

KOTESHWAR HYDRO PROJECT

4X100 MW

SPECIFICATION FOR ERECTION ,
SITE TESTING AND COMMISSIONING

ELEVATORS

GENERAL SECTION: I-II

SPECIAL CONDITIONS OF THE
CONTRACT

SECTION IIIA & IIIB

2
GENERAL CONDITIONS OF CONTRACT

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SECTION-I

GENERAL INSTRUCTIONS TO TENDERERS

1.0 DATA TO BE ENCLOSED: Full information shall be given by the tenderer in respect of the following. Non submission of these information may lead to rejection of the offer.

1.1 Declaration sheet as per proforma enclosed at **ANNEXURE- 'A '**.

2.0 AUTHORISATION AND ATTESTATION: Tenders shall be signed by persons duly authorised / empowered to do so. Certified copies of such authority and relevant documents shall be submitted alongwith the tenders.

3.0 EXECUTION OF CONTRACT : The successful tenderer's responsibility under this contract commences from the date of issue of the Letter of Intent by Bharat Heavy Electricals Limited. The successful tenderer shall be required to execute an agreement in the prescribed form as per **ANNEXURE-'I'** with the BHEL within a reasonable time after the acceptance of his tender and in any case before submitting the first bill for payment.

4.0 SECURITY DEPOSIT: Upon acceptance of tender, the successful tenderer must deposit the required amount of security deposit within the time specified in the Letter of Intent for satisfactory completion of work.

4.1 The total amount of Security Deposit shall be as follows:

- (a) In case of work costing upto 10 lakhs: 10% of the contract value.
- (b) In case of work costing above Rs 10 lakhs and upto Rs 50 lakhs: 1 Lakh- + 7.5 % of the amount exceeding Rs. 10 Lakhs.
- (c). In case of work costing more than Rs 50 lakhs : 4 Lakhs + 5 % of the amount exceeding Rs. 50 Lakhs.

4.2 The Security Deposit will be deposited within 15 days from the date of issue of Letter of Intent but before start of work, in any one of the following forms :-

- (a). The total Security Deposit as indicated in the Letter of Intent in cash (As permissible under Income Tax Act).
- (b) Pay Order, Demand Draft in favour of BHEL.
- c) Local cheques of scheduled banks, subject to realization.

d) Securities available from Post Offices such as National Savings Certificates, Kisan Vikas Patras etc.

(Certificates should be held in the name of Contractor furnishing the security and duly pledged in favour of BHEL and discharged on the back).

e) Bank Guarantee from Scheduled Banks / Public Financial Institutions as defined in the Companies Act subject to a maximum of 50% of the total security deposit value. The balance 50% has to be remitted either by cash or in the other form of security. The Bank Guarantee format should have the approval of BHEL.

f) Fixed Deposit Receipt issued by Scheduled Banks / Public Financial Institutions as defined in the Companies Act. The FDR should be in the name of the contractor, A/C BHEL, duly discharged on the back.

g) Security deposit can also be recovered at the rate of 10% from the running bills. However in such cases at least 50% of the Security Deposit should be collected before start of the work and the balance 50% may be recovered from the running bills.

h) EMD of the successful tenderer shall be converted and adjusted against the security deposit.

4.3 The security deposit shall not carry any interest.

NOTE: Acceptance of Security Deposit against Sl. No. (d) and (t) above will be subject to hypothecation or endorsement on the documents in favour of BHEL.

However, BHEL will not be liable or responsible in any manner for the Collection of interest or renewal of the documents or in any other matter connected therewith.

4.4 Security deposit shall not be refunded to the contractor except in accordance with the terms of the contract.

4.5 The validity of the Bank Guarantee furnished towards Security Deposit under (e) above shall be upto the period of completion of work as stipulated in the Letter of Intent + 1 month and the same will be kept valid by proper renewal till the satisfactory completion of the Guarantee Period.

4.6 If the value of the work done at any time exceeds the accepted agreement value, the Security Deposit shall be correspondingly enhanced and the extra Security Deposit shall be immediately deposited by the Contractor or recovered from payments due to him.

4.7 Failure to deposit the Security Deposit within the stipulated time, may lead to forfeiture of Earnest Money Deposit and Cancellation of the award of work.

- 4.8 If any part of Security Deposit of the Contractor is held in the form of approved securities, it shall be kept transferred in the name of Bharat Heavy Electricals Limited, in such a manner that the same can be realized fully without referring to the Contractor. BHEL shall not be responsible for any depreciation in the value of the Security while in BHEL's custody or for any loss of interest thereon.
- 4.9 BHEL reserves the right of *forfeiture of Security Deposit* in addition to other claims and penalties in the event of the contractor's failure to fulfill any of the contractual obligations or in the event of termination of contract as per terms and conditions of contract. BHEL reserves the right to set off the Security Deposit, against any claims of any other contracts with BHEL.
- 4.10 **RETURN OF SECURITY DEPOSIT:** If the contractor fully performs and completes the work in all respects to the entire satisfaction of BHEL and presents an absolute "**No Demand Certificate**" in the prescribed form and returns properties belonging to BHEL taken, borrowed or hired by him for carrying out the said works, half the amount of Security Deposit will be released to the contractor after deducting all costs, expenses and other amounts that are to be paid to BHEL under this or other contracts entered into with the Contractor. It may be noted that in no case the Security Deposit shall be refunded / released prior to passing of final bill. Balance half of the amount of Security Deposit will be released only after the Guarantee Period is over.

NOTE: All the BGs are to be submitted as per BHEL/PSNR performa.

- 5.0 No interest shall be payable by BHEL on Earnest Money Deposit, Security Deposit or on any moneys due to the contractor.

SECTION –II

GENERAL TERMS AND CONDITIONS

- 6.0** The following terms and expressions shall have the meaning hereby assigned to them except where the context otherwise requires.
- 6.1** **BHEL** (or B.H.E.Ltd.) shall mean Bharat Heavy Electricals Limited, a Company registered under the Indian Companies Act, 1956, with its Registered Office at BHEL HOUSE, SIRI FORT, NEW DELHI-II0049 or its authorized officers or its Engineer or other employees authorised to deal with any matters with which these persons are concerned, on its behalf.
- 6.2** **'GENERAL MANAGER'** shall mean the Officer in Administrative charge of the contracting Unit of BHEL.
- 6.3** **'ENGINEER'** or **'ENGINEER-IN-CHARGE'** shall mean Engineer deputed by BHEL. The terms includes Deputy General Manager, Construction Manager, Resident Manager, Site Engineer, Resident Engineer and Assistant Site Engineer of BHEL at the site as well as the officers in charge at Head Office.
- 6.4** **'SITE'** shall mean the place or places at which the plants/ equipment are to be erected and services are to be performed as per the specifications of this Tender.
- 6.5** **'CLIENTS OF BHEL'** or **'CUSTOMER'** shall mean the project authorities to whom BHEL is supplying the equipment.
- 6.6** **'CONTRACTOR'** shall mean the individual, firm or company who enters into contract with BHEL and shall include their executors, administrators) successors and permitted assigns.
- 6.7** **'CONTRACT'** or **'CONTRACT DOCUMENT'** shall mean and include the agreement, the work order, the accepted appendices of rates, Schedules of Quantities, if any, General Conditions of Contract, Special Conditions of Contract, Instructions to Tenderers, the drawings, the technical specifications, the special specifications, if any, the tender documents and the Letter of Intent! Acceptance letter issued by BHEL. Any conditions or terms stipulated by the tenderer in the tender documents or subsequent letters shall not form part of the Contract unless specifically accepted in writing by BHEL in the Letter of Intent and incorporated in the Agreement.
- 6.8** **'GENERAL CONDITIONS OF CONTRACT'** shall mean the 'Instructions to Tenderers' and veneral Conditions of Contract' pertaining to the work detailed.

- 6.9 **'TENDER SPECIFICATIONS'** shall mean the Special Conditions, Technical Specifications, appendices, Site information and drawings pertaining to the work for which the tenderers are required to submit their offer. Individual specifications Number will be assigned to each tender specifications.
- 6.10 **'TENDER DOCUMENTS'** shall mean the General Conditions of Contract (6.8) and Tender Specifications (6.9).
- 6.11 **'LETTER OF INTENT'** shall mean the intimation by a letter / telegram/ telex / fax to the tenderer that the tender has been accepted in accordance with provisions contained in the letter. The responsibility of the contractor commences from the date of issue of this letter and all the terms and conditions of contract are applicable from this date.
- 6.12 **'COMPLETION TIME'** shall mean the period by date specified in the Letter of Intent or date mutually agreed upon for handing over the erected equipment/plant which are found acceptable by the Engineer being of required standard and conforming to the specifications of the Contract.
- 6.13 **'PLANT'** shall mean and connote the entire assembly of the plant and equipment covered by the Contract.
- 6.14 **'EQUIPMENT'** shall mean all equipment, machineries, materials, structurals, electricals and other components of the plant covered by the Contract.
- 6.15 **'TESTS'** shall mean and include such test or tests to be carried out by the contractor as are prescribed in the Contract or considered necessary by BHEL in order to ascertain the quality, workmanship, performance and efficiency of the contracted work or part there of.
- 6.16 **'APPROVED', 'DIRECTED' or 'INSTRUCTED'** shall mean approved, directed or instructed by BHEL.
- 6.17 **'WORK' or 'CONTRACT WORK'** shall mean and include supply of all categories of labour, specified consumables, tools and tackles required for complete and satisfactory site transportation, handling, stacking, storing, erecting, testing and commissioning of the equipment to the entire satisfaction of BHEL.
- 6.18 **'SINGULAR' and 'PLURAL'** etc. Words carrying singular number shall also include plural and vice versa where the context so requires. Words importing masculine gender shall be taken to include the feminine gender and words importing persons shall include any Company or Association or Body of Individuals, whether incorporated or not.

6.19 **'HEADINGS'** The headings in these General Conditions are solely for the purpose of facilitating reference and shall not be deemed to be part thereof or be taken into consideration in the interpretation or construction thereof or the contract.

6.20 **'MONTH'** shall mean calendar month.

6.21 **"WRITING"** shall include any manuscript, type written or printed statement under the signature or seal as the case may be.

7.0 LAW GOVERNING THE CONTRACT AND COURT JURISDICTION:

The Contract shall be governed by the Law for the time being in force in the Republic of India. The Civil Court at Delhi/ New Delhi, having ordinary Original Civil Jurisdiction shall alone have exclusive jurisdiction in regard to all claims in respect of this Contract.

8.0 **ISSUE OF NOTICE** The Contractor shall furnish to the Engineer, the name, designation and address of his authorised agent and all complaints, notices, communications and references shall be deemed to have been duly given to the Contractor, if delivered to the Contractor or his authorised agent or left at or posted to the address either of the contractor or his authorised agent and shall be deemed to have been so given in the case of posting on the day on which they would have reached such address in the ordinary course of post or at which they were so delivered or left.

9.0 **USE OF LAND** No land belonging to BHEL or its customer under temporary possession of BHEL shall be occupied by the Contractor without the written permission of BHEL.

10.0 COMMENCEMENT AND COMPLETION OF WORK

10.1 The contractor shall commence the work within the time indicated in the Letter of Intent and shall proceed with the same with due expedition without delay.

10.2 If the successful tenderer fails to commence the work within the stipulated time, BHEL, at its sole discretion, will have the right to cancel the contract. His Earnest Money and/ or Security Deposit will stand forfeited without any further reference to him without prejudice to any and all of BHEL's other rights and remedies in this regard.

10.3 All the works shall be carried out under the direction and to the satisfaction of BHEL.

- 10.4 The transported equipment, erected /constructed plant or work performed under the Contract, as the case may be, shall be taken over when it has been completed in all respects and/or satisfactorily put into operation at site.

11.0 MEASUREMENT OF WORK AND MODE OF PAYMENT

- 11.1 All payments due to the contractor shall be made by 'Account Payee' Cheques.
- 11.2 For progress/ running bill payments, the contractor shall present detailed measurement sheets in triplicate duly indicating all relevant details based on technical documents and connected drawings for the work done during the month/ period under different categories in line with terms of payment as per Letter of Intent. The basis of arriving at the quantities/ weights shall be the relevant documents and drawings released by BHEL. These measurement sheets shall be prepared jointly with Engineer and signed by both the parties.
- 11.3 These measurement sheets will be checked by the Engineer and quantities and percentages eligible for payment under different groups shall be decided by him. The abstract of quantities and percentages so arrived at based on the terms of payment shall be entered in the **Measurement Book and signed by both the parties.**
- 11.4 Based on the above quantities, contractor shall prepare the bills in the prescribed proforma and work out the financial value. These will be entered in the Measurement Book and signed by both the parties. Payment shall be made by BHEL after effecting the recoveries due from the contractor.
- 11.5 All recoveries due from the contractor for the month / period shall be effected in full from corresponding running bills unless specific approval from Competent authority is obtained to the contrary.
- 11.6 Measurement shall be restricted to that quantity for which it is required to ascertain the financial liability of BHEL under this contract.
- 11.7 Measurement shall be taken jointly by persons duly authorised by BHEL and the Contractor.
- 11.8 The Contractor shall bear the expenditure involved, if any, in making the measurements and testing of materials to be used/ used in the work. The Contractor shall, without extra cost to BHEL, provide all the assistance with appliances and other things necessary for measurement.
- 11.9 If, at any time due to any reason whatsoever, it becomes necessary to re-measure the work done, in full or in part, the expenses towards such remeasurement shall be borne by the Contractor.

11.10 *Passing of bills covered by such measurements does not amount to acceptance by BHEL of the completion of the work measured. Any left out work has to be completed by the Contractor, as directed.*

11.11 Final measurement bill shall be prepared in the proforma prescribed for the purpose, based on the certificate issued by the Engineer that the entire work as stipulated in the tender specifications has been completed in all respects to the entire satisfaction of BHEL. The Contractor shall give unqualified 'No Claim' and 'No Demand' certificates. All the tools and tackles loaned to him should be returned in condition satisfactory to BHEL. The abstract of final quantities and financial values shall also be entered in the Measurement Book and signed by both the parties. The final bill shall be paid within a reasonable time after completion of the work. After the payment of final bill, only the guarantee obligation percentage value shall remain unpaid which shall be released in accordance with clause 6.0 of BHEL specification no HT 12103.

12.0 RIGHTS OF BHEL

BHEL reserves to itself the following rights in respect of this' contract without entitling the contractor to any compensation.

12.1 To get the work done through another agency at the risk and cost of the contractor, in the event of poor progress or the contractor's inability to progress the work for completion as stipulated in the contract, poor quality of work, persistent disregard of instructions of BHEL, assignment, transfer, subletting of the contracted work without written permission of BHEL, non- fulfillment of any contractual obligations etc. and to claim / recover compensation for such losses from the contractor including BHEL's supervision charges and overheads from Security Deposit! other dues.

12.2 To withdraw any portion of work and / or to restrict / alter quantum of work as indicated in the contract during the progress of work and get it done through another agency and/ or by the departmental labour to suit BHEL's commitments to its customer or in case BHEL decides to advance the completion due to other emergent reasons/ BHEL's obligation to its customer.

12.3 To terminate the contract after due notice and forfeit the Security Deposit and recover the loss sustained in getting the balance work done through other agencies in addition to liquidated damages in the event of:

(a) Contractor's continued poor progress.

(b) Withdrawal from or abandonment of the work before completion of the work.

(c) Corrupt act of the contractor.

- (d) Insolvency of the contractor.
 - (e) Persistent disregard of the instructions of BHEL.
 - (f) Assignment, transfer, subletting of the contract work without BHEL's written Permission.
 - (g) Non- fulfillment of any contractual obligations.
- 12.4 To recover any moneys due from the Contractor from out of any moneys due to the Contractor under this or any other Contract or from the Security Deposit.
 - 12.5 To claim compensation for losses sustained including BHEL's supervision charges and overheads in case of termination of contract and to levy liquidated damages for delay in completion of work, at the rate of 1/2% of the contract value per week of delay or part thereof subject to a ceiling **of 10% of the contract value.**
 - 12.6 To determine the Contract or to restrict the quantum of work and pay for the portion of work done in case BHEL's contract with its customer is terminated for any reason.
 - 12.7 To effect recoveries from any amounts due to the contractor under this or any other contract or in any other form the moneys which BHEL is forced to pay to anybody due to contractor's failure to fulfil any of his obligations.
 - 12.8 To restrict or increase the quantity and nature of work to suit site requirements, since the tender specification is based on preliminary documents and quantities furnished therein are indicative and approximate and the rates quoted shall not be subject to revision.
 - 12.9 To deploy BHEL's skilled and semiskilled workmen in case of emergency 1 poor progress/ deficiency in skill on the part of the employees of the contractor and to recover the expenditure on account of the same from the moneys due to the contractor.
 - 12.10 While every endeavor will be made by BHEL to this end, BHEL can not guarantee uninterrupted work due to conditions beyond its control. The Contractor will not be entitled to any compensation! extra payment on this account.
 - 12.11 In the event of any dispute of technical nature, the decision of BHEL shall be final and binding on the Contractor.

13.0 RESPONSIBILITIES OF CONTRACTOR IN RESPECT OF LOCAL LAWS, EMPLOYMENT OF WORKERS, ETC.

The following are the responsibilities of the Contractor in respect of observance of local laws, employment of personnel, payment of taxes etc.:

- 13.1 As far as possible, unskilled workers shall be engaged from the local areas in which the work is being executed.
- 13.2 The contractor at all times during the continuance of this contract, shall in all his dealings with the local labour for the time being employed on or in connection with the work, have due regard to all local festivals, religious and other customs.
- 13.3 The Contractor shall comply with all State and Central Laws, Statutory Rules, Regulations, etc., such as The payment of wages Act, The Minimum Wages Act, The workmen's Compensation Act, The Employer's Liability Act, The industrial Disputes Act, The Employees' Provident Fund Act, Employees' State Insurance Scheme, the Contract Labour (Regulations and Abolition Act, 1970) and other Acts, Rules and Regulations for labour as may be enacted by the Government during the tenure of the Contract and having force or jurisdiction at site. The contractor shall give to the local Governing Body, Police and other concerned Authorities all such notice as may be required under law.
- 13.4 The Contractor, in the event of his engaging 20 or more workmen, will obtain independent license under the Contract Labour (Regulations and Abolition Act, 1970) from the concerned authorities based on the certificate (Form-V) issued by the principal employer/ customer.
- 13.5 The contractor shall pay all taxes, fees, license charges, deposits, duties, tolls, royalty, commissions or other charges which may be leviable on account of any of his operations connected with this contract. In case BHEL is forced to make any such payment, BHEL shall recover the same from the contractor either from moneys due to him or otherwise as deemed fit.
- 13.6 While BHEL will pay the inspection fees of the Boiler/ Electrical Inspectorate, all other arrangements for the periodical visits of Boiler/ Electrical Inspector to site, inspection certificates etc. will have to be made by the contractor at his cost. The contractor will also meet all expenses in connection with his welder's qualification/ requalification tests etc.
- 13.7 The contractor shall be responsible for the provision of health and sanitary arrangements more particularly described in the Contract Labour (Regulations and Abolition Act, 1970) and safety precautions as may be required for safe and satisfactory execution of the contract.

- 13.8 The contractor shall be responsible for proper accommodation including adequate medical facilities for the personnel employed by him.
- 13.9 The contractor shall be responsible for the proper behavior and observance of all regulations by the staff employed by him.
- 13.10 The contractor shall ensure that no damage is caused to any person / property of other parties working at site. If any such damage is caused, it shall be the responsibility of the contractor to make good the losses and compensate them.
- 13.11 All the properties/ equipment! components of BHEL/ its customer loaned with or without deposit, to the contractor shall remain the properties of BHEL/ its customer. The contractor shall use such properties for the purpose of execution of this contract. All such properties/ equipment! components shall be taken to be in good condition unless notified to the contrary by the contractor within 48 hours. The contractor shall return them in good condition as and when required by BHEL/ its customer. In case of non-return, loss, damage, repairs etc., the cost thereof, as may be fixed by the Engineer, will be recovered from the contractor.
- 13.12 It shall not be obligatory on the part of BHEL to supply any tools and tackles or materials other than those specifically agreed to be given by BHEL. However, depending upon availability / possibility, BHEL/ its customer's equipment and other materials may be made available to the contractor on payment of hire charges as fixed by them, subject to the conditions laid down by BHEL/ its customer from time to time. Unless paid in advance, such hire and other charges shall be recovered from out of dues to the contractor or security deposit in one installment.
- 13.13 The contractor shall fully indemnify and keep indemnified BHEL/ its customer against all claims of whatever nature arising during the course of execution of – this contract.
- 13.14 In case the contractor is required to undertake any work outside the scope of this contract, the amount payable shall be as may be mutually agreed upon.
- 13.15 Any delay in completion of works or non-achievement of periodical targets, due to reasons attributable to the contractor, will have to be compensated by the contractor either by increased manpower and resources or by working extra hours or more than one shift at no extra cost to BHEL.
- 13.16 The contractor shall execute the work under the conditions usual to such power plant construction and in conjunction with numerous other operations at site. The contractor and his personnel shall cooperate and coordinate with other agencies at project site and proceed in a manner that shall help in the progress of work at site as a whole.

13.17 The contractor will be directly responsible for payment of wages to his workmen.

A pay-roll sheet giving details of all payments made to the workmen duly signed by the contractor's representative should be furnished to BHEL, if called for.

13.18 In case of any class of work for which there is no specification laid down in the contract, such work shall be carried out in accordance with the instructions and requirements of the Engineer.

13.19 No levy, payment or charges made or imposed shall be impeached by reason of any clerical error or by reason of any mistake in the amount levied, demanded or charged.

13.20 ***No idle labour charges will be admissible in the event of any stoppage of work resulting in the contractor's workmen being rendered idle due to any reason at any time.***

13.21 The contractor shall take all reasonable care to protect the materials and the work till such time the plant / equipment has been taken over by BHEL / its customer.

13.22 Contractor shall not stop work or abandon the site for whatsoever reason or dispute, excepting for force majeure conditions. All problems / disputes shall be separately discussed and settled without effecting the progress of work. Stoppage or abandonment of work, other than under force majeure conditions, shall be treated as breach of work of contract and dealt with accordingly.

13.23 The contractor shall keep the area of work clean and shall remove the debris etc. while executing day-to-day work. Upon completion of work, the contractor shall remove from the vicinity of work, all scrap, packing materials, rubbish, unused and other materials and deposit them in places specified by the Engineer. The contractor will also demolish all the hutments, sheds, offices, etc. constructed and used by him and shall clean the debris. In the event of his failure to do so, the same will be arranged to be done by the Engineer and the expenses recovered from the contractor.

13.24 The contractor shall execute the work in the most substantial and workman like manner in the stipulated time. Accuracy of work and timely execution shall be the essence of this contract. The contractor shall be responsible to ensure that the quality, assembly and workmanship conform to the dimensions and clearance given in the drawings and! or as per the instructions of the Engineer.

13.25 The contractor shall furnish fortnightly labour deployment report indicating the classification and number of workmen engaged, date wise and category wise.

Besides, the contractor shall also furnish progress reports on work at regular intervals as required by the Engineer.

14.0 RESPONSIBILITIES OF CONTRACTOR IN RESPECT OF SAFETY OF MEN, EQUIPMENT, MATERIAL AND ENVIRONMENT.

- 14.1 All safety rules and codes applied by BHEL and its customer at site shall be observed by the contractor and his workmen without exception. The contractor shall be responsible for the safety of the equipment I material and work to be performed by him and shall maintain all lights, fencing guards, signs etc. or other protections necessary for the purpose. Contractor shall also take such additional precautions as may be indicated from time to time by the Engineer, with a view to prevent pilferage, accidents, fire hazards etc. Suitable number of clerical staff, watch and ward, store keepers to take care of equipment, materials, construction tools and tackles shall be posted at site by the contractor till the completion of the work under this contract. The contractor shall arrange for such safety devices as are necessary for this type of work and carry out the requisite site tests of handling equipment, lifting tools, tackles etc. as per usual standards and practices.
- 14.2 The contractor shall provide to it's work force and ensure the use of the following personal protective equipment as found necessary and as directed by the authorized BHEL officials.
- (a) Safety Helmets conforming to IS-2925
 - (b) Safety Belts conforming to IS-3521
 - (c) Safety shoes conforming to IS-1989
 - (d) Eye & Face Protection devices conforming to IS-8520 and IS-8940
 - (e) Hand & body protection devices conforming to IS-2573, IS-6994, IS-8807 & IS-8519.
- 14.3 All tools, tackles, lifting appliances, material handling equipment, scaffolds, cradles, safety nets, ladders, equipment etc. used by the contractor shall be of safe design and construction. These shall be tested and certificate of fitness obtained before putting them to use and from time to time as instructed by authorized BHEL official who shall have the right to ban the use of any item.
- 14.4 All electrical equipment, connections and wiring for construction power, it's distribution and use shall conform to the requirements of Indian Electricity Act and Rules. Only electricians licensed by the appropriate statutory authority shall be employed by the contractor to carry out all types of electrical works. All electrical appliances including portable electric tools used by contractor shall have safe plugging system to source of power and be appropriately earthed.

- 14.5 The contractor shall not use any hand lamp energised by electric power with supply voltage of more than 24 volts. For work in confined spaces, lighting shall be arranged with power source of not more than 24 volts.
- 14.6 Where it becomes necessary to provide and / or store petroleum products, explosives, chemicals and liquid or gaseous fuel or any other substance that may cause fire or explosion, the contractor shall be responsible for carrying out such provision and/or storage in accordance with the rules and regulations laid down in the relevant Government Acts, such as Petroleum Act, Explosives Act, petroleum and Carbides of Calcium Manual of the Chief Controller of Explosives, Government of India etc. Prior approval of the authorised BHEL official at the site shall also be taken by the contractor in all such matters.
- 14.7 The contractor shall arrange at his cost (wherever not specified) appropriate illumination at all work spots for safe working, when natural daylight may not be adequate for clear visibility.
- 14.8 In case of a fatal or disabling injury / accident to any person at construction sites due to lapses by the contractor, the victim and / or his / her dependents shall be compensated by the contractor as per statutory requirements. However, if considered necessary, BHEL shall have the right to impose appropriate financial penalty on the contractor and recover the same from payments due to the contractor for suitably compensating the victim and / or his / her dependents. Before imposing any such penalty, appropriate enquiry shall be held by BHEL giving opportunity to the contractor to present his case.
- 14.9 In case of any damage to property due to lapses by the contractor, BHEL shall have the right to recover the cost of such damages from the payments due to the contractor after holding an appropriate enquiry.
- 14.10 In case of any delay in the completion of a job due to mishaps attributable to lapses by the contractor, BHEL shall have the right to recover cost of such delay from the payments due to the contractor, after notifying the contractor suitably and giving him opportunity to present his case.
- 14.11 If the contractor fails to improve the standards of safety in its operation to the satisfaction of BHEL after being given reasonable opportunity to do so and / or if the contractor fails to take appropriate safety precautions or to provide necessary safety devices and equipment or to carry out instructions regarding safety issued by the authorized BHEL official, BHEL shall have the right to take the corrective steps at the risk and cost of the contractor after giving a notice of not less than seven days indicating the steps that would be taken by BHEL.
- 14.12 The contractor shall submit report of all accidents, fires, property damage and dangerous occurrences to the authorized BHEL official immediately after such

occurrence, but in any case not later than 12 hours of the occurrence. Such reports shall be furnished in the manner prescribed by BHEL. In addition, periodic reports on safety shall also be submitted by contractor to the authorized BHEL official from time to time as prescribed.

- 14.13 During the course of construction, alteration or repairs scrap lumbars with protruding nails, sharp edges etc., and all other debris including combustible scrap shall be kept cleared from working areas, passage ways and stairs in and around site.
- 14.14 Cylinders shall be moved by tilting and rolling them on their bottom edges. They shall not be intentionally dropped, struck or permitted to strike each other violently. When cylinders are transported by powered vehicles, they shall be secured in a vertical position.
- 14.15 The contractor shall be responsible for the safe storage of his radioactive sources.
- 14.16 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 number of such trained personnel must be available during the tenure of the contract.
- 14.17 Contractor shall provide enough fire protecting equipment of the types and numbers at his office, stores, erection site, other temporary structures, labour colony area etc. Access to such fire protection equipment shall be easy and kept open at all times. Compliance of the above requirement under fire protection shall in no way relieve the contractor of any of his responsibility and liabilities to fire accident occurring. In the event fire safety measures are not to BHEL's satisfaction, BHEL shall have option to provide the same and recover the cost plus incidentals from contractor's bills and / or impose penalty as deemed fit by the Engineer.
- 14.18 Before commencing the work, the contractor shall appoint /nominate a responsible officer to supervise implementation of all safety measures and liaison with his counterpart of BHEL.
- 14.19 If safety record of the contractor in execution of the awarded job is to the satisfaction of Safety Department of BHEL, issue of an appropriate certificate to recognize the safety performance of the contractor may be considered by BHEL after completion of the job.

15.0 CONSEQUENCES OF CANCELLATION

- 15.1 Whenever BHEL exercises its authority to terminate the contract / withdraw a portion of work under clause 25, the work may be got completed by any other means at the contractor's risk and cost provided that in the event of the cost of completion (as certified by the Engineer which shall be final and binding on the contractor) being less than the contract value, the advantage shall accrue to BHEL. If the cost of completion exceeds the moneys due to the contractor under the contract, the contractor shall either pay the excess amount demanded by BHEL or the same shall be recovered from the contractor. This will be in addition to the forfeiture of Security Deposit and recovery of liquidated damages as per relevant clauses.
- 15.2 In case BHEL completes the work under the provisions of this clause, the cost of such completion to be taken into account for determining the excess cost to be charged to the contractor shall consist of cost of materials purchased and / or labor provided by BHEL with an addition of such percentage to cover supervision and establishment charges as may be decided by BHEL.

16.0 INSURANCE

- 16.1 BHEL / its customer shall arrange for insuring the materials / property of BHEL / its customer covering the risks during transit, storage, erection and commissioning.
- 16.2 It shall be the sole responsibility of the contractor to insure his workmen against risks of accidents and injury while at work as required by the relevant Rules and to pay compensation, if any, to them as per Workmen's Compensation Act. The contractor shall also insure his staff against accidents. The work will be carried out in a protected area and all the Rules and- Regulations of BHEL / its client in the Project Area which are in force from time to time will be followed by the contractor.
- 16.3 If due to negligence and/or non-observance of safety and other precautions, any accident / injury occurs to any other persons/ public, the contractor shall pay necessary compensation and other expenses, if so decided by the appropriate authority.
- 16.4 The contractor will take necessary precautions and due care to protect the material, while in his. custody from any damage/ loss till the same is taken over by BHEL or customer. For lodging / processing of insurance claim the contractor will submit. necessary documents. BHEL will reserve the right to recover the loss from the contractor, in case the damage / loss is due to carelessness / negligence on the part of the contractor. In case of any theft of material under contractor's custody, matter shall be reported to police by the contractor.

immediately and copy of FIR and subsequently police investigation report shall be submitted to BHEL for taking up with insurance.

- 16.5 If due to negligence/ carelessness on the part of the contractor, any material/ equipment gets damaged, the contractor shall submit necessary documents for lodging insurance claims as required by BHEL Engineer. BHEL shall however reserves the right to recover deductible franchise and also unsettled portion of insurance claim amount from the contractor.
- 16.6 If due to negligence/ carelessness on the part of the contractor, any surrounding properties also gets damaged, the contractor shall submit necessary documents for lodging insurance claims as required by BHEL Engineer. BHEL shall however reserves the right to recover deductible franchise and to unsettled portion of insurance claim amount from the contractor.
- 16.7 The contractor may note that BHEL T &Ps / IMTEs are not insured. The Contractor will take necessary precautions and due care to protect the same while in his custody from any damage/ loss till the same is handed over back to BHEL. In case the damage / loss is due to carelessness/ negligence on the part of the contractor, the Contractor is liable to get them repair/ replaced immediately and in case of his failure to do so within a reasonable time, BHEL will reserve the right to recover the loss from the contractor.

17.0 STRIKES AND LOCKOUTS

- 17.1 The contractor will be solely responsible for all disputes and other issues connected with his workmen. In the eve!It of contractor's workmen resorting to strike or the contractor resorting to lockout and if the strike or lockout so declared is not settled within a period of one month, BHEL shall have the right to get the erection work executed by employing its own men or through other agencies or both. The cost incurred by BHEL in this regard shall be recovered from the contractor.
- 17.2 For any purpose whatsoever, the employees of the contractor shall not be deemed to be in the employment of BHEL.

18.0 FORCE MAJEURE

- 18.1 The following shall amount to force majeure conditions. Acts of God, Act of any Government, War, Sabotage, Riots, Civil Commotion, Police Action, Revolution, Flood, Fire, Cyclone, Earthquake and Epidemic and other similar causes over which the contractor has no control.
- 18.2 If the contractor suffers delay in the due execution of the contract, due to delays caused by force majeure conditions, as defined above, the agreed time for

completion of the work covered by this contract shall be extended by a period of time equal to the period of delay, provided that on the occurrence of any such contingency, the contractor immediately reports to BHEL in writing the causes for the delay but the Contractor shall not be eligible for any compensation on this account.

- 19.0 **ARBITRATION:** All disputes between the parties to the contract arising out of or in relation to the contract, other than those for which the decision of the Engineer or any other person is by the contract expressed to be final and conclusive, shall after written notice by either party to the contract to the other party, be referred to sole arbitration of the General Manager or his nominee. The arbitration shall be conducted in accordance with the provisions of the Arbitration and Reconciliation Act, 1996. The parties to the contract understand and agree that it will be no objection that the General Manager or the person nominated as Arbitrator had earlier in his official capacity to deal directly or indirectly with the matters to which the contract relates or that in the course of his official duties had expressed views on all or any of the matters in dispute or difference. The award of the Arbitrator shall be final and binding on the parties to this contract. In the event of the Arbitrator dying, neglecting or refusing to act or resigning or being unable to act for any reason or his award being set aside by the Court for any reason, it shall be lawful for the General Manager or his successor, as the case may be, either to act himself as the Arbitrator or to appoint another Arbitrator in place of the outgoing Arbitrator in the manner aforesaid. The Arbitrator may, from time to time, with the consent of both the parties to the contract, enlarge the time for making the award. Work under the contract shall be continued during the arbitration proceedings. The venue of the arbitration shall be the place from which the contract is issued or such other place as the Arbitrator at his discretion may determine.

--X--X--

DECLARATION SHEET

I, ----- hereby certify that, all the information and data furnished by me with regard to this Tender Specification No. -----are true and complete to the best of my knowledge. I have gone through the specification, conditions and stipulations in detail and agree to comply with the requirements and intent of specification.

I, further certify that I am the duly authorised representative of the under mentioned tenderer and a valid power of attorney to this effect is also enclosed.

Tenderer's Name & Address

Authorised representative's signature with name and address.

ANNEXURE -BI
AGREEMENT

Agreement No. and Date _____
 Name of the Work _____

 Name of the Contractor with
 full address _____

 Value of work awarded _____

 Letter of Intent No. and Date . _____

 Scheduled Commencement Date _____
 Scheduled Completion Date _____

THIS AGREEMENT MADE THIS _____ DAY OF _____ 2000 between
 BHARA T HEAVY ELECTRICALS LIMITED (A Government of India
 Enterprise) a Company incorporated under the Companies Act, 1956, having its
 Registered Office at BHEL House, Siri Fort New Delhi- 110049 (herein after called
 BHEL) of the ONE PART.

AND

M/S _____
 _____ (hereinafter called the 'Contractor') of the
 SECOND PART.

WHEREAS M/s ----- state
 that they have acquired and possess extensive experience in the field of -----

And Whereas in response to an Invitation to Tender No.----- issued by
 BHEL for execution of -----the contractor
 submitted their offer No.----- dated----- And
 whereas BHEL has accepted the offer of the Contractor on terms and conditions specified
 in the Letter of Intent No.----- dated -----read with the
 references cited therein.

THIS AGREEMENT WITNESSES AND it is hereby agreed by and between the parties
 as follows:

1. That the contractor shall execute the work of----- and
 more particularly described in Tender Specification No----- including
 Drawings and Specifications (hereinafter called the said works) in accordance with
 and subject to terms and conditions contained in these presents, instructions to
 Tenderers, General Conditions of Contract, Special Conditions, Annexures, Letter
 of Intent dated ----- and such other instructions, Drawings, Specifications
 given to him from time to time by BHEL.

2. The Contractor is required to furnish to BHEL Security deposit in the form of cash! approved securities/ Bank Guarantee valid upto----- for a sum of Rs----- towards satisfactory performance and completion of the Contract.
3. The Contractor has furnished a Bank Guarantee bearing no.-----dated----- for a sum of Rs.----- executed by----- in favour of BHEL towards Security Deposit valid upto-----

OR

The Contractor has furnished to BHEL an initial Security Deposit of Rs ----- in the form of cash / approved Securities/ B.G No.----- dated ----- for Rs.----- executed by----- in favour of BHEL valid upto ----- and has agreed for recovery of the balance security deposit by BHEL @ 10% of the value of work done from each running bill till the entire Security Deposit is recovered.

OR

The contractor has furnished to BHEL an initial Security Deposit of Rs.---- (Rs.----- vide Bank draft NO.-----dated-----and by adjusting EMD of Rs.----- submitted vide Bank draft No.----- dt.-----) and has agreed for recovery of balance Security Deposit by BHEL @ 10% of the value of work done from each running bill till the entire security deposit is recovered.

4. The Contractor hereby agrees to extend the validity of the Bank Guarantee for such further period or periods as may be required by BHEL and if the Contractor fails to obtain such extension (s) from the Bank, the Contractor, shall pay forthwith or accept recovery of Rs.----- from the bills in one installment and the contractor further agrees that failure to extend the validity of the Bank Guarantee or failure to pay the aforesaid amount in the manner specified above shall constitute breach of contract. In addition to above, BHEL shall be entitled to take such action as deemed fit and proper for recovering the said sum of Rs.-----.

OR

In case the contractor furnishes the bank guarantee at a later date the contractor Hereby agrees to extend the validity of bank guarantee for such further period or periods as may be required by BHEL and if the contractor fails to obtain such extension(s) from the bank, the contractor shall pay forthwith or accept recovery of the amount of bank guarantee given in lieu of security deposit from the bills in one installment and the contractor further agrees that failure to extend the validity of bank guarantee or failure to pay the aforesaid amount in the manner specified above

shall constitute breach of contract. In addition to above, BHEL shall be entitled to take such action as deemed fit and proper for recovering the said sum.

5. That in consideration of the payments to be made to the Contractor by BHEL in accordance with this Agreement the Contractor hereby covenants and undertakes with BHEL that they shall execute, construct, complete the works in conformity, in all respects, with the terms and conditions specified in this Agreement and the documents governing the same.
6. That the Contractor shall be deemed to have carefully examined this Agreement and the documents governing the same and also to have satisfied himself as to the nature and character of the Works to be executed by him.
7. That the Contractor shall carry out and complete the execution of the said works to the entire satisfaction of the Engineer or such other officer authorised by BHEL, within the agreed time schedule, the time of completion being the essence of the Contract.
8. That BHEL shall, after proper scrutiny of the bills submitted by the Contractor, pay to him during the progress of the said works such sum as determined by BHEL in accordance with this Agreement.
9. That this Agreement shall be deemed to have come into force from----- the date on which the letter of intent has been issued to the Contractor.
10. That whenever under this contract or otherwise, any sum of money shall be recoverable from or payable by the Contractor, the same may be deducted in the manner as set out in the General Conditions of Contract or other conditions governing this Agreement.
11. That all charges on account of Octroi, Terminal and other taxes including sales tax or other duties on material obtained for execution of the said works shall be borne and paid by the Contractor.
12. That BHEL shall be entitled to deduct from the Contractor's running bills or otherwise Income Tax under Section 194 (C) of the Income Tax Act, 1961.
13. That BHEL shall be further entitled to recover from the running bills of the Contractor or otherwise such sum as may be determined by BHEL from time to time in respect of consumables supplied by BHEL, hire charges for tools and plants issued (Where applicable) and any other dues owed by the Contractor.
14. That it is hereby agreed by and between the parties that non-exercise, forbearance or omission of any of the powers conferred on BHEL and /or any of its authorities will not in any manner constitute waiver of the conditions hereto contained in these

presents and the liability of the Contractor with respect to compensation payable to BHEL or Contractor's obligations shall remain unaffected.

15. It is clearly understood by and between the parties that in the event of any conflict between the Letter of Intent and other documents governing this Agreement, the provisions in the Letter of Intent shall prevail.

16. The following documents

1. Invitation to Tender No-----
and the documents specified therein.

2. Contractor's Offer No-----
dated-----

3. _____

4. _____

5. _____

6. Letter of Intent No _____
dated _____ .

7. _____

shall also form part of and govern this Agreement.

IN WITNESS HEREOF, the parties hereto have respectively set their signatures in the presence of

WITNESS

1.

2.

(CONTRACTOR)
(to be signed by a person holding
a valid Power of Attorney)

WITNESS

1.

2.

(For and on behalf of BHEL)

BANK GUARANTEE FOR SECURITY DEPOSIT

B.G. NO.

Date

This deed of Guarantee made this----- day of ----- two thousand by -----(Bank) hereinafter called the "The Guarantor" (which expression shall unless repugnant to the context or meaning thereof be deemed to include its successors and assigns) in favour of MIs Bharat Heavy Electrical Limited (A Govt. of India Undertaking) a company incorporated under the Companies Act, 1956, having its registered office at BHEL House, Siri Fort, Asiad, New Delhi - 110049 through its unit at Power Sector - Northern Region, Noida, Distt. GautamBudh Nagar, (UP) hereinafter called "The Company" (which expression shall unless repugnant to the context or meaning thereof by deemed to include its successors and assigns)

WHEREAS----- (hereinafter referred to as the Contractor) have entered into a contract arising out of Letter of Intent no----- dt----- (hereinafter referred to as "the contract") for the construction of-----with the company.

AND WHEREAS the contract inter-alia provides that the contractor shall furnish to the company a sum of Rs.----- (Rupees-----) towards security deposit for due and faithful performance of the contract in the form and manner specified therein.

AND WHEREAS the contractor has approached the Guarantor and in consideration of the arrangement arrived at between the contractor and the Guarantor, the Guarantor has agreed to give the Guarantee as hereinafter mentioned in favour of the company.

The Guarantor do hereby guarantee to the company the due and faithful performance, observance or discharge of the Contract by the contractor and further unconditionally and irrevocably undertake to pay to the Company without demur and merely on a demand, to the extent of Rs.----- (Rupees-----) against any claim by the company on them for any loss, damage, costs, charges and expenses caused to or suffered by the company by reasons of the contractor making any default in the performance, observance or discharge of the terms, conditions, stipulations or undertakings or any of them as contained in the contract.

The decision of the company whether any default has occurred or has been

Committed by the contractor in the performance, observance or discharge of any of the terms, conditions, stipulations or undertakings or anyone of them as contained in the contract and / or as to the extent of loss, damage, costs, charges and expenses caused to or suffered by the company by reason of the contractor making any default in the performance, observance or discharge of any of the terms, conditions, stipulations or undertakings or anyone of them shall be conclusive and binding on the Guarantor irrespective of the fact whether the contractor admits or denies the default or questions the correctness of any demand made by the company in any Court, Tribunal or Arbitration proceedings or before any other Authority.

The company shall have the fullest liberty without affecting in any way the liability of the Guarantor under this Guarantee, from time to time to vary any of the terms and conditions of the contract or extend time of performance by the contractor or to postpone for any time and from time to time any of the powers exercisable by it against the contractor and either enforce or forebear from enforcing any of the terms and conditions governing the contract or securities available to the company and the Guarantor shall not be released from its liability under these presents by any exercise by the company of the liberty with reference to the matters aforesaid or by reasons of time being given to the contractor or any other forbearance, act or commission on the part of the company or any indulgence by the company to the contractor or any other matter or thing whatsoever which under the law relating to sureties would, but for this provision have the effect of so releasing the Guarantor from its liability under this guarantee.

The Guarantor further agrees that the Guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the contract and its claim satisfied or discharged and till the company certifies that the terms and conditions of the contract have been fully and properly carried out by the contractor and accordingly discharges this Guarantee, subject however, that the company shall have no claim under this Guarantee after i.e. (the present date of validity of BanAc Guarantee unless the date of validity of this Bank Guarantee is further extended from time to time, as the case may be) unless a notice of the claim under this Guarantee has been served on the Guarantor before the expiry of the said period in which case the same shall be enforceable against the Guarantor notwithstanding the fact that the same is enforced after the expiry of the said period.

The Guarantor undertakes not to revoke this Guarantee during the period it is in force except with the previous consent of the Company in writing and agrees that any liquidation or winding up or insolvency or dissolution or any change in the constitution of the contractor or the Guarantor shall not discharge the Guarantor's liability hereunder.

It shall not be necessary for the company to proceed against the contractor before proceeding against the Guarantor and the Guarantee herein contained shall be enforceable against them notwithstanding any security which the Company may have obtained or

obtain from the Contractor shall at the time when proceedings are taken against the Guarantor hereunder be outstanding or unrealized.

Notwithstanding anything contained herein before, our liability under the Guarantee is restricted to Rs.----- (Rupees-----). Our guarantee shall remain in force until-----, i.e. (the present date of validity of Bank Guarantee unless the date of validity of this Bank Guarantee is further extended from time to time) unless a claim or demand under this guarantee is made against us on or before----- we shall be discharged from our liabilities under this Guarantee thereafter.

Any claim or dispute arising under the terms of this documents shall only be enforced or settled in the courts of at New Delhi / Delhi only.

The Guarantor hereby declares that it has power to execute this guarantee and the executant has full powers to do so on behalf of the Guarantor.

IN WITNESS whereof the----- (Bank) has hereunto set and subscribed its hand the day, month and year first, above written.

Signed for and on behalf of the Bank

(Signatory No-----)

WITNESSES

1. Name & Address

2. Name & Address

Notes:

1. The above BG shall be executed on the non-judicial stamp papers of adequate value procured in the name of the bank in the state where the bank is located.
2. The above BG is required to be sent by the executing bank directly to BHEL at the address where tender is submitted / accepted under seal cover.

LIST OF MEMBER BANKS

1. State Bank of India
CAG Branch,
10th Floor, Vijaya Building,
Barakhamba Road,
New Delhi -110001.

2. Canara Bank
74, Janpath,
New Delhi -110001.

3. Punjab National Bank,
74, Janpath,
New Delhi -110001.

4. Bank of Baroda,
Corporate Banking Branch,
11 th Floor, BOB Building,
Sansad Marg,
New Delhi -110001.

State Bank of Hyderabad,
Surya Kiran Building, K.G. Marg,
New Delhi -110001.

5. State Bank of Mysore,
Antriksh Bhawan, K.G. Marg,
New Delhi -110001.

6. State Bank of Mysore,
Industrial Finance Branch,
18, Ramanashree Arcade,
M.G. Road, Bangaloe -560001.

..

7. State Bank of Travancore,
Travancore House, IF Branch, .
K.G. Marg, New Delhi -110001.

8. Deutsche Bank,
Tolstoy Marg,
New Delhi -110001. ~

9. HDFC Bank Ltd.,
5th Floor, HT House,
K.G. Marg,
New Delhi -110001.

10. Citi Bank N A
Jeevan Vihar Building,
Sansad Marg, -
New Delhi -110001.

11. Standard Chartered Bank,
H2 Block, Connaught Place,
New Delhi -110001.

12. ICICI Bank Ltd.,
ICICI Tower,
Bisham Pitamah Marg, J
Pragati Vihar,
New Delhi -110003.

13. IDBI Bank Ltd.,
19, K.G. Marg,
Surya Kiran Building,
New Delhi.

14. HSBC Ltd.,
ECE House,
28 KG Marg,
New Delhi -110001.

SECTION -III 'A'
SPECIAL CONDITIONS OF CONTRACT

INDEX

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35	Preliminary work
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SECTION -III 'A'**SPECIAL CONDITIONS OF CONTRACT****34.0 GENERAL**

- 34.1** The intent of this specification is to provide services for execution of project according to most modern and proven techniques and codes. The omission of specific reference to any method, equipment or material necessary for the proper and efficient services towards installation of the plant shall not relieve the contractor of the responsibility of providing such services' facilities to complete the work or portion of work awarded to him. The quoted' accepted rates 'lump sum price shall deem to be inclusive of all such contingencies.
- 34.2** The contractor shall carry out the work in accordance with standard practices' codes' instructions' drawings' documents' specification 1 supplied by BHEL from time to time.
- 34.3** The work shall conform to dimensions and tolerances given in various drawings and documents that will be provided during execution. If any portion of work is found to be defective in workmanship, not conforming to drawings or other stipulations, the contractor shall dismantle and redo the work duly replacing the defective materials at his cost failing which the job will be carried out by BHEL by engaging other agencies' departmentally and recoveries will be affected from contractor's bills towards expenditure incurred including BHEL's usual overhead charges.
- 34.4** Following shall be the responsibility of contractor and have to be provided within finally accepted rates' prices.
- A** Provision as required of all types of labour, supervisors, engineers, watch and ward, tools & tackles, calibrated inspection, measuring and test equipment as specified and otherwise required for the work, consumables for erection, testing and commissioning including material handling.
 - B** Proper out-turn as per BHEL's plan and commitment
 - C** Completion of work as per BHEL Schedule.
 - D** Good quality and accurate workmanship for proper performances of equipment
 - E** Repair and rectification
 - F** Preservation' Re-conservation of all components during storage erection till handing over.

- 34.5 BHEL-Power Sector (NR) is ISO 9001-2000, ISO 14001-1996 and OHSAS 18001-1999 certified company. Presently BHEL-Power Sector (NR) is going towards Social accountability (SA-8000). Quality of work, to customer's satisfaction and system requirements are the essence of these certifications. The contractor in all respects will organize his work, systems, environment, process control documentation, tools, plant, inspection, measuring and testing equipments, labour welfare etc. as per instructions of BHEL engineer.**

The contractor shall also comply with applicable legislation and regulations with regards to health, safety and environmental aspects for minimizing risk arising from occupational health, safety hazards, controlling pollution and wastage.

34.6 Contractor shall ensure following:

1. Contractor has to maintain contact with local hospital having scanning & other ultra modern medical facilities required during emergency.
2. Contractor has to ensure pre employment medical check for all staff & workers.
3. Contractor has to ensure that adequate First Aid facilities with medicines at work site for emergency purpose.

35.0 PRELIMINARY WORKS

- 35.1** The contractor shall provide his tool stores for special tools and instruments at a convenient location near to the place of working. Necessary area shall be provided to contractor by BHEL. This is to be cleared after completion of the work. If so required he will have shift the same if required to give fronts to other agencies engaged at site.
- 35.2** All matching surfaces of components shall be well cleaned with cleaning agent and burrs shall be removed by filing and blue matched where-ever required. Wherever necessary sealing, I lubricating I anti-seize compounds shall be applied as per recommendation of Engineer. Machining I grinding required for fitting of keys, pins, packers & dowels etc. shall be carried out by contractor at his cost. The contractor is

expected to have his own arrangements for machining activities.

- 35.3** The accuracy of all equipment I instruments and their functioning shall be established before they are permitted for use on the job. If the Engineer doubts the accuracy of the precision tools, any time during erection, the contractor shall arrange the checking I calibration of tools I equipment! instruments at his cost.

36.0 CIVIL WORKS, FOUNDATIONS AND GROUTING.

- 36.1** BHEL shall provide all equipment foundations. The contractor for their correctness, as per drawings, shall check the dimensions & locations of the foundations, pockets, anchor-bolt pitch. Further, top elevation of foundations shall be checked with respect to benchmark. AI! Minor adjustments of foundation level, dressing and chipping of foundation surfaces up to 50 mm, enlarging the pockets in foundations etc., as may be required for the erection of equipment I plants shall be carried out by the contractor.

- 36.2** Grouting will be carried out by contractor including all the grouting material are in the scope of the contractor. He has to ensure that all the matching joints which are not to be grouted shall be kept free from the grouting mixture by applying tape or any other alternative method approved by Engineer. All assistance required has to be provided by the contractor

- 36.3** The foundations are to be cured by contractor to the satisfaction of Engineer. The contractor shall check and verify the alignment of equipment, alignment of shafts of rotating machinery.

37.0 CONSUMABLES

- 37.1** The contractor shall provide within finally accepted price, all consumables like all welding electrodes (including alloy steel and stainless steel), filler wires, TIG wires, all gases (inert, welding, cutting), soldering material, dye-penetrants, radiography films. Other erection consumables such as tapes, jointing compound, grease, mobile oil, _M- seal, Araldite, petrol, GTG I other cleaning agents, grinding and cutting wheels are to be provided by the contractor. Steel, H&S, packers, shims, wooden planks, scaffolding materials hardware items etc required for temporary works such as supports, scaffoldings are to be arranged by him. Sealing compounds, gaskets, gland packing, wooden sleepers, for temporary work, required for completion of work except those which are specifically supplied by manufacturing unit are also to be arranged by him.

- 37.3** It shall be the responsibility of the contractor to plan the activities and store sufficient quantity of consumables. Non-availability of any consumable materials or equivalent suggested by BHEL cannot be considered as reason for not attaining the required progress or for additional claim.

- 37.4** It shall be the responsibility of the contractor to obtain prior approval of BHEL, regarding suppliers, type of electrodes etc before procurement of

welding electrodes and TIG filler wires. On receipt of electrodes and wires at site these shall be subjected to inspection and approval by BHEL. The contractor shall inform BHEL details regarding type of electrodes, batch number, date of expiry etc and produce test certificate for each lot / batch with correlation of batch / lot number with respective test certificate. No electrode without a valid test certificate will be used.

- 37.5** BHEL reserves the right to reject the use of any consumable including electrodes, gases, lubricants / special consumables if it is not found to be of the required standard / make / purity or when shelf life has expired. Contractor shall ensure display of shelf life on consumable wherever required and records maintained.
- 37.6** Storage of all consumables including welding electrodes shall be done as per requirement / instruction of the Engineer by the contractor at his cost.
- 37.8** All lubricants and chemicals required for cleaning, pre-commissioning, commissioning, testing, preservation and lubricants for trial runs of the equipment shall be supplied by BHEL / BHEL's client. All services including labour and T&P will be provided by the contractor for handling, filling, emptying, refilling etc. the consumption of lubricants / chemicals shall be properly accounted for. Surplus material if any shall be properly stacked / packed and returned to stores.
- 37.9** Oil is to be supplied by BHEL. However taking delivery of oil drums from stores, filling of oil for oil flushing, first filling of oil and subsequent change over or topping / making up till the unit is commissioned and handed over to customer is included in the scope of this contract. The contractor shall have to return all the empty drums to BHEL / BHEL's client store at no extra cost. Any loss / damage to above drums shall be to contractor's account.
- 37.10** Special consumables that are required for final box up like anti-seize compounds, jointing compound and sealing compound shall be provided by BHEL. However the contractor shall use them to the satisfaction of BHEL Engineer.

38.0 TOOLS AND PLANTS / IMTE's

- 38.1** T&P being provided by BHEL to sub-contractor free of hire charges shall be shared by other subcontractors working for BHEL at site and the allotment done by BHEL Engineer shall be final and binding.
- 38.2** Besides the T&Ps and IMTEs being made available to contractor, free of hire charges by BHEL, all other T&Ps and IMTEs required for successful and timely execution of the work covered within the scope of this tender, shall be arranged and provided by the contractor. He should ensure that these are in good working condition. In the event of the failure of contractor to bring necessary and sufficient T&Ps/ and IMTEs, BHEL will be at liberty to arrange the same at the risk and cost of contractor and hire charges as applicable shall be deducted from contractor's bill. Decision of BHEL in this regard shall be final and binding on contractor.
- 38.3** All distribution boards, connecting cables, wire ropes, hoses, pipes etc,

including temporary air / water / electrical connections etc shall have to be arranged by the contractor at his own cost

- 38.4** In case of non-availability of the T&Ps to be provided by BHEL due to breakdown, major overhauls, distribution pattern or any other reason, the contractor shall plan /amend / alter his activities to meet erection / commissioning targets in consultation with BHEL.
- 38.5** Contractor shall ensure deployment of serviced and healthy T&Ps including cranes, lifting tackles, wire ropes, Manila-ropes, winches and slings etc. History card and maintenance records for major T&Ps will be maintained by the contractor and will be made available to BHEL Engineer for inspection as and when required. Identification for such T&Ps will be done as per BHEL Engineer's advice.
- 38.6** Contractor shall ensure deployment of reliable and calibrated IMTEs (Inspection, Measuring and Test Equipment). The IMTEs shall have test / calibration certificates from authorized/Govt. approved /accredited agencies traceable to National/International standards. Each IMTE shall have a label indicating calibration status i.e. date of calibration, calibration agency and due date for calibration. A list of such instruments deployed by contractor at site with its calibration status is to be submitted to BHEL Engineer for control.
- 38.7** Retesting/ re-calibration shall also be arranged at regular intervals during the period of use as advised by BHEL Engineer within the contract price. The contractor will also have alternate arrangements for such IMTE so that work does not suffer when the particular instrument is sent for calibration. Also if any IMTEs not found fit for use, BHEL shall have the right to stop the use of such item and instruct the contractor to deploy proper item and recall i.e. repeat the readings taken by that instrument, failing which BHEL may deploy IMTEs and retake the readings at contractor's cost.
- 38.8** BHEL shall have lien on all T&P, IMTEs & other equipment of the contractor brought to the site for the purpose of erection, testing and commissioning. BHEL shall continue to hold the lien on all such items throughout the period of contract./ extended period. The contractor and/ or his Sub-contractors without the prior written approval of the Engineer shall remove no material brought to the site.
- 38.9** The month wise T&P deployment plan to be submitted as per format (at Annexure-D to general conditions of contract) is only to assess the capability as well as understanding of the contractor to execute the work. It shall be the contractor's responsibility to deploy the required T&P, for timely and successful completion of the job, to any extent over and above those indicated in the above deployment plan (including those which are not covered in the plan submitted) without any compensation on this account.

39.0 SUPERVISORY STAFF AND WORKMEN

- 39.1** The contractor shall deploy all the skilled workmen like millwright fitters, welders, crane-operators, drivers, gas cutters, riggers, sarangs, masons, carpenters, electricians, helpers and instrument technicians to carry out the works as per specifications. In addition to skilled, semi-

skilled and unskilled workmen required for all the works, suitable workmen required for handling of equipment at erection site, erection, testing and commissioning as contemplated under this specification shall be deployed. Only fully trained and competent men with previous experience on the job shall be employed. They shall hold valid certificates wherever necessary.

BHEL reserves the right to decide on the suitability of the workers and other personnel who will be deployed by the contractor. BHEL reserves the right to insist on removal of any employee or workman of the contractor at any time, if they find him unsuitable. The contractor shall remove him forthwith.

39.2 The supervisory staff including qualified Engineers deployed by the contractor shall ensure proper out-turn of work and discipline on the part of the labour put on the job by the contractor. They should in general see and ensure that the works are carried out in a safe and proper manner and in coordination with other labour and staff deployed directly by BHEL or other contractors of BHEL or BHEL'S client /other agency.

39.3 The work shall be executed under the usual conditions affecting major power plant construction and in conjunction with numerous other operations or activities at site. The contractor and his personnel shall cooperate with other personnel or contractors, coordinating his work with others and proceed in a manner that shall not delay or hinder the progress of work as a whole.

39.4 The contractor's supervisory staff shall execute the work in the most substantial and workman like manner in the stipulated time. Accuracy of work and aesthetic finish are essential part of this contract. The contractor shall be responsible to ensure that assembly and workmanship conforms to the dimensions and tolerances given in the drawings or documents or instructions given by BHEL Engineer from time to time.

39.5 The contractor shall deploy the necessary number of qualified and approved full time electricians at his cost to maintain his temporary electrical installation till the completion of work.

39.6 It is the responsibility of the contractor to engage his workmen in shifts or on overtime basis for achieving the targets set by BHEL and also during the period of commissioning and testing of unit. The contractor's finally accepted rates or prices shall include all these contingencies.

39.7 During the course of erection,

§ If the progress is found unsatisfactory,

§ If the target dates fixed from time to time for every mile stones are to be advanced or not being met

§ if it is found that the skilled workmen like fitters, operators, technicians etc deployed are not sufficient,

BHEL after giving reasonable opportunity to the contractor will induct on the work the required workmen in addition to contractor's workmen to improve the progress. The expenses so incurred will be recovered from

the contractor's bills with overheads.

- 39.8** If the contractor or his workmen or employees shall break, deface, injure or destroy any part of a building, road kerbs, fence, enclosure, water pipes, cables, drains, electric I telephone poles, wire, trees or any other property or to any part of erected components, the contractor shall make the same good at his own expense. In default, BHEL may cause the same to be made good by other workmen or by other means and deduct from any money due to the contractor. BHEL's decision will be final and binding.
- 39.10** It shall be the contractor's responsibility to deploy the required manpower, for timely and successful completion of the job, to any extent over and above those indicated in the above deployment plan (including those which are not covered in the plan submitted) without any compensation on this account. The contractor shall identify separate persons at site for quality control and safety.

40.0 MATERIAL HANDLING AND STORAGE

- 40.1** All the equipment furnished under this contract shall be delivered at erection site.
- 40.2** While BHEL will endeavor to store; stack; identify materials properly in their open /close; semi closed / tarpaulins covered storage yard / shed, it shall be contractor's responsibility to assist BHEL in identifying materials well in time for erection. They should take the delivery of the same, following the procedure indicated by BHEL.
- 40.3** The contractor shall take delivery of components, equipment / consumables from storage area after getting the approval of BHEL Engineer on standard indent forms.
- 40.4** The contractor shall identify and deploy necessary Engineers/ supervisors /workmen for the above work in sufficient number as may be needed by BHEL, for areas covering their scope.
- 40.5** The contractor shall maintain an accurate and exhaustive record, detailing out the list of all equipment received by him for the purpose of erection and keep such record open for the inspection of the engineer at any time.
- 40.6** All the material in the custody of contractor and stored in the open or dusty locations must be covered with suitable weather proof /fire retardant covering material wherever applicable and shall be blocked up on raised level above ground. All covering materials including blocks and sleeper shall be arranged by the contractor at his cost.
- 40.7** If the material belonging to the contractor are stored in area other than those earmarked for his operation the engineer will have the right to get it moved to the area earmarked for the contractor at the contractors risk and cost.
- 40.8** The contractor shall ensure that all surplus; damaged / scrap; unused material, packing wood; containers; special transporting frames etc are returned to BHEL at a place in project area identified by the Engineer. The contractor will maintain an account for all items received and

returned to BHEL.

40.9 The contractor shall ensure that all the packing materials and protective devices installed on equipment during transit and storage are removed before installation.

40.10 It shall be the responsibility of the contractor to keep the work / storage areas in neat, tidy and working conditions. All surplus / unusable packing and other materials shall be removed and deposited at location(s) specified by BHEL within the project premises.

41.0 PRESERVATION OF COMPONENTS

41.1 After taking delivery from BHEL / customer's stores, plant materials storage shall be subjected to the following protection besides other provisions indicated in these specifications elsewhere.

- a) Items stored outdoors shall be blocked up at least six inches (150mm) off the ground.
- b) Motors, valves, electrical equipment, control equipment and instruments etc shall be stored indoors in a warehouse to be provided by the contractor. Motor windings shall be kept dry by use of external heat or space heaters.
- c) Bearings and other wearing surfaces of plant materials shall be protected against corrosion and kept clean.
- d) Insulation materials shall be stored indoors or otherwise protected against getting wet.

41.2 It shall be the responsibility of the contractor to apply preservatives / touch up paints (primer) on equipment handled and erected by him till such time of final painting. It shall be contractor's responsibility to arrange for required paints (primer), thinners, labour, scaffolding materials, cleaning materials like wire brush, emery sheets, etc, cleaning of surface and provide one coat of preservatives / paints (primer) from time to time as decided by BHEL engineer. The accepted rate shall include this work also. It is to be noted that such painting may have to be done as and when required till such time the final painting is carried out.

41.3 The contractor shall effectively protect the finished work from action of weather and from damage or defacement and shall cover the finished parts then and there for their protection.

41.4 Any failure on the part of contractor to carry out works according to above clauses will entail BHEL to carry out the job from any other party and recover the cost from contractor.

42.0 CLEANING OF EQUIPMENT

42.1 The contractor shall thoroughly clean all the components before installation. The components whose surfaces are coated with protective coating and sent to site are to be thoroughly cleaned by suitable mechanical/chemical means as per the approved procedures.

43.0 ERECTION

43.1 All normal erection and assembly techniques necessary for completion

of works under this specification and magnitude have to be carried out. It is not possible to specifically list out all of them. Absence of any specific reference will not absolve the contractor of his responsibility for the particular operation. These would include,

- § Scaffolding and rigging operations,
- § Machine / flame / electric cutting, grinding, welding, radiography and stress relieving
- § Fitting, fettling, filing, straightening, chamfering chipping, scrapping, reaming, as cleaning, checking, leveling, blue matching, aligning and assembly.
- § Machining, surface grinding, drilling, doweling, shaping
- § Temporary erections for alignment, dismantling of certain equipment for checking, cleaning, servicing and site fabrication.

43.2 Any fixtures, scaffolding materials, approach ladder, concrete block supports, steel structures required for temporary supporting, pre- assembly or checking, welding, lifting and handling during pre-assembly and erection shall be arranged by contractor at his cost.

43.3 No members of any ladder / structure / platform should be cut without specific approval of BHEL. In case it is necessary to cut, the contractor shall rectify / repair in a manner acceptable to BHEL / customer without any additional cost.

43.4 The contractor shall erect scaffolding / temporary platforms for erection. These should be of adequate capacity and shall never be over loaded. These should be replaced when not found suitable during erection work and dismantled on work completion & removed from work site.

43.5 The contractor shall fabricate and weld pipes, special bends, as required for installing.

43.6 The contractor as part of the scope of work if required or if directed by BHEL shall carry out the servicing and realignment of skid-mounted equipment.

43.7 All electrical panels, control gears, motors and such other devices shall be properly dried by heating to improve IR value, before they are installed and energized. Bearings, slip rings commutators and other exposed parts shall be protected against ingress of moisture and corrosion during storage and periodically inspected.

43.8 Erection and welding of necessary instrumentation tapping points, thermocouple pads, thermo-wells, valves, battery of first root valves, condensing vessels, flow nozzles and control valves to be provided on TG, auxiliaries and pipe lines covered within the scope of this specification, will also be the responsibility of the contractor. The welding of all' the above items will be contractor's responsibility even if the:

- § Product groups, under which these items are released, are not covered in the scope of this tender.
- § Items are supplied by any agency other than BHEL.

**NOTE: ADDITIONAL
FOR**

THERMOWELLS AS REQUIRED

**CONDUCTANCE OF THE PERFORMANCE GUARANTEE TEST ARE
TO BE INSTALLED BY THE CONTRACTOR.**

- 43.9 Additional platforms and ladders of permanent nature incidental to the job for approaching different equipment / valves as per site requirement, which may not be indicated in drawings, shall be fabricated and installed by the contractor. The materials required will be supplied by BHEL free of cost.
- 43.10 Wherever cables are to be laid under the scope of subject work the same shall be laid in cable trays, dressed, properly glanded and terminated.
- 43.11 The contractor is strictly prohibited in using the TG / Aux. Components for any temporary supporting or scaffolding works etc. In case of such misuse a sum of determined by Engineer will be recovered from contractor's bills
- 43.12 Certain skid mounted instruments like pressure gauge, pressure transmitters, temperature gauges, flow switches, flow indicators, etc., are received in assembled condition as integral part of equipment. Contractor shall dismantle such instruments and hand over them to BHEL for calibration. Contractor shall re-erect them in position just before commissioning of the equipment or as and when directed by Bharat Heavy Electricals Limited
- 44.0 **WELDING, HEAT-TREATMENT, RADIOGRAPHY AND NON-DESTRUCTIVE TESTING**
- 44.1 All welders including tack welders, structural and high pressure welder shall be tested as per ASME section IX IIBR and approved by BHEL Engineer before they are actually engaged on work even though they may possess a valid IBR certificate. BHEL reserves the right to reject any welder if the welder's performance is not found to be satisfactory. The contractor shall maintain the records of qualification of welders. BHEL Engineer will issue all the welders qualified for the work, an identity card. The welder will keep the same with him at work place at all times. He may be stopped from work if he is not found in possession- of the same.
- 44.2 Engineer may stop any welder from the work if his performance is unsatisfactory for any reason or if there is a high percentage of rejection in the joints welded by him. The welder having passed qualification tests does not absolve the contractor of contractual obligation to continuously check the welder's performance.
- 44.3 The regulators used on welding machines shall be calibrated before putting these into use for work. The Contractor at his cost shall also arrange periodic calibration for the same.
- 44.4 Only BHEL approved electrodes and filler wire will be used. All electrodes shall be baked and dried in the electric electrode-drying oven to the required temperature for the period specified by the Engineer before these are used in erection work. All welders shall have electrodes drying portable oven at the work spot. The electrodes brought to the site will have valid manufacturing test certificate. The test certificate should

have a co-relation with the lot number / batch number given on electrode packets. No electrodes will be used in the absence of above requirement. The thermostat and thermometer of electrode drying oven will be also calibrated and test certificate from Govt. approved / accredited test house traceable to National/International standards will be submitted to BHEL before putting the oven in use. The contractor shall also arrange periodical calibration for the same.

- 44.5 All butt / fillet welds shall be subject to dye penetration test as per the instructions of the engineer at no additional cost.
- 44.6 The contractor shall carry out the edge preparation of weld joints at site in accordance with the details acceptable to BHEL Engineer. Wherever possible machining or automatic flame cutting should be done. Gas cutting will be allowed only wherever edge preparation otherwise is impractical. All slag / burrs shall be removed from the edge and all the hand cuts shall be ground smooth to the satisfaction of engineer.
- 44.7 All welds shall be painted with anticorrosive red oxide paint once radiography and stress relieving works are over. Necessary consumables and scaffolding etc including paints shall be provided by contractor at his own cost.
- 44.8 Pre-heating, radiography and other NOT tests, post heating and stress relieving after welding of tubes, pipes, including attachment welding wherever necessary, are part of erection work and shall be carried out by the contractor in accordance with the instructions of the Engineer. Contractor at his cost shall arrange all equipment and consumables essential for carrying out the above process.
- 44.9 If the contractor does not carry out radiography work due to non-availability of source / film / chemical/ operator etc., BHEL will get the work done departmentally or through some other agency at the risk and cost of the contractor.

45.0 **TESTING, PRE-COMMISSIONING, COMMISSIONING, AND POST-COMMISSIONING**

- 45.1 The contractor shall carry out all the required tests and pre-commissioning and commissioning activities required for their successful and reliable operation.
All the chemicals required for carrying out these activities will be the responsibility of the contractor.
All required tests (Mechanical and electrical) indicated by BHEL and their clients for successful commissioning are included in the scope of these specifications. These tests / activities may not have been listed in these specifications.
Specialized test equipment, if any, shall be provided by BHEL / its client free of hire charges. However contractor has to take proper care of the equipment issued to him.
- 45.2 All the tests may have to be repeated till all the equipment satisfy the requirement / obligation of BHEL at various stages. The contractor shall

repairs all joints (shop welded or site welded) failed during testing.

- 45.3 It shall be the responsibility of the contractor to preserve the cleaned surface as per BHEL's requirement.
- 45.4 It shall be specifically noted that the employees of the contractor may have to work round the clock along with Bharat Heavy Electricals Limited Customer Engineers and hence overtime payment by the contractor may be involved. The contractor's finally accepted rates/ price shall be inclusive of all these factors also.
- 45.5 It shall be the responsibility of the contractor to provide various category of workmen in sufficient numbers along with supervisors with necessary consumables, T&P, IMTEs etc., along with any other assistance required during pre-commissioning, commissioning and post - commissioning of equipment and attending any problem in the equipment erected by the contractor till handing over. Association of BHELs / Client's staff during above period will not absolve contractor from above responsibilities.
- 45.6 In case, any rework is required because of contractor's faulty erection that is noticed during pre-commissioning and commissioning, the same has to be rectified by the contractor at his cost. If any equipment / part is required to be inspected during pre-commissioning and commissioning, the contractor will dismantle/open up the equipment / part and reassemble / redo the work without any extra claim.
- 45.7 During commissioning, opening / closing of valves, changing of gaskets, realignment of rotating and other equipment, attending to leakage and adjustments of erected equipment may arise. This is included in the scope of work. Of the contractor.
- 45.8 The contractor shall make all necessary arrangements including making of temporary closures on piping / equipment for carrying out the hydro-static testing on all piping equipment covered in the specification at no additional cost.
- 45.9 The contractor shall carry out cleaning and servicing of valves and valve actuators prior to pre-commissioning tests and / or trial operations of the plant. A system for recording of such servicing operations shall be developed and maintained in a manner acceptable to BHEL Engineer to ensure that no valves and valve actuators are left un-serviced.
- 45.10 Cleaning & servicing of all the filters / strainers, toppings of oils coming in the system shall be done by the contractor till the completion of trial operation and handing over of the unit.

46.0 FINISH PAINTING

- 46.1 All exposed metal parts of the equipment, structure, auxiliaries, piping, and other items (covered within the scope of this contract) after installations are to be painted. Mostly the equipment / components installed are with one coat each of primer paint and synthetic enamel/ heat resistant paint. However, due to aging, the same may have got deteriorated or peeled off. The surfaces are to be thoroughly cleaned of all dirt, rust, scales, grease, oils and other foreign materials by wire brushing, scrapping, any other method as per requirement of BHEL.

The same will be inspected and approved by the engineer before painting. these cleaned surfaces are to be touch up painted with suitable approved primer matching with shop paint approved final colour. Besides above two coats of approved primer paint is to be applied on all the bare/unpainted surfaces after cleaning as above. The gas cut stubs would require to be grounded and rounded before painting.

- 46.2 After applying the primer paints all structure / equipment / items, shall be finish painted with two coats of alloyed resin machinery enamel paints as specified by BHEL engineer. In case proper finish is not obtained in two coats, the contractor shall apply additional coat (s) till proper finish is achieved. After completion of painting all bright spots shall be cleaned to the satisfaction of Engineer.
- 46.3 Certain equipment like control panels, valves etc. shall require spray painting. The contractor shall make arrangements of the required equipment for spray painting. Spray painting at the job site shall be permitted only at times and locations approved by Engineer.
- 46.4 All paints; primers, tools and other consumables including scaffolding materials required for finish painting shall be supplied by the Contractor at no extra cost to BHEL. The paint supplied shall be BHEL approved make only and painting should be as per colour scheme and quality approved / specified by Engineer. Valid Test Certificate for the paint so supplied shall be made available before use of the same on work. No paint whose shelf life has expired should be used for painting.
- 46.5 The contractor may be required to fill up dents I marks by applying putty before final painting of equipment. All materials and arrangements have to be made within quoted lump sum price/rates.
- 46.6 The contractor shall provide legends with direction of flow on equipment and piping in size specified by Engineer. Letter writing shall be done in Hindi/ English or in both languages.
- 46.7 The painters have to under go test on a mock plate of size 1m*1m and only qualified painters will be allowed to work.
- 46.8 The contractor shall ensure availability of
 - Ford Cup-4 to measure consistency of paint,
 - Automatic magnetic gauge to measure the dry film thickness and
 - SSPC Visual standards to assess degree of cleanliness of surfaces to be painted. .
- 46.9 All paints should be stored in well-ventilated store. The painters and other personnel deployed should use proper protective equipment to avoid inhalation of fumes.

47.0 **PROGRESS REPORTING**

- 47.1 Contractor is required to draw mutually agreed monthly erection program in consultation with BHEL well in advance. Contractor shall ensure achievement of the program. He shall also timely arrange for additional resources considered necessary for the same at no extra cost

- to BHEL
- 47.2 Weekly progress review meetings will be held at site during which actual progress during the week vis-a-vis scheduled program shall be discussed for actions to be taken for achieving targets. Contractor during discussions shall also present the program for subsequent week. The contractor shall constantly update/revise his work program to meet the overall requirement. All quality problems shall also be discussed during above review meetings. Necessary preventive and corrective action shall be discussed and decided upon in such review meetings and shall be implemented by the contractor in time bound manner so as to eliminate the cause of non-conformities.
- 47.3 The contractor shall submit daily, weekly and monthly progress reports, manpower reports, materials reports, consumables (gases I electrodes) report and other reports as per performa considered necessary by the Engineer.
- 47.4 The progress report shall indicate the progress achieved against planned, with reasons indicating delays, if any, and shall give the remedial actions which the contractor intends to take to make good the slippage or lost time, so that further works again proceed as per the original program and the slippage does not accumulate and affect the overall program.
- 47.5 The daily manpower reports shall clearly indicate the manpower deployed, category wise specifying also the activities in which they are engaged.
- 48.0 **DRAWING AND DOCUMENTS**
- 48.1 The detailed drawings, specifications available with BHEL engineers will form part of this tender specification. These documents will be made available to the contractor during execution of work at site. The contractor will also ensure availability of all drawings / documents at work place.
- 48.3 The contractor shall maintain a record of all drawings and documents available with him in a register as per format given by BHEL Engineer.- Contractor shall ensure use of pertinent drawings/ data/documents and removal of obsolete ones from work place and returning to BHEL.
- 48.4 The data furnished in various annexure enclosed with this tender specification are only approximate and for guidance. However, the change in the design and in the quantity may occur as is usual in any such large scale of work.
- 49.0 **INCOME TAX, SERVICE TAX, WORKS TAX AND SALES TAX REGISTRATION**
- 49.1 INCOME TAX at the prevailing rate on gross value of work done and applicable surcharge shall be deducted from the running bills unless exempted by the Income Tax Authorities.
- 49.2 Price quoted shall be exclusive of service tax. The service tax, as

applicable under the provisions of 'Service Tax Act' shall be paid by BHEL as per contractor's bills. However, contractor shall have to submit proof of service tax deposited by them against their respective invoices for the preceding month. They shall submit such a proof prior to submission of invoice for the succeeding month. The contractors shall furnish proof of their Service Tax registration number with Central Excise Division. 'TDS' for Works Tax at prevailing rates shall be deducted from the running bills as applicable, unless exemption is obtained and produced from the Appropriate Authorities. Reimbursement, if any, on Works Tax shall be made on the production of requisite documents i.e. assessment order etc. of the 'Appropriate Authorities' by the contractor. However, 'TDS' will be applicable as per prevailing law.

- 49.3 Contractor shall get his organization registered with concerned sales tax authorities within 15 days of award of this contract. The delay on this account and delay in bringing the material shall be to contractor's account and no extension of time shall be allowed on this account. The sales tax registration for this contract shall be forwarded to BHEL within 30 days from the date of LOI. In case the contractor is already registered for sales tax with Govt. Authorities he must quote his registration no. while submitting their tender.
- 49.4 Contractor has to make his own arrangement at his cost for completing the formalities, if required, with Sales Tax Authorities, for bringing their materials, plant, and equipment at site for the execution of the work under this contract.

SECTION -III B

SPECIAL CONDITIONS OF CONTRACT

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50	Scope of work
51	Facilities to be provided by BHEL/Contractor
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53	Terms of payment

SECTION - III B**SPECIAL CONDITIONS OF CONTRACT****50.0 SCOPE OF WORK****50.1**

M/S Tehri Hydro Development corporation (THDC) has awarded a contract on BHEL for supply, transportation, storage and material handling at site, erection and commissioning of 4 x 100 MW Francis turbines, generators, transformers along with all the auxiliaries and BOP on a lump sum basis.

On the part of BHEL it has to create its own storage, residential and office facility at site. M/S THDC has given the open land for development of infrastructure at site and BHEL shall have to develop it for construction of closed and open storage yard, residential & office complex.

The scope of work under this tender consists of :

- Taking delivery of the all Plant material's as per HT 12105 from material handling contractor at erection site/or near to erection site after giving the required indent
- Their preservation, safe keeping, watch and ward.
- Checking, dressing, chipping and leveling of foundations.
- .Pre-assembly, erection, alignment of various equipment, machining and grouting.
- Welding, heat treatment, radiography and other non-destructive tests wherever required
- Hydraulic testing, air leak test, and other pre commissioning tests,
- finish painting including supply of paints etc.,
- Chemical cleaning, alkali flushing & oil flushing.
- All commissioning activities including post commissioning operations and stabilization of the unit,

Unit trial operation, resolving any deficiencies observed and handing over of Units at Koteshwar HEP.

51.0 FACILITIES TO BE PROVIDED BY BHEL/CONTRACTOR

51.1 BHEL shall provide limited open space for office site free of rental charge. It is the responsibility of the contractor to construct sheds, provide all utilities like electricity, drinking water etc. He is to dismantle and clear the site after completion of work or as and when required within the accepted rates.

51.2 The Contractor shall be responsible for providing all necessary facilities like residential accommodation, transport, electricity, water, medical

facilities etc. at his own cost as required under various labour laws and statutory rules and regulations framed there under to the personnel employed by him.

- 51.3 The contractor shall submit to the Engineer his electrical power requirements. Construction power shall be provided chargeable (at the prevailing rate of the area) at one point near erection site as required and to be decided by Engineer. Contractor at his cost shall do further distribution. Electricity for labour colony will be supplied at one single point on chargeable basis at the rate as fixed by BHEL's Customer. Contractor at his cost shall do further distribution. All wiring must comply with local regulations and will be subject to Engineer's inspection and approval before connecting supply.
- 51.4 Water for construction purposes shall be provided free of charge at a one point.
- 51.5 Permanent lighting inside the powerhouse is to be provided by the customer of BHEL. Till such time such arrangements are made, the contractor at his cost should arrange for temporary lighting in and around his work area.
- 51.6 BHEL will not be responsible for any loss or damage to the contractor's equipment as a result of variation in voltage or frequency or interruptions in power supply.
- 51.7 Provision of distribution lines of both electrical power and water from the central points to the required place with proper distribution boards observing the safety rules laid down by the electrical authorities of the state shall be done by the contractor, supplying all the materials like cables, distribution board, switch boards, TPN, CBS, ELCBS/ MCCBS/ Copper / Brass clamps, copper conductor, change over switches pipes etc. at his own cost. If any failure is caused in supply of the power and water, it is the responsibility of the contractor to make alternate arrangements at his cost. The contractor shall adjust his working shifts / hours accordingly and deploy additional manpower if necessary so as to achieve the targets.
- 51.8 The contractor while drawing construction power supply from Distribution Board should strictly adhere to following points.
 - a) All electrical installations should be as per Indian Electricity rules.
 - b) All distribution Boards installed by the contractor should be constructed with fireproof materials viz. Steel frames, Bakelite sheets etc.
 - c) Connection for single phase should be taken from phase and neutral. Nowhere the connection should be taken with earth as neutral.
 - d) All electrical connections should be made through connectors, nuts and bolts, switches, plug and sockets. Loose connections or hooking up of wires shall not be permitted.
 - e) Contractor have to make their own earthing arrangement for their equipment / DB earthing.
 - f) All electrical equipment / tools and plants should be properly earthed. DBs to be earthed diagonally opposite at two points.

g) Contractor should use "MCCB" and "ELCB" either on incoming or outgoing connections to the DBs.

h) Contractor should ensure that all the CBs / TPNs/ Fuses/ MCCB / ELCB cables etc. should be of adequate rating/ capacity.

i) For permission of supply connections contractor has to submit a test report of their installations with a single line diagram of connected! proposed loads.

51.9 ELCB will be tested once in a week or as directed by BHEL by actually simulating the earth leakage for all installations and the same shall be recorded in the logbook to be maintained by the contractor.

51.10 In case of power cuts / load shedding no compensation for idle labour or extension of time for completion of work will be given to contractor.

51.11 Adequate lighting facilities such as floodlights, hand lamps and area lighting shall be arranged by the contractor at the site of construction, contractor's material storage area etc. within finally accepted rates.

51.12 On completion of work or as and when required by BHEL, all the temporary buildings, structures, pipe lines, cables etc. shall be dismantled and leveled and debris shall be removed, as per instructions of BHEL, by the contractor at his cost. In the event of his failure to do so, the Engineer will get it done and expanses incurred shall be recovered from the contractor along with prevailing overheads. The decision of BHEL Engineer in this regard shall be final.

52.0 **TIME SCHEDULE**

The contractor is required to commence the work within 15 days from- the date of issue of letter of intent unless BHEL decides to fix any other later date. However, the actual date of start of work will be certified by BHEL Engineer after adequate mobilisation of manpower and T&P by the contractor.

- 52.1 Entire work as detailed in the tender specification shall be completed within the scheduled period* from the date of start of erection work.
 * Scheduled completion period* is to be given by the vendor as per clause no. 30.0 of HT 12105.

NOTE:

Contractor has to mobilise adequate resources to meet BHEL'S commitments to their customer as indicated from time to time. In case due to reasons not attributable to the contractor, the work gets delayed and additional manpower I resources have to be mobilized so as to expedite the work to meet various milestones, same shall be done within the quoted rates as per Rate Schedule, at no extra cost to BHEL. In the event the contractor fails to respond to these requirements, BHEL shall take appropriate actions to meet BHEL'S commitments to its customer in line with the provisions of General Conditions of Contract.

However in case contractor discharges his contractual responsibility even before schedule contract period, he will be allowed to wind up his set up without any financial implication on either side.

- 52.2 The work under the scope of this contract is deemed to be completed in all respects, only when the contractor has discharged all the responsibilities laid down in the contract. The decision of BHEL on completion date st-;all be final and binding on the contractor.
- 52.3 The contractor has to ensure that work is completed in all respect leaving no pending points. However the punchlist / pending points, which are possible to attend at site shall be fully liquidated within two months from successful trial operation of the unit.

53.0 TERMS OF PAYMENT

- 53.1 The 'Engineer' will certify regarding the actual work executed in the measurement books and bills, which shall be accepted by the contractor in measurement book.
- 53.2 Contractor shall submit bills for the work completed under the specification, once in a month detailing work done during the month. The format for billing shall be approved by BHEL before raising invoices.
- 53.3 Subject to any deduction, which BHEL may be authorised to make under the contract, the contractor on the certificate of the Engineer at site is entitled for payment at different stages of erection.

A SUPPLY PAYMENT

- 1 50% of supply part against submission of dispatch documents**
2 35% of supply part against receipt of material at site and verification at site.

B ETC PART PAYMENT

PROGRESSIVE PAYMENT on prorata basis (85% of Lumpsum price)

- 1. 70% of ETC PART against erection activities on prorata basis as mutually agreed with BHEL SITE Engineer at site.**
- 2 15% of of ETC PART against commissioning, trial run and handing over.**

C Balance 15 % of supply and ETC contract after handing over and closing Of contract.

PERFORMANCE GURANTEE: In the event of award of work the performance guarantee shall start after completion of its trial operation and handing over to BHEL/THDC.

NOTE 1:

- Further percentage break up for payment against above, if required, will be mutually discussed and finalised at site.
- The above break up is only for payment purposes and does not cover all equipment in the scope of the subject work.

NOTE 2:

Payments at C shall be released after adjustment of the CV based on actual work carried out.