

Vol 3 :- SPECIFIC CONDITIONS OF CONTRACT

A. SCOPE OF WORK

These Specific Conditions of Contract shall be read in conjunction with General Conditions of Contract. If there are any provisions in these Specific Conditions of Contract which are at variance with the provisions in the above mentioned documents, the provisions in these Specific Conditions of Contract shall take precedence.

1. Scope of Work:

1.1. **General:**

Ministry of Health and Family Welfare provides assistance to the States during public health emergencies including management of health consequences of disasters. Global best practices in managing public health emergencies is testimony to the fact that establishment of a command and control hub for coordination, information management and reliable communication facilitate effective response during public health emergencies.

A **Health Emergency Operations Center (HEOC)** is a command and control facility where designated emergency management functions are performed. A HEOC is responsible for strategic direction and operational decisions of coordination, communication, planning, acquiring and managing resources, decision making etc. The EOC network will support the entire continuum of disaster management activities related to preparedness, mitigation, response, recovery and rehabilitation. This would be achieved through reliable communication linkages between all stakeholders via data sharing, voice, and video - conferencing.

1.2. **Scope of Work:-**

Scope of work includes Supply , Installation ,Commissioning of ICT Components it's integration to make the center functional.

All works shall be carried out as per Technical Specifications, Finishing Schedule and CPWD guidelines & specifications. The detailed design is to be done by the Contractor.

B. **General**

1.1. **Force Majeure:**

Any failure or delay in the performance by either party hereto of its obligations under his Contract shall not constitute a breach thereof or give rise to any claims for damages if, and to the extent that it is caused by occurrences beyond the control of the party affected, namely, acts of God, floods, explosions, wars, riots, storms, earthquakes, insurrection, epidemic or other natural disasters. The party so affected shall continue to take all actions reasonably within its power to comply as far as possible with its obligations under this Contract. The affected party shall promptly notify the other party after the occurrence of the relevant event and shall use every reasonable effort to minimize the effects of such event and act in all good faith with due care and diligence.

1.2. Compliance with Statutes, Regulations, etc.

The contractor shall conform to the provisions of all statutes, ordinance, laws, acts of the legislature relating to the works, and to the regulations and by-laws of any local or other duly constituted authority and of any water, electric supply and other companies and/or authorities with whose systems the structure is proposed to be connected. The Contractor shall keep the HITES indemnified against all fines or penalties or liability of every kind for breach of any such statutory ordinance, law act of the legislation, regulations, and byelaws as aforesaid.

The contractor shall before making any variations from the drawings or specifications that may be necessitated by such regulations, give to the Engineer- in-charge written notice, specifying the variation proposed to be made and the reasons for making it and apply for instructions thereon. The contractor will not execute any work without written permission from the Engineer-in- charge

1.3. Quality Assurance

Quality Assurance Programme

The Contractor shall ensure that the Construction, Plants, Goods & Materials and workmanship are in accordance with the requirements specified in this Agreement, Specifications and Standards and Good Industry Practice.

Sources of Materials being supplied shall be intimated to the Engineer and are subject to his approval. Materials that are not specified in the Contract document shall conform to the relevant Indian Standards or in their absence conform to any International Standard approved by the Engineer.

1.4. Additional Conditions of National Green Tribunal

- i. The Contractor shall not store/ dump construction material or debris on the metaled road.
- ii. The Contractor shall comply with all the preventive and protective environmental steps as stated in the MoEF guidelines, 2010.
- iii. Any violation of orders of MoEF including guidelines of State Government, SPCB or any officer of any department shall lead to stoppage of work for which Contractor shall be responsible and no hindrance shall be accounted in this regard.

1.5. Intellectual Property Rights and Royalties

- i. In so far as the patent, copyright or other intellectual property rights in any Plant, Design Data, plans, calculations, drawings, documents, Materials, know-how and information relating to the Works shall be vested in the Contractor, the Contractor shall grant to the HITES, his successors and assignees a royalty-free, non-exclusive and irrevocable licence (carrying the right to grant sub-licences) to use and reproduce any of the .
- ii. If any patent, registered design or software is developed by the Contractor specifically for the Works, the title thereto shall vest in the HITES and the Contractor shall grant to the HITES a non-exclusive irrevocable and royalty-free licence (carrying the right to grant sub-license) to use, repair, copy, modify, enhance, adapt and translate in any form such Software for his own use.
- iii. The HITES reserves the right to use other Software on or in connection with the Works.

1.6. Obtaining Information's related to Execution of work:

No claim by the Contractor for additional payment will be entertained which in consequent upon failure on his part to obtain correct information as to any matter affecting the execution of the works, nor will any misunderstandings or the obtaining of incorrect information or the failure to obtain information relieve him from any risks or from the entire responsibility for the fulfillment of the contract.

1.7. Miscellaneous:

(a.) Tax Deduction at Source

All Taxes and surcharge as applicable on date shall be deducted from the amount due to the Contractor towards the value of the work done. TDS certificate thereof shall be issued to the Contractor.

(b.) By-Laws of Statutory Authorities

The Contractor and his labour shall not violate municipal /sanitation /health or any other byelaws.

(c.) Delay in starting the work

No compensation shall be allowed for any delay caused in the starting of the work on account of acquisition of land, encroachment or in the case of clearance of works, on account of any delay in according sanction to estimates in issue of drawings, decisions etc. However, the extension of time shall be granted as per relevant conditions of Contract.

(d.) Site instruction book

For the purpose of quick communication between Engineer-in-charge and the Contractor or his representative, site instruction book shall be maintained at site under proper documentation.

- (e.) The Contractor shall mobilize and employ sufficient resources for completion of all the works within the stipulated time period as per agreement and as indicated in the approved Bar Chart/ Network. No additional payment will be made to the contractor for any multiple shift work or other incentive methods contemplated by him in his work schedule even though the time schedule is approved by Engineer-in-charge.

2. Contract Price and Payments

- 2.1. The bidder shall quote their rates in the prescribed format as per "FINANCIAL BID" of the tender documents. The quoted rates shall be inclusive of all costs towards site visits, planning, designing, site surveys, soil investigations all material, labour, plant and machinery, tools and tackles, batching plant etc. including water & electricity, overhead charges, all taxes (including GST), duties, levies statutory charges / levies applicable from time to time and others as specified etc., incidental works and all other charges for items contingent to the work, such as inspection, packing, forwarding, insurance, freight and delivery at Site, watch and ward of all materials & successful installation, testing & commissioning at site etc., including handing over of the works to the Client/ HITES, The quoted rates shall also include cost of all other inputs required in the execution of the item, all taxes and duties including Goods & Services Tax. The fee paid by the contractor for obtaining various statutory approvals shall be reimbursed to him after submission of payment receipts and other relevant documents by the contractor.

The successful bidder shall submit within 15 days from the date of Letter of Award, the breakup of total quoted amount of each item of Financial Bid as Base Rate & GST separately which shall form part of the agreement and bills for the executed work shall be raised accordingly.

- i. Rates quoted shall be firm and shall not be subject to any price variations except as specifically provided in the contract.
 - ii. The quantities given in the Schedule of Quantities are liable to variations. Such variations in quantities shall not, however, vitiate the contract in any way whatsoever. Contractor shall be paid for the actual measured quantities of work executed by the bidder.
 - iii. The words “as specified”, “as described”, “as shown”, “as directed”, or “as approved”, shall mean as described in the specifications, Schedule of Quantities and other Contract documents as shown on the drawings or as directed by Engineer-in-Charge.
- 2.2. All running / intermediate & final payments shall be made to the contractor in accordance with the following schedule:

a) On Completion of work

- 2.3. 80 % payment of the contract price shall be made on completion of respective phase of work i.e system design, supply of sub- systems, equipment, software, installation, integration, testing and commissioning of the ICT infrastructure at Health Emergency Operation Centre on submission of **Provisional Completion Certificate** by the HITES's Engineer/client.

b) On Final Handover:

Balance 20 % payment would be made against “**Final Acceptance Certificate**” of goods to be issued by the client subject to recoveries, if any, either on account of non-rectification of defects/deficiencies not attended by the Supplier or otherwise.

2.4. **Submission of bill Statement for Works**

- a. The HITES shall make interim payments to the Contractor as certified by the HITES's Engineer on completion of a stage, as specified and valued in accordance with the proportion of the Contract Price assigned to each item .
- b. The Contractor should submit a compliance certificate, in every bill as per provisions of the EPF and ESI Act as amended from time to time.

2.5. **Production of Records**

- a. The Contractor shall, whenever required by the Engineer, produce or cause to be produced for examination by the Engineer, any quotation, invoice, cost or other account books, vouchers, receipts, letters etc.

2.6. **Special care for existing building & Infrastructure:**

All necessary steps and arrangements to be taken care of for safety and precaution of the existing building during construction without any damage to the existing building. No extra payment will be made for the above conditions. Any rectification required will be done at the Contractors cost.

There may be some services crossing the construction area of the proposed Buildings/ Block. The scope of work includes dismantling of services falling in the construction area and supporting/shifting & making functional existing services/sewerage and water supply lines etc.

There may be some roadwork, foundation, water tank, septic tank or any other structure falling in the proposed construction area and EPC Contractor's scope of work includes dismantling and relocation /shifting and restoration of same as per site requirement.

2.7. **Safety in Construction**

The contractor shall adhere to the safety, health & environmental guidelines as prescribed in the tender document. The contractor shall employ only such methods of construction, tools and plant as are appropriate for the type of work or as approved by Engineer-in-Charge in writing.

2.8. Mobilization of Resources:

Contractor shall not mobilize his resources in terms of materials, machinery, tools & plants, facilities required to implement the project and shall not pay any advances to any party unless he receives letter of Award from HITES. Contractor shall himself be responsible for such cost incurred without receipt of notice to proceed and no such claim of contractor shall be entertained by the HITES.

3. Employment of Personnel

Notwithstanding the provisions in the General Condition of the Contract, the contractor shall preferably employ Indian Nationals as his representatives, servants and workmen after verifying their antecedents and loyalty. He shall ensure that no personnel of doubtful antecedents and any other nationality in any way is associated with the works.

- a. The Contractor shall ensure his presence at site all times during working hours throughout the course of the Contract or depute a Competent representative who shall be empowered to receive instructions from the Engineer - in- Charge in respect of all matters likely to arise in connection with the execution & coordination of the works at the site.
- b. Unless the Contractor's Representative is named in the Contract, the Contractor shall, within 7 days of issue of LOA, submit to the HITES for consent the name and particulars of the person the Contractor proposes to appoint. The Contractor shall not revoke the appointment of the Contractor's Representative without the prior information to the Engineer-in-charge.
- c. The contractor should submit the details of the key personnel proposed to be deployed at site for supervision and execution of work.

The Contractor shall ensure that the personnel engaged by it in the performance of its obligations under this Contract are at all times appropriately qualified, skilled and experienced in their respective functions.

- d. Contractor's Authorized Representative shall take joint measurements and sign the measurement books / bills. Any direction, explanations, instructions or notices given by the Engineer-in-charge to such representative shall be held to be given to the Contractor. In case of absence of said Representative other alternative representative should also be mentioned having same responsibilities.

4. Requirements for Planning & Design Capabilities

- 4.1. For planning and design of the HEOC , the bidder should have in-house design capacity to carryout comprehensive planning and design of this project as per requirements. The bidder should have satisfactorily completed the planning & design of at least one such work during the last 7 years ending the previous day to the last date of submission of tender. The bidder shall submit within 7 days of issue of Letter of Award, the particulars of such in-house design capacity available with him and the documentary evidence with respect to project as per the above referred criteria completed by him with his in house design capacity.

5. Setting out of the Works

The contractor shall be responsible for the true and proper setting-out of the Works in

relation to original points, lines and levels or reference issued by Engineer-in-charge in drawing or in writing and for the correctness, subject as above mentioned, of the position, levels, dimensions and alignment of all parts of works and for the provision of all necessary instruments, appliances and labour in connection therewith.

5.1. **Access for Inspection**

Persons nominated by Engineer-in-charge shall at all reasonable times have free access to work and/ or to the workshops, factories or other places where materials are lying or from which they are being obtained and the Contractor shall extend necessary service to Engineer-in-charge and their representatives every facility necessary for checking measurements, inspection and examination and test of the materials and workmanship.

6. Time Schedules

6.1. Time shall be the essence of the contract. The Zero Date for each individual site would be considered as date of receiving handing over by the concerned state HEOC Nodal Officer. Post receiving handover , the contractor would submit a time schedule for completion of the particular site in all respects to HITES Engineer In Charge.

6.2. **Commencement of Works**

- i. The Contractor shall commence the Works within 15 days of receiving the Site from the respective State Nodal officer. Thereafter the Contractor shall proceed with due diligence, without delay, and in accordance with the programme or any revised or modified programme of the Works.
- ii. The Contractor shall not commence the construction, manufacture or installation of the Works or of any part of the Works unless and until the Engineer has endorsed the relevant Drawings in accordance with the HITES 's Requirements.

6.3. **Time for Completion**

- i. Project completion Schedule including setting out date of completion in phases .
- ii. The Contractor shall complete works as per completion schedule and ensure defect free completion and have passed the tests on the completion, including integrated testing where ever in the scope of work and commissioning of the whole of the Works and/or parts thereof before the same is taken over by the Client/ HITES.

7. Completion Certificate

7.1. **Provisional Completion Certificate**

For the purpose of issuing Provisional Completion Certificate on substantial completion of the phase wise work . The work shall be deemed to have been substantially completed after fulfillment of all the following for respective phases of construction by the Contractor:-

- a. The phase(s) of the work as per milestone(s)/whole of the Work are substantially completed and have satisfactorily passed required tests that may be prescribed under the Contract and ready to use. The contractor shall handover such certificates to the Engineer-in-charge.
- b. Obtaining all required approvals from the statutory authorities as required for occupation and use of the works and handing over such certificates to the Engineer-in-charge.
- c. Submitting As-Built Drawings, Catalogues, Brochures, and Data Sheets, manuals etc. in the form as directed by Engineer in Charge.

On fulfillment of the above for respective phases of construction, the contractor shall give a written notice to this effect within 10 days of completion along with an

undertaking to rectify any shortcoming/defects that may be found during inspection. The Engineer - in- Charge shall jointly inspect the work with the contractor within 15 days of receipt of such notice and see if they are in such a condition so as to be put to its proper or other intended final use and /or occupied without any short comings and no major or minor items of works are remaining which in the opinion of the Engineer-in-charge will cause undue difficulties in satisfactory use/ occupation of the works and issue Certificate of substantial Completion for the respective phases of construction.

7.2. Final Completion Certificate

The contract shall not be considered as completed until a certificate of Final Completion has been issued by the Engineer-In-Charge stating that the works are completed in all respect to his complete satisfaction as per contract and remedying/rectifying all the defects/snags along with the submission of relevant permits/clearance from statutory bodies. It is also a pre requisite that the certificate of Final Completion shall be issued after taking over of the works by the Client/ HITES.

The composite work shall be treated as complete when all the phases and components of the work are complete. The Certificate for Final Completion of the total work shall be recorded by the Engineer-in-charge after obtaining / recording of final completion certificate of all the components/phases.

The Defect Liability Period (DLP) for complete work shall start with effect from the date of issuance of the final completion certificate(s) of the complete work.

Provided always that the issue of the Certificate of Final Completion shall be a condition precedent to payment or return to the Contractor the Performance security in accordance with the conditions set out in the contract.

7.3. Certificate of Overall Completion

The Engineer-in-charge shall give the Certificate for Overall Completion as per the following, whichever is later:

- Twenty-eight days after the expiration of the Defects Liability Period

OR

- If different Defect Liability Periods shall become applicable to different sections or parts of the Works, the expiration of the last such period

OR

- As soon as thereafter any works ordered during such period and have been completed to the satisfaction of the CLIENT/ HITES.

Provided always that the issue of the Certificate of overall Completion shall be a condition precedent to payment or return to the Contractor the security deposit in accordance with the conditions set out in the contract.

7.4. The contractor shall give performance test of the entire work as per standards specifications before the work is finally accepted and nothing extra whatsoever shall be payable to the contractor for the tests.

8. Handing over & Taking Over Process

Handing over & taking over process shall be done as prescribed in the tender document. Following services / works have to be complied with by the contractor:

- a. Rectification of all defects shall be carried out by the contractor before Handing over/ Taking over process.

- b. All services/equipment are to be run and checked before handing over & taking over process as per requirements of Engineer-in-charge.
- c. The Contractor shall submit catalogues, brochures, operation manual, manufacturer test certificate, Guarantee/ Warranty papers, licence etc. for all equipment /materials before handing over & taking over process.

9. Defect after completion

a) General

Any within the “Defects Liability Period” which in the opinion of the Engineer-in-charge are due to materials or workmanship not in accordance with the contract, shall be rectified as per the directions in writing of the Engineer-in-charge to the Authorized representative of the contractor within such reasonable time as shall be specified therein by the contractor, at his own cost. In case of default, the Engineer-in-charge may employ any person’s to amend and make good such defects, shrinkage, settlements or other faults and all expenses consequent thereon or incidental thereto shall be borne by the contractor.

b) Execution of work of repair etc.

Any faults which may appear or be noticed within the defect liability period, and arising in the opinion of the Engineer-in-charge from materials or workmanship not having in accordance with the contract, shall upon the direction in writing of the Engineer-in-charge’s representative and within such reasonable time as shall be specified therein and without any delay, be amended and made good or replaced by the contractor at his own cost.

10. Plant Temporary Works & Materials

a) Removal of Plant etc.

Upon completion of the Works, the Contractor shall remove from the Site all the said Constructional Plant and Temporary Works remaining thereon and any unused materials provided by the Contractor, within 10 days of obtaining the completion certificate/ Virtual completion of the work.

11. Reports by Contractor

- a) The Contractor shall submit Monthly Progress Report in format approved by Engineer-in-charge.

12. Operations and Maintenance Manual

The Contractor shall provide and submit to the Engineer-in-charge with 01 copy of the Operation and Maintenance Instruction Manuals.

13. Co-ordination Meetings

The Contractor shall be required to attend co-ordination meetings with the HITES/CLIENT and the other Contractors during the period of Contract as intimated by the Engineer-in-charge. All costs incidental to such interaction shall be to the Contractor's account and no claim will be entertained by the HITES/CLIENT on this account.

14. Training and Operating Instructions

- a. If required by the Engineer-in-charge, the Contractor shall at his cost, train members of the maintenance staff of Client/ HITES either at his or the subcontractor's workshop or at such other place or places as may be considered suitable by the Engineer-in-charge.

- b. Upon completion of all work and all tests, the Contractor shall furnish the necessary skilled/unskilled/semi-skilled personnel for operating the entire installation for a period of thirty (30) working days. During this period, the Contractor shall instruct and train the HITES/CLIENT's representative(s) in operation, adjustments and maintenance of the equipment installed.

15. Test/Warranty Certificates

The contractor shall submit test certificates for all the materials / systems issued by the Engineer-in-Charge approved inspection / office / manufacturer certifying the Equipment / Materials / installation and its function are in agreement with the requirements of relevant specifications and accepted standards.

16. Licenses and Permits

The Contractor or the approved specialized agency engaged by them shall hold a valid license for services like electrical etc. & wherever required in addition, issued by the Competent Authority under whose jurisdiction the work falls.

SPECIFIC CONDITIONS OF CONTRACT

1. Conformity with Statutory Acts, Rules and Standards

- i. All installations shall be in conformity with the Bye-laws, Regulations and Standards of the local authorities as applicable. But if the specifications and drawings call for a higher standard of material and/or workmanship than those required by any of the above Regulations and Standards, then the specifications and drawings provided in the contract shall take precedence over the said regulations and standards as per the directions of the Engineer-in-charge.
- ii. However, if the drawings or specifications required something which violates the Bye-laws and Regulations, then the Bye-laws and Regulations shall govern the requirement of this installation as per the directions of the Engineer-in-charge.

2. Completeness of Bid

All sundry fittings, assemblies, accessories, hardware items, termination lugs for electrical connections as required, and all other sundry items which are useful and necessary for proper assembly and efficient working of the various components of the work shall be deemed to have been included in the quoted prices, whether such items are specifically mentioned in the Bid documents or not.

3. Shop Drawings

Prior to the laying of the conduits and trunking, the Contractor shall submit the shop drawings for the approval of the Engineer-in-charge. The observations, if any, of Engineer-In charge shall be incorporated and drawings shall be re-submitted for the approval of the Engineer-in-charge.

The Contractor shall submit and get approved the relevant drawings atleast 15 days before placing of the orders with manufacturers/suppliers.

4. Materials & Equipment and Approval Thereof

All the materials and equipment shall be of the approved make and design. Unless otherwise called for any approval by Engineer-in-Charge, only the best quality materials and equipment shall be used.

5. Inspection, Testing and Inspection Certificate

- a. The HITES or duly authorized representative shall have at all reasonable times free access to the Contractor/ Manufacturer's premises or works and shall have the power at all reasonable times to inspect and examine the materials and workmanship of the works .
- b. HITES reserves the right to waive off inspection of any equipment, items etc at its sole discretion.

6. Testing and Commissioning

The Contractor shall pay for and arrange without any cost to the Engineer-in-charge, all necessary balancing and testing equipment, instruments, materials, accessories, power, water, fuel and the requisite labour for testing. Any defects in materials and/ or in workmanship detected in the course of testing shall be rectified by the Contractor entirely at his own cost, to the satisfaction of the Engineer-in-charge.

TESTS

i. Commissioning Tests

The available instrumentation & control equipment used during such tests and the Contractor will calibrate all such measuring equipment and devices.

7. Performance Guarantee Certificates for Equipment

All equipment shall be guaranteed against unsatisfactory performance and/or break down for a minimum period of 36 (Thirty Six) months or date of handing over of work to the CLIENT/HITES, whichever is later. The equipment or component or any other part of installation so found defective within the guarantee period shall be replaced / repaired by the Contractor free of cost to the satisfaction of the CLIENT / HITES. The above guarantee and/ or warranty provided by the manufacturer will be submitted along with all the test certificates from manufacturer to HITES.

8. Checks during Defect Liability Period

During the Defect Liability Period/ Maintenance Period, the Contractor shall monthly check all controls in various areas to ensure that these are functioning satisfactorily.

9. Repairs

All equipment that requires repairing shall be immediately serviced and repaired during the maintenance period. All spares/parts and labours shall be furnished by the contractor free of cost.

10. Training of Personnel

The Contractor shall arrange for training of the HITES/CLIENT's personnel prior to provisional takeover of the project.

- a. All ICT equipment's.
- b. Telephone Exchange
- c. Adjustment of setting for controls and protective devices
- d. Preventive maintenance
- e. Operation of all electrical panels including their interconnectivity & interlocking
- f. Any other specialized system as executed under this contract

11. Handling, Storing and Installation

- In accordance with the specific installation instructions as shown on manufacturer's drawings or as directed by the HITES or his representative, the Contractor shall unload, store, erect, install, wire, test and place into commercial use all the equipment included in the contract. Equipment shall be installed in a neat, workmanlike manner so that it is level, plumb, square and properly aligned and oriented.
- The Contractor shall be fully responsible for the equipment/material until the same is handed over to the HITES in an operating condition after commissioning. Contractor shall be responsible for the maintenance of the equipment/material while in storage as well as after erection until taken over by HITES, as well as protection of the same against theft, element of nature, corrosion, damages etc.
- The words 'erection' and 'installation' used in the specification are synonymous.

12. Operation and Running of entire system

The contractor shall pay for and arrange for operation & running of entire electrical system and other equipment for a minimum period of one month after satisfactory completion of work as desired by Engineer-in-charge. Cost of operation & running of entire system including required material e.g. Water, electricity, consumables, tools & tackles, requisite manpower etc. shall be deemed to be included in the contract price and nothing extra shall be paid.

- 13.** Layout of all services, SLD/ P&I diagrams, operating and maintenance instructions, DO's and Don'ts's etc. for all the Substations, Plant rooms, pump room, control panels etc. must be provided along with coloured prints at each floor.

SPECIFIC CONDITIONS OF CONTRACT

1. Inspection at Work / Contractor's Premises

- 1.1. The CLIENT/HITES or their representatives shall at all reasonable time have free access to the Contractor's premises/works. The Contractor shall give every facility to them and necessary help for inspection and examinations and test of the materials and workmanship.
- 1.2. These representatives shall have full powers to inspect drawings of any portion of the work or examine the materials and workmanship of the plant at the Contractor's works or at any other place from where the material or equipment is to be obtained. Acceptance of any material or equipment shall in no way, relieve the Contractor of his responsibility for meeting the requirement of the specifications.

2. Sub-contracting

The Contractor may sub-contract part of the works with the written approval of the Engineer-in-charge . Sub-contractors as approved by the Engineer - in- Charge shall be appointed for carrying out the entire work of supplying, installation, testing and commissioning of all the equipment covered under this package. However, the overall responsibility for compliance of the Contract lies with the Contractor. **Technical Submittals**

The Contractor shall submit Technical Submittals for all materials, equipment and machinery for approval in writing of the Engineer-in-charge before placing orders. The material submittals shall comprise of at least the following:

- i. Manufacturer's technical catalogues and brochures, pump curves, Certifications etc. giving technical data about performance and other parameters.
- ii. Manufacturers drawings/sketches showing construction, dimensional and installation details.

3. Testing and Commissioning

- 3.1. Tests on equipment as called for in the specifications shall be carried out by the Contractor in accordance with the specifications,
- 3.2. The Contractor shall pay for and arrange without any cost, all necessary balancing and testing equipment, materials, accessories etc All tests shall be carried out in the presence of the Engineer-in-charge or his representative.

4. Guarantee and Defects Liability Period

All equipment shall be guaranteed against unsatisfactory performance and/or break down for a minimum period of 36 (Thirty Six) months or date of handing over of work to the CLIENT/HITES, whichever is later. The equipment or component or any other part of installation so found defective within the guarantee period shall be replaced / repaired by the Contractor free of cost..

5. Training of Personnel

The Contractor shall arrange to train the HITES/CLIENT's personnel on the following aspects prior to provisional takeover of the plant:

- a) Operation of individual equipment.
- b) Start up & shut down Procedure.
- c) Preventive maintenance

END OF VOLUME – 3