

TENDER DOCUMENTS

COMMERCIAL (INDIGENOUS)



NATIONAL ALUMINIUM COMPANY LIMITED

(A GOVT. OF INDIA ENTERPRISE)
REGISTERED OFFICE: NALCO BHAVAN,
P/1, NAYAPALLI,
BHUBANESWAR - 751 013

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1.0 GENERAL INSTRUCTIONS

- 1.1 The National Aluminium Company Limited, Bhubaneswar hereinafter called 'NALCO/OWNER' will receive bids in respect of the work, items and equipment to be furnished and erected as set forth in the accompanying documents. All bids shall be prepared and submitted in accordance with the se instructions.
- 1.2 Bids submitted after the time and date fixed for receipt of bids as set out in the Invitation to Bid are liable to be rejected.
- 1.3 The terms "Works" referred herein shall cover the entire scope of the proposal which includes supply and erection of items, equipments, labor and services including the successful completion of Performance and Guarantee Tests.
- 1.4 The intention of the buyer is to have this contract executed as divisible contract. It may be clearly understood by the tender that the Contract for supply, erection and commissioning under this tender are independent and separate and NALCO reserves the right to award separate contract for supply and for erection and commissioning to separate tenderers. In the event the contract is awarded to a single agency for supply and also for erection and commissioning. It may be clearly understood that the contract has to be executed as a divisible contract even in such a case.
- 1.5 NALCO prefers to have maximum indigenous content in the supplies and services covered in the scope of this tender. However, it must be noted that in case the technology/supplies are to come from imported sources, the foreign bidder may have a tie up arrangements with the Indian sub contractor for the activities/supplies to be made from India. However, it must be understood that the unit responsibility for the performance of the contract including supplies from foreign and Indian sources shall be that of the foreign bidder or the bidder who supplies basic design and technology.
- 1.6 The break up of the complete scope envisaged in this enquiry is attached at Annexure-I. All bidders are requested to indicate positively the division of work (a) to be directly undertaken by the Bidder, (b) envisaged to be undertaken by Bidder's Indian sub-contractor with Bidder's unit responsibility, and (c) to be excluded from Bidder's scope of responsibility.
- 1.7 Bids either from foreign or Indian Bidders shall be made on the basis of Indigenization of scope to the maximum extent possible subject to quality, performance and timely Delivery.
- 1.8 Foreign Bidders may indicate whether the supply and services under scope of this contract are eligible for any export financing / Govt. Assistance. If so, terms and conditions indic ating interest, fees, installments, repayment period of deferred payments etc. shall be clarify spelt out.
- 1.9 Bidders should clearly give the complete list of goods with item wised FOB and C&F prices for imported items indicating the currencies and country of origin.

2.0 SCOPE OF THE PROPOSAL

2.1 The scope of the proposal shall be on the basis of a single bidder's responsibility, completely covering all the equipments, materials & services specified under the accompanying documents. It will include the following:

- a) Complete system design and layout.
- b) Detailed design of the equipment.
- c) Complete manufacture including shop testing.
- d) Providing engineering drawings, data, and operation manuals to the Owner.
- e) Packing, forwarding and transportation/shipment from manufacturer's works to the Project Site.
- f) Receipt, storage, preservation and conservation of all equipments and materials at site.
- g) Pre-assembly, if any, erection, testing and commissioning of the complete works.
- h) Reliability tests and performance and guarantee tests on completion of commissioning.
- i) Furnishing of spares.

2.2 Bids not covering complete scope are liable for rejection.

2.3 In principle, the party who is responsible for the process technology and, hence, the total system guarantee, shall undertake total responsibility for successful execution of the job/contract.

In case of a joint bid, the division of work between the foreign bidder and Indian bidder shall be indicated specially indicating the bidder who will assume complete responsibility.

3.0 TIME SCHEDULE

3.1 One of the main considerations for award of the Contract shall be demonstrated capability of the bidder to maintain the time schedule for performing the specified works at all stages of activities. Bidder who have not executed in time similar job in the past may not be considered.

4.0 BRAND NAMES

The specific reference in these specifications and documents to any material by trade name, make or catalogue number shall be construed to as establishing standards of quality and performance and not as limiting condition. However, bidders may offer other similar materials and equipments provided they meet the specified standards, design and performance requirements.

5.0 SUBMISSION OF BIDS

- 5.1 All bids shall be prepared by typing or printing with indelible ink and submitted separately in two parts:

Part - I: Original 1 + 4 sets of UNPRICED BID containing full technical drawings, data sheets, catalogues/literatures, etc. and commercial details including price schedules, BUT WITHOUT PRICE FIGURES.

Part - II : 3 (Three) sets of PIRCED BID containing full details as above and including PRICE FIGURES.

EXCEPT FOR THE PRICE FIGURES PART - I AND PART - II SHALL BE IDENTICAL.

- 5.2 Bids shall be addressed and sent to:

General Manager (Materials),
National Aluminium Company Ltd.,
NALCO BHAVAN,
P/1,
Nayapalli,
Bhubaneswar - 751 013

- 5.3 Envelopes containing Part - I and Part - II of Bids shall be separately SUPERSCRIBED with:

PROJECT NAME :

MR NO. :

DUE DATE :

PIRCED BID/UNPRICED BID : (whichever is applicable)

- 5.4 Foreign bidder may submit bids either directly or in association with their Indian Collaborator, if any. In case no Indian Collaborator is envisaged, Foreign bidders should indicate in their bids the indigenous supplies/services they intend to provide. However, the total responsibility to comply with contractual obligations shall read on the Foreign bidder. Foreign bidders should avoid sending the bids through their Indian agents. Where appointment of Indian agents of foreign bidders is unavoidable, the circumstances for this must be clearly explained and the commission/charges payable in India Rupees to such agents shall be specified in the bids. Such agents shall comply with all rules, regulations, procedures, etc. prescribed by the Govt. of India.
- 5.5 Indian bidders shall clearly indicate in the bids participation of their Foreign Collaborator, if any. In such case, the total responsibility to comply with all contractual obligations, including provision of back to back guarantee from Foreign collaborator, shall rest with Indian Bidder.

6.0 LANGUAGE OF THE BIDS

All information in the bids shall be in English. Information in any other language shall be accompanied by its translation in English. Failure to comply with this may disqualify a bid. In the event of any discrepancy in meaning, the English language copy of all documents shall govern.

7.0 SIGNATURE OF BID

- 7.1 The bid must contain the name, residence and place of business of the person or persons making the bid and must be signed and sealed by the bidder with his usual signature. The names of all persons signing should also be typed or printed below the signature.
- 7.2 Bid by a partnership firm must be furnished with full names of all partners and be signed with the partnership name, followed by the signature(s) and designation(s) of the authorized partner(s) or other authorized representative(s)
- 7.3 Bids by Corporation/Company must be signed with the legal name of the Corporation/Company by the President/Managing Director or by the Secretary or other person or persons authorized to bid on behalf of such Corporation/Company in the matter.
- 7.4 A bid by a person who affixes to his signature the word 'President', 'Managing Director', 'Secretary', 'Agent', or other designation without disclosing his principal will be rejected.
- 7.5 Satisfactory evidence of authority of the person signing on behalf of the Bidder shall be furnished with the Bid.
- 7.6 The Bidder's name stated on the proposal shall be the exact legal name of the firm.
- 7.7 Erasers or other changes in the bid documents shall be over the initials of the persons signing the bid.

8.0 INFORMATION REQUIRED WITH THE BIDS

- 8.1 The bids must clearly indicate the name of the manufacturer, the type or model of each principal item of equipment proposed to be furnished and erected. The bid should also contain drawings and descriptive materials indicating general Dimensions, material from which the parts are manufactured, principles of operation, the extent of pre-assembly involved, major construction equipment proposed to be deployed, method of erection and the proposed erection organizational structure.
- 8.2 The above information shall be provided by the Bidder in the form of separate sheets, drawing, catalogues etc., in all copies of the bid.
- 8.3 Any bid not containing sufficient descriptive material to describe accurately the equipment proposed may be treated as incomplete and hence rejected. Such descriptive materials and drawings submitted by the Bidder will be retained by the Owner. Any major departure from these

drawings and descriptive materials submitted will not be permitted during the execution of the Contract without specific written permission of the Owner.

- 8.4 Oral statements made by the Bidder at any time regarding quality, quantity or arrangement of the equipment or any other matter will not be considered.
- 8.5 Standard catalogue pages and other documents of the Bidder may be used in the bid to provide additional information and data as deemed necessary by the Bidder.

9.0 UNDERSTANDING AND CLARIFICATION ON DOCUMENTS & SPECIFICATIONS

- 9.1 The Bidder is required to carefully examine the specifications and documents and fully inform himself as to the conditions and matters which may in any way affect the works or the cost thereof. If any Bidder finds discrepancies or omissions in the specifications and documents or is in doubt as to the true meaning of any part, he shall at once request in writing for an interpretation/clarification to the Owner, in triplicate. The Owner, then will issue interpretations and clarifications as he may think fit in writing. After receipt of such interpretations and clarifications, the Bidder may submit his bid but within the time and date as specified in the Invitation to Bid. All such interpretations and clarifications shall form a part of the specifications and documents, and accompany the Bidder's proposal.
- 9.2 Verbal clarifications and information given by the Owner or his employee(s) or his representative(s) shall not in any way be binding on the Owner.

10.0 LOCAL CONDITIONS

- 10.1 It will be imperative on each Bidder to fully inform himself of all local conditions and factors which may have any effect on the execution of the Works covered under these documents and specifications. In their own interest, the Foreign Bidders are requested to familiarize themselves with the Income Tax Act, 1961, the Companies Act, 1956, Customs Act, 1962, Orissa Sales Tax Act and other related acts and laws prevalent in India. The Owner shall not entertain any request for clarifications from the Bidders regarding such local conditions.
- 10.2 It must be understood and agreed that such factors have properly been investigated and considered while submitting the bids. No claim for financial adjustment to the Contract awarded under these specifications and documents will be entertained by Owner. Neither any change in the time schedule of the Contract nor any financial adjustments arising thereof shall be permitted by the Owner which are based on the lack of such clear information or its effect on the cost of the Works to the Bids.

11.0 PRICE SCOPE

- 11.1 The bidders shall quote in their proposal prices for the entire scope of work on divisible contract basis and indicate the following break up schedule:
 - a) Design and Engineering charges for the complete works, including Civil works, including Indian income tax if any.

- b) Unit price on FOB shipment basis, Ocean Freight and Insurance, quantity & total C&F value separately for each IMPORTED equipment and materials included in the quoted scope.
- c) Unit price on FOR/FOT site delivery basis including packing, forwarding, transportation, sales tax, excise duties, etc. separately for each INDIAN equipment and material included in the quoted scope.
- d) Lump sum charges towards port and customs clearance at Indian port of entry, handling, forwarding, inland transportation and transit insurance for all the IMPORTED equipments, materials and spares.
- e) Lump sum charges towards clearance and handling, transportation, storage, preservation and conservation of all equipments, materials and spares at project site.
- f) Lump sum charges towards pre-assembly, if any, erection testing and commissioning of the complete system. foreign supervision charges are to be separately shown.
- g) LIST OF GUARANTEED SPARES for two years normal operation indicating parts name, catalogue no., quantity and unit prices on project site delivery basis. If any shortfall is noticed during 2 years from date of commissioning, the same shall be supplied free of cost by the bidder.
- h) List of components with item wised Unit Rate for all individual equipments and materials to enable price ADJUSTMENT, if required during detailed engineering and execution of the work.

12.0 ESCALATION AND CURRENCY CHANGES

- 12.1 The price quoted for the entire scope of work shall remain firm and fixed till complete execution of the work.
- 12.2 In case any item, quoted as of Indian origin in the bid, but is subsequently transferred to the imported category, the total cost (including custom duty, etc) on project site delivery basis for such item will be payable by Owner at actual but maximum limited to the value quoted originally for that of Indian origin.
- 12.3 In case any item, quoted as imported in the bid, but in subsequently transferred to the Indian Category, the total cost on Project site delivery basis for such item will be payable by Owner at actuals but maximum limited to the CIF value quoted originally for that of Imported origin.
- 12.4 Foreign Bidder shall indicate bid prices only in US Dollar and only in Indian Rupees for that component of his price which the bidder expects to spend in India.

Indian Bidder shall indicate bid prices in Indian Rupees only separately for imported and Indian components.

- 12.5 The Payment shall be paid in the currency or currencies in which the prices have been stated by the successful bidder.

13.0 CUSTOMS DUTIES AND TAXES

- 13.1 Foreign Bidders shall have the option, if they would like that the Customs duties or levies levied on the imported equipments by the Government of India or any State Governments be paid by the Owner directly to the Government of India or concerned State Government. In the event the Contractor is required by law to pay such levies in India, the same shall be reimbursed by the Owner to the Contractor i.e. the bidder awarded the Contract, in Indian Rupees upon presentation of Documentary evidence and subject to Owner's satisfaction that the bidder has taken sufficient action to reduce the tax liability to the maximum and within the legal provision. Bids must be specific on this point.
- 13.2 In case of domestic bids, all such custom duties and levies payable on components, sub-assemblies and raw materials by the local Bidders shall be included in their prices and no claim on this behalf will be entertained by the Owner.
- 13.3 The Contractor shall include all taxes, duties, royalty of whatever nature, octroi, other local taxes etc. if any, in the quoted price.

Sales tax or any other tax on material required for the work or also tax on works contract shall be payable by the Contractor and Owner will not entertain any claim whatsoever. Notwithstanding anything contain elsewhere in the contract the Owner shall deduct at source from the payment due to the Contractor the taxes as required under 13A (A) of Orissa Sales Tax Act or amended from time to time or under any other statute. The amount so deducted shall be paid by the Owner to the Sales Tax authority as per law. This is for the Contractor to deal with the Sales Tax authority directly in respect of any claim or refund relating to the above tax and Owner shall not be liable or responsible for any type of payment for reimbursement in this regard.

All benefits of taxes, duties by way of credit under CENVAT shall be passed on to the Owner/Purchaser.

- 13.4 As regards the INCOME TAX, surcharge on Income Tax and other corporate taxes, the bidder shall be responsible for such payment to the authorities concerned.
Bidder may note that if any tax is deductible at source as per Indian Income Tax Law, the same will be so deducted before releasing any payment to the bidder. Accordingly, bidder shall have the responsibility to check and include such provisions of taxes in their prices and shall clearly spell out inclusions of taxes, if any, in their quoted prices.

14.0 EFFECT AND VALIDITY OF BID

- 14.1 The submission of any bid connected with these documents and specifications shall constitute an agreement that the Bidder shall have no cause for action or claim, against the Owner for rejection of his bid. The Owner shall always be at liberty to reject or accept any bid or bids at his sole discretion and any such action will not be called into question and the Bidder shall have no claim in that regard against the Owner.

14.2 The bid should be kept valid for acceptance for a period 4 (four) months from the bid due date.

15.0 AWARD OF CONTRACT

15.1 Notification of Award of Contract will be made in writing to the successful Bidder by the Owner initially in the form of Letter/Telex of Intent which will be formalized by a Contract to be signed by both Owner and Bidder. All contractual obligations including delivery shall commence from the date of letter/Telex of Intent.

15.2 Owner reserves the right to award one or more separate contracts in line with the terms and conditions specified in the accompanying technical specifications.

16.0 IMPORT OF EQUIPMENT REQUIRED FOR ERECTION, TESTING AND COMMISSIONING

Indian Customs Act, 1962 permits import of erection equipment required by foreign contractor to perform his work in India under the Contract. The bidders may study these provisions and submit their quotation taking into account such facilities provided by the Government.

17.0 CONTRACT PERFORMANCE GUARANTEE

17.1 As a Contract security, the successful Bidder, to whom the work is awarded, shall be required to furnish Performance Bank Guarantee in the Proforma attached herewith in favor of the Owner within 30 days from the date of Letter/Telex of Intent. Failure to submit the performance bank guarantee within the above time shall be treated as breach of contract and shall entitle the Owner to place the order on others at the risk and cost of successful bidder, in addition to forfeiture of Earnest money deposit. The guarantee amount shall be equal to ten percent (10%) of the total Contract Price and it shall guarantee the faithful performance of the contract in accordance with the terms and conditions specified in the documents and specifications. The guarantee shall be valid for the entire period of the Contract, namely till the end of Guarantee period. The guarantee amount shall be payable without demur on demand to the Owner either in US Dollars in the case of foreign bidders and in Rupees, in the case of Indian Bidders without any condition whatsoever. In the case of Joint bidding by foreign party along with Indian party, the performance bank guarantee shall be submitted by the Party having unit responsibility from an Indian Nationalized Bank.

17.2 If the Bank Guarantee stated in clause 17.1 above gets reduced/ deducted for reasons of non fulfillment of any contractual obligation before commencement of guarantee period, the Contractor shall immediately take action to increase the value of Bank Guarantee to ten percent (10%) of the contract price, to cover his warranties as stated in 17.0.

17.3 The Performance Guarantee will be returned to the Contractor without any interest at the end of the warranty period subject to fulfillment of all contractual obligations by the Contractor.

18.0 MAINTENANCE TOOLS AND TACKLES

The bid shall include all special tools and tackles required for the operation and maintenance of the equipment in each equipment package. The Bidders shall indicate all the above items in the

proposal sheets in the form of a schedule giving therein the description and the quantity of each item.

The lump-sum price to be quoted by the Bidder shall include the price for these tools and tackles.

19.0 DEVIATION TO BID DOCUMENT

The bidders are requested to carefully study all the contract documents like invitation to bid, instructions to bidders, general terms and conditions of the contract and all other documents and they shall prepare a deviation statement, if any, clearly indicating the deviations sought for by the bidder.

Any deviation not mentioned in the statement and mentioned anywhere else in the bid will not be considered and if such items are not clearly explained in the deviation statement, it will mean that the contractor has agreed to all other terms and conditions mentioned in the above bid documents.

20.0 CHECK LIST

The Bidders are requested to duly fill in the check lists enclosed as Annexure-I and II. This check list gives only certain important items to make sure that the necessary data/information is provided by him in his bid. This, however, does not relieve the Bidder of this responsibility to make sure that his bid is otherwise complete in all respects.

- 21.0** The Bidders are requested to submit a list of buyers to whom the same or similar type of equipment have been supplied by them and which are under operation. The detailed addresses of such Buyers' office/works including Telephone, Telex, Fax Nos. and contact persons and order reference are to be mentioned.

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1.00 APPLICATION

Unless otherwise provided in the Contract Agreement, these General Conditions of Contract shall govern the work of the annexed Specification.

2.00 DEFINITION OF TERMS

In construing these General Conditions and the annexed Specification, the following words shall have the meanings herein assigned to them unless there is something in the subject or context in consistent with such construction.

- 2.01 The "Owner/Purchaser" shall mean the "National Aluminium Company Limited" , a company incorporated in India, whose Registered Office is situated at NALCO BHAVAN, P/1, Nayapalli, Bhubaneswar - 751 061.
- 2.02 "The Contractor" shall mean person, firm or a company whose tender has been accepted by the Purchaser and shall include his/its heirs, executors, administrators, representatives and permitted assigns.
- 2.03 The term Sub-Contractor used herein refers to a party or parties having a direct contract with the Contractor to whom any part of the contract has been sublet by the Contractor with the consent in writing of the Owner and shall include his heirs, executors, administrators, representatives and assigns.
- 2.04 The "Engineer" shall mean an officer of the owner/purchaser as may be duly appointed and authorized in writing by the purchaser to act as the Engineer on its behalf for the purpose of the contract.
- 2.05 The 'Engineer's Representative' shall be the person nominated by the Engineer in writing to act on his behalf.
- 2.06 The term 'Consultants/Consulting Engineer' refers to consultant(s) nominated by the Engineer in writing for the contract and referred to throughout in the Contract Documents by 'Consulting Engineer' or 'Consultant'.
- 2.07 "The Inspector" shall mean any firm or person including any employee of the owner/purchaser as may be duly appointed and authorized in writing by the owner/purchaser to inspect plant, equipment and works included by the Contractor.
- 2.08 'Plant', 'Equipment', 'Works' shall mean and include plant, stores and materials to be provided and work to be done by the Contractor.
- 2.09 'Contract' means the Notice Inviting Tenders, Conditions of Tendering, and Tender Form, General Conditions of Contract, Supplementary Conditions of Contract, Technical Specifications, price Schedule of Prices & Quantities, Letter of Intent of Purchaser, Drawings, Subsequent amendments mutually agreed upon, and agreement to be entered under clause "Contract Agreement" of this General Condition.

- 2.10 The 'Specification' shall mean the Specification annexed to these General Conditions and any subsequent modifications thereof and the drawings and Schedules attached thereto (if any).
- 2.11 'Site' means the lands and other places on, under, in or through which the Works are to be executed or carried out and any other lands or places provided by the Owner for the purpose of the Contract.
- 2.12 'Tests on Completion' shall mean such tests as are prescribed by the Specification and/or tests mutually agreed upon by the Purchaser and the Contractor to be made by the Contractor after erection of the equipment to prove satisfactory operation as required by the Specification.
- 2.13 'Commissioning' shall mean the first successful operation of the plant and equipment after all initial adjustments, trials, cleaning and reassembly required at site, if any, have been completed.
- 2.14 'Acceptance Tests' shall mean such tests as are required to prove the performance guarantees of the plant given by the Contractor, before taking over of the plant by the Purchaser.
- 2.15 'Initial Operation', 'Reliability Run' or 'Trial Operation' shall mean continuous operation of the contract plant and materials under varying loads to furnish proof of satisfactory operation for a specified period which shall not be less than two (2) weeks.
- 2.16 'Commercial Use' shall mean that use of the equipment which the Contract contemplates or of which it is to be commercially capable.
- 2.17 'Warranty Period' shall mean the period of guarantee as explained under clause 'Maintenance and Guarantee' of these General Conditions.
- 2.18 'Codes' shall mean the applicable codes of State or Orissa as on the date of Letter of Intent and any subsequent modification thereof before the plant has been delivered.
- 2.19 'Month' shall mean calendar month.
- 2.20 'Notice of Award of Contract' / 'Letter of Intent' / 'Award Letter shall mean the Purchaser's letter / Telex conveying his acceptance of the Tender subject to such reservations as may have been stated therein.
- 2.21 'Erection Supervision' shall mean the supervision services rendered or exercised by the Contractor during the erection of the plant as explained under clause 'Erection Supervision Services' of these General Conditions.
- 2.22 'Writing' shall include any manuscript, typewritten or printed statement under or over signature or seal as the case may be.
- 2.23 'Approved', 'Subject to Approval', 'Satisfactory', 'Equal to' 'Proper', 'As directed', 'Where directed', 'When directed' 'Determined by', 'Accepted', 'Permitted', 'To approval', or words phrases of like import are used, the approval, judgment, direction, etc. is understood to be a function of Consulting Engineer or Purchaser.

- 2.24 Words importing 'Persons' shall include firms, companies, corporations and other bodies whether incorporated or not.
- 2.25 Words importing the singular only shall also include the plural and vice versa where the context requires.
- 2.26 'F.O.B.' shall mean delivery free of expenses to the Purchaser on board the vessel at the port of shipment.
- 2.27 'F.O.R. Destination' shall mean delivery free of expenses to the purchaser on rail wagons at destination Railway Station/Siding as may be named.
- 2.28 'F.O.R. Works' shall mean loaded and stowed or trimmed, free of expenses to the Purchaser on board rail wagons at the Contractor's siding or at the nearest Railway Station for transportation.
- 2.29 'Tonne' shall mean 1000 kilogram weight, 'Gallons' shall mean imperial gallons unless mentioned specifically.
- 2.30 'Manufacturers' works' or 'Contractor's works' shall mean the place of work used by the manufacturer, their collaborators or approved sub-contractors for the performance of the works.
- 2.31 Construction of Contract

Terms and conditions not herein defined shall have the same meanings as are assigned to them in the Indian Sale of Goods Act (Act III of 1930) falling that in the Indian Contract Act (Act IX of 1872) and falling that in the General Clause Act 1897.

3.00 CONTRACTOR TO INFORM HIMSELF FULLY

The Contractor shall be deemed to have carefully examined the General Conditions, Specification, Schedules and Drawings and also to have satisfied himself as to the nature and character of the work to be executed and, where necessary, of the site conditions and other relevant matters and details. Any information thus had or otherwise obtained from the Purchaser, Consulting Engineer or the inspector shall not in any way relieve the Contractor from his responsibility for supplying the plant and equipment and executing the work in terms of the specification including all detail and incidental works and supply of the all accessories or apparatus which may not have been specifically mentioned in the specification or drawings, but otherwise necessary for ensuring complete erection and safe and efficient commercial working of the plant and equipment. If he shall have any doubt as to the meaning of any portion of these General Conditions and/or specification, he shall set forth the particulars thereof and submit them to the Engineer in writing for clarification.

4.0 SCOPE OF WORK

4.01 For Manufacture, Supply & Delivery of Plant & Materials

The Contractor shall design, manufacture and deliver suitably packed the plant, equipment and materials as described in the attached specification F.O.R. Works/F.O.R. Destination and, if of foreign origin, F.O.B. port of shipment, as the case may be.

The Contractor shall sell and deliver the said plant, equipment and materials to the Purchaser and Purchaser shall accept the delivery of and pay for at the price agreed upon between the Purchaser and the Contractor and upon fulfillment of the terms and conditions hereinafter specified or subsequent agreed modification thereof.

The Contractor shall inform the Purchaser if the plant, equipment and materials or any part thereof to be supplied under the scope of work shall be of origin and/or manufactured outside the Union of India in which case the Contractor shall give a certificate to this effect in the form required by the Purchaser. This certificate shall be called the 'Certificate of Origin'. The foreign currency component for importing of plant and materials manufactured outside of India shall be specified and the estimated total C.I.F. value shall also be stated. It is clearly understood that the owner shall not give any of its import licenses for importation of these items.

The Contractor shall also supply the spare parts and special tools at the quoted price and in quantities mentioned in clause 'Spare Parts and Maintenance Tools' or subsequent modifications thereof.

The Contractor shall undertake that supply of necessary spare parts and special tools will be made available at any time later during the life of the plant. The price of the imported spare parts shall not be in excess of the landed cost plus a reasonable percentage towards handling charges. The price for indigenous spare parts shall be at fair market price.

The Contractor shall also undertake that before going out of production of any of the spare parts, he shall give adequate advance notice to the Purchaser so that sufficient quantity of spare parts might be procured if the Purchaser so desires. Further, the Contractor shall supply the necessary drawings and specifications of these spare parts which the Contractor proposes to take off his production range to enable the Purchaser to arrange manufacture of the spare parts by other agency.

4.02 For Erection Supervision Services

The Contractor has to supply erection supervision personnel to supervise the work of erection of the plant and equipment to be conducted even by other agencies including owner. Classification and number of personnel required shall be mutually agreed to. The services would be generally as specified in Clause 'Erection Supervision Services' hereinafter at Clause No. 43.00

4.03 **For Erection of Plant & Materials**

The Contractor shall render complete erection services of the plant and materials supplied under the Contract if so required by the Purchaser. The services to be rendered shall be as generally described in clause 'Erection of Plant and Materials' hereinafter.

5.00 **DESIGN REQUIREMENTS**

5.01 All equipment and materials shall be designed and manufactured in conformance with standards stated hereinafter.

5.02 **Wind Load**

Structures and outdoor equipment shall be designed to withstand a wind load as set forth in the latest revision of Indian Standards IS: 875 of the Indian Standards Institution.

5.03 **Earthquake**

In general IS: 1893 shall be followed. Specific conditions/technical specification shall be referred for specific design criteria.

5.04 **Safety Features**

The Contractor shall provide adequate guards for all couplings and other moving parts which could be considered a hazard. Safety, sentinel and relief valves are to be located or piped in such a manner as to safeguard personnel and property. All safety devices shall be in accordance with the applicable Government regulations and requirements.

5.05 **Language & Measurement System**

All documents pertaining to the contract including specifications, schedules, notices, correspondence, operating and maintenance instructions, drawings or any other writing shall be in English language.

All instruments, recorders, etc. will be calibrated in the metric (C.G.S./ M.K.S.) system of units. Details of calibration will be provided later.

In drawings or specifications wherever both Metric and British units are indicated, the Contractor shall indicate the equipment dimensions on both the units. Location marking of all equipment shall be in Metric Units.

5.06 **Accessibility**

Special attention shall be given to the design, arrangement and assembly of all equipments to ensure ease of maintenance and renewal of parts.

5.07 Standard Equipment & Materials and Alternates

- a) Equipment, material and erection and other services shall be completed in all respects and in strict accordance with the specifications, except that alternative proposals may be submitted where stipulated provisions depart from the Contractor's Standards, provided that the substitutions are approved as equivalent by the Engineer and the reasons therefore are stated by the Contractor in his proposal as a result of such substitution.
- b) Any request for substitution after the contract is awarded, shall be accompanied with the difference in price and such substitution can only be made on approval by the Engineer on behalf of the Purchaser in writing, provided that such substitution does not cause any addition to the contract price.

- 5.08 a) All work shall be done in accordance with the applicable portions of the current editions of the codes and standards of the respective U.S.A., U.K. National and Technical Societies or equal or with the standards and codes of the Government of India, and in accordance with the applicable portions of the following codes and standards in particular:

Indian Boiler Regulations

Indian Electricity Act

Indian Electricity Rules

Indian Factories Act

Indian Explosives Act

Indian Standard Institution (IS)

British Standard Institution (BS)

American Society of Mechanical Engineers (ASME)

Institute of Electrical & Electronics Engineers Inc. (IEEE)

American Petroleum Institute (API)

American Society of Testing Materials (ASTM)

Hydraulic Institute

National Electrical Manufacturer's Association (NEMA)

American Water Works Association (AWWA)

American Standards Association (ASA)

American Institute of Steel Constructions (AISC)

National Board of Fire Underwriters

Insulated Power Cable Engineers Association (IPCEA)

All the work must be in accordance with the above mentioned codes or equivalent.

- b) Where conflicts occur between any of the laws, rules, regulations, standards, and so forth, specified herein, the more stringent requirements shall govern the work.

6.00 CONTRACT PRICE

The lump sum prices quoted by the Contractor in his bid with additions and deletions as may be agreed before signing of the Contract, for the entire scope of the work viz. supply and erection of equipments covered under the specification and documents shall be treated as the Contract Price.

7.0 TAXES

- 7.01 The Contractor shall include all taxes, duties, royalty of whatever nature, octroi, other local taxes, etc., if any, in the quoted price.
- 7.02 Sales tax or any other tax on material required for the work as also tax on works contract shall be payable by the Contractor and Owner will not entertain any claim whatsoever.
- 7.03 Notwithstanding anything contain elsewhere in the contract the Owner shall deduct at source from the payment due to the contractor the taxes as required under 13(A) of Orisaa Sales Tax Act or amended from time to time or under any other statute. The amount so deducted shall be paid by the Owner to the Sales Tax authority as per law. This is for the Contractor to deal with the Sales Tax authority directly in respect of any claim or refund relating to the above tax and Owner shall not be liable or responsible for any type of payment or reimbursement in this regard.
- 7.04 All benefits of taxes duties by way of credit under CENVAT shall be passed on to the Owner/Purchaser

8.0 CONTRACT - CUM - PERFORMANCE BOND

GUARANTEE FOR DUE EXECUTION OF THE CONTRACT AND PERFORMANCE DURING THE GUARANTEE PERIOD

The Contractor within thirty (30) days of award of contract shall furnish a Bond by way of a bank guarantee to be kept alive till 12 months after successful completion of contract in all respects and equal to ten percent (10%) of the contract price for faithful and due fulfillment by the Contractor of all obligations under the terms and conditions of the contract and for fulfilling the terms of guarantee for a period of 12 months after successful completion.

If during the contract period the bond amount gets reduced on account of any recoveries or otherwise, the contractor shall furnish a bond covering short fall to bring it to 10% of the contract value. The form of the aforesaid Bond is enclosed.

9.00 PROTECTIVE PAINTING, PACKING & MARKING

The Contractor and/or Manufacturer shall properly clean and/or send blast equipment and apply an initial coat of rust inhibitor and a flat shop coat of paint (except shop finished equipment). All shop primer and paints shall be subject to approval of the Engineer. All closely machined parts shall be covered with an approved protective coating to prevent deterioration of surfaces during transportation and storage.

The Contractor shall include and provide for securely protecting and packing the equipment so as to avoid damage in transit under proper conditions and he shall be responsible for all losses or damage caused or occasioned by any defect in packing.

All equipments shall be packed in accordance with approved packing specifications. All equipments and parts susceptible to corrosion by exposure to moisture and all electrical equipments shall be thoroughly protected against damage during transit and storage. The Purchaser will take no responsibility for any damage done to the equipment enroute to the "site of work", or "place of delivery" whichever may be specified due to the packing being faulty. Special packing with identification mark on packages should be provided for fragile materials. The identification marking indicating the name and address of the consignee shall be clearly marked in indelible ink on two opposite side and top of each of the packages. In addition, the Contractor shall include in the marking gross and net weights, outer dimensions and cubic measurements.

Each bale or package shall be accompanied by a packing Note quoting specifically the name of the Contractor, the number and date of contract, the name of the office placing the contract and nomenclature of contents.

Dimensions of each package shall not exceed the maximum dimensions of packages which can be accepted for transport over the 'broad gauge system' of the Railway concerned.

10.0 SHIPMENT PARTICULARS

10.01 Shipments

a) Foreign Items

Responsibility of shipment of plant and equipment shall lie with the Contractor wherever the contract is for complete supply and installation or supply delivered at site basis. The Contractor shall notify the Purchaser of the date of each shipment from the port of embarkation as well as date of arrival of such shipment at designated port of arrival for information.

Responsibility of cleaning the same in the port including all handling shall lie with the Contractor. Purchaser will only arrange to pay the customs duty as per information on CIF values given by the Contractor sufficiently in advance.

The Contractor shall give complete shipping information concerning the weight, size, content of each package including any other information the Purchaser may require.

b) Indigenous Item

For all contracts for supply and installation or supply delivery at site basis, responsibility of all transportation from works to site shall lie with the Contractor.

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

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

c) The Contractor shall further be responsible for all inland transportation up to site for foreign items after clearing through the port. Contractor shall also be responsible for making all necessary arrangements for loading, unloading and other handling right from his works till the site and also till the equipment is erected, tested and commissioned. He shall be solely responsible for proper storage and safe custody of all equipment.

10.02 Shipping Documents

After shipment is effected following documents shall be forwarded to the Purchaser:

a) Foreign Items

Within seven (7) days of shipment following shall be airmailed to the Purchaser for purpose of progress payment and necessary arrangement of payment of customs duty.

- Application of payment in standard format of the Owner (3 copies)
- Bill of Lading (5 non-negotiable copies)
- Invoice including break-up for customs purposes (6 copies)
- Packing list (6 copies)
- Pre-dispatch clearance certificate or shipping release, if any (3 copies)
- Test certificates, wherever applicable (3 copies)
- Certificate of origin

b) **Indigenous items**

- Application for payment in standard format of Purchaser (3 copies)
- Invoice (6 copies)
- Packing list (6 copies)
- Pre-dispatch clearance certificate or shipping Release, if any (3 copies)
- Test Certificates wherever applicable (3 copies)

10.03 **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.

10.04 **Consignee**

All consignment shall be addressed to and the Bill of Lading and other shipping documents shall be made in the name of the Purchaser's Office as may be advised.

11.0 INSURANCE

11.01 The Owner will arrange for INSURANCE of equipment and material, included under the scope of contract, to cover -

- a) Risk in transit by ship/air between Contractor's port of shipment/air port and Indian port of entry.
- b) Risks in transit by rail/road during inland transportation up to the Project Site.
- c) Risks during storage and erection at the Project Site till the plant is fully commissioned under an open general insurance policy. The Owner shall intimate the name of Insurance Company and other details in due course.

11.02 The Contractor shall furnish dispatch particulars of each consignment including its value immediately to the Insurance Company. If for any delay in intimating of dispatch particulars to the Insurance Company on the part of the Contractor the claims for damages are rejected, the contractor shall be fully responsible for replacement of the damaged equipment.

11.03 The risks that are to be covered under the insurance shall include, but not limited to, the loss or damage in transit, theft, pilferage, riot, civil commotion, weather conditions, accidents of all kinds, fire, war risk, etc. The scope of such insurance shall cover the entire value of the Works from time to time.

- 11.04 In respect of equipment damaged in transit or during erection and commissioning, the Contractor shall replace them expeditiously and the replacement cost payable by the Owner shall be limited to the invoice of damaged equipment. In case of consignment received at the project site in outwardly sound condition of package but found shortage/damage on being opened the liability for free replacement will be accepted by the Contractor.

It is the responsibility of the Contractor to lodge a claim on the Insurance Co. on behalf of the Owner. On receipt of all relevant document relating to the claim, Owner will pursue the matter with the Insurance Co.

12.00 DELIVERY

Notification of delivery or dispatch in regard to each and every consignment shall be made to the Purchaser immediately after dispatch or delivery. The Contractor shall further supply to the Consignee a price invoice and packing account of all stores delivered or dispatched by him. All packages, containers, bundles and loose materials forming part of each and every consignment shall be described fully in the packing account, and full details of the contents of packages and quantity of materials shall be given to enable the Consignee to check the stores on arrival at destination.

12.01 Passage of Risk/Ownership

The title to all Indian materials, delivered by the contractor, shall pass on to the Purchaser on its being handed over to the nominated transporter.

13.00 LIQUIDATED DAMAGES FOR DELAY IN COMPLETION (LD)

If the contractor fails in the due performance of the contract to supply / erection/ testing/ commissioning the equipment within the time fixed by the contract or any extension thereof, he shall be liable at the discretion of the Engineer to the Liquidated damages and not by way of penalty amounting to one half of one percent (1/2%) of the contract price per week. The contractor's liability for delay shall not in any case exceed ten percent (10%) of the total contract price.

If the Contractor shall fail to supply the equipment or any part thereof within a reasonable period after the expiry of the appointed time or extended time as may be provided for in the contract, the provisions in Clause No. 28 "Negligence" shall become operative, in addition to the liability of L.D. as above.

14.00 IMPORT LICENCE AND FOREIGN EXCHANGE

In case of supply of equipment of indigenous manufacture including any imported components, the Contractor shall arrange for necessary Import License & Foreign Exchange.

In the event of Contractor requiring Actual User's for import of equipment and/components, Purchaser shall arrange for obtaining necessary assistance in this regard. Government

authorization may be required to permit the manufacture of certain equipment. The parties shall assist each other in every manner possible in securing such authorization.

15.00 CONTRACTOR'S DOCUMENTS, DRAWINGS AND INSTRUCTION MANUALS

15.01 The Contractor shall be responsible for developing detail drawings to adapt his equipment and materials to the requirement indicated in the tender specification.

15.02 Within a reasonable time not exceeding thirty days from the date of receipt Purchaser's Letter of Intent, the Contractor shall provide the Purchaser with the following drawings and data:

- a) Six (6) marked up copies of technical particulars to make them conforming to accepted proposals.
- b) Outline drawings of all equipment together with weights and sufficient overall dimensions to enable the Purchaser to design foundations and structures and associated equipment.
- c) Drawing submission schedule indicating list of all drawings with their respective titles and dates shall be submitted to the Purchaser. The schedule shall also indicate the latest date by which Contractor shall furnish all design calculations. The schedule shall be amended or extended by the Contractor in consultation with the Purchaser as and when necessary.

15.03 Within a stipulated time period the Contractor shall submit for approval of the Purchaser the following drawings and technical data:

- a) Dimensional layout drawings of the plant and equipment to be supplied under the contract and all certified data relating to the design on foundation structures to enable the Purchaser to arrange for construction of the necessary foundations and civil works.

All information regarding material and size of anchor bolt, nuts, sleeves, inserts and supports which shall have to be embedded in concrete shall be furnished in the detailed foundation drawing.

- b) Dimensional drawings showing individual equipment being supplied under the contract, method and sizes of connections to the Purchaser's other equipment, giving also the limits of variations of the dimensions.
- c) All efficiency and characteristic curves required under the specification.
- d) Schematic drawings of all wirings, connections and interlocking diagrams showing the points where the connections have to be made by the Purchaser.
- e) Necessary structural and other calculations and data required for demonstrating fully that all parts of the equipment to be furnished shall conform to the provisions and intent of the contract.

The Contractor shall submit six (6) prints of each drawing for approval. Two (2) prints shall be forwarded to the Purchaser and four (4) prints shall be forwarded to the Consulting Engineer. When prints of drawings have been marked "Approved except as noted, Resubmission required" the Contractor shall make necessary corrections and again submit corrected copies for approval as per details stipulated. Further revision will be shown by number, date and subject in a revision block.

Upon receipt of the prints which have been marked "Approved" or "Approved except as noted: Forward Final drawing" the Contractor shall furnish within a reasonable time fourteen (14) additional prints of each of drawings and one (1) reproducible transparency after minor corrections, if any, to the Purchaser.

Relevant civil construction drawings if felt necessary by Consulting Engineer, shall be forwarded to the Contractor in triplicate. He shall review incorporation of information furnished by him, such as, anchor bolt location, elevation etc. and return one certified copy each to the Purchaser and to the Consulting Engineer.

Any manufacturing work in connection with the equipment prior to the approval of drawings shall be at the Contractor's risk. The Contractor shall make any change in the designs, with prior approval of the Engineer, which are necessary to make the equipment conform to the provisions and intent of the contract, without additional cost to the Purchaser. Approval of Contractor's drawings shall not be held to relieve the Contractor of any part of Contractor's obligations to meet all the requirements of the contract or of the responsibility for the correctness of the Contractor's drawings.

15.04 The details to be furnished shall include, but not restricted to the following:

- a) Finals plans and layout giving complete details against the above mentioned arrangement plans including foundations plans.
- b) Assembly, sub-assembly and sectional drawings of every equipment.
- c) Complete cabling drawing giving details of cables required, terminal details, layout of trenches etc.
- d) Detailed wiring diagrams and arrangements of conduits for wiring various controls and instruments up to the required points.
- e) Shop drawings of all parts of equipment requiring repairing or replacements.
- f) A complete list of special erection tools and tackles required for complete assembly.

15.05 Complete spare part hand books with details and diagrams, separate recommendations shall be made for the parts required for first three (3) years of operation of important equipment and sent to Engineer for approval. Parts requiring frequent replacement shall be listed separately from parts required for ensuring reliability in unforeseen emergencies. On finalization ten (10) set of such spare part hand books shall be furnished to the Engineer.

15.06 Assembly and erection instruction within a reasonable time after signing of the contract but at least three (3) months before starting erection the Contractor shall furnish ten (10) sets of the following for the use of Purchaser's field Engineers:

- a) Descriptive literature and drawings to illustrate the working principles, method of assembly and dismantling.
- b) Instruction book for proper erection and assembly of all equipment and necessary instructions for checking and recording proper assembly of the plant.

Erection schedule giving the sequence of erection with reference to package/ assembly/ sub-assembly identification.

- c) Instruction sheets for proper balancing, alignment, adjustment, checking and calibrations as may be necessary.

15.07 All drawings and technical data are to be furnished in English language only.

15.08 Final Drawings and Operation Maintenance Manuals

Before completion of the work, the Contractor shall furnish fourteen (14) complete sets of prints and one (1) reproducible transparency of all detailed drawings of the equipment actually supplied and as erected and assembled at site. In addition ten (10) sets of comprehensive manuals for use in the operation and maintenance of the plant shall be supplied at least six (6) months before the actual commissioning date to the Engineer.

15.09 Seven (7) copies of monthly fabrication progress report for all equipment and material shall be supplied to the Engineer.

16.00 MISTAKES IN DRAWINGS

The Contractor shall be responsible for and shall pay for any alterations of the work due to any discrepancies, errors or omissions in the drawings or other particulars supplied by him whether such drawings or particulars have been approved by the Engineer or not.

If any dimensions figured upon a drawing or a plan differ from those obtained by scaling the drawing or plan the dimensions as figured upon the drawing or plan shall be taken as correct.

17.00 MATERIALS AND WORKMANSHIP

All materials used in the manufacture of the equipment shall be selected from the best available for the purpose, considering strength, durability and best engineering practice. Liberal factors of safety shall be used through out the design and specially in the design of all parts subject to alternating stresses or shocks.

All the work shall be performed and completed in a thorough workmanship like manner and shall follow the best modern practice in the manufacture of high grade equipment notwithstanding any omissions in the specifications.

Castings shall be free from holes, flaws, cracks or other defects and shall be smooth, close grained and of true forms and dimensions. No plugged or filled up holes or other defects will ordinarily be allowed. Such castings are liable to be rejected.

However, the Contractor may rectify minor casting defects by welding or other method in accordance with the standard manufacturing practice provided such rectification does not affect the strength of the casting or impair the efficient working of the plant and prior approval of the Purchaser is obtained for the same.

18.00 SPARE PARTS AND SPECIAL MAINTENANCE TOOLS

- 18.01 The spare parts as required for the equipment under supply are listed in respective specification. The list is not exhaustive but only indicative.

The Contractor shall also supply list of Guaranteed Spares for two years normal operation indicating parts name, catalogue no., quantity and unit prices on project site delivery basis. If any short fall is noticed during 2 years from the date of commissioning the same shall be supplied free of cost by the Contractor.

- 18.02 In case of machinery and paint, the Contractor shall include provision for such tools as he recommends to be absolutely essential for proper maintenance and repair of the plant. A detailed list of the tools along with the itemized prices shall be submitted along with the tender. In the absence of this list, the tender is liable to be rejected. One new set of all special tools for maintenance for each type of equipment shall be furnished by the Contractor at his own expense and shall be dispatched along with the equipment.
- 18.03 The contractor shall also undertake that supplies of necessary maintenance equipment and spare parts will be made available for the life of the plant offered through his Agents on a continuous basis at reasonable price.

19.00 COMPLETENESS OF EQUIPMENT

The equipment shall be complete in every respect with all mountings, fixtures and standard accessories which are normally supplied even though not specifically detailed in the specification. The Contractor shall not be eligible for any extra payment in respect of such mountings, fittings, fixtures and accessories which are needed for safe operation of the equipment as required by applicable codes of the country though they may not have been included in the contract.

All similar component parts of similar equipment supplied shall be interchangeable with one another.

The various equipment supplied under this contract shall be subject to the Purchaser's approval

20.00 INSPECTION AND TESTING AT CONTRACTOR'S PREMISES

The Engineer and his duly authorized representative shall have at all reasonable times access to the Contractor's /Sub-contractor's premises of works, and shall have the power at all reasonable

times to inspect drawings of any portion of the work or examine the materials and workmanship of the plant during its manufacture there and if part of the plant is being manufactured on other premises, the Contractor shall obtain for the Engineer and his duly authorized representative permission to inspect as if the plant is manufactured on the Contractor's premises.

The Engineer shall on giving seven (7) days notice in writing to the Contractor setting out any grounds of objections which he may have in respect of the work, be at liberty to reject any drawings & all or any part of workmanship if the subject of any of the said grounds of objection, which in his opinion are not in accordance with the contract. The Contractor shall give due consideration to such objections and shall either make the modifications that may be necessary to meet the said objections or shall confirm in writing to the Engineer giving therein that no modifications are necessary to comply with the contract.

The Contractor shall give the Engineer and his duly authorized representatives notice of any material being ready for testing and the Engineer or the said representative shall (unless the inspection of tests is voluntarily waived), on giving twenty four (24) hours previous notice in writing to the Contractor, attend at the Contractor's premises (as the case may be) within fifteen (15) days of the date on which the material is notified as being ready failing which visit, the Contractor may proceed with the tests which shall be deemed to have been made in the Engineer's presence. All standard shop tests, physical and chemical tests required by the Standards or as may be prescribed or approved by the Engineer shall be conducted by the Contractor. The Engineer reserves the right to waive any of the above test requirement and to prescribe new test required if found necessary to expedite the work or to conform to the latest and best practice. Definitions, methods of measurement, calibration of instruments and required procedure as referred in the above standard and/or those approved by the Engineer as equivalent shall be followed. The Contractor shall forthwith forward to the Engineer duly certified copies of the test certificates in quadruplicate (one copy to the Purchaser and three copies to the consulting Engineer) for approval. Further ten (10) copies of the shop test certificate shall be bound with the instruction manuals referred to in clause "Contractor's documents, drawings and instruction manuals".

In all cases where contract provides for tests, whether at the premises or works of the Contractor or any sub-contractor, the Contractor, except where otherwise specified shall provide free of charge to the Purchaser, such labor, materials, electricity, fuel, water, stores, apparatus and instruments as may reasonably be demanded to carry out efficiently such tests of the plant, in accordance with the contract and shall give facilities to the Engineer or his authorized representative to accomplish such testing.

When the tests have been satisfactorily completed in the Contractor/Sub-contractor's Works, the Engineer shall issue a certificate to that effect within fifteen (15) days after completion of test, but if the tests were not witnessed by the Engineer or his representative the certificate would be issued within fifteen (15) days of the receipt of the test certificates by the Engineer. No plant shall be transported before such a certificate has been issued. The satisfactory completion of these tests or the issue of this certificate shall not bind the Purchaser to accept the plant should it on further tests after erection, be found not to comply with the contract provisions.

21.00 TESTS ON COMPLETION AND TRIAL RUN AT SITE

Where possible all tests shall be carried out before dispatch. Should, however, it become necessary for the final tests as to performance and guarantees to be held over until the plant is erected at site, they shall be carried out as per agreed procedure within two (2) months or such time as may be considered reasonable by the Purchaser after commissioning of the equipment.

Inspection and test at site during erection and on completion of erection shall be carried out on any plant and equipment to satisfy the guaranteed performance of each equipment and the whole installation as set forth below:

Individual equipment tests:

- (I) Inspection and checking of units
- (II) Placing in operation
- (II) Initial operation
- (IV) Reliability tests
- (V) Efficiency and consumption tests
- (VI) Load tests

The sequence of tests for individual equipment shall be as mutually agreed to between the Contractor and the Engineer.

Immediately after the plant or section of the plant is ready for commissioning, it shall serve for a minimum fourteen (14) days trial on load to furnish proof of satisfactory working. The acceptance test shall be carried out within two (2) months after the trial run has been satisfactorily completed. Any delay for carrying out these works for force majeure reasons shall be given due consideration. Should the result of these tests not come within the margin specified, the test shall, if required, be repeated after necessary rectification measures recommended by the Contractor within one (1) month from the date of plant is ready for retest, and the Contractor shall repay to the Purchaser all reasonable expenses which he may be put to by such tests.

The performance and acceptance tests of the complete installation shall be carried out to prove the guarantees specified for different equipment. These tests shall be made in accordance with established and approved procedures. The Contractor shall submit within reasonable time after the award of contract, detailed procedure for conductance of all tests for approval of the Engineer. The procedure shall include the following information for such test:

- (I) Loads at which tests will be conducted.
- (II) Time and durations of each test.

- (II) Instrument locations shown by a schematic diagram for each test. (Calibration certificates for each instrument shall be furnished before commencement of test).
- (IV) All formulas, calculations, conversion factors, correction curves, etc. to be used for test conductance.
- (V) Sample test report forms, and data sheet that will be used to record test results and valuation of final results.

On completion of all tests, the overall efficiency of the plant shall be determined in accordance with the procedure mutually agreed upon between the Contractor and the Engineer unless otherwise covered under the Standards and Specification.

In all cases, where the contract provides for test at the site, the Purchaser, except where otherwise specified, shall provide, free of charge, such labor, materials, fuel, water, electricity, lubricants as may be required from time to time and as may reasonably be demanded to carry out such tests of the plant, material or workmanship in accordance with the contract. Any special apparatus and precision instruments required for site test shall be provided by the Contractor.

If for any reason, other than the fault of the contractor performance and acceptance tests for any unit shall not be carried out within sixty (60) days of notice by the Contractor to the Purchaser of the unit being ready for tests, then the Purchaser will issue an acceptance certificate on the last day of such period and payments due to the Contractor on acceptance shall be made, but nevertheless the Contractor, shall if called upon to do so by the Purchaser, within a period twelve (12) months from the said last date, make the said tests on the same terms as provided in the contract.

22.00 TAKING OVER

Upon successful completion of all the tests to be performed at site on equipment and systems 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 relieve the Contractor of any of his obligations which otherwise survive by terms and conditions of the contract after issuance of such certificate.

23.00 REJECTION OF DEFECTIVE PLANT

If the completed plant or any portion thereof, it is taken over under the clause 'Taking Over', be found defective or fails to fulfill the requirements of the contract, the Engineer shall give the Contractor notice setting forth particulars of such defects or failure, and the Contractor shall forth with make the defective plant good or to make it comply with the requirements of the contract. Should he fail to do so within a reasonable time, the Purchaser may reject and, replace at the cost of the Contractor the whole or any portion of the plant as the case may be, which is defective or fails to fulfill the requirements of the Contract. Such replacement shall be carried out by the Purchaser within a reasonable time and at a reasonable price, and where reasonably possible to the same specification and under comparative condition. The Contractor's full and extreme liability under the clause shall be satisfied by the payment to the purchaser of the original contract price including charges of erection and/or supervision of erection plus the difference if any between the

replacement price of the equipment including charges for erection and /or supervision of erection and the original contract price including charges for erection and / or supervision of erection in respect of such defective plant.

In the event of such rejection, the Purchaser shall have the right to operate any and all equipment as soon as and as long as it is in operating condition, whether or not, such equipment has been accepted as complete and satisfactory, to enable him to obtain necessary replacement, except that this shall not be construed to permit operation of any equipment which may become damaged by such operation before any required alternations or repairs and/or replacement have been made. All repairs or alternations or replacement required of the Contractor shall be made by the Contractor at such times as directed and in such manner as will cause the minimum interruption in the use of the equipment by the Purchaser. Should the Purchaser not so replace the rejected plant within a reasonable time, the Contractor's full and extreme liability under his clause will be satisfied by the repayment of all money paid by the Purchaser to him in respect of such plant.

Nothing in this clause shall be deemed to deprive the Purchaser or affect any rights under the contract which he may otherwise have in respect of such defects or deficiencies or in any way relieve the Contractor of his obligations under the contract.

24.00 COMPLETION CERTIFICATE & FINAL CERTIFICATE

24.01 Application for Completion Certificate

When the contractor fulfils his obligation under the contract he shall be eligible to apply for completion certificate in respect of the work by submitting the completion documents along with such application for completion certificate.

The owner or his representative shall normally issue to the Contractor the completion certificate within one month after receiving an application from the Contractor after verifying from the completion documents and satisfying himself that the work has been completed in accordance with and as set out in the construction and erection drawings, and the contract documents.

The contractor, after obtaining the completion certificate, is eligible to present the final bill for the work executed by him under the terms of contract.

24.02 Completion Certificate

Within one month of the completion of work in all respects the Contractor, shall be furnished with a certificate by the owner or his representative of such completion but no completion certificate shall be give nor shall the work be deemed to have been executed until all scaffoldings surplus material and rubbish is cleared off the site completely nor until the work shall have been measured by the Engineer, whose measurement shall be binding and conclusive. The work will not be considered as complete and taken over by the Owner, until all the temporary works, labor and staff colonies etc. constructed are removed and work site cleared to the satisfaction of the Engineer.

If the Contractor shall fall to comply with the requirements of this clause on or before the date fixed for the completion of the work, the Engineer may at the expenses of the Contractor remove such

scaffoldings, surplus materials and rubbish and dispose off the same as he thinks fit and clean off such dirt as aforesaid, and the Contractor shall forthwith pay the amount of all expenses so incurred and shall have not claim in respect of any such scaffolding or surplus materials as aforesaid except for any sum actually realized by the sale thereof.

Completion Certificate shall be in 3 parts as follows:

- 1) Physical/Mechanical completion work.
- 2) Satisfactory completion of commissioning of equipment with load.
- 3) Satisfactory completion of guarantee.

The Contractor shall clearly indicate the 3 dates separately.

24.03 **Completion Documents**

For the purpose of clause 24, the following documents will be deemed to form the completion documents:

- (i) The technical documents according to which the work was carried out.
- (ii) Three sets of construction drawings showing therein the modification and corrections made during the course of execution and signed by the Engineer.
- (ii) Completion Certificate for embedded and 'Covered-up' works.
- (iv) Certificates of final levels as set out for various works.
- (v) Certificates of test performed for various works.
- (vi) Materials appropriation statement for the materials issued by the owner for the works and list of surplus materials returned to the owner's store duly supported by necessary documents.
- (vi) Physical / Mechanical completion work.
- (viii) Satisfactory completion of commissioning of equipments with load.
- (ix) Satisfactory completion of guarantee.

The contractor shall clearly indicate the 3 dates separately.

24.04 **Final Decision and Final Certificate**

Upon the expiration of the period of liability and subject to the Engineer being satisfied that the works have been duly maintained by the Contractors during monsoon or such period as herein provided in clause 8.00 and that the Contractor has in all respect duly made up all subsidence and performed all his obligations under the contract, the Engineer shall (without prejudice to the right of the Owner to retain the provision of relevant clause hereof) otherwise give a certificate, herein

referred to as the final certificate, to that effect and the Contractor shall not be considered to have fulfilled the whole of his obligations under the contract until Final Certificate shall have been given by the Engineer notwithstanding any previous entry upon the work and taking possession, working or using of the same or any part thereof by the Owner.

24.05 Certificate and Payments No Evidence of Completion

Except the final certificate, no other certificates or payment against a certificate or on general account shall be taken to be an admission by the Owner of the due performance of the Contract or any part thereof or of occupancy or validity of any claim by the Contractor.

25.00 ENGINEER'S DECISION

In respect of all matters which are left to the decision of the Engineer the Engineer shall, if so required to do so by the Contractor give in writing a decision there on to the Contractor. All decisions of the Engineer shall be binding on the Contract.

26.00 CERTIFICATE NOT TO AFFECT THE RIGHTS OF THE PURCHASER OR THE CONTRACTOR

No Certificate of the Engineer on account, nor any sum paid on account by the Purchaser, nor any extension of time for the execution of the works by the Contractor shall affect or prejudice the rights of the Purchaser against the Contractor or relieve the Contractor of his obligations of the materials supplied and no certificate shall create liability for the Purchaser to pay for alterations, amendments, variations of additional work, not ordered in writing by the Engineer or discharge the liability of the Contractor for payment of damages, whether due, ascertained or certified or not to any sum against the payment of which he is bound to indemnify the Purchaser, nor shall any such certificate nor the acceptance by him or any sum paid on account or otherwise, affect or prejudice the rights of the Contractor against the Purchaser.

27.00 MAINTENANCE AND GUARANTEE – WARRANTY PERIOD

The Contractor shall guarantee in respect of the plant and materials to be furnished by him the following:

- (a) All equipment shall be free from any defect due to faulty design, materials and/or workmanship.
- (b) The equipment shall operate satisfactorily and the performance and efficiencies of the equipments shall not be less than the respective guaranteed values.
- (c) The efficiencies, temperature rises and other performance data furnished for the equipment.

The guarantees have to be furnished on forms approved by the Engineer and shall be signed by the Contractor and / or his sub-contractor.

If the Contractor finds, after his tender is accepted, that a variation in work, construction technique or the quality of materials is necessary to fulfill the guarantees called for, such variations may be made with the approval of the Engineer, provided the request for changes is made before signing the contract the changes are to be made without any increase in the contract price.

The above guarantees shall be valid for a period of twelve (12) calendar months commencing immediately on the satisfactory completion of the final tests at site or thirty six (36) months after the last consignment to complete the plant is received at site, whichever may be earlier. This period of the guarantee shall be called the 'Warranty period'. During this period, the contractor's liability shall be limited to the replacement of any defective parts that may develop in plant of his own manufacture or those of his sub-contractor's under the conditions provided for by the contract under proper use and arising solely from faulty design, materials or workmanship provided always that such defective parts as are not repairable at site, and are not essential in the meantime in the commercial use of the plant, are promptly returned to the Contractor's Works unless otherwise arranged. All such replacements of defective parts mentioned above shall be made free of costs at site by the Contractor and the return of the defective parts to the Contractor's works shall be the Contractor's responsibility and shall be made at his expense. The Purchaser will, however, render such assistance in this matter as well expedite the same. In the case of defective parts not repairable at site but essential in the meantime for the commercial use of the plant, the Contractor shall replace at site free of cost to the Purchaser the said defective parts before the defective parts are removed to his Works.

If for rectification or replacement of any part of equipment or work due to defective materials, manufacture or design, the services of the Contractor personnel are requisitioned within the guarantee period, these services shall be made available free of any cost to the Purchaser.

If it becomes necessary for the contractor to replace or renew any defective portions of the plant under this clause, the provisions of this clause will apply to the portions of the plants so replaced or renewed until the expiration of six (6) months from the date of such replacement or renewal or until the end of the above mentioned period of twelve (12) months, whichever may be later. If any defect be not remedied within a reasonable time, the Purchaser may proceed to do the work at the Contractor's risk and expenses but without prejudice to any other rights which the Purchaser may have against the Contractor in respect of such defects.

If the replacement or renewals are of such character as may affect the efficiency of the plant, the Purchaser shall have the right to give the Contractor within one month of such replacement or renewal, notice in writing that 'tests' on completion be made in which case such tests be carried-out as provided in clause "tests a completion" and trial run at site hereof. Should such test show that the plant sustains the guarantee given in the Contract; the cost of the tests will be borne by the Purchaser. Should the guarantee be not sustained, the cost of the test shall be borne by the Contractor.

All replacement or renewals to be carried out by contractor during the maintenance period shall be subject to such clauses of these general conditions as may be considered reasonable by the Engineer.

Until the final certificate has been issued, the Contractor shall have the right of entry, at his own risk and expenses by himself or his duly authorized representatives whose names shall previously have been communicated in writing to the Engineer, at all reasonable working hours upon all necessary parts of the works, for the purpose of inspecting the working and the records of the plant and taking notes there from and, if he desires, at his own expense making any tests, subject to the approval of the Engineer that work will not be unreasonably withheld.

The issue of the Engineer's Certificate referred to in clause 'Certificate of Engineer' shall in no way exempt the contractor from the provision of this clause.

At the end of the maintenance period, the liability ceases. In respect of goods not covered by the first paragraph of this clause, the Purchaser shall be entitled to the benefit of any guarantee given to the Contractor by the original supplier or manufacturer of such goods.

28.00 NEGLIGENCE

If the Contractor neglects to execute the work with due diligence and expedition or refuses or neglect to comply with any reasonable orders given to him in writing by the Engineer in connection with the work, or contravene the provisions of the contract, the Purchaser may give notice in writing to the Contractor calling upon him to make good the failure, neglect or contravention complained or should the Contractor fail to comply with such notice within a period considered reasonable by the Purchaser from the date of service thereof, in the case of failure, neglect or contravention capable of being made good within that time or otherwise within such time as may in the opinion of the Purchaser be reasonably necessary for making it good, then and in such case the Purchaser shall have the option and be at liberty to take the work wholly or in part, out of the Contractor's hand and may carry on the work envisaged in the contract at a price with any other person or persons to execute the same or any part thereof and provide any other materials, tools, tackle or labor for the purpose of completing the works or part thereof. In such event the Purchaser shall without being responsible to the Contractor for fair wear and tear of the same be entitled to seize and take possession and have free use of all materials, tools, tackle or other things which may be on the site, for use at any time in connection with the work to the exclusion of any right of the Contractor over the same and the Purchaser shall be entitled to retain and apply and balance sum which may otherwise be then due on the contract by him to the Contractor or such part thereof as may be necessary, to the payment of the cost of execution of such work as aforesaid.

If the cost of executing the work as aforesaid shall exceed the balance due to the Contractor and the Contractor fails to make good the deficit, the said materials, tools, tackle, construction plant or other things, the property of the Contractor as may not have been used up in the completion of the works, may be sold by the Purchaser and the proceeds applied towards the payment of such difference and the cost of an incidental to such sale. Any outstanding balance existing after crediting the proceeds of such sale shall be paid by the Contractor on the certificate of the Engineer. But when all expenses cost and charges incurred in the completion of the work are paid by the Contractor, all such materials, tools, tackle, construction plant or other things not used up in the completion of the works and remaining unsold shall be removed by the Contractor. If the proceeds of the above sale of the Contractor's materials, tools, tackle, construction plant etc. are insufficient to cover the executing the aforesaid work, the balance remaining after crediting the

proceeds of such sale shall be recoverable from the Contractor by encashing the Bank Guarantee/available/ any other money payable by Purchaser or by action of law.

Notwithstanding anything contained above, the Purchaser may determine the contract due to any breach or failure of the Contractor, without notice before determining the contract as above, if in the opinion of the Purchaser, the default or defaults committed by the Contractor is/are curable and can be cured by the Contractor if an opportunity is given to him, then the owner may issue a notice in writing calling upon the Contractor to cure the default within such time as may be specified in the notice.

In the event of termination, the security deposit will be forfeited without reference to the Contractor and if no amount is available towards Security Deposit, an identical amount is recoverable from the contractor.

29.00 POWER TO VARY OR OMIT WORK

No alternations, amendments, omissions, additions, suspensions or variations of the work hereinafter referred to as 'Variations', under the contract shall be made by the Contractor except as directed in writing by the Engineer, but the Engineer shall have full power, subject to the provision 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 and the Contractor shall carry out such variation and be bound by the same conditions as far as applicable, as though the said variation occurred in the contract.

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 within 10 days in writing and the Engineer shall decide forthwith whether or not the same shall be carried out and if the Engineer confirms his instructions, the contractor's obligations and guarantees shall be modified to such and extent as may be justified. In the absence of any such notification, the Contractor shall be bound to carry out the suggested variations without any additional financial implication to Purchaser and it will amount to an absolute waiver of any claim whatsoever.

30.00 SETTLEMENT OF DISPUTE

- 30.01 Except as otherwise specifically provided in the Contract all disputes concerning question of fact arising under the Contract shall be decided by the Engineer subject to a written appeal by the Contractor to the Engineer, whose decision shall be final to the parties hereto.
- 30.02 Any disputes or differences including those considered as such by only one of the parties arising out of or in connection with the Contract shall be to the extent possible settled amicably between the parties.
- 30.03 If amicable settlement can not be reached then unresolved disputed issues may be settled by arbitration as provided subsequently.

31.00 TERMINATION OF CONTRACT

Notwithstanding anything contained elsewhere in this contract, if at any time during the term of this contract the plans of the Government of India and/ or the State Government change for any reason, the Purchaser shall have the right to terminate the Contract by notice to the Contractor by a registered letter. In respect of such changes the material that is complete as ready for transportation within thirty (30) days after such notice, Purchaser agrees to accept delivery thereof at the contract price and terms. In the case of the remainder of the undeliverable material, the Purchaser may elect (a) to have any part thereof completed and take delivery thereof at the contract price and (b) to cancel the residue (if any) and pay to the Contractor apportioned amount of the contract price based upon the state of completion to be certified by him. The Contractor shall deliver all such material in process of manufacture to the Purchaser and shall return to the Purchaser any funds remaining to the Purchaser's credit. No payment shall be made by the Purchaser for any material not yet in process of manufacture on the date of notice of cancellation is received.

32.00 DEDUCTION FROM CONTRACT PRICE

All costs, damages or expenses which the Purchaser may have paid, for which under the contract Contractor is liable, may be deducted by the Purchaser from any money due or be coming due by him to the Contractor under the contract, or may be recovered by action of law or otherwise from the Contractor. Further all legal and statutory deductions will be made and the Contractor is not entitled to any reimbursement or claim what-so-ever except only a tax deduction certificate.

In the event of recovery to the necessary extent becoming impossible owing to insufficiency of the performance bond and withheld amounts, the balance due to the purchaser, may be recovered in any way the Purchaser may deem fit.

33.00 CO-OPERATION WITH OTHER CONTRACTORS AND CONSULTING ENGINEERS

The Contractor shall agree to co-operate with the Purchaser's other contractors and Consulting Engineers for associated equipment 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 equipment. No remuneration shall be claimed from the Purchaser for such technical cooperation. The Purchaser and consulting Engineer shall be provided with two (2) copies each of all correspondence addressed by the Contractor to other Contractors in respect to such exchange of technical information.

If any part of the Contractor's work depends for proper execution or results upon the work of any other Contractor, the Contractor shall inspect and promptly report in writing to the engineer any defects; in such works that render it unsuitable for such proper execution and results. His failure to so inspect and report shall constitute an acceptance of the other Contractor's work as fit and proper for the reception of his work, except as to defects which may develop in the other Contractor's work after the proper execution of his work.

34.00 ASSIGNMENT OF CONTRACT

Any assignment of the contract or any part thereof or any rights or obligations there under, by the Contractor without the prior written consent of the Purchaser shall be void.

The purchaser shall be at liberty to transfer and assign the contract only to Government Company as defined in the Indian Companies Act-I of 1956, and such Company shall exercise all the rights and be liable for all obligations of the Purchaser contained herein in the same manner as if the agreement had been entered into between the said Company and the Purchaser. The purchaser shall be also at liberty to entrust the carrying out of the agreement only to a Government Institution and upon the Instructions of the purchaser, the Contractor undertakes to do all things necessary to carry out of his obligations under the agreement with such institution as may be entrusted by the purchaser as agent or otherwise. The Purchaser, however, shall not be in either case relieved or discharged from any of his obligations and liabilities under the contract.

The contractors shall be advised in writing of the date of any such substitution.

35.0 SUBLETING OF CONTRACT

The Contractor shall not without the consent in writing of the Purchaser, which shall not be unreasonably withheld, assign or sublet his contract or any substantial part thereof other than for raw materials, for minor details, or for any part of the works of which the makers are named in the contract, provided that any such consent shall not relieve the Contractor from any obligation, duty or responsibility under the contract.

For components/equipments procured by the Contractors for the purpose of the Contract; after obtaining the written approval of the Owner, the Contractor's purchase specifications and enquiries shall call for quality plans to be submitted by the suppliers along with their proposals. The quality plans called for from the vendors shall set out, during the various stages of manufacture and installation, the quality practices and procedures followed by the Vendor's quality control organization, the relevant reference documents/standards used, acceptance level, inspection of documentation raised, etc. Such quality plans of the successful vendors shall be discussed and finalized in consultation with the Engineer and shall form a part of the purchase order/contract between the Contractor and the vendor. Within 3 weeks of the release of the same purchase order/contracts for such bought out items/components, a copy of the same without price details but together with detailed purchase specifications, quality plans and delivery conditions shall be furnished to the Engineer by the Contractor.

36.00 SUSPENSION OF WORK

The owner reserves the right to suspend and reinstate execution of the whole or any part of the works without invalidating the provisions of the contract. Orders for suspension or reinstatement of the works will be issued by the Engineer to the Contractor in writing. The time for completion of the works will be extended for a period equal to duration of the suspensions. Any necessary and demonstrable costs incurred by the contractors as a result of such suspension of works other than force majeure conditions will be paid by the owner, provided such costs are substantiated to the

satisfaction of the Engineer. The owner shall not be responsible for any liabilities if suspension or delay is due to some default on the part of the Contractor or his sub- Contractor.

37.00 FORCE MAJEURE

- 37.01 Any delays in or failure of the performance of either parties thereto shall not constitute default here under or give rise to any claims for damages, if any, to the extent such delays or failure of performance caused by occurrences such as acts of God or the public enemy, expropriation or confiscation of facilities by Government authority, compliance with any order or request of any Government authorities, act of war rebellion, sabotage, fire, floods, explosions, riots or illegal strikes, provided always that such occurrence result in impossibility of performances of the contract.
- 37.02 Only events of Force Majeure which impedes the execution of the contract at the time of its occurrence shall be taken into cognizance.

38.00 PROGRESS REPORTS AND PHOTOGRAPHS

The Contractor shall furnish six (6) prints each of progress reports and photographs of the work done in his shop. Photographs shall be taken when the where indicated by the Engineer or his representative. Photographs shall be approximately 100 mm x 125 mm in size including a margin of 5 mm side of fixing. Adequate number of photographs shall be submitted indicating various stages of manufacture. Each photograph shall contain the date the name of the Contractor and the title of the view taken.

Monthly progress reports shall be submitted. These shall detail the status of design, procurement of raw materials and manufacture of the equipment. The Engineer shall advise the Contractor about the number of copies of progress schedule and photographs he has to submit each month together with the names and address of persons to whom they are to be sent.

39.00 PATENT RIGHTS

Royalties and fees for patents covering materials, articles, apparatus devices, equipment and processes used in the plant and equipment shall be deem to have been included in the Contract Price. The Contractor shall defend any claims which alleged in a suit or proceeding against the Purchaser that the equipment or any part thereof constitutes an infringement of any patent, it notified promptly in writing and given authority, Information and assistance for the defense and the Contractor shall pay all damages and costs awarded against the Purchaser in such suit or proceeding for the patent infringement. In case the equipment in such suit or proceeding is held to constitute infringement and the use of the equipment or part is prohibited, the Contractor shall, at his own expenses, either procure for the Purchaser the right to continue using the equipment or replace same with a non-infringing equipment or modify it so it become non-infringing or remove the equipment and refund the purchase price plus the transportation and installation costs thereof.

The foregoing states entire liability of the Contractor for patent infringement and the Purchaser shall be kept indemnified in this regard.

Notwithstanding any dispute regarding patents Purchaser will have a right to the use of materials, articles, apparatus, devices, equipment and process till final adjudication of such dispute.

40.00 TRAINING OF ENGINEERS

It so desired by the Purchaser, the Contractor shall undertake to train Engineers to be nominated by the Purchaser in the manufacture, testing, erection and operation of similar equipment as covered by the contract. The period of training, number of engineers to be trained, program of training will be mutually agreed upon. Cost of to and fro traveling for each engineer to the manufacturer's factory and their living expenses shall be borne by the Purchaser.

41.00 EFFECT & JURISDICTION OF CONTRACT

41.01 The contract shall be considered as having come into force from the date of the acceptance of Letter of Intent.

41.02 The laws applicable to this contract shall be in the laws in force in India. The courts of Orissa shall have exclusive jurisdiction in all matters arising under the contract.

42.00 TIME IS THE ESSENCE OF CONTRACT

42.01 The time and the date of completion of the works as stipulated in the contractor's proposal and accepted by the owner without or with modifications, if any, and so incorporated in the Letter of Intent, 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.

42.02 The Contractor shall submit a detailed PERT Network within the time frame agreed above covering various key phases of the works such as design, procurement, manufacturing, shipment and field erection activities within thirty (30) days after the date of Letter of Intent. This network shall also indicate the interface facilities to be provided by the Owner and the dates by which such facilities are needed.

Contractor shall discuss the network so submitted with the owner. The agreed network which may be in the form as submitted or in revised form in line with the outcome of discussions shall form part of the Contract to be signed within sixty (60) days from the date of acceptance of Letter of Intent. 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.

42.03 The above PERT network shall be reviewed and periodic review reports shall be submitted by the Contractor as directed by the Engineer.

42.04 Within a month of the award of the contract, the Contractor shall make available to the Engineer, a detailed manufacturing programme, in line with the agreed contract network. Such manufacturing program shall be reviewed, updated and submitted to the Engineer once every two months thereafter.

43.00 ERECTION SUPERVISION SERVICES

The Contractor, if required by the Purchaser, shall furnish the services of one or more supervisors, to render technical advice, assistance and guidance to the Purchaser in connection with the erection and/or commissioning of equipment subject to the provisions herein after set forth. In case of complete erection of plant and materials such services shall automatically be included in the scope of the Contractor and no extra charges shall be applicable.

The Purchaser; shall pay the Contractor for the service of each supervisor as follows:

- (a) As agreed rate; per-calendar day from the date on which supervisor leave his headquarters up to and including the date of his return thereto. This rate is based up on a normal 48 hours work-week of six (6) eight-hour workdays, Monday through Saturday. Sunday will be normally a holiday but any other day of the week may be made a normal holiday depending upon working conditions.
- (b) The Purchaser shall in addition to the charge specified in paragraph above, pay the Contractor for any overtime work authorized by the Purchaser and performed by the supervisor at an agreed overtime rate per hour for hours worked in excess of 8 hours per day and all hours worked on the seventh day. There will be no overtime charge for work performed on locally recognized or national holiday or time spent in traveling to and from the supervisors headquarters.
- (c) Hours during which the supervisor is ready, willing and able to work up to 48 hours per week shall be regarded as having actually been worked by him even though his services are not in fact utilized.

The Purchaser shall secure any labor permit or any other authorization which may be required to permit the Erection Supervisor to perform the services and any loss of the supervisor's services pending the procurement of any such permit or authorization shall be to the Purchaser's account and shall be paid for by the Purchaser.

The Purchaser shall furnish, at his own expenses, and assume responsibility for all labor and labor supervision and shall make available all necessary installation to tools, except such special tools as may be supplied by the Contractor pursuant to written agreement between the parties. The supervisor may elect to bring certain personal tools which tools are to remain his property at all times. The Purchaser shall assist the Supervisor in arranging entry and exit permit for such tools.

If any portion of the work of supervision by the Contractor proves to be defective within one (1) year from the date of completion of supervision, the Contractor, if promptly notified thereof in writing, will at his own expense, and at his option, with make repairs or supply replacement parts directly to or for the equipment and necessary to correct any defect or defects in such equipment directly resulting from such defective work of supervision on the part of the Contractor and will at his own expenses, furnish the necessary supervision for such corrections. The contractors liability in connection with his furnishing a supervisor hereunder shall in no event exceed the cost of correcting any such defective work of supervision in the manner herein provided and upon the

expiration of the said one (1) year, all such liability shall terminate. In no event shall the Contractor be liable for special, indirect or consequential damages.

The Contractor shall not be liable for loss of damage due to delays in furnishing the services or in the work resulting from any cause beyond the Contractor's reasonable control including compliance with any Government regulations, orders or instructions, acts of God, acts of omission of Purchaser, acts of civil or military authority, fires, strikes, war earthquake, storm, volcanic eruptions, landslide, riot or delays in transportation. The Purchaser shall advise the Contractor in writing reasonably in advance of the date that the supervisor shall be required to start performance of the services.

44.00 ERECTION OF PLANT AND MATERIALS

44.01 General

Unless otherwise mutually agreed to the provisions of this clause shall apply where the services for erection of plant & material supplied by the contractor are included in the scope of work.

If so desired by the Purchaser, the Contractor shall receive the imported equipment, if any, at the port of entry, clear them through Customs and make damage report through port broker. The Contractor shall arrange for payment at prescribed rate of Customs Duty which will be reimbursed by the Purchaser against Contractor's valid documents.

The Contractor shall transport all imported equipment from port of entry to the site and unload all Imported/Indigenous equipment at site. Escort service shall be provided, if necessary and called for. All storage at port of entry or at railway station will be at Contractor's charge.

The Contractor shall be responsible for complete installation of the equipment start-up and testing at site.

All equipment and tools for transportation and erection shall be provided by the Contractor.

All materials and /or equipment, after receipt at site, shall be checked and verified against shipping documents and all claims against loss or damage in transit shall be intimated to the purchaser. The materials and/or equipment shall remain under the custody of the Contractor until the plant as a whole is taken over by the Purchaser upon completion of the work. The Contractor shall take adequate steps to ensure safety of such materials and / or equipment. Necessary stores receipt certificates shall be issued to the Purchaser after the stores are checked and certified. No materials and/or equipment pertaining to the Contract shall be removed from site without the consent in writing of the Purchaser.

The Contractor shall be responsible for obtaining the correct reference lines for purposes of fixing the alignment of various equipment.

44.02 Regulation of Local Authorities and Statues

The Contractor shall comply with the rules and regulations of local authorities during the performance of his field activities. He shall also comply with the minimum wages Act, 1948 and the

payment of wages act (both of the Government of India) and the rules made there under in respect of any employee or workmen employed or engaged by him or his sub-Contractor.

All registration and statutory inspection fees, if any, in respect of his work pursuant to this contract shall be to the account of the Contractor. However, any registration, statutory inspection fees lawfully payable under the provisions of the Indian Boiler Regulations and any other statutory laws and its amendments from time to time during erection in respect of the plant equipment ultimately to be owned by the Purchaser, shall be to the account of the Purchaser. Should any such inspection or registration need to be re-arranged due to the fault of the Contractor or his sub-Contractor, the additional fees of such inspection and/or registration shall be borne by the Contractor.

44.03 Work at Site

In the execution of work, no persons other than the Contractor or his appointed representative, sub-Contractor and workmen shall be allowed to do work at site, except by the special permission in writing of the Engineer or his representative, but access to the Works at all times shall be accorded to the Engineer and his representative and other authorized officials or representatives of the Purchaser.

Nevertheless, the Contractor shall not object to the execution of work by other Contractors or tradesmen whose names shall have been previously communicated in writing to the Contractor by the Engineer and afford them every facility for the execution of their several works simultaneously with his own.

The Contractor shall at all times provide sufficient fencing, notice boards, lights and watchmen to protect and warn the public and guard the works, and in default thereof the Purchaser may provided such fencing, notice boards, lights and watchmen as he may deem necessary and charge the cost thereof to the Contractor.

The work so far as it is carried out on the Purchaser's premises shall be carried out at such time as the Purchaser may approve and so as not to interfere unnecessarily with the conduct of the Purchaser's business but the Purchaser shall give the Contractor all reasonable facilities for carrying out the work. No female labor shall be employed during dark hours.

The Contractor shall not employ for the purpose of the contract any person who is below the age of eighteen years and shall pay to each laborer, for the work done by such laborer, wages not less than the wages paid for similar work in the neighborhood. The Engineer shall have the right to enquire into and decide any complaint alleging that the wages paid by the Contractor to any laborer for the work done by such laborer is less than the wages paid for similar work in the neighborhood, and to refuse appointment of labor less than eighteen years of age.

The Contractor shall make regular and prompt payment of wages to the laborers engaged on the work and in not case the payment shall be delayed more than seven (7) days following the period for which the wages are due. If it is found the workers are not paid regularly the contract is liable to be rescinded. The Contractor shall comply strictly with the provisions of Labor Laws in this behalf.

44.04 **Manufacturer's Supervision**

The Contractor may be required to work under the supervision of the manufacturer's Engineers, where the Contractor is not the manufacturer. However, this will not relieve the Contractor of his responsibility of the correctness of quality of workmanship.

44.05 **Engineer's Supervision**

All the works shall be carried out under the direction and to the satisfaction of the Engineer. The Contractor shall be responsible for the correctness of the positions, levels and dimensions of the works according to the drawings, notwithstanding that he may have been assisted by the Engineer in setting out the same.

44.06 **Contractor's Representative**

The Contractor shall employ at least one competent representative, whose name or names shall have previously been communicated in writing to the Engineer by the Contractor for approval to superintend the erection of the plant and carrying out of the work. The said representative, or if more than one be employed, one of the representative, shall be present at the site, during working hours, and any written orders or instructions which the Engineer or his authorized representative may give to the said representative of the Contractor, shall be deemed to have been given to the Contractor.

The Engineer shall be at liberty to object to any representative or person employed by the Contractor in the execution of or otherwise of the work who shall misconduct himself or be incompetent, or negligent, and Contractor shall remove the person so objected to, upon receipt from the Engineer or notice in writing requiring him to do so and shall provide; in his place a competent representative at the Contractor's expenses. The Contractor's representatives to be employed for the purpose of the work at site shall be made available when the Purchaser shall inform the Contractor in writing to the effect. The services of the Contractor's representative shall be made available for such period as the Engineer may require and they shall work at all reasonable times as may be necessary to complete the work within the period specified in the Contract.

44.07 **Program of work and Progress Reports**

The Contractor shall submit at such times as may be required by the Engineer, schedules showing the program and order in which the Contractor proposes to carry out the work, with dates and estimated completion times of various parts of the work. Such schedules shall be approved by the Engineer, prior to starting the erection. Such times shall be binding on the Contractor for purpose of assessing the penalty as called for under subsequent clause. The Engineer may not allow the Contractor to start work for non-submission of the time schedule of the erection program.

During the progress of work the Contractor shall submit monthly progress reports and photographs and such other reports on the erection work and organization, as the Engineer may direct. The progress indicated be arrived by agreement between the Contractor and the Engineer. The Contractor shall also submit an anticipated one (1) month progress schedule at the beginning of

each month describing in detail the anticipated progress for the following month. The Contractor shall also submit every week a list of various categories of men working under him. Monthly progress reports shall be submitted within the tenth day of the month following the reporting month.

44.08 Man - Power Report

The Contractor shall submit to 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 are wise.

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 labor.

44.09 Extension of Time

The application for extension of time is to be given to owner/purchaser through the Engineer and the owner/purchase may authorize extension of time after considering the due merits.

Whenever extension of time is granted by the owner/purchaser, the same shall be on the existing terms and conditions of the contract and without any additional financial liability to the Owner. The Contractor in any case shall have no claim whatsoever for any type of compensation on account of any delay attributable to any one.

44.10 Liability for Accident and Damage

The Contractor shall Indemnify the Purchaser against any claims which may be made under the workman's Compensation Act, 1923, or any statutory modification thereof or otherwise for or in respect of any damages or compensation payable in consequence of any accident or injury sustained by any workman or other person whether in the employment of the Contractor or not. In every case in which by virtue of the provisions of sub-section (1) of Section 12 of the Workman's compensation Act, 1923, the Purchaser is obliged to pay compensation to a workman employed by the Contractor in execution of the works, the Purchaser will recover from the Contractor the amount of the compensation so paid and without prejudice to the rights of the Purchaser under sub-section (2) of Section 12 of the said Act. The Purchaser shall be at liberty to recover such amount or any part thereof by deducting it from the Performance Bond or from any sum due by the Purchaser to the Contractor whether under the contract or otherwise.

The Purchaser shall not be bound to contest any claim made against it under Section 12, sub-section (1) of the said Act, except on the written request of the Contractor and upon his giving to the Purchaser full security for all costs for which the Purchaser might become liable in consequence of contesting such claim. In the event of claim being made or action brought against the Purchaser involving the Contractor and arising out of the matters referred to and in respect of which the Contractor is liable under this clause, the Contractor shall be immediately notified thereof and he shall with the assistance, if so required by the Purchaser, but at the sole expense of the Contractor, conduct all negotiations for the settlement of the same, or of any litigation that may arise there from. In such case the Purchaser, at the expenses of the Contractor, afford all available assistance for any such purpose.

The Contractor shall be responsible for all loss, damage or depreciation to the plant until the plant is taken over in accordance with clause 'Taking Over'. The Contractor shall, during the progress other work, properly cover up and protect the plant from injury by exposure to weather and; shall take every reasonable, proper, timely and useful precaution against accident or injury to the same from any cause shall be and remain answerable and liable for all accidents or injuries thereto which, until the same be or be deemed to be taken over under clause 'Taking Over' may arise or be occasioned by the acts or omissions or the Contractor of his workmen or sub- Contractors, and all losses and damage to the Plant arising from such accidents or injuries as aforesaid shall be made good in the most complete and substantial manner by and at the sole cost of the Contractor and to the reasonable satisfaction of the Engineer.

Until the plant shall be or deemed to be taken over as aforesaid the Contractor shall also be liable for and shall be deemed to have agreed to indemnify the Purchaser in respect of all damage to any property of the Purchaser or of others occasioned by the negligence or fault of the Contractor or sub-contractor or his or their workmen or representatives or by defective design, work or material or otherwise.

The Contractor shall pay all taxes due in India for the personnel employed by the Contractor work arising out of their services in connection with the contract and obtaining at his (Contractor's) own cost 'work permits' from competent authorities to enable any foreign personnel to work in India.

The Contractor shall be responsible for all formalities in connection with the passport, obtaining of visas, police permits, and expenses for customs duties related to personal goods of foreign personnel to be employed in the erection work. However, the Purchaser shall If requested, assist the Contractor in obtaining visas and "work permits" for the foreign personnel to be deputed for the erection work.

44.11 Cleanliness

During erection, the Contractor shall, without any additional payment, at all times keep the working and storage areas used by him free from accumulation of waste materials or rubbish. If the Contractor fails to remove the rubbish, within forty eight (48) hours, after being requested by the Engineer, the rubbish will be removed by others and cost back charged to the Contractor. Any inflammable material should be removed forthwith on request by the Engineer.

Before completion of erection, the Contractor shall remove or dispose of in a satisfactory manner all temporary structures, packing cases, waste and debris and leave the premises in a condition satisfactory to the Engineer.

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

44.12 Co-ordination with the Purchaser's Engineers

The Contractor shall at all times work in co-ordination with the Purchaser's Engineers and afford them every facility to become familiar with the erection and maintenance of the equipment.

In respect of observance of local rules, administrative matters, co-ordination with other Contractors and the like, the Contractor and his personnel shall work under the Purchaser's Engineer in charge of the work.

44.13 Work and Services to be provided by the Purchaser

Unless otherwise agreed upon, the following works and services shall be provided by the Purchaser for carrying out complete erection work:

- (a) Necessary civil works including concrete foundations, main roads within the construction site, and leveling and cleaning of site as far as starting of erection work necessitates. The Contractor for any equipment shall however furnish complete information for all foundation anchor bolts, anchoring steel etc. in time to suit the civil design and construction schedule. Any earth excavation and backfilling required in connection with erection work shall be the Contractor's responsibility.

- (b) **Water Supply**

Water supply for construction purpose will be provided by the Purchaser at one mutually agreed point at site. Drinking water will also be made available at one central point at site. The Contractor shall make his own arrangement for any further distribution. Such distribution pipe network shall have the prior approval of the Engineer at site so as not to interfere with the layout and progress of other construction works. The water supply shall be free of cost. Contractor shall ensure that there is no wastage of water. On completion of the work, the Contractor shall remove all such work and shall reinstate and make good any work disturbed to the satisfaction of the Engineer.

- (c) **Power Supply**

- (I) Electric power will be supplied at 400/440 V and shall be metered and charged at the following rates:-

For lights and Fan: Rs. 1/- per KWH

For power: Rs. 1/- per KWH

The above rates will be subject to variations as applicable from time to time. No claim shall be entertained for any change in the tariff rates

- (II) Supply for execution of work will be made available at one point only. This point will not be more than 500 meters away from the Contractor's premises. The Contractor shall make his own arrangement at his own cost for distribution of

power to different worksites. This arrangement shall however, be coordinated and laid with approval of the Engineer. Any change in the alignment of the Contractor's distribution lines necessitated by his work or another work must be done at Contractor's cost. The Engineer also reserves the right to change the location of point of supply whether necessitated by his work or another work and the Contractor shall make his own arrangement at his own cost for extending his distribution line to the new location of supply point. A 3 phase armored cable shall be used by the Contractor for connecting their equipment to Purchaser's point supply.

- (III) The Purchaser shall not however, guarantee the supply of electricity and no compensation for any failure or short supply of electricity will be entertained and this does not relieve the Contractor of his responsibility for timely completion of the work as stipulated in the Contract.
- (IV) It shall be the responsibility of the Contractor to provide and maintain the complete installation on the load site of the supply with due regard to safety requirement at site. All cabling, equipment, installations etc. shall comply in all respects with the latest statutory requirements and safety provisions, i.e. as per given in the Central/State Electricity Acts and Rules etc. The Contractor will ensure that his equipment and Electricity wiring etc. are installed, modified and maintained by a licensed Electrician / Supervisor and before power is supplied, a test certificate is to be produced to the Engineer for his approval.
- (V) At all times, IEA Regulations shall be followed failing which the Purchaser has a right to disconnect the power supply without any reference to the Contractor. No claim shall be entertained for such disconnection by the Engineer. Power supply will be reconnected only after production of fresh certificate from authorized electrical supervisors.
- (VI) The Purchaser will not liable for any loss or damage to the Contractor's equipment as a result of variation in voltage or frequency or interruption of power supply or other loss to the Contractor arising there from.
- (VII) The Contractor shall ensure that the Electrical equipment installed by him are such that average power factor does not fall below 0.9 at this premises. In case P.F. falls below 0.9 in any month, he will reimburse to the purchaser at the rate same as OSEB's rate for per unit fall of P.F. determined from time to time by Purchaser all units consumed during the month.
- (VIII) The power supply required for Contractor's colony near the plant site will be determined by the Purchaser and shall be provided as per State Electricity Board's Rules and other Statutory provisions applicable for such installations from time to time. In case of power supply to Contractor's colony, the power will be made available at a single point and the Contractor shall make his own arrangement at his own cost for distribution to the occupants of the colony as per Electricity Rules & Acts. The site area and colony shall be sufficiently lighted to avoid accidents.

- (IX) The Contractor will have to provide and install his own light and power meters which will be governed as per Central/State Govt. Electricity Rules. The meters shall be sealed by the Purchaser.
- (X) In case of damage to any of the Purchaser's equipment on account of fault, intentional or unintentional on the part of the Contractor, the purchaser reserves the right to recover the cost of such damage from the contractor's bill.
- (XI) After completion of work, the Contractor shall promptly dismantle, at his own cost distribution and other facilities that he may have erected and shall also remove the same within a reasonable time fixed by the Engineer and on his failure to do so the Purchaser will be entitled to realize from his reasonable compensation fixed by the Engineer and also to remove them at the cost of the Contractor.
- (XII) Only motors up to 3HP will be allowed to be started direct on line. For motors above 3 HP and up to 100 HP suitable starting devices approved by the Purchaser Engineer, shall be provided by the Contractor. For Motors above 100 HP slip ring induction motors with suitable starting devices as approved by the Engineer shall be provided by the Contractor.
- (XIII) The single line distribution system with loadings and specifications shall be submitted to the Engineer for his approval before the system is installed. The system shall conform to Central/State Statutory provisions Act, with latest amendments and to the Approved specifications of the company. The installations have to be inspected and approved by the Electrical Inspector, Govt. of Orissa before energisation.
- (XIV) The total requirement of power shall be indicated by the tenderer in his tender and confirmed within thirty days from the date of Letter of Intent.

(d) **Land for Contractor's Use**

- (I) The Purchaser will at his own discretion and convenience and for the duration of the execution of the work make available near the site, land for construction of Contractor's field office, godowns, workshops and assembly yard required for the execution of the contract. The Contractor shall at his own cost construct all these temporary buildings and provide suitable water supply and sanitary arrangement approved by the Engineer.
- (II) On completion of the works undertaken by the Contractor, he shall remove all temporary works erected by him and have the site cleared as directed by Engineer. If the Contractor fails to comply with these requirements, the Engineer at the expenses of the Contractor will remove such surplus and rubbish materials and dispose off the same as he deems fit and get the site cleared as aforesaid, and the contractor shall forthwith pay the amount of all expenses so incurred and shall have no claim in respect of any such surplus materials disposed off as aforesaid. But the Purchaser reserves the right to ask the Contractor any time

during the pendency of the contract to vacate the land by giving 7 days notice on security reasons on national interest or otherwise. A token rent of Rs. 100/- (Rupees one hundred only) per hectare or part thereof per annum or part thereof shall be charged for the land so occupied.

- (III) Land for residential accommodation for staff and labor will be made available at the discretion of the Engineer and rent for the same will be as decided by the Engineer according to location and area taken by the Contractor.
- (e) Electricity and drinking water at normal charges for labor quarters at a central point within the land provided by the Purchaser. The cost of distribution, if any, shall be borne by the Contractor.
- (f) Assistance to the Contractor in obtaining Indian visas, residential or working permits for the permits for the personnel, if necessary.
- (g) Water and electricity as may be required for the initial starting up of the equipment free of charge to Contractor.
- (h) Necessary Engineers, operators and other personnel for start – up commissioning and acceptance tests of the equipment free of charge to Contractor.
- (i) Assistance in obtaining priorities for transportation, customs permit etc.
- (J) Suitable access to site and possession of the site shall be afforded to the Contractor by the Purchaser.

44.14 Work and Services to be provided by the Contractor

Unless otherwise agreed upon, the following work and services shall also be provided under the erection contract.

- (i) Clearing, unloading the equipment from the rail or road transport to Contractor's transport/vehicle and delivery the same to storage area. Demurrage charges, if incurred at rail head or at site for default of the Contractor shall be paid by him
- (ii) Opening of packing cases, Inspection and checking of materials. Repair and replacement of contract material damaged or lost in transit or at site.
- (iii) Final adjustment of foundation levels by chipping and dressing, checking location, elevation etc. of anchor bolts and grouting or anchor bolts and base plates.
- (iv) Complete erection of the equipment covered under the contract, final preparation for testing, commissioning, final run and acceptance tests and putting the plant into commercial operation.
- (v) All consumable stores required for the above work, except those mentioned under Clause 44.13 (i).

- (vi) Watch and ward to ensure security and safety of materials under the custody.
- (vii) Furnishing of residential accommodation to erection labor and other personnel.
- (viii) Daily transport for his erection personnel to and fro between residence and site.
- (ix) All erection tools and lifting tackles, also all equipment, tools and tackles for transportation of all equipment to site. A list of such tools and tackle and equipment shall be submitted to the purchaser before commencement of site work. These tools and tackle shall not be removed from the site without written permission of the Engineer.
- (x) All ladders, platforms, temporary supports and facilities required for handling of heavy packages at site required for erection.
- (xi) Necessary clerical staff, supervisory personnel skilled and unskilled labor.
- (xii) Third Party Insurance at site and insurance of Contractor's personnel employed at site as required under Workmen's Compensation Act.
- (xiii) Site offices and covered storage as required.
- (xiv) Postage, telephone and telegraph expenses.
- (xv) Cleaning up of site during and after erection.
- (xvi) Applying final paint to all equipment, piping, hanger etc. covered under the contract.
- (xvii) Necessary supervisory personnel with approved license as per provisions of Indian Electricity rules.
- (xviii) If the Contractor uses his own crane, he must have a skilled crane operator.
- (xix) Contractor must take all safety precautions during work and the workmen must use safety belts, tested gloves, masks and other devices as necessary for safety of personnel
- (xx) Contractor should provide identity badges for his employees. These should be properly displayed during working hours.
- (xxi) The Contractor shall employ only competent and skilled workmen fully experienced and capable of performing duties assigned for them. When local laws required the employee shall be required to acquire certificate of competency for his work from the competent authority.
- (xxii) Communication

The Contractor will make his own arrangement for all his communications needs such as telephone, telex etc. at his site office and his residential area. Purchaser will assist in getting the above facilities, in case he finds and difficulty.

(xxiii) First - Aid

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

(xxiv) Welfare facilities

Contractor shall provide in his labor colony all necessary standard welfare facilities like canteen, shopping facility etc.

44.15 Lines and Grades

All the works shall be performed to the lines/alignments, grades and elevations indicated on the drawing. The Contractor shall be responsible to locate and layout the works area. 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/reference points 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 reference 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 expenses.

44.16 Fire Protection

- (a) 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, oil and volatile or flammable materials shall be stored away from the construction and equipment and materials storage area in safe containers. Adequate precaution shall be taken in handling and storage of flammable gas. Care shall be taken to avoid and reduce hazards from electrical short circuits and faults. Untreated canvas paper, plastic or other flammable flexible 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 area of storage.
- (b) Similar 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 combustible resulting from welding sparks, cutting flames and other similar fire sources.
- (c) 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 site during the entire period of the Contract.

- (d) The contractor shall provide enough fire protection equipment of the types and number for the ware - houses, office, temporary structures, labor colony area etc. Access to such fire protection equipments shall be easy & kept open at all times.

44.17 **Materials Handling & Storages**

- (a) All the equipments furnished under the Contract and arriving at site shall be promptly received, unloaded and transported and stored in the storage spaces by the contractor.
- (b) The Contractor shall be responsible for examining all the shipment and notify the engineer immediately of any damages, shortages; discrepancy etc. for the purpose of Engineer's information only. The Contractor shall submit to the Engineer every week a report detailing all the receipts during the week. However, the Contractor shall be solely responsible for any shortages or damage in transit, handling and/ or storage & erection of the equipment at site. Any demurrage, wharfage and other charges claimed by the transporters, railways etc. shall be to the account of Contractor.
- (c) The Contractor shall maintain an accurate & exhaustive record detailing out the list of all equipment received by him for the purpose of erection & keep such record open for the inspection of the Engineer at any time.
- (d) All equipments shall be handled very carefully to prevent any damages or loss. No bare wire, rope, 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 damages either to the equipment or to the floor where they are stored. The equipment from the store shall be moved to the actual location at the appropriate time so as to avoid damage of such equipment at site.
- (e) All electrical panels, control gear, motors and such other devices shall be properly dried by heating before they are installed and energised. Motor bearings, slip rings, commutators and other exposed parts shall be protected against moisture ingress and corrosion during storage and periodically inspected. Heavy rotating parts in assembled conditions shall be periodically rotated to prevent corrosion due to prolonged storage.
- (f) All the electrical equipment such as motors, generators, etc. shall be tested for insulation resistance at least once in three months from the date of receipt till the date of commissioning and a record of such measured insulation values maintained by the Contractor. Such records shall be open for inspection by the Engineer.
- (g) 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.
- (h) The consumables and other supplies likely to deteriorate to storage must be thoroughly protected and stored in a suitable manner to prevent damage or deterioration in quality by storage.

- (i) All the materials stored in the open or dusty location must be covered with suitable weatherproof and flame-proof covering material wherever applicable.
- (j) 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.
- (k) The Contractor shall be responsible for making suitable indoor storage facilities to store all equipment which required 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 areas which the Contractor shall strictly comply with.

44.18 Construction Management

- (a) 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 contractors and tradesmen of the Purchaser 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.
- (b) The Engineer shall hold weekly meetings of all the Contractors working at site, at a time and a place to be designated by the Engineer. The Contractor shall attend such meetings and take notes of discussions during the meeting and the decisions of the Engineer and shall strictly adhere to those decisions in performing his works. In addition to the above weekly meetings, the Engineer may call for other meetings either with individual contractors or with selected number of contractors and in such a case the Contractor, if called, will also attend such meetings.
- (c) Time is the essence of the Contract and Contractor shall be responsible for performance of his works in accordance with the specified construction schedule. If at anytime, the Contractor is falling behind the schedule, he shall take necessary action to make good for such delays by increasing his 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.
- (d) The Engineer shall however not be responsible for provision of additional labor and/ or materials or supply or any other services to the Contractor except for the co-ordination work between various entities as set out earlier.

44.19 Safety Regulations

- (a) Without prejudice to the general obligation under the statutes the Contractor shall ensure the safety of all the workmen, materials and equipment either belonging to his or to others working at site.

- b) The Contractor will notify the Engineer of his intention to bring on to site any equipment or any container, with liquid or gaseous fuel or other substance which may create hazard. The Engineer shall have the right to prescribe the conditions under which such equipment or container may be handled and used during the performance of the works and the Contractor shall strictly adhere to such instructions. The Engineer shall have the right to inspect any construction plant and to forbid its use, if in his opinion it is unsafe. No claim due to such prohibition shall be entertained by the Purchaser.
- c) Where it is necessary to provide and / or store petroleum products or petroleum mixtures and explosives, the Contractor shall be responsible for carrying out such provision and / or storage in accordance with the rules and regulations laid down in Petroleum Act, 1934, Explosive Act 1948 published by the Chief Inspector of Explosives of India. All such storage shall have prior approvals of the Engineer. In case any approvals are necessary from the Chief Inspector of Explosives or any statutory authorities, the Contractor shall be responsible for obtaining the same.
- d) The Contractor shall be responsible for provisions of all safety notices and safety equipment required both by the relevant legislations and the Engineer as he may deem necessary.
- e) The Contractor shall be responsible for the safe storage of his and his sub - contractor's radioactive sources, if any.
- f) In no circumstances will the Contractor interfere with fuses and electrical equipment belonging to the Purchaser or other Contractors.
- g) Before the Contractor connects any electrical appliances to and plug or socket belonging to the other Contractor or Purchaser, he shall -
 - i) Satisfy the Engineer that the appliance is in good working condition;
 - ii) Inform the engineer of the maximum current rating, voltage and phases of the appliances;
 - iii) Obtain permission of the Engineer detailing the sockets to which the appliances may be connected.
- h) The Engineer will not grant permission to connect until he is satisfied that -
 - i) The appliance is in good condition and fitting with a suitable plug;
 - ii) The appliance is fitting with a suitable cable having two earth conductors, one of which shall be an earthed metal sheath surrounding the cores.
- i) No electric cable in use by the Contractor/Purchaser will be distributed without prior permission. No weight of any description will be imposed on any such cable and no ladder or similar equipment will rest against or be attached to it.

- j) No work shall be carried out on any live equipment. The equipment must be made safe by the Engineer and permit - to - work issued before any work is carried out.
- k) The Contactor employs the necessary number of qualified, full time electricians to maintain his temporary electrical installation.

45.00 FOREIGN PERSONNEL

- 45.01 The Contractor shall submit to the purchaser data on all personnel he proposes to bring into India for the performance of the works under the contract at least sixty (60) days prior to their departure to India. Such data will include for each person the name, his present address, his assignment and responsibility in connection with the works, and a short resume of his qualification, experience etc. in relation to work to be performed by him.
- 45.02 Any person unsuitable and unacceptable by the purchaser shall not be brought to India. Any person brought to India, if found unsuitable or unacceptable by the purchaser, the Contractor shall within a reasonable time make alternative arrangements for providing a suitable replacement and repatriation of such unsuitable personnel.
- 45.03 No person brought to India for the purposes of the works shall be repatriated without any consent of the purchaser in writing, based on a written request from the Contractor for such repatriation giving reasons for such an action to the Engineer. The purchaser may give permission for such repatriation that the progress of work will not suffer due to such repatriation.
- 45.04 The Contractor and his expatriate personnel shall respect all India Acts, Laws, rules and regulations and shall not in any way interfere with Indian political and religious affairs and shall conform to any other rules and regulations the Government of India, the purchaser and the Engineer may establish from time to time, on them.

The Contractor expatriate personnel shall work and living in close coordination and coordination with their co workers and the community and shall not engage themselves in any other employment either part - time or full - time nor shall they take part in any local politics.

- 45.05 The purchaser shall assist the Contractor, to the extent possible in obtaining necessary permits to travel to India and back by issue of necessary certificates and other information needed by the Government agencies.

46.00 DEATH, BANKRUPTCY ETC.

If the Contractor shall die or dissolve or commit any act of bankruptcy or being a Corporation, commence to be wound up except for reconstruction purposes or carry on its business under a receiver, the executors, successors or other representatives in law of the estate of the Contractor or any such receiver, liquidator or any person in whom the contract may become vested, shall forthwith give notice thereof in writing to the purchaser and shall for one month, during which he shall take all reasonable steps to prevent a stoppage of the work, have the option of carrying out the contract subject of the approval of Purchaser and subject to his or their providing such guarantee as may be required by the Purchaser but not exceeding the value of works for the time

being remaining unexecuted, provided however that nothing above said shall be deemed to relieve the Contractor or his successors of his or their obligations under the contract under any circumstances. In the event of stoppage of the works the period of the option under this clause shall be fourteen (14) days only, provided that should be above option be not exercised, the contract may be terminated by the purchaser by notice in writing and the same power and provisions reserved to the Purchaser in clause 'Negligence' in the event of taking the work out of the Contractor's hands shall immediately become operative.

47.00 GRAFTS AND COMMISSION 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 purchaser, shall in addition to any criminal liability which it may incur, subject the contractor to the cancellation of this and other contracts and also to payment of any loss or damage to the purchaser resulting from any cancellation. The purchaser shall then be entitled to deduct the amounts so payable from any money otherwise due to the Contractor under the contract.

48.00 COMPLETION OF CONTRACT

Unless otherwise terminated under the provisions of any other relevant clause, this contract shall be deemed to have been completed all the expiration of the guarantee period as provided for under the clause entitled 'Guarantee Period' as provided for under the clause entitled 'Guarantee' and only on issue of a certificate to that effect and not otherwise.

49.00 DEFENCE OF SUITS

In any action in court is brought against the purchaser or Engineer or an officer or agent of the purchaser, for the failure or neglect on the part of the contractor to perform any acts, matters, covenants or things under the contract, or for damage or injury caused by the alleged omission or negligence on the part of the Contractor, his agents, representatives or his sub-contractors, workmen, suppliers, or employees, the Contractor shall in all such cases indemnify and keep the purchaser, and the Engineer and / or his representative harmless from all losses, damages, expenses or decrees arising of such action.

50.00 ARBITRATION

All disputes or differences arising under the contract whether during or after completion of the contractor or whether before or after determination, for closure or breach of the contract (other than those in respect of which the decision of any person is by the contract expressed to the final and binding) shall after written notice by either party to the contract to the other of them and to the Appointing Authority hereinafter mentioned be referred for adjudication to a sole Arbitrator to be appointed as hereinafter provided.

For the purpose of appointing the sole Arbitrator referred to above, the CMD NALCO who shall be Appointing Authority will send within thirty days of receipt of the notice to the Contractor a panel of three names of persons.

The Contractor shall on receipt of the names as referred select any one of the person names to be appointed as a sole Arbitrator and communicate his name to the Appointing authority within thirty days of receipt of the names. The Appointing Authority shall there upon appoint the said person as the sole Arbitrator. If the Contractor fails to communicate such selection as provided above within the period specified, the Appointing Authority shall make the selection and appoint the selected person as the Sole Arbitrator.

If the Arbitrator so appointed is unable to / unwilling to act or resigns his appointment or vacates his office due to any reason whatsoever sole arbitrator or shall be appointed as aforesaid. The work under the contract shall not be stopped during the arbitration proceedings.

The Arbitrator shall be deemed to have entered on the reference on the date he issues notices to both the parties fixing the date of first hearing.

The Arbitrator may, from time to time, with the consent of the parties, enlarge the time for making and publishing the awards.

The Arbitrator shall give a separate award in respect of each dispute or difference and shall give a reasoned and speaking award / awards.

The venue of arbitration shall be at Bhubaneswar. However, if the situation so warrants, it may as and when required, be held at the place where the site of work is situated.

The fees, if any, of the Arbitrator shall, if required to be paid before award is made and published, be paid half and half by each of the parties. The cost of the reference and of the award including the fees, if any, of the Arbitrator shall be in the discretion of the Arbitrator who may direct to and by whom and in what manner, such costs or any part thereof shall be paid and may fix or settle the amount of costs to be so paid.

The award of the arbitrator shall be final and binding on both the parties.

Subject to aforesaid the provisions of the Arbitration Act 1940 or any statutory modification or re-enactment thereof and the rules made there under, and for the time being in force, shall apply to the arbitration proceeding under this clause.

For Public Sector Enterprises guidelines as per circular of BPE No. 15.9.86 - BPE (FIN) dtd. 30.03.1989 as amended from time to time will be applicable for resolving any disputes.

51.00 CORRESPONDENCE

The Purchaser shall ordinarily correspond with the Contractor at the address furnished by the Contractor.

The Contractor shall ordinarily forward two (2) copies of all correspondence relating to this contract to the Purchaser and two (2) copies to the Consulting Engineer or his representative as may be requested.

Two (2) copies of all correspondence from the Contractor to Purchaser's other Contractors for associated plants shall be forwarded to the Purchaser and the Consulting Engineer.

All drawings and correspondence to the Purchaser and the Consulting Engineer shall be transmitted by the Contractor via Air Mail or alternatively by means involving the minimum time of transit.

52.00 CONTRACT AGREEMENT

If so desired by the Purchaser, a formal Agreement shall be entered into by the Contractor with the Purchaser for the proper fulfillment of the Contract.

The expenses of completing and stamping the Agreement shall be paid by the Contractor, and the Purchaser shall be furnished free of charge with an executed stamped counterpart of the Agreement as also copies of the Agreement as may be required by the purchaser.

Any tender drawing, technical data and / or correspondence which forms the basis of an order or a contract aforesaid, or which may be furnished by the Contractor for the Purchaser's approval or information as provided under the said order or contract, shall be in English and it is in any other language, a complete translation in English shall have to be duly furnished. The Purchaser shall not be bound to consider any tender drawing, technical data or correspondence which is not furnished in English.

53.00 PAYMENTS

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

53.02 Currency of Payment

The payments for the foreign currency portion of the contract price will be made in the currency of the bid. If the bid is in a currency other than that of the country of origin of goods, payment may be made in an amount equivalent to the bid price in the currency of the country of origin. The Indian Rupees portion of contract price stated in the contractor's bid will be paid in Indian Rupees.

53.03 Payment Schedule

The Contractor shall prepare and submit to the Engineer for approval, break-up of the contract price. The contract price break-up shall be interlinked with the agreed detailed PERT Network of the Contractor setting forth his starting and completion dates for the various key phases of works. Any payment under the contract shall be made only after the contractor's price break-up is approved by the Engineer. The aggregate sum of the contractor's price break down shall be equal to the lump sum contract price.

53.04 **Application for Payments**

The Contractor shall submit application for the payments in the prescribed proforma of the purchaser.

The foreign contractor shall submit to the Engineer separate applications for payment in different currencies whenever payment is to be made in more than one currency.

Each such application shall state the amount claimed and shall set forth in details, in the order for 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.

Every interim payment certificate shall certify the contract value of the works executed up to the date mentioned in the application of 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.

53.05 **Terms of Payment**

Subject to any deduction which the Purchaser may be authorized to make under the contract, the Contractor shall, on the certificate of the Engineer be entitled to payments generally as follows:

A) Supply

- 80% shall be paid for each consignment dispatched pro-rata against presentation of each invoices and evidence of shipment/dispatch.
- 10% shall be paid after completion of erection.
- 10% shall be paid after completion of satisfactory commissioning and performance guarantee tests.

B) Marine Freight and Insurance

The ocean freight wherever payable shall be paid on production of invoices, evidence of shipment and other supporting documents for ocean freight and marine insurance components. In case of contracts inclusive of ocean freight and marine insurance total of the payments shall not exceed the total amount quoted by the Contractor in his bid.

C) Inland Transportation and Inland Insurance

Inland transportation (including port handling) shall be paid after the equipment has been received at site on production of invoices for such charges. Wherever this is included in the contract the aggregate of all such invoices shall not exceed the total amount indicated by the Contractor in his proposal.

D) Erection Services

- 80% shall be paid for the progress made during the month on monthly progress bills against certification by the Engineer.
- 10% shall be paid on completion of erection and Tests on Completion.
- 10% shall be paid on completion of the successful commissioning and guarantee tests.

54.00 MISCELLANEOUS

54.01 Entire Agreement

These General Conditions together with the specification, tender drawing and guaranteed technical particulars, tender data with subsequent agreed modification thereof shall constitute the entire Agreement between the parties in respect of the subject matter hereof. No variation or modification of the contract or waiver of any of the terms and conditions thereof shall be deemed valid unless in writing and signed by the parties hereto.

- 54.02 General Conditions of Contract, the tender specifications and other contract / tender documents are to be taken as mutually explanatory to one another. However, in case of conflict between these documents, the technical specification, special conditions of the contract and general conditions of the contract shall have precedence in that order.

54.03 Endorsement of Terms

The failure of either party to endorse at any time any of the provisions of the contract or any rights in respect thereto or to exercise an option herein provided shall in no way be construed to be a waiver of such provisions, rights or option or in way to effect the validity of the Contractor. The exercise by either party of any of his rights here in shall not preclude or prejudice either party from exercising the same or any other right it may have hereunder.

54.04 Contract Labor Regulation & Abolition

The Contractor shall be responsible for all statutory obligations under Contract Labor (Regulation & Abolition) Act 1970. E.S.I. and Provident Fund Acts, as applicable, for their labor and staff engaged in executing this work. The Contractor will also keep the Purchaser indemnified against all claims and disputes arising out of death or injury to their workmen and staff. It will be necessary for the contractor to ensure that proper safety measures are followed by their workmen to avoid accident/damage/loss to life and property. Approved safety belts must be used by their workmen when working at any height. Charges for above are deemed included in the quoted rates and accepted amount.

54.05 **Recover of Damages**

Nothing contained in the conditions or in any other part of this Contract shall be construed as preventing the Purchaser from the Contractor any damages to which the purchaser may be entitled in law as a consequence of any breach by the Contractor of any of the terms of this Contract.