the Contractor. Purchaser/Employer is not responsible for supply of water.

15.0 FACILITIES TO BE PROVIDED BY THE CONTRACTOR

15.1 **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 pre-assembly at Site. These tools and tackles shall not be removed from the Site without the written permission of the Engineer.

15.2 **Communication:**

The Purchaser/Employer will extend the telephone and telex facilities, if available at Site, for purposes of Contract. The Contractor shall be charged at actual for such facilities.

15.3 **First – Aid:**

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

15.3.2 The Purchaser/Employer will assist the Contractor, in case of any emergency for the services of an ambulance for transportation to the nearest hospital

15.4 **Cleanliness:**

15.4.1 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 special personnel to thoroughly clean his work-area at least once in a day. All such rubbish and scrap material shall be stacked or disposed in a place to be identified by the Engineer. 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.

15.4.2 Similarly the labour colony, the offices and the residential areas of the Contractor's employees and workmen shall be kept clean and neat to the entire satisfaction of the Engineer. Proper sanitary arrangement shall be provided by the Contractor, in the work areas, office and residential areas of the Contractor.

16.0 LINES AND GRADES

All the works shall be performed on the lines, grades and elevations indicated on the drawings. The contractor shall be responsible to locate and layout 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.

17.0. FIRE PROTECTION

- 17.1 The work procedures that are to be used during the erection shall be those which minimize fire hazards to the extent practicable. Combustible materials, combustible waste and rubbish shall be collected and removed from the Site at least once each day. Fuels, oils and volatile or inflammable materials shall be stored away from the construction and equipment and materials storage areas in safe containers. Untreated materials shall not at all be used at Site for any other purpose unless otherwise specified. If any such materials are received with the equipment at the Site, the same shall be removed and replaced with acceptable material before moving into the construction or storage area.
- 17.2 Similarly corrugated paper fabricated cartons etc, will not be permitted in the construction area either for storage or for handling of materials. All such materials used shall be of water proof and flame resistant type. All the other materials such as working drawings, plans etc. Which are combustible but are essential for the works to be executed shall be protected against combustion resulting from welding sparks, cutting flames and other similar fire sources.
- 17.3 All the contractor's supervisory personnel and sufficient number of workers shall be trained for fire-fighting and shall be assigned specific fire protection duties. Enough of such trained personnel must be available at the Site during the entire period of the contract.
- 17.4 The contractor shall provide enough fire protection equipment of the types and number for the ware-houses, office, temporary structures, labour colony area etc. Access to such fire protection equipment shall be easy and kept open at all time.

18.0. 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 including employment of security personnel to ensure the protection of all materials, equipment and works from theft, fire, pilferage and any other damages and loss. All materials of the contractor shall enter and leave the project site only with the written permission of the Engineer in the prescribed manner.

19.0. CONTRACTOR'S AREA LIMITS

The Engineer will mark-out the boundary limits of access roads, parking spaces, storage and construction areas for the contractor and the contractor shall not trespass the areas not so marked out for him, The contractor shall be responsible to ensure that none of his personnel move out of the areas marked out for his operations. In case of such a need for the contractor's personnel to work out of the areas marked out for him, the same shall be done only with the written permission of the Engineer.

20.0. CONTRACTOR'S CO-OPERATION WITH THE PURCHASER/EMPLOYER

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

21.0. PRE-COMMISSIONING TRIALS AND INITIAL OPERATIONS

The pre-commissioning trials and initial operations of the equipment furnished and erected by the Contractor shall be the responsibility of the Contractor as detailed in relevant clauses in Technical Specifications. The Contractor shall provide, in addition, test instruments, calibrating devices, etc. and labour required for successful performance of these trials. 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 trials.

22.0. MATERIALS HANDLING AND STORAGE

- 22.1 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.
- 22.2 Contractor shall be responsible for examining all the shipment and notify the Engineer immediately of any damage, shortage, discrepancy etc. for the purpose of Engineer's information only. However, the contractor shall be solely responsible for any shortages or damage 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.
- 22.3 The contractor shall maintain an accurate and exhaustive record detailing out the list of all equipment received by him for the purpose of erection and keep such record open for the inspection of the Engineer-in-Charge.
- 22.4 All equipment shall be handled very carefully to prevent any damage or loss. No bare wire ropes, slings, etc. shall be used for unloading and/or handling of the equipment

without the specific written permission of the Engineer. The equipment stored shall be properly protected to prevent damage either to the equipment or the floor where they are stored. The equipment from the store shall be moved to the actual location at the appropriate time so as to avoid any damage to the equipments.

- 22.5 All electrical panels, control gears, motors and such other devices shall be properly dried by heating before they are installed and energized. Motor bearings, slip rings, commutators and other exposed parts shall be protected against moisture ingress and corrosion during storage and periodically inspected.
- 22.6 All the electrical equipment 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 open for inspection by the Engineer.
- 22.7 The contractor shall ensure that all the packing materials and protection devices used for the various equipment during transit and storage are removed before the equipment are installed.
- 22.8 The consumable and other supplies likely to deteriorate due to storage must be thoroughly protected and stored in a suitable manner to prevent damage or deterioration in quality by storage.
- 22.9 All the materials stored in the open or dusty location must be covered with suitable weather-proof and flame proof covering material wherever applicable.
- 22.10 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.
- 22.11 The Contractor shall be responsible for making suitable indoor storage facilities to store all equipment, which require indoor storage. Normally, all the electrical equipment such as motors, control gear, generators, exciters and consumables like electrodes, lubricants etc. shall be stored in the closed storage space. The 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.

23.0. CONSTRUCTION MANAGEMENT

- 23.1 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 tradesmen of the Purchaser/Employer regarding scheduling and co-ordination of work. Such decision

by the Engineer shall not be a cause for extra compensation or extension of time for the Contractor.

- 23.2 The Engineer may call for meeting either with individual contractors or with selected number of contractors and in such a case the contractor if called, will also attend such meetings.
- 23.3 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.
- 23.4 The Engineer shall, however, not be responsible for provision of additional labour and/or materials or supply or any other services to the contractor except for the coordination work between various contractors as set out earlier.

24.0. FIELD OFFICE RECORDS

The Contractor shall maintain at his Site office up-to-date copies of all drawings, specifications and other contract. Documents and any other supplementary data complete with all the latest revisions thereto. The contractor shall also maintain in addition the continuous record of all changes to the above Contract Documents, drawings, specification's, 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.

25.0. CONTRACTOR'S MATERIALS BROUGHT ON TO SITE

- 25.1 The Contractor shall bring to Site all equipment, components, parts, materials, including construction equipment, tools and tackles for the purpose of the work under intimation to the Engineer. All such goods shall, from the time of their being brought vest in the Purchaser/Employer, 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.
- 25.2 The Purchaser/Employers 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) days notice in writing of his intention to do so, the Purchaser/Employer shall be at liberty to sell and dispose off any such goods, in such manner as he shall think fit including public auction or private treaty and to apply the proceeds in or towards the satisfaction of such sum or sum due as aforesaid.

25.3 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. If the Contractor fails to remove such materials, within fifteen (15) days of issue of a notice by the Engineer to do so then the Engineer shall have the liberty to dispose of such materials as detailed under clause 25.2 above and credit the proceeds thereto to the account of the Contractor.

26.0 PROTECTION OF PROPERTY AND CONTRACTOR'S LIABILITY

26.1 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 Purchaser/Employer and the employees of other contractors and all public and private property including structures, building, other plants and equipment and utilities either above or below the ground.

26.2 The Contractor will ensure provision of necessary safety equipment such as barriers, sign-boards, warning lights and alarms, etc., to provide adequate protection to persons and property. The Contractors shall be responsible to give reasonable notice to the Engineer and the Purchaser/Employer of public or private property and utilities when such property and utilities are likely to get damaged or injured during the performance of his works and shall make all necessary arrangements with such Purchaser/Employers, related to removal and/or replacement or protection of such property and utilities.

27.0 PAINTING

All exposed metal parts of the equipment including piping, structures, railing etc. wherever applicable, after installation unless otherwise surface protected, shall be first painted with at least one coat of suitable primer which matches the shop primer paint used, after thoroughly cleaning all such parts of all dirt, rust, scales, grease, oil and other foreign materials by wire brushing, scraping or sand blasting and the same being inspected and approved by the Engineer for painting. Afterwards, the above parts shall be finished painted with two coats of allowed resin machinery enamel paints. The quality of the finish paint shall be as per the standards of ISI or equivalent and shall be of the colour as approved by the Engineer.

28.0 INSURANCE

28.1 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.

28.2 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 employee, which for any reasons are not covered under the Workmen’s Compensation Act, 1948. The liabilities shall not be less than:

Workmen’s Compensation: As per statutory provisions.

Employee’s liability: As per statutory provisions.

28.3 Comprehensive Automobile Insurance:

This insurance shall be such a form to protect the Contractor against all claims for injuries, disability, disease and death to members of public including the Purchaser/Employer’s men and damage to the property of other arising from the use of motor vehicles during on or off the Site operations, irrespective of the ownership of such vehicles.

28.4 Comprehensive General Liability Insurance:

28.4.1 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 or omission on the part of the Contractor, his agents his employees, his representatives or from riots, strikes and civil commotion. This insurance shall also cover all the liabilities of the Contractor arising out of the Clause entitled Defence of Suits under General Terms and Conditions of Contract of this volume-I.

28.4.2 The hazards to be covered will pertain to all the works and areas where the Contractor, his agents and his employees have to perform work pursuant to the contract.

28.5 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.

29.0 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 constructions conditions will in no way relieve the Contractor of his responsibility to perform the Works as per the Schedule.

30.0 WORK & SAFETY REGULATIONS

- 30.1 The Contractor shall ensure proper safety of all the workmen, materials plant and equipment belonging to him or to Employer/Owner or to others, working at the Site. The Contractor shall also be responsible for provision of all safety notices and safety equipment required both by the relevant legislations and the Engineer as he may deem necessary.
- 30.2 The Contractor will notify well in advance to the Engineer of his intention to bring to the Site any container filled with liquid or gaseous fuel or explosive or petroleum substance or such chemicals which may involve hazards. The Engineer shall have the right to prescribe the conditions, under which such container is to be stored, handled and used during the performance of the works and the Contractor shall strictly adhere to comply with such instructions. The Engineer shall have the right at his sole discretion to inspect any such container is required to be used and if in his opinion, its use is not safe, he may forbid its use.
- 30.3 All equipment used in construction and erection by Contractor shall meet Indian/ International Standards and where such standards do not exist, the Contractor shall ensure these to be absolutely safe. All equipments shall be strictly operated and maintained by the Contractor in accordance with manufacturer's operation Manual and safety instructions and as per guidelines / Rules of State in this regard.
- 30.4 The Contractor shall provide suitable safety equipment of prescribed standard to all employees and workmen according to the need, as may be directed by Engineer who will also have right to examine these safety equipment to determine their suitability, reliability, acceptability and adaptability.
- 30.5 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.
- 30.6 The Contractor shall not interfere or disturb electric fuses, wiring and other electrical equipment belonging to the Purchaser/Employer or other contractor under any circumstances, whatsoever, unless expressly permitted in writing by Engineer to handle such fuses, wiring or electrical equipment.

- 30.7 Before the contractor connects any electrical appliances to any plug or socket belonging to the other contractor or Purchaser/Employer, 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.
- 30.8 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.
- 30.9 No electric cable in use by the Contractor/Purchaser/Employer 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.
- 30.10 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 Contractor to electricians/workmen/officers.
- 30.11 The Contractors shall employ necessary number of **qualified**, full time electricians/Electrical Supervisors to maintain his temporary electrical installations.
- 30.12 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.
- 30.13 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 with 3 days of such stoppage or work and decision of the Engineer in this respect shall be conclusive and binding on the Contractor.
- 30.14 The Contractor shall not be entitled for any damages/compensation for stoppage of work due to safety reasons as provided in para 30.13 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.

30.15 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:

Safety Rules:

- a) Each employee shall be provided with initial indoctrination regarding safety by the Contractor, so as to enable him to conduct his work in a safe manner.
- b) No employee shall be given a new assignment of work unfamiliar to him without proper introduction as to the hazards incident thereto, both to himself and his fellow employees.
- c) Under no circumstances shall an employee hurry or take unnecessary chance when working under hazardous conditions.
- d) Employees must not leave naked fires unattended. Smoking shall not be permitted around fire prone areas and adequate firefighting equipment shall be provided at crucial locations.
- e) Employees under the influence of any intoxicating substance, even to the slightest degree shall not be permitted to remain at work.
- f) There shall be a suitable arrangement at every work site for rendering prompt and sufficient first aid to the injured.
- g) The staircases and passage ways shall be adequately lighted.
- h) The employees when working around moving machinery must not be permitted to wear loose garments. Safety shoes are recommended when working in shops or places where materials or tools are likely to fall. Only experienced workers shall be permitted to go behind guard rails or to clean around energized or moving equipment.
- i) The employees must use the standard protection equipment intended for each job. Each piece of equipment shall be inspected before and after it is used.

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

30.17 If the Contractor fails in providing safe working environment as per State Safety Rules or continues the work even after being instructed to stop work by the Engineer as above, the Contractor shall promptly pay to Engineer on demand by the Purchaser/Employer compensation at the rate of Rs. 5000/- per day or part thereof till the instructions are so complied with and so certified by the Engineer. However, in case of accident taking place causing injury, to any individual, the provisions contained in para 30.18 shall also apply in addition to compensation mentioned in this para.

31.18 If the Contractor does not take all safety precautions and/or fails to comply with the Safety Rules as prescribed by the company or under the applicable law for the safety of the equipment and plant and for the safety of personnel and the Contractor does not prevent hazardous conditions which cause injury to his own employees or employees of other contractors, or Purchaser/Employer's Employees or any other person who are at site or adjacent thereto, the Contractors shall be responsible for payment of compensation to members as per the following schedule:

a) Fatal injury or accident causing Death	Rs.1,00,000/- per Person	This is applicable for death/injury to any person whosoever
b) Major injuries or Accident causing 25% or more permanent disablement to workmen or employees	Rs.20,000/- per Person	

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 hereunder or any other applicable laws as applicable from time to time. In case the Purchaser/Employer is made to pay such compensation then the Contractor is liable to reimburse the Purchaser/Employer such amount in addition to the compensation indicated above.

32.0 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 regulations of the Government of India.

33.0 FOUNDATION DRESSING & GROUTING

33.1 The surfaces of foundation shall be dressed to bring the top surface of the foundation to the required level, prior to placement of equipment / equipment bases on the foundation.

33.2 All the equipment bases and structural steel base plates shall be grouted and finished as per these specifications unless otherwise recommended by the equipment manufacturer.

33.3 The concrete foundation surfaces shall be properly prepared by chipping and / or grinding as required to bring the type of such foundation to the required level to provide the necessary roughness for bondage and to ensure enough bearing strength. All laitance and surface film shall be removed and cleaned.

33.4 Grouting Mix:

The grouting mixture shall be composed of Portland cement, sand and water. The Portland cement to be used shall conform to ISI No. 269 or equivalent. Sand shall conform to ISI No. 383/2386 or equivalent. The grout proportions for flat bases where the grouting space does not exceed 35 mm shall be 50 kg. bag of cement to 75 kg. of sand. Only the required quantity of water shall be added so as to make the mix quaky and flowable and the mix shall not show excess water on top when it is being puddle in place. For thicker grout beds upto 65 mm, the amount of sand shall be increased to 105 kg. per bag of cement. Bases which are hollow and are to be filled full of grouting shall be filled to a level of 25 mm above the outside rim with a mortar mix in the volumetric proportion of one part of cement and 1.5 part sand and 1.5 part 6 mm granite gravel. An acceptable plasticizer may be added to the grout mixes in a proportion recommended by the plasticiser's manufacturer. All such grouts shall be thoroughly mixed for not less than five minutes in an approved mechanical mixer and shall be used immediately after mixing.

33.5 Placing of Grout:

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

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

33.6 Finishing of the Edges of the Grout:

The poured grout should be allowed to stand undisturbed until it is well set. Immediately thereafter, the dam shall be removed and grout, which extends beyond the edges of the structural or equipment base plates shall be cut off, flushed and removed. The edges of the grout shall then be pointed and finished with 1:2 cement mortar pressed firmly to bond with the body of the grout and smoothed with a tool to present a smooth vertical surface. The work shall be done in a clean and scientific manner and the adjacent floor spaces, exposed edges of the foundations, and structural steel and equipment base plates shall be thoroughly cleaned of any spillage of the grout.

33.7 Checking of Equipment after Grouting:

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

34.0 DOWELLING

All the motors and other equipment shall be suitably dowed after alignment of shafts with tapered machined dowels as per the direction of the Engineer.

35.0 CHECKOUT OF CONTROL SYSTEMS

After completion of wiring, cabling furnished under separate specification and laid and terminated by the Purchaser/Employer, the contractor shall check out the operation of all control systems for the equipment furnished and installed under these specifications and documents.

36.0 CABLING

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

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

36.3 Sharp bending and kinking of cables shall be avoided. The minimum radii for PVC insulated cables 1100 V grade shall be 15 D is the overall diameter of the cable. Installation of other cables high voltage coaxial, screened, compensating, mineral insulated shall be in accordance with the cable manufacturer's recommendations. Wherever cables cross roads and water, oil, sewage or gas lines, special care should be taken for the protection of the cables in designing the cable channels.

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

- 36.5 Control cable terminations shall be made in accordance with wiring diagrams, using identifying codes subject to Engineer's approval. Multi core control cable jackets shall be removed as required to train and terminate the conductors. The cable jacket shall be left on the cable, as far as possible, to the point of the first conductor branch. The insulated conductors from which the jacket is removed shall be neatly twined in bundles and terminated. The bundles shall be firmly but not tightly tied utilizing plastic or nylon ties or specifically treated fungus protected cord made for this purpose. Control cable conductor insulation shall be secure and even.
- 36.6 The connectors for control cables shall be covered with a transparent insulating sleeve so as to prevent accidental contact with ground or adjacent terminals and shall preferably be terminated in elmex terminals and washers. The insulating sleeve shall be fire resistant and shall be long enough to over pass the conductor insulation. All control cables shall be fanned out and connection made to terminal blocks and test equipment for proper operation before cables are corded together.

SECTION - 4

ANNEXURES

Annexure I : PROFORMA OF BANK GUARANTEE FOR CONTRACT PERFORMANCE

Annexure II : PROFORMA OF EXTENSION OF BANK GUARANTEE

Annexure III : PROFORMA OF APPLICATION FOR PAYMENT

Annexure IV : PROFORMA OF BANK GUARANTEE FOR ADVANCE PAYMENT

**PROFORMA OF BANK GUARANTEE FOR CONTRACT PERFORMANCE
(To be stamped in accordance with Stamp Act)**

Ref.....

Bank Guarantee No.....

Date.....

To

.....
.....
.....

Dear Sirs,

In consideration of Power & Electricity Department, Govt. of Mizoram., (herein after referred to as the "Owner" which expression shall unless repugnant to the context or meaning thereof include its successors, administrators and assigns) having awarded to M/s.....with registered/Head office at.....(hereinafter referred to as "Contractor" which expression shall unless repugnant to the context or meaning thereof include its successors, administrators, executors and assigns), a Contract issued by Purchaser/Employer's Letter of Award No.....dated..... for.....(scope of work) and the same having been acknowledged by the Contractor, resulting in a Contract bearing No.....dated Contractor having agreed to provide a Contract Performance Guarantee for the faithful performance of the entire Contract equivalent to Rs..... being (5%) (Five Percent) of the said value of the Contract to the Purchaser/Employer.

We.....
(Name & Address) having its Head Office at.....(hereinafter referred to as the "Bank", which expression shall, unless repugnant to the context or meaning thereof, include its successors, administrators, executors and assigns) do hereby guarantee and undertake to pay the Purchaser/Employer, on demand any or all monies payable by the Contractor to the extent of Rs.....as aforesaid at any time up to..... day/month/year) without any demur, reservation, contest, recourse or protest and/or without any reference to this Contractor.

Any such demand made by the Purchaser/Employer on the bank shall be conclusive and binding notwithstanding any difference between the Purchaser/Employer and the Contractor or any dispute pending before any Court, Tribunal, Arbitrator or any other authority. The Bank undertakes not to revoke this guarantee during its currency without previous consent of the Purchaser/Employer and further agrees that the guarantee herein contained shall continue to be enforceable till the Purchaser/Employer discharges this guarantee.

The Purchaser/Employer shall have the fullest liberty without affecting in any way the liability of the Bank under the guarantee from time to time to extend the time for performance or the Contract by the Contractor. The Purchaser/Employer shall have the fullest liberty, without affecting this guarantee, to postpone from time to time the exercise of any powers vested in them or of any right which they might have against the Contractor and to exercise the same at any time in any manner and either to enforce or to forbear to enforce any covenants, contained or implied in the Contract between the Purchaser/Employer and the Contractor or any other course or remedy or security available to the Purchaser/Employer. The Bank shall not be relieved of its obligations under these presents by any exercise by the Purchaser/Employer of its liberty with reference to the matters aforesaid or any of them or by reason of any other act of omission or commission on the part of the Purchaser/Employer or any other indulgences shown by the Purchaser/Employer or by any other matter or thing whatsoever which under law would, but for this provision have the effect of relieving the Bank.

The Bank also agrees that the Purchaser/Employer at its option shall be entitled to enforce this guarantee against the Bank as a principal debtor, in the first instance without proceeding against the Contractor and notwithstanding any security or other guarantee the Purchaser/Employer may have in relation to the Contractor's liabilities.

Notwithstanding anything contained herein above our liability under this guarantee is restricted to Rs.....and it shall remain in force upto and including** (day/month/year) and shall be extended from time to time for such period as may be desired M/s.....on whose behalf this guarantee has been given. Unless a demand or claim is lodged on us within and including*(day/month/year) we shall be discharged from all liabilities thereafter.

Dated this.....day of.....20.....at.....

WITNESS

.....
(Signature)

.....
(Signature)

.....
(Name)

.....
(Name)

.....
(Official Address)

.....
(Designation with Bank Stamp)

Attorney as per Power
Of Attorney No.....

Date.....

Notes:

1. The sum shall be 5% (Five percent) of the contract price for Contract Performance Guarantee.
2. The date will be ninety (90) days after the end of Warranty Period as specified in the contract.

Note: The stamp paper of appropriate value shall be purchased in the name of issuing Bank.

PROFORMA OF EXTENSION OF BANK GUARANTEE

Ref.....

Date.....

To

.....
.....
.....

Dear Sirs,

Sub: Extension of Bank Guarantee No.....for Rs..... favoring yourselves, expiring on.....on account of M/s.....in respect of Contract No.....dated..... (hereinafter called original Bank Guarantee).

At the request of M/s....., We.....Bank, branch office at.....and having its Head Office at.....do hereby extend our liability under the above mentioned Bank Guarantee No..... dated..... for a further period of.....(Years/Months) from.....to expire on..... Expect as provided above, all other terms and conditions of the original bank guarantee No.....dated.....shall remain unaltered and binding.

Please treat this as an integral part of the original bank guarantee to which it would be attached.

Yours Faithfully,

For.....
Manager/Agent/Accountant.....
Power of Attorney No.....
Dated.....

SEAL OF BANK

NOTE: The non-judicial stamp paper of appropriate value shall be purchased in the name of the bank who has issued the Bank Guarantee.

PROFORMA OF APPLICATION FOR PAYMENT

Project: _____

Equipment package:

Date:

Name of Contractor:

Contract No.

Contract Value:

Contract Name:

Unit Reference:

Application:

Serial Number:

To

.....
.....
.....

Dear Sir,

1. Pursuant to the above referred Contract, dated.....the undersigned hereby applies for payment of the sum of.....(Specify amount and currency in which claim is made).
2. The above amount is on account of : (check whichever applicable)

Mobilization advance (Schedule**)

Interim payment as advance (Schedule**)

Payment of 1st installment against supply of equipment (Schedule**)

Payment of 1st installment against Erection (Schedule**)

Extra work not specified in contract

(Ref. Contract change order No.....)

Other (specify)

Final payment (Schedule**)

as detailed in the attached schedule(s) which form an integral part of this application.

3. The payment claimed is as per item(s) No(s).....of the payment schedule annexed to the above Contract.

4. The application consists of this page, a summary of claim statement (Schedule**) and the following signed schedule.

i)

ii)

iii)

The following documents are also enclosed:

i)

ii)

iii)

Signature of Contractor/
Authorised Signatory

* Application for payment will be made to “Controlling Officer”.

Prepare separate application for each claim.

** Proforma for the Schedules will be mutually discussed and agreed to during the finalization of the Contract Agreement.

**PROFORMA OF BANK GUARANTEE FOR ADVANCE PAYMENT
(To be stamped in accordance with Stamp Act)**

Ref.....

Bank Guarantee No.....

Date.....

To

.....
.....
.....

Dear Sir,

In consideration of Power & Electricity Department, Govt. of Mizoram., (hereinafter referred to as the "Owner", which expression shall unless repugnant to the context or meaning thereof include its successors, administrators and assigns) having awarded to M/s.....(hereinafter referred to as the 'Contractor', which expression shall, unless repugnant to the context or meaning thereof, include its successors, administrators, executors and assigns), a Contract by issue of Purchaser/Employer's Letter of Award No.....dated.....and the same having been acknowledged by the Contractors, resulting in a Contract bearing No.....dated..... valued (at.....(in words and figures) for.....Contract (scope of work)..... (hereinafter called the 'Contract') and the Purchaser/Employer having agreed to make an advance payment to the Contractor for performance of the above Contract amounting to Rs..... (in words and figures) as an advance against Bank Guarantee to be furnished by the contractor.

We.....(Name of the Bank) having its Head Office at..... (hereinafter referred to as the 'Bank', which expression shall, unless repugnant to the context or meaning thereof, include its successors, administrators, executors and assigns) do hereby guarantee and undertake to pay the Purchaser/Employer, immediately on demand any or, all monies payable by the Contractor to the extent of Rs.....as aforesaid at any time upto and including..... @.(day/month/year) without any demur, reservation, contest, recourse or protest and/or without any reference to the Contractor. Any such demand made by the Purchaser/Employer on the bank shall be conclusive and binding notwithstanding any difference between the Purchaser/Employer and the Contractor or any dispute pending before any Court, Tribunal, Arbitrator or any other authority. We agree that the guarantee herein contained shall be irrevocable and shall continue to be enforceable till the Purchaser/Employer discharge this guarantee.

Tender Document, Vol. – I [Conditions of Contract]

The Purchaser/Employer shall have the fullest liberty without affecting in any way the liability of the Bank under this guarantee, from time to time to vary the advance or to extend the time for performance of the Contract by the Contractor. The Purchaser/Employer shall have the fullest liberty without affecting this guarantee, to postpone from time to time the exercise of any powers vested in them or of any right which they might have against the Contractor, and to exercise the same at any time in any manner and either to enforce any covenants, contained or implied in the Contract between the Purchaser/Employer and the contractor or any other course or remedy or security available to Purchaser/Employer. The Bank shall not be relieved of its obligations under these presents by any exercise by the Purchaser/Employer of its liberty with reference to the matters aforesaid or any of them or by reason of any other act or forbearance or other acts of omission or commission on the part of the Purchaser/Employer or any other indulgence shown by the Purchaser/Employer or by any other matter or thing whatsoever which under law would be for this provision have the effect of relieving the Bank.

The Bank also agrees that the Purchaser/Employer at its option shall be entitled to enforce this guarantee against the Bank as a principal debtor, in the first instance without proceeding against the Contractor and notwithstanding any security or other guarantee that the Purchaser/Employer may have in relation to the Contractor's liabilities.

Notwithstanding anything contained herein above our liability under this guarantee is limited to Rs.....and it shall remain in force upto and including.....(@.....) and shall be extended from time to time for such period as may be desired by M/s..... on whose behalf this guarantee has been given.

Dated this.....day of.....20.....at.....

WITNESS

.....
(Signature)

.....
(Name)

.....
(Official Address)

.....
(Signature)

.....
(Name)

Designation.....
(with Bank Stamp)

As per Power
of Attorney No.....

Dated.....

@ The date will be Three (3) Months after the Scheduled date of completion of Supply / Three (3) Months after taking over the work by P&E Department, Mizoram (Erection).

Note: The non-judicial stamp papers of appropriate value shall be purchased in the name of bank who issued the Bank Guarantee.

SECTION - 5:

GENERAL TECHNICAL CONDITIONS (GTC)

GENERAL TECHNICAL CONDITIONS

1.0 GENERAL INFORMATION

- 1.1 The material/equipment covered in this specification shall be used for execution of Renovation & Up gradation of Protection System of 132kV Sub Station in the state of Mizoram. The project is to be executed under Power System Development Fund launched under the Ministry of Power, Government of India.

2.0 SCOPE

- 2.1 The material/equipment to be supplied on each sub stations as covered in this volume shall be designed, manufactured and tested as per the requirements specified.
- 2.2 The materials/equipment covered here under this package shall be supply and erection complete in all respects including all components, fittings and accessories which are necessary or are usual for their efficient performance and satisfactory maintenance under the various operating and atmospheric conditions. The details of the materials/equipment required for the work have been elaborated in the respective volumes of specification.

3.0 WEIGHTS AND MEASURES

All weights and measures shall be in System International (S.I.) units. All fasteners shall be of Metric size only.

4.0. GENERAL TECHNICAL CONDITONS

- 4.1 The following provisions shall supplement all the detailed technical specifications and requirements brought out in the accompanying Technical Specifications. The Contractor's proposal shall be based on the use of equipment and materials complying fully with the requirements, specified herein. The Contractor shall furnish clause-by-clause commentary (with detailed technical data as required) on the Technical Specifications demonstrating the goods substantial responsiveness to the specifications or deviation and exceptions to the provisions of the Technical Specification unless and until advised contrary to this in the contract document.

4.2 **Liquidated Damage for not meeting specified performance:**

- 4.2.1 Liquidated damages for not meeting specified performance shall be assessed and recovered from the Contractor. Such liquidated damages shall be calculated at rate of 0.5% (Half percent) of the Contract Value for each calendar week of delay, which will be limited to 5% (Five percent) of the Contract Value.

4.3 Engineering Data:

- 4.3.1 The furnishing of engineering data by the Contractor shall be in accordance with the appropriate Schedule appended to this document. The review of these data by the Owner/Employer will cover only general conformance of the data to the specifications and drawings. This review by the Purchaser/Employer may not indicate a thorough review of all dimensions, quantities and details of the equipment, materials, any devices or items indicated or the accuracy of the information submitted. This review and / or approval by the Purchaser/Employer shall not be considered by the Contractor, as limiting any of his responsibilities and liabilities for mistakes and deviations from the requirement, specified under these Specifications and documents.
- 4.3.2 All engineering data submitted by the Contractor after final process including review and approval by the Purchaser/Employer shall form part of the Contract Document and the entire works performed under these Specifications shall be performed in strict conformity, unless otherwise expressly requested by the Purchaser/Employer in writing.

4.4 Drawings:

- 4.4.1 The drawings submitted for approval to the Purchaser/Employer shall be in softcopy of pdf/dwg format and two copies of hardcopy. One print of such drawings shall be returned to the Contractor by the Employer/Purchaser marked "Approved"/"Approved with corrections".
- 4.4.2 Further work by the contractor shall be strictly in accordance with these drawings and no deviation shall be permitted without the written approval of the Purchaser/Employer, if so required.
- 4.4.3 All manufacturing and fabrication work in connection with the equipment/material prior to the approval of the drawings shall be at the Contractor's risk. The Contractor may make any changes in the design which are necessary to make the equipment conform to the provisions and intent of the Contract and such changes will again be subject to approval by the Purchaser/Employer. Approval of Contractor's drawing or work by the Purchaser/Employer shall not relieve the Contractor of any of his responsibilities and liabilities under the Contract.
- 4.4.4 All rights of the design/drawing shall be strictly reserved with the Purchaser/Employer only and any designs/drawings/data sheets submitted by the contractor from time to time shall become the property of the Purchaser/Employer. Under no circumstances, the Contractor shall be allowed to user/offer above designs/drawings/data sheets to any other authority without prior **written** permission of the Purchaser/Employer. **Any deviation to above is not acceptable.**
- 4.4.5 As-Built Drawings should be submitted by the Contractor before handing over the system shall be in complete Bill of Materials with proper locations to the Purchaser/Employer in 2 (two) sets.

4.5 Manufacturing, Supply & Erection Schedule:

The Contractor shall submit to the Purchaser/Employer his manufacturing, testing, delivery & erection schedules of various items within thirty (30) days from the date of the Letter of Award in accordance with the delivery requirements stipulated. Schedules shall also include the materials and items purchased from outside Contractors, if any.

4.6 Reference Standards:

- 4.6.1 The codes and/or Standard referred to in Specifications shall govern, in all cases wherever such references are made. In case of a conflict between such codes and/or Standards and the specifications, latter shall govern. Such codes and/or Standards, referred to shall mean the latest revisions, amendments/changes adopted and published by the relevant agencies.
- 4.6.2 Other internationally acceptable Standards which ensure equivalent or better performance than those specified shall also be accepted.

4.7 Design Improvements:

- 4.7.1 The Purchaser/Employer or the Contractor may propose changes in the Specification of the equipment or quality thereof and if the parties agree upon any such changes the Specification shall be modified accordingly without any escalation in item price.
- 4.7.2 If any such agreed upon change is such that it affects the price and schedule of completion, the parties shall agree in writing as to the extent of any change in the price and/or schedule of completion before the Contractor proceeds with the change. Following such agreement, the provision thereof, shall be deemed to have been amended accordingly.

4.8 Quality Assurance:

- 4.8.1 To ensure that the equipment under the scope of this Contract whether manufactured within the Contractor's Works/premises is in accordance with the specifications, the Contractor shall adopt suitable Quality Assurance Programme to control such activities at all points necessary. Such programme shall be outlined by the Contractor and shall be finally approved by the Purchaser/Employer. Quality Assurance Programme of the Contractor shall generally cover but not limited to the following:
- a) His organization structure for the management and implementation of the proposed Quality Assurance Programme.
 - b) Documentation control system.
 - c) Qualification data for key personnel.
 - d) The procedure for purchases of materials. Parts/components and selection of services including vendor analysis, source inspection, incoming raw material inspection, verification of material purchases etc.
 - e) System for shop manufacturing including process controls.
 - f) Control of non-conforming items and system for corrective action.
 - g) Control of calibration and testing of measuring and testing equipments.

- h) Inspection and test procedure for manufacturing.
- i) System for indication and appraisal of inspection status.
- j) System for Quality audits.
- k) System for authorizing release of manufactured product to the Purchasers.
- l) System for maintenance of records.
- m) System for handling storage and delivery and
- n) A Quality Plan detailing out the specific quality control procedure adopted for controlling the quality characteristic of the product.

The Quality Plan shall be mutually discussed and approved by the Purchaser/Employer after incorporating necessary corrections by the Contractor as may be required.

4.8.2 Quality Assurance Documents:

The Contractor shall be required to submit all the Quality Assurance Documents as stipulated in the Quality Plan at the time of Purchaser/Employer's inspection of equipment/material.

4.8.3 The Purchaser/Employer or his duly authorized representatives reserves the right to carry out Quality Audit and Quality surveillance of the systems and procedures of the Contractor's/his vendor's Quality Management and Control Activities.

4.9 Purchaser/Employer's Supervision during manufacturing:

4.9.1 To eliminate delays and avoid disputes and litigation it is agreed between the parties to the Contract that all matters and questions shall be resolved in accordance with the provisions of this documents.

4.9.2 The manufacturing of the product shall be carried out in accordance with the specifications. The scope of the duties of the Purchaser/Employer, pursuant to the contract, will include but not be limited to the following:

- a) Interpretation of all the terms and conditions of these Documents and Specifications.
- b) Review and interpretation of all the Contractor's drawings, engineering data etc.
- c) Witness or authorize his representative to witness tests at the manufacturer's works or at site, or at any place where work is performed under the Contract.
- d) Inspect, accept or reject any equipment, material and work under the Contract, in accordance with the Specifications.
- e) Issue certificate of acceptance and / or progressive payment and final payment certificate.
- f) Review and suggest modification and improvement in completion schedules from time to time; and
- g) Supervise the Quality Assurance Programme implementation at all stages of the Works.

4.10 Inspection, Testing & Inspection Certificate:

- 4.10.1 The Purchaser/Employer or his duly authorized representative and/or outside inspection agency acting on behalf of the Purchaser/Employer shall have at the reasonable times access to the Contractor's premises or Works and shall have the power at all reasonable times to inspect and examine the materials and workmanship of the product during its manufacture and if part of the product is being manufactured or assembled at other premises or works, the Contractor shall obtain from the Purchaser/Employer and/or his duly authorized representative permission to inspect as if the equipment/materials were manufactured or assembled on the Contractor's own premises or works.
- 4.10.2 The Contractor shall give the Purchaser/Employer/Inspector fifteen (15) days written notice of any material being ready for testing. Such tests shall be to the Contractor's account except for the expenses of the Inspector. The Purchaser/Employer/Inspector, unless witnessing of the tests is virtually waived, will attend such tests within fifteen (15) days of the date of which the equipment is notified as being ready for test/inspection or on a mutually agreed date, failing which the Contractor may proceed with the test which shall be deemed to have been made in the Inspector's presence and he shall forthwith forward to the Inspector duly certified copies of tests in triplicate.
- 4.10.3 The Purchaser/Employer/Inspector shall, within fifteen (15) days from the date of inspection as defined herein give notice in writing to the Contractor, of any objection to any drawings and all or any equipment and workmanship which in his opinion is not in accordance with the Contract. The Contractor shall give due consideration to such objections and shall make the modifications that may be necessary to meet the said objections.
- 4.10.4 When the factory tests have been completed at the Contractor's works, the Purchaser Inspector shall issue a certificate to this effect within fifteen (15) days after completion of tests but if the tests are not witnessed by the Purchaser/Employer/Inspector, the certificate shall be issued within fifteen (15) days of receipt of the Contractor's Test certificate by the Purchaser/Employer/Inspector. The completion of these tests or the issue of the certificate shall not bind the Purchaser/Employer to accept the equipment should it, on further tests after erection, be found not to comply with the Contract.
- 4.10.5 In all cases where the Contract provides for tests whether at the premises or works of, the Contractor, the Contractor except where otherwise specified shall provide free of charge such item as labour, materials, electricity, fuel, water, stores, apparatus and instruments as may be reasonably demanded by the Purchaser/Employer/inspector or his authorized representative to carry out effectively such tests of the equipment in accordance with the Contract and shall give facilities to the

Purchaser/Employer/Inspector or to his authorized representative to accomplish testing.

4.10.6 The inspection by Purchaser/Employer and issue of Inspection Certificate thereon shall in no way limit the liabilities and responsibilities of the Contractor in respect of the agreed Quality Assurance Programme forming a part of the Contract.

5.0 TECHNICAL DESCRIPTION

5.1 The technical description of various materials/equipment has been specified in the respective volumes of technical specifications. Further technical descriptions if necessary after actual site visits, may be included in consultation with the engineers – in - charge in writing.

6.0 TESTS AND STANDARDS

6.1 Tests:

The following type, acceptance and routine tests and tests during manufacture shall be carried-out on the material. For the purpose of this clause:

- 6.1.1 All equipment offered/supplied should have been type tested as per the relevant standards and certificates of the same shall be submitted to the owner/ employer. In case any equipment is not type tested, the bidder shall carry out the type testing at his own cost and provide the necessary certificates to the Purchaser/Employer for approval.
- 6.1.2 Acceptance Tests shall mean those tests, which are to be carried out on samples taken from each lot offered for pre-dispatch inspection, for the purposes of acceptance of that lot.
- 6.1.3 Routine Tests shall mean those tests, which are to be carried out on the material to check requirements, which are likely to vary during production.
- 6.1.4 Tests during manufacturing shall mean those tests, which are to be carried out during the process of manufacture and end inspection by the Contractor to ensure the desired quality of the end product to be supplied by him
- 6.1.5 The norms and procedure of sampling for these tests will be as per the Quality Assurance Programme to be mutually agreed to by the Contractor and the Purchaser/Employer or as per relevant I.S.S.
- 6.1.6 The standards and norms to which these tests will be carried out are listed against them. Where a particular test is a specific requirement of this Specification, the norms and procedure of the test shall be as specified separately or as mutually agreed to between the Contractor and the Purchaser/Employer in the Quality Assurance Programme.
- 6.1.7 For all type and acceptance tests, the acceptance values shall be the values specified in the Specification or guaranteed by the Bidder, as applicable. The test and standards for various materials/equipment has been specified in the respective volume of technical specification.

6.2 Testing Expenses:

No testing expenses will be borne by the Purchaser/Employer.

6.3 Additional/ Alternative Tests:

6.3.1 The Purchaser/Employer reserves the right if required necessary arrangements have to be done by contractor out of his own expenses. Any other test(s) of reasonable nature carried out at contractor's premises, at site, or in any other place in addition to the specified type, acceptance and routine tests to satisfy himself that the materials/equipment comply with the Specifications.

6.3.2 The Purchaser/Employer also reserves the right to conduct all the tests mentioned in this specification at his own expense on the samples drawn from the site at Contractor's premises or at any other test center. In case of evidence of non compliance, it shall be binding on the part of contractor to prove the compliance of the items to the technical specifications by repeat tests, or correction of deficiencies, or replacement of defective item all without any extra cost to the Purchaser/Employer.

6.4 Sample Batch for Testing:

6.4.1 The contractor is required to carry out at the Acceptance tests as specified/as per I.S.S norms successfully in presence of Purchaser/Employer's representative.

7.0 GUARANTEED TECHNICAL PARTICULARS

7.1 The Guaranteed Technical Particulars of the various items shall be furnished by the Contractor in one original and two (2) copies in the prescribed schedules of the Volume-III Bid Proposal Sheet. The Contractor shall also furnish any other schedule information as in their opinion is needed to give full description and details to judge the item(s) offered by them.

7.2 The Data furnished in Guaranteed Technical Particulars should be the minimum or maximum value (as per the requirement of the specification) required. A Contractor may guarantee a value more stringent than the specification requirement. However, for testing purpose or from performance point of view, the material shall be considered performed successfully if it achieves the minimum / maximum value required as per the technical specification. No preference whatsoever shall be given to the Contractor offering better/ more stringent values than those required as per specifications.

8.0 CLIMATIC CONDITIONS

All Equipment / Material to be supplied against this specification shall suitable for satisfactory continuous operation under tropical conditions of Mizoram.

SECTION – 6:
**LIST OF ACTIVITIES
&
QUANTIFICATION OF WORK**

LIST OF ACTIVITIES & QUANTIFICATION OF WORK

The detail statement is tabulated below:

SN	Supply & Erection/installation work for -	Unit	Location of 132 KV S/S & Item Quantity (provisional)									
			Luangmual (Aizawl)	Zuangtui (Aizawl)	Bukpui	Saitual	Bawktlang (Kolasib)	Khawiva (Lunglei)	Bairabi	Khawzawl	Total Qty.	
'A'	Package I											
1	110V Battery Bank	Set	2	2	2	2	2	2	2	2	2	16
2	110V Battery Charger	Set	2	2	2	2	2	2	2	2	2	16
3	DCDB for 110V	No	2	2	2	2	2	2	2	2	2	16
4	48V Battery Bank	Set	2	2	2	2	2	2	2	2	2	16
5	48V Battery Charger	Set	2	2	2	2	2	2	2	2	2	16
6	DCDB for 48V	No	2	2	2	2	2	2	2	2	2	16
'B'	Package II											
1	Transformer (250kVA,33/0.415kV)	No.				1		1				2
2	DG.Set (30kVA)	No.			1	1					1	3
'C'	Package III											
1	Back Up O/C & E/F Relay	No.		6	4	3	3	3	2	3		24
2	Distance Relay	No.			2							2
3	LBB Relays	Set			4	3	6	4	4	0		21
4	Relay Tool Kits		1	1	1	1	1	1	1	1		8
5	Time Synchronizing Equipment	No.	1	1	1	1	1	1	1	1		8
6	Control Cable:-											
(a)	14Cx2.5 Sq.mm	Mtr.	1,200	1,100	600	500	200	0	230	0		3,830
(b)	10Cx2.5 Sq.mm	Mtr.	1,400	1,300	400	1000	300	100	150	0		4,650
(c)	7C X 2.5 Sq.mm	Mtr.	1,200	1,100	700	1900	0	530	0	0		5,430
(d)	5C X 2.5 Sq.mm	Mtr.	1,200	1,100	500	0	200	520	200	0		3,720
(e)	3.5C X35 Sq.mm	Mtr.	500	400	0	0	0	200	0	0		1,100
(f)	4C X 16 Sq.mm	Mtr.	600	500	500	1000	0	100	0	0		2,700
(g)	4C X6 Sq.mm	Mtr.	550	500	500	0	0	100	0	0		,1650
(h)	2C X 6 Sq.mm	Mtr.	350	300	500	0	100	50	1,200	1,500		4,000
(i)	2C x 4 Sq.mm	Mtr.	350	300	500	1,000	150	0	180	0		2,480
'D'	Package IV											
1	Nitrogen Injection system	Mtr.	3	2	2	1	3	2	2	1		16

TENDER REQUIREMENTS (TO BE FURNISHED)

Sl.no.	Description	Response (Yes / No)
1.	Sales Tax clearance/ HTPC	
2.	Authorized Dealership Certificate	
3.	ISI / BIS / ISO Certificate	
4.	Past experience	
5.	Whether agreed to all terms and conditions of the Contract (otherwise state conditions)	

Signature & Stamp of bidder

